Northern Illinois University
DeKalb, Illinois

Graduate Catalog

1970-1971

The Graduate School
Liberal Arts and Sciences
Fine and Applied Arts
Education
Business

Northern Illinois University Bulletin
Published by Northern Illinois University
DeKalb, Illinois

Four times a year in January, February, November and December.
Application to mail at second-class postage rates is pending at DeKalb, Illinois 60115
Graduate students are expected to become thoroughly familiar with the contents of this catalog and to assume responsibility for complying with the provisions herein outlined which pertain to them.
**GRADUATE SCHOOL CALENDAR 1970-71**

**Summer Session, 1970**

- **June 13, Saturday** .......... Registration 8:00 a.m.-3:00 p.m.
- **June 15, Monday** .......... Registration 8:00 a.m.-4:00 p.m.
- **June 16, Tuesday** .......... Class work begins 8:00 a.m.
- **June 16, Tuesday** .......... Late registration begins
- **June 19, Friday** .......... Late registration ends 4:30 p.m.
- **June 19, Friday** .......... Last day to change programs
- **June 19, Friday** .......... Last day to notify department head in writing of intent to take comprehensive examinations. Students should obtain from the department head the date on which the examinations are to be given.
- **June 19, Friday** .......... Last day to file, with Registrar’s Office, application for August graduation (Form I)
- **June 19, Friday** .......... Last day to file, with Graduate School office, petition for admission to candidacy for August graduation
- **June 22, Monday** .......... Last day to apply to Graduate School in writing for a partial refund of fees for dropping a course or withdrawing from the University

**June 25, Thursday** .......... Examination for Senate Bill 195

- **June 26, Friday** .......... Examination for Senate Bill 195
- **June 26, Friday** .......... Last day (August graduation) to submit approved copies of masters or CAS thesis to Graduate School office
- **June 26, Friday** .......... Last day (August graduation) to submit one unsigned copy of doctoral dissertation to Graduate School office
- **June 26, Friday** .......... Last day (August graduation) to file clearance form (Form II) with Graduate School office
- **July 3, Friday** .......... Last day (August graduation) for final examination for degree (comprehensive or oral defense of dissertation)
- **July 10, Friday** .......... Last day to notify Graduate School in writing of intent to withdraw from the University
- **July 10, Friday** .......... Last day to withdraw from a graduate course
- **July 10, Friday** .......... Last day (August graduation) to file, with Graduate School office, report on final examination for degree (comprehensive or oral defense of dissertation)

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**JUNE 1970**

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GRADUATE SCHOOL CALENDAR 1970-71

July 10, Friday . . . . Last day (August graduation) to submit approved copies of doctoral dissertation to Graduate School office

August 6, Thursday . . . . Commencement. 4:00 p.m.
August 7, Friday . . . . . Close of regular summer session
August 8, Saturday . . . . Start of three-week session
August 27, Thursday . . . . Close of three-week session

Autumn Semester, 1970-71

September 10, 11, 12, Thursday-Saturday . . . . Registration 8:00 a.m.-4:00 p.m.
September 14, Monday . . . . All classes begin, including evening classes

September 14, Monday . . . . Late registration begins
September 18, Friday . . . . Last day to change programs
September 19, Saturday . . . . Saturday-only classes begin
September 19, Saturday . . . . Late registration ends 11:30 a.m.

September 24, Thursday . . . . Last day to apply to Graduate School in writing for a partial refund of fees for dropping a course or withdrawing from the University

September 25, Friday . . . . Last day to file, with Registrar's Office, application for January graduation (Form I)
September 25, Friday . . . . Last day to file, with Graduate School office, petition for admission to candidacy for January graduation

October 5, Monday . . . . Last day to notify department head in writing of intent to take comprehensive examinations. Students should obtain from the department head the date on which the examinations are to be given.

October 26, Monday . . . . Last day (January graduation) to file clearance form (Form II) with Graduate School office

October 31, Saturday . . . . Homecoming
November 7, Saturday . . . . Examination for Senate Bill 195
November 20, Friday . . . . Last day to notify Graduate School in writing of intent to withdraw from the University
November 20, Friday ........... Last day to withdraw from a graduate course
November 25, Wednesday .... Thanksgiving recess begins at 12:00 noon
November 25, Wednesday .... Last day (January graduation) to submit one unsigned copy of doctoral dissertation to Graduate School office
November 25, Wednesday .... Last day (January graduation) to submit approved copies of masters or CAS thesis to Graduate School office
November 30, Monday ........... Class work resumes 8:00 a.m.
December 4, Friday .......... Last day (January graduation) for final examination for degree (comprehensive, or oral defense of dissertation)
December 11, Friday .......... Last day (January graduation) to submit approved copies of doctoral dissertation to Graduate School office
December 11, Friday .......... Last day to file, with Graduate School office, report on final examination for degree (comprehensive, or oral defense of doctoral dissertation)

December 18, Friday . Christmas recess begins after regularly scheduled classes

1971

January 4, Monday .......... Class work resumes 8:00 a.m.
January 13, Wednesday ........ Reading Day
January 14, 15, 16, 18, 19, 20, Thursday-Wednesday ... Final examinations for autumn semester
January 22, Friday ............ Close of autumn semester

Spring Semester, 1971

January 28, 29, 30, Thursday-Saturday ........ Registration 8:00 a.m.-4:00 p.m.
February 1, Monday .......... All classes begin, including evening classes
February 1, Monday .......... Late registration begins
February 5, Friday ............ Last day to change programs
February 6, Saturday .......... Saturday-only classes begin
February 6, Saturday .......... Late registration ends 11:30 a.m.

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February 11, Thursday  Last day to apply to Graduate School in writing for a partial refund of fees for dropping a course or withdrawing from the University

February 12, Friday  Last day to file, with Registrar's Office, application for June graduation (Form I)

February 12, Friday  Last day to file, with Graduate School office, petition for admission to candidacy for June graduation

March 5, Friday  Last day to notify department head in writing of intent to take comprehensive examinations. Students should obtain from the department head the date on which the examinations are to be given.

March 6, Saturday  Examination for Senate Bill 195

March 15, Monday  Last day (June graduation) to file clearance form (Form II) with Graduate School office

April 2, Friday  Easter recess begins after regularly scheduled classes

April 13, Tuesday  Class work resumes 8:00 a.m.

April 16, Friday  Last day to notify Graduate School in writing of intent to withdraw from the University

April 16, Friday  Last day to withdraw from a graduate course

April 23, Friday  Last day (June graduation) to submit approved copies of masters or CAS thesis to Graduate School office

April 23, Friday  Last day (June graduation) to submit one unsigned copy of doctoral dissertation to Graduate School office

April 30, Friday  Last day (June graduation) for final examination for degree (comprehensive, or oral defense of dissertation)

May 7, Friday  Last day (June graduation) to submit approved copies of doctoral dissertation to Graduate School office

May 7, Friday  Last day to file, with Graduate School office, report on final examination for degree (comprehensive, or oral defense of dissertation)

May 26, Wednesday  Reading Day

May 27, 28, 29, June 1, 2, 3, Thursday-Thursday  Final examinations for spring semester

June 4, Friday  Close of spring semester

June 5, Saturday  Seventy-second Annual Commencement
Northern Illinois University is governed by the Board of Regents, which consists of ten members: nine members appointed by the Governor for a six-year term and the Superintendent of Public Instruction, ex officio.

Dr. Gordon H. Millar, Chairman           Waterloo, Iowa
Mr. J. Robert Barr                          Chicago
Mr. Guy Cornwell                           Chicago
Dr. Percy Julian                           Franklin Park
Dr. A. L. Knoblauch                        Roseville
Dr. Kenneth Lund                           Oak Park
Mrs. Thomas Masters                        Springfield
Mr. Loren Smith                            Rockford
Mr. Ray Page, Superintendent of Public Instruction Springfield

*    *    *

Dr. Frank G. Matsler, Executive Secretary

Mr. William J. Keating, Financial Officer
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HISTORY

Established in 1895 by an act of the Illinois General Assembly, the Northern Illinois State Normal School opened its doors to students in September, 1899. Until July, 1921 only a two-year curriculum in teacher education was offered.

Legislative enactment, in July, 1921, gave the School the status of the Northern Illinois State Teachers College and empowered the School to award the degree Bachelor of Education. By action of the Teachers College Board in 1943, the title of the degree was changed to Bachelor of Science in Education. Eight years later, the Teachers College Board authorized the offering of a fifth year of work leading to the degree Master of Science in Education.

On July 1, 1955, as a result of action by the State Legislature, the name of the College was changed to the Northern Illinois State College. The same legislative action authorized the College to broaden its educational services by offering academic work in areas other than teacher education. Consequently, in July, 1955, the Teachers College Board granted permission for the College to add curricula leading to the degrees Bachelor of Arts and Bachelor of Science.

By action of the Seventieth General Assembly, Northern Illinois State College became Northern Illinois University on July 1, 1957. Since that time, authority has been granted for the University to offer additional baccalaureate programs leading to the degrees Bachelor of Music and Bachelor of Fine Arts; additional five-year programs leading to the degrees Master of Arts, Master of Science, Master of Music, and Master of Science in Community Mental Health; six-year programs leading to the Certificate of Advanced Study or to the degrees Master of Fine Arts and Master of Business Administration; and doctoral programs leading to the degrees Doctor of Education in Business Education and Education and Doctor of Philosophy in Chemistry, Economics, English, History, Political Science, and Psychology. In 1965, the Illinois State Teachers College Board became the Board of Governors of State Colleges and Universities, and in 1967, Northern Illinois University and Illinois State University were placed under the control of the newly created Board of Regents.

ACCREDITATION AND AFFILIATION

Northern Illinois University is accredited in all its degree programs (baccalaureate through doctorate) by the North Central Association of Colleges and Secondary Schools. The University is also accredited in degree programs leading to bachelor's and master's degrees, the sixth-year Certificate of Advanced Study (CAS), and the doctorate in Education (Ed.D.) by the National Council for Accreditation of Teacher Education.

The University and its colleges have institutional membership or other affiliations in or with the American Association of Colleges for Teacher Education, American Association of University Women, American Council on Education, Association of American Colleges, Association of State Colleges and Universities, Association of Urban Universities, Council of Graduate Schools in the United States, National League for Nursing, and the North Central Association of Colleges and Secondary Schools.

UNIVERSITY LIBRARIES

The Northern Illinois University Libraries include the Swen Franklin Parson Library, Faraday Library, Map Library—Davis Hall, the branch library at the Lorado Taft Resource Center, and a library in the University School, serving both the elementary and the junior high schools there.

The Swen Franklin Parson Library, the main library, is located directly north of Davis Hall and west of Altgeld Hall. It was opened in 1952 and has two main service floors and a partial third floor. The building is well-lighted, fireproof, and air-conditioned throughout. The Library has been enlarged by three additions. The book capacity is 582,023 volumes and the seating capacity is 2,000. There are 331 carrels for individual study use.

In the Library there are six large reading rooms, Reference North, Reference South, Documents, Periodicals, Educational Materials Center, Reserve: a typing room; a micro-print reading room; Fouser Music room with record players and a choice selection of records; a classroom for instruction in library usage; rooms for the Archives, the Southeast Asia collection, and the Special Collections including Rare Books; and an Auditorium.

The Library Science Department is housed in the main library.

Approximately 380,648 catalogued volumes, 201,375 government documents, 19,019 pamphlets, 5,596 periodical titles, 124 newspapers and 88,587 maps are available for use. While the direct needs of the various departments are given first consideration, recreational reading has not been neglected.
A BRIEF HISTORY

Under authority granted by the Illinois State Teachers College Board, Northern Illinois University has offered work leading to the degree Master of Science in Education since 1951. More recently the following additional degrees at the fifth-year level were authorized: Master of Arts, Master of Science, Master of Music, and Master of Science in Community Mental Health. In 1958 sixth-year programs leading to the Certificate of Advanced Study or the degree Master of Fine Arts were authorized; and in 1961, the Teachers College Board approved programs leading to the degrees Doctor of Education and Doctor of Philosophy.

In 1965 a two-year program leading to the degree Master of Business Administration was authorized. Also, in 1965, the name of the Illinois State Teachers College Board was changed to the Board of Governors of State Colleges and Universities, and in 1967, a newly appointed Board of Regents became the governing board of Northern Illinois University.

Currently graduate study is being offered in the following subjects: Accountancy, Art, Biological Sciences, Business Administration, Business Education, Chemistry, Economics, Education, English, Finance, Foreign Languages, Geography, Geology, History, Home Economics, Industry and Technology, Journalism, Library Science, Management, Marketing, Mathematics, Music, Nursing, Outdoor Teacher Education, Philosophy, Physical Education for Men, Physical Education for Women, Physics, Political Science, Psychology, Social Sciences, Sociology and Anthropology, Special Education, and Speech. Majors leading to advanced degrees are offered in all these fields except Foreign Languages. Students wishing to study this subject should major in a related field. Area majors which cross departmental lines are offered by certain groups of departments.

PURPOSE

The University seeks to create an environment that will foster attitudes of self-reliance and self-discipline conducive to professional excellence and intellectual maturity.

The University makes available to the graduate student a body of knowledge of his own and related disciplines; it provides the student with opportunities to acquire and apply techniques which will aid him in his pursuit of knowledge; and it encourages the student and the faculty to engage in research for the purpose of discovering truths and establishing previously unknown relationships.

GRADUATE PROGRAMS

Master of Arts

The student may select a program leading to this degree in any of the following departments:

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<th>Subject</th>
<th>Department</th>
<th>Philosophy</th>
<th>Sociology and Anthropology</th>
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<tr>
<td>Art</td>
<td>Journalism</td>
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<td>Economics</td>
<td>Library Science</td>
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<td>English</td>
<td>Philosophy</td>
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<td>History</td>
<td>Political Science</td>
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<tr>
<td>Music</td>
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Master of Music

A program leading to this degree is offered by the Department of Music, with a major in performance and pedagogy, music education, history and literature, or theory and composition.

Master of Science

The student may select a program leading to this degree in any of the following departments:

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<th>Subject</th>
<th>Department</th>
<th>Philosophy</th>
<th>Sociology and Anthropology</th>
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<tr>
<td>Biological Sciences</td>
<td>Home Economics</td>
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<tr>
<td>Chemistry</td>
<td>Industry and Nursing (School of)</td>
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<td>Geography</td>
<td>Technology</td>
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<td>Geology</td>
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Master of Science in Business Administration

The student may select a program leading to the degree Master of Science in Business Administration with specialization in one of the following departments:

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<th>Subject</th>
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<td>Marketing</td>
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Master of Science in Community Mental Health

This degree is multidisciplinary and includes courses in Education, Psychology, Sociology and Anthropology, and Home Economics. Courses in other departments may be included if appropriate.
Master of Science in Education*

The student may select a program leading to this degree in any of the following departments:

**Art**  Library Science (Area Program)
**Biological Sciences**  Mathematics
**Business Education**  Mathematics
**Chemistry**  Outdoor Teacher
**Economics (Area Program)**  Physical Education
**Educational Administration and Services**  Physical Education
**for Men**  Physical Education
**for Women**  Physical Education
**Elementary Education**  Physics
**Secondary Professional Education**  Political Science (Area Program)
**Education**  Social Sciences
**English**  Sociology and Anthropology (Area Program)
**Geography**  Anthropology
**History (Area Program)**  Speech
**Home Economics**  Industry and Technology

Area Majors

Area majors leading to the degree Master of Science in Education involve work in two (or occasionally more than two) departments. Usually a student divides his work about equally between two departments. Information about area majors may be obtained from the heads of the departments concerned.

Area majors are offered in the following combinations:

Biological Sciences and any of the following subjects:
- Chemistry, Earth Sciences, Physics, Psychology
Earth Sciences—Chemistry
Earth Sciences—Physics
Economics and any of the following subjects:
- Education, History, Political Science, Sociology and Anthropology

*The degree M.S.Ed. is conferred only on students who meet Illinois certification requirements for the standard elementary or secondary certificate and have the approval of this institution, except for those completing approved programs in the area of the community college or school business management in the College of Education.

Education departments and any one of the following subjects:

English and any one of the following subjects:
- Economics, Foreign Languages, History, Journalism, Philosophy, Political Science, Sociology and Anthropology, Speech

General Science (Biological Sciences—Chemistry—Earth Sciences—Physics)

History and any one of the following subjects:
- Economics, Education, English, Political Science, Sociology andAnthropology

History—Journalism

Journalism—Economics—Education—Political Science—Sociology and Anthropology

Mathematics and any one of the following subjects:
- Biological Sciences, Chemistry, Earth Sciences, Physics

Political Science and any one of the following subjects:
- Economics, Education, History, Journalism, Sociology and Anthropology

Social Sciences (Economics, Political Science, Sociology and Anthropology)

Sociology and Anthropology and any one of the following subjects:
- Economics, Education, English, History, Journalism, Political Science

Southeast Asian Studies (History and Political Science)

Master of Business Administration

A two-year program leading to this degree is offered by the College of Business.

Master of Fine Arts

A two-year program leading to this degree is offered by the Department of Art.

Certificate of Advanced Study

The student may pursue a sixth-year program leading to the Certificate of Advanced Study in any of the following departments:

Biological Sciences  History
<table>
<thead>
<tr>
<th>Field of Study</th>
<th>Doctor of Education</th>
<th>Doctor of Philosophy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Education</td>
<td>Business Education</td>
<td>Chemistry</td>
</tr>
<tr>
<td>Chemistry</td>
<td></td>
<td>Economics</td>
</tr>
<tr>
<td>Economics</td>
<td></td>
<td>Sociology and Anthropology</td>
</tr>
<tr>
<td>Educational Administration and Services</td>
<td></td>
<td>Speech</td>
</tr>
<tr>
<td>Elementary Education</td>
<td></td>
<td>History</td>
</tr>
<tr>
<td>Secondary Education</td>
<td></td>
<td>Political Science</td>
</tr>
<tr>
<td>Professional Education</td>
<td></td>
<td>Psychology</td>
</tr>
<tr>
<td>English</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Geography</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industry and Technology</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mathematics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Music</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical Education for Men</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical Education for Women</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Political Science</td>
<td></td>
<td></td>
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<tr>
<td>Sociology</td>
<td></td>
<td></td>
</tr>
<tr>
<td>and Anthropology</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
APPLICATION FOR ADMISSION

Students planning to attend Graduate School should write to the Dean of the Graduate School for an "Application for Admission to the Graduate School," This application, transcripts, and letters of recommendation must be received by the Graduate School no later than July 15 for admission to the autumn semester, December 15 for the spring semester, and May 15 for the summer session. The applicant assumes all responsibility for the completion of his admission file by the above dates: the Graduate School assumes no obligation to inform him about erroneous or missing credentials. A non-refundable fee of $15.00 (check or money order, not cash) must accompany the application unless the applicant is a graduate of Northern Illinois University; the fee is waived for Northern graduates. Checks should be payable to Northern Illinois University.

A student who holds a baccalaureate degree from a college or university other than Northern Illinois University or who has pursued graduate study elsewhere should request each institution which he has attended to send two copies of his transcript directly to the Dean of the Graduate School.

The scores on the Aptitude Test of the Graduate Record Examinations are required as an admission credential for all applicants.

The scores on the appropriate Advanced Test of the Graduate Record Examinations are required as an admission credential for applicants in the major areas listed below:

<table>
<thead>
<tr>
<th>Department</th>
<th>Advanced Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business</td>
<td>Admission Test for Graduate</td>
</tr>
<tr>
<td></td>
<td>Study in Business</td>
</tr>
<tr>
<td>English</td>
<td>Literature in English</td>
</tr>
<tr>
<td>Biological Sciences</td>
<td>Biology</td>
</tr>
<tr>
<td>Geology</td>
<td>Geology</td>
</tr>
<tr>
<td>Political Science</td>
<td>Political Science</td>
</tr>
</tbody>
</table>

FOREIGN STUDENTS

In addition to the usual credentials, foreign students must submit the following:

1. Results of test scores on the Test of English as a Foreign Language (TOEFL). All applicants from foreign countries must take this examination. For complete information students should write to:

   Test of English as a Foreign Language
   Educational Testing Service
   Princeton, New Jersey
   U.S.A. 08540

2. Evidence of adequate financial support while in residence at the University.

A foreign student must register for a minimum of 9 semester hours of credit each semester including any undergraduate deficiencies as well as graduate work.

ADMISSION REQUIREMENTS

Admission in Classified Status

To be admitted as classified and eligible for a degree program a student must have a degree from an accredited college or university, have the approval of the department in which he plans to major, and have a satisfactory grade point average. For admission to a master's program he must have a minimum grade point average of 2.50 (based on a four point system) for the last two years of his undergraduate work with the exclusion of student teaching. To be admitted as classified to a program beyond the fifth year, he must have at least a 3.20 average in his graduate work at the master's level.

Admission in Unclassified Status

A student who does not meet the undergraduate grade point or institutional criterion for classified status and whose grade point average for his last two years of undergraduate work, exclusive of practice teaching, is not below 2.00 may be admitted as unclassified with the approval of the department in which he plans to major. A student who meets these criteria but does not declare a major will also be admitted as unclassified. A student who has earned less than a 2.00 as cited is not eligible for admission to Graduate School. An unclassified student may register for any course for which he has the prerequisites but may not be admitted to a degree program. Such students will not be considered to have the prerequisites to enroll in research and independent study courses. Courses completed while in an unclassified status may or may not be recognized in computing credit required for a degree or certificate.

A student in an unclassified status because of his undergraduate grade average or institution may request a change to classified status as early as the semester following the completion of 9 semester hours of graduate work, exclusive of work taken as a student-at-large (see p. 17), at this University. He must, however, request a change to classified status no later than the semester following that in which his 12th semester hour taken as an unclassified student is completed. The request for classified status by such a student is made to the
ADMISSION AND REGISTRATION

head of the department in which he plans to major. To be considered for classified status, a student must have on file in the Graduate School his scores for the Aptitude Test of the Graduate Record Examinations, must have the approval of the department in which he wishes to major and must have achieved a grade point average in Graduate School at this university of 3.00 for admission to a master’s degree program or 3.20 for post-master’s programs.

An unclassified student who fails academically to achieve classified status following the semester in which he completes his 12th semester hour of graduate work, exclusive of work taken as a student-at-large (see page 17), at Northern Illinois University will be given an academic dismissal.

A student who is unclassified because of not declaring a major and thus not having acceptance by a department, but who otherwise meets the requirements for classified status, may request classification at any time. Such a request is addressed to the Dean of the Graduate School. Acceptance into a degree program by a department is required before the student may become classified.

Credit earned as an unclassified student in any semester subsequent to that in which the 12th semester hour of graduate credit was completed may not be used to meet the total hour requirement for the degree.

Some departments have established departmental standards for classified status. It is, therefore, highly desirable that unclassified students who ultimately expect to gain admission to a degree program check early in their academic work with the head of the department in which they wish to major.

PHYSICAL EXAMINATION

All entering students enrolled for more than 6 semester hours must have a physical examination. The examination must be made by a private physician and is to be reported on a health chart furnished by the University. A smallpox vaccination at the time of examination is required unless a certificate of successful vaccination during the last three years can be furnished. A chest X-ray taken within four months prior to entrance is also required; the X-ray report should be attached to the medical record. The report of the physical examination should be returned to the University Health Service at least one week preceding the beginning of the semester in which the student plans to enroll. Registration is not complete until the entire health chart is on file at the University Health Service.

GRADUATE RECORD EXAMINATIONS

All graduate students seeking advanced degrees or certifi-
cates are required to have on file in the Graduate School Office their scores on the Aptitude Test of the Graduate Record Examinations. This test is given several times a year at a number of locations in northern Illinois, often including Northern Illinois University. Consult the Graduate School or Office of Testing Services for additional information.

All applicants to the Graduate School are required to take the Graduate Record Examinations as an admission credential. The scores on the appropriate Advanced Test of the Graduate Record Examinations are also required as an admission credential for applicants in the major areas listed below:

Department | Advanced Test
---|---
Business | Admission Test for Graduate Study in Business
English | Literature in English
Biological Sciences | Biology
Geology | Geology
Political Science | Political Science

ADMISSION TO TEACHER EDUCATION

Classified graduate students who wish to be certified for public school assignments must make application for admission to teacher education by securing an application form from the Dean of the Graduate School. Admission to teacher education is a selective process since the institution must recommend for certification those who prepare for teaching.

To be admitted to teacher education the student:
1. Must have a major in subject matter area for which student teaching assignments and teaching positions exist.
2. Must have the approval of the head of the major department involved and the Director of Student Teaching.
3. Must not have been rejected for teaching preparation previously by this institution or any other institution.
4. Must be of sufficiently high academic ability (2.50 for the last two years of undergraduate work, 3.00 graduate work) and possess personal qualifications to a degree that will contribute to success in the profession.

The degree M.S.Ed. is conferred only on students who meet Illinois certification requirements for the standard elementary or secondary certificate and have the approval of this institution except for those completing approved programs in the area of the community college or school business management in the College of Education.
TEACHING IN THE JUNIOR COLLEGE

Students particularly interested in teaching in junior colleges should consult with the head of their major department or with their adviser. Students planning to follow approved programs in the area of the community college in the College of Education should consult with the head of the Department of Secondary Professional Education.

REGISTRATION

Graduate students must register in the semester or summer session for which they are accepted. If a student does not notify the Graduate School that he will not attend in this semester or summer session, his admission is cancelled. If the student notifies the Graduate School he will be unable to attend in this semester or summer session, the admission may be deferred for one semester. At the discretion of the Graduate Dean, admission may be deferred a second semester, but not beyond an academic year.

Graduate students are expected to register during the regular registration period at the beginning of each semester. (See calendar.) Those who register after this specified date are required to pay a “late registration fee” of $10.00.

Social Security numbers are required for registration purposes. Students who do not now have a number should obtain one from their local Social Security office in advance of registration.

Arrangements for registration and for assignment to an adviser are made through the Office of the Dean of the Graduate School.

STUDENT-AT-LARGE

A student who holds a baccalaureate or higher degree from a college or university whose requirements for the degree are essentially equivalent to those of this university but who does not plan to pursue an advanced degree or who has not been admitted to the Graduate School may be permitted to register as a student-at-large in the College of Continuing Education. Registration may be for undergraduate or graduate courses for which he has the prerequisites. Registration for graduate courses by such a student in no way implies his admission to the Graduate School. Graduate credit earned by a student-at-large may or may not be counted toward an advanced degree. Credit earned as a student-at-large is made applicable to the degree only after the student has been admitted to candidacy. It is not, therefore, used in the qualifying hours for either the change from unclassified to classified status or for the application to candidacy. In no case will more than 12 semester hours of course work taken as a student-at-large be counted toward an advanced degree. Such graduate work may not be used in fulfillment of the residence requirements for the doctorate. Permission to register as a student-at-large will be validated by the College of Continuing Education on a semester to semester basis.

MAXIMUM LOADS FOR GRADUATE STUDENTS

Graduate students may not enroll for more than 17 semester hours during a semester. Graduate students holding assistantships are limited to 9 semester hours if their assistantship requires twenty to twenty-four hours of work a week for the department; they are limited to 12 semester hours if their assistantship requires ten to twelve hours of work a week for the department. Graduate students who are fully employed are not permitted to enroll for more than 6 semester hours during a semester. Summer school students may not enroll for more than 9 semester hours in an eight-week session or for more than 12 semester hours in an eleven-week session.

AUDITORS

Any full-time graduate student may be permitted to audit, without added fees, one or more additional courses, either undergraduate or graduate, provided approval is first obtained from the student's adviser, the instructor of the course, and the Dean of the Graduate School. A student who enrolls as an auditor in a course may not take the examinations in the course and will not receive credit.

Part-time students may be permitted to audit additional courses on the same basis as regular students upon the payment of an added fee of $15.00 per semester hour ($15.00 per hour for extension courses also), with the provision that the total amount of fees paid will not exceed $167.50 per semester for residents of Illinois.

GRADING SYSTEM

Grades and their honor point values are as follows:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Honor Points Per Semester Hour</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>4</td>
</tr>
<tr>
<td>B</td>
<td>3</td>
</tr>
<tr>
<td>C</td>
<td>2</td>
</tr>
</tbody>
</table>
A course in which a failing grade ("D" or "F") has been received may be repeated once. If a course is repeated, both grades are computed in the honor point average. Incompletes may be given to graduate students at the discretion of the instructor.

Regulations governing incompletes are as follows:
1. Incompletes recorded for regular course work must be removed within the first month of the next semester in which the student is enrolled.
2. Incompletes in directed research, independent study, and thesis or dissertation must be removed within two years from the date the incomplete was given regardless of the student’s subsequent enrollment.

Incompletes not removed within the time allotted may be recorded as a withdrawal or a failure. Any incomplete changed to an "F" must be approved by the Dean of the Graduate School.

A graduate student who wishes to withdraw from the University must write a letter of notification to the Dean of the Graduate School within the time limits stated in the Graduate School Calendar. For all courses in which a student is doing passing work ("C" or better) at the time of drop or withdrawal, he will receive "W." For any course in which a student is not doing passing work, he will receive "F." A student who fails to notify the Dean of the Graduate School in writing of his intent to withdraw from the University, or a student who drops a course or who withdraws from the University after the deadline has expired, will receive "F." (See the Graduate School Calendar for the dates by which notification of intent to drop a course or to withdraw from the University must reach the Graduate Office.)

ACADEMIC STANDING

A student who receives 12 semester hours of graduate credit below "B" or 6 semester hours below "C" will be given an academic dismissal.

The grade average of all graduate students is computed on a cumulative basis. The honor point average at any time is the quotient obtained by dividing the total number of honor points by the total number of properly weighted credit courses which the student has taken up to that time. Graduate work transferred to Northern Illinois University from other institutions will not be included in the computation of the grade point average. A classified student who fails to make admission to candidacy by the semester in which he completes his 15th semester hour of graduate work, exclusive of work taken as a student-at-large (see p. 17), at Northern Illinois University will be given an academic dismissal.

In general, graduate classes meet on the basis of one hour of credit for each class hour. Certain classes, however, require more than one hour of attendance for each hour of credit; and some courses confer more than one hour of credit for each hour in class. Particular information regarding a specific course may be obtained from the instructor, the department head, or from the Graduate School.
The average total expenses for room, board, books, and supplies is approximately $1,600 to $1,700 for the academic year. The fees for graduate students are as follows:

Full-time students—per semester

In-state
Registration fee .................................................. $ 97.50
Activity fee ......................................................... 18.00
Athletic fee ......................................................... 10.00
Bond revenue fee ................................................. 33.00
Hospital-surgical-medical insurance .................. 9.00**
$167.50

Out-of-state
Registration fee .................................................. $308.00
Activity fee ......................................................... 18.00
Athletic fee ......................................................... 10.00
Bond revenue fee ................................................. 33.00
Hospital-surgical-medical insurance .................. 9.00**
$378.00

Part-time students—six semester hours or less

In-state
Registration fee per semester hour .................... $ 15.00
Minimum fee ....................................................... $ 30.00

Out-of-state
Registration fee per semester hour .................... $ 46.00
Minimum fee ....................................................... $ 92.00

Full-time students—summer session (eight weeks)

In-state
Registration fee .................................................. $ 48.75
Activity fee ......................................................... 9.00
Bond revenue fee ................................................. 16.50
Hospital-surgical-medical insurance .................. 6.00**
$ 80.25

Out-of-state
Registration fee .................................................. $154.00

Activity fee ......................................................... 9.00
Bond revenue fee ................................................. 16.50
Hospital-surgical-medical insurance .................. 6.00**
$185.50

Part-time students—summer session—less than five semester hours

In-state
Registration fee per semester hour .................... $ 15.00
Minimum fee ....................................................... $ 30.00

Out-of-state
Registration fee per semester hour .................... $ 46.00
Minimum fee ....................................................... $ 92.00

Extension Students
Minimum fee ....................................................... $ 30.00
Per semester hour for residents of Illinois .......... 15.00
Per semester hour for non-residents of Illinois .... 46.00
(Minimum fee for non-residents) ......................... 92.00

Special Fees
Graduation fee (non-refundable) ......................... $ 15.00
(A student, upon written request to the Graduate School not later than four weeks before commencement, may withdraw his application. The fee may then apply to only one subsequent application for graduation.)
Late registration fee charged after scheduled registration ................................. 10.00
For each change of program after preregistration ................................. 5.00
Duplicate transcript of record (after the first is issued) ................................. 1.00
Duplicate identification card (after the first is issued) ................................. 3.00
Doctoral Dissertation Fee ....................................... 25.00
Examination fees (non-refundable)***

*Fees are subject to change at any time.
**The hospital-surgical-medical insurance fee is payable by all full-time students at the time of registration. This fee may be refunded to any student who can submit satisfactory proof within 10 days following the last day of registration that he already has equal or better medical coverage.
***All graduate students who are working for an advanced degree or certificate are required to take the Aptitude Test of the Graduate Record Examinations.
EXPENSES

Examinations ........................................... 5.00
Advanced Tests of the Graduate Record
   Examinations ........................................... 3.00
Graduate School Foreign Language Tests .... 6.00

A veteran who entered service as a resident of the State of Illinois may receive assistance under the Veterans State Scholarship. For full-time students this amounts to $115.50; for part-time students (6 semester hours or less) it will pay the entire registration fee.

Upon written request, the Office of the Registrar will issue one transcript of a student’s record without charge. A fee of $1.00 is charged for each additional copy. Transcripts are not issued to persons who are under financial obligation to the University or the University Loan Fund.

Changes in class programs will be permitted only with the approval of the Dean of the Graduate School, and a charge of $5.00 will be made for each program change.

Students registering for a laboratory course in chemistry are required to purchase a $5.00 “breakage coupon” at the Bursar’s Office. Refunds will be made on unused portions of the coupon.

The athletic and activities fees cover the following services and privileges: registration; library; health service; gymnasium; admission to athletic events; concerts, dramatic productions, lectures, speech events; and subscription to the University newspaper, annual, and magazine.

Application Fee for Admission

All students except graduates of Northern Illinois University applying for admission to the Graduate School must pay an application fee of $15.00. This fee is due at the time of submission of the application and is non-refundable.

Dates for Refunds

Fees are due at the time of registration. When a student officially withdraws from the University on or before any of the following dates, his registration fee only will be refunded:

<table>
<thead>
<tr>
<th>Term</th>
<th>Year</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spring 1971</td>
<td>1971</td>
<td>Feb. 11, 1971</td>
</tr>
</tbody>
</table>

The activity fee, athletic fee, bond revenue fee, and hospital-surgical-medical fee are not included as part of the registration fee and are not refundable.
ASSISTANTSHIPS

Teaching Assistantships, Research Assistantships and Staff Assistantships with stipends up to $2880 for the academic year are available to qualified students. For highly qualified individuals a higher stipend may be awarded. Assistantships may be extended through the summer session with additional remuneration.

The registration and out-of-state fees are waived for holders of assistantships.

FELLOWSHIPS AND TRAINEESHIPS

Graduate School Fellowships with stipends up to $3000 for the academic year are available to a limited number of outstanding students. Registration and out-of-state fees are waived for recipients. Selection is based upon academic achievement and departmental recommendation—not financial need. Recipients must enroll as full-time (12 semester hours each semester) students. Students at any level of graduate work may be appointed.

National Defense Education Act Title IV Graduate Fellowships with stipends of $2000 plus $400 per eligible dependent for the academic year are available to qualified students majoring in one of the following departments: Business Education, Chemistry, Education (Administration and Services, Elementary, and Secondary Professional), History, and Psychology. Recipients must enroll as full-time (12 semester hours each semester) students. An extension through the summer session with an additional stipend and dependency allowance is normally possible. Most fees are waived for NDEA Fellowship holders.

National Science Foundation Graduate Traineeships with stipends of $2400 plus $500 per eligible dependent for the calendar year are available to qualified students majoring in one of the following departments: Biological Sciences, Chemistry, Economics, Geography, Geology, Mathematics, Physics, Political Science, Psychology, and Sociology and Anthropology. Recipients must enroll as full-time (12 semester hours each semester) students. Most fees are waived for holders of NSF traineeships.

Research Fellowships with varying stipends are also available for work on funded projects. The registration and out-of-state fees are waived.

LOANS

The National Defense Student Loan Program

Northern Illinois University is participating in the Student Loan Program of the National Defense Act of 1958. Graduate students or prospective graduate students who are in need of financial assistance to continue or commence their college education may be able to borrow up to $2,500 a year through this loan program.

The law requires that each borrower be at least a half-time graduate student, that he be in need of the amount of his loan to pursue his course of study, and that he be, in the opinion of the University, capable of maintaining good standing in his chosen course of study. It is further provided in the law that special consideration in the selection of loan recipients be given to (a) students with a superior academic background who express a desire to teach in elementary or secondary schools and (b) students whose academic background indicates superior capacity or preparation in science, mathematics, engineering, or a modern foreign language.

The borrower must sign a note for the loan. Repayment of the loan begins one year after the borrower ceases to be at least a half-time student, with payment being completed within ten years. No interest on the student loan may accrue prior to the beginning of the repayment period, and interest thereafter is to be paid at the rate of three percent a year.

The National Defense Education Act contains a provision that up to fifty percent of a loan (plus interest) may be canceled in the event the borrower becomes a full-time teacher in a public or non-profit elementary or secondary school or institution of higher education. Such cancellation is to be at the rate of ten percent a year up to five years. A borrower may cancel his loan in full at the rate of fifteen percent a year if teaching in a low income area or if teaching handicapped children.

All students applying for a National Defense Student Loan must submit a Parent's Confidential Statement before May 1 prior to the academic year financial aid is needed. It must be submitted to College Scholarship Service, Box 881, Evanston, Illinois. The American College Testing Program's Family Financial Statement, submitted to American College Testing Program, P.O. Box 767, Iowa City, Iowa, is also acceptable.

In addition to submitting the Parent's Confidential Statement, applicants must also submit the Application for Financial Aid to Northern Illinois University.
ASSISTANTSHIPS, FELLOWSHIPS, AND LOANS

These forms are available from the Student Financial Aids Office.

Illinois Guaranteed Loan Program

The Illinois General Assembly has authorized a loan program to guarantee student loans made by commercial lenders. It is hoped that no qualified student will be denied an opportunity to pursue a program of higher education because of financial reasons.

An eligible student may borrow from a minimum of $300 to the maximum of $1500.

A student applicant must be:
1. a citizen of the United States,
2. a bona fide resident of the State of Illinois,
3. a person of integrity, capable of recognizing and accepting the responsibility of ultimate repayment of any loan indebtedness, and
4. a full-time student. (Note: Application may be made after acceptance for enrollment, but loan funds will not be received until actual enrollment.)

Repayment of loan:
Principal — Payments at a minimum of $30.00 monthly will begin nine months after graduation or cessation of full-time study. In no event can the repayment period extend beyond six years from the date the borrower ceases to be a full-time student.

Interest — The maximum interest rate permitted by law is 7% simple interest which begins on the date of the loan. If the family’s annual adjusted income is less than $15,000, the Federal Government will pay all of the interest while the student is in college. A student not qualified for federal interest subsidy will be required to pay his own interest on a semi-annual basis while he is in school.

Other Loan Funds

Northern Illinois University Foundation. The Foundation administers five funds from which deserving students may borrow, at a low rate of interest, on personal notes: The Student Loan Fund, the Bertha Bennett Sawyer Loan Fund, the Lewis V. Morgan Loan Fund, the Emil A. Anderson Loan Fund, and the Janet Lynn Mary Rams Loan Fund. Loans are

not made to entering students. Applications may be obtained in the Office of the Coordinator of Student Financial Aids.

Northern Illinois Men’s Loan Fund. A loan fund is available to male students in good standing who have earned a cumulative grade average of at least “B” at Northern Illinois University. Small emergency loans may be obtained from this fund in amounts up to approximately $100. All loans are repayable during the semester in which they are secured. Applications and further information may be secured from the Coordinator of Student Financial Aids.

John S. Clark Memorial Loan Fund. The elementary teachers of Waukegan, Illinois, have presented to the University a sum of money to be used as a loan fund for students facing emergency situations. The fund serves as a memorial to the late John S. Clark, who served as Superintendent of the Waukegan Elementary Schools for many years. Information concerning the procurement of a loan from this source may be secured from the Coordinator of Student Financial Aids.

Robert A. Gardiner Memorial Loan Fund. This loan fund was established by the Kappa Chapter of Professional Bookmen of America and the Illinois Bookmen’s Association. Available to students in amounts up to $100.

Associated Women Student’s Loan Fund. This organization, to which all undergraduate women belong, has funds available for short term loans (not exceeding $100) to any graduate woman maintaining at least a “B” average at Northern Illinois University. Applications may be obtained in the Office of the Coordinator of Student Financial Aids.

GRANTS-IN-AID

Graduate students may apply for Grants-in-Aid. Grants will be made on the basis of scholastic competence, character, special ability, and need. Grants vary in amount, depending upon the financial need of the applicant. The Grants-in-Aid Committee administers Northern’s Grants-in-Aid program. Students wishing consideration for a grant may obtain further information and application forms in the Student Financial Aids Office.

Northern Illinois University will not discriminate on the ground of race, creed, color, or national origin of any applicant for an assistantship or fellowship or for financial aid.
REQUIREMENTS FOR GRADUATE DEGREES

REQUIREMENTS FOR FIFTH-YEAR PROGRAMS

The following regulations apply to candidates for the degrees Master of Arts, Master of Music, Master of Science, Master of Science in Community Mental Health, and Master of Science in Education.

Detailed requirements for specific degrees appear in the departmental sections of the catalog.

Candidacy

Admission to the Graduate School does not imply admission to candidacy for a master's degree. Upon completion of nine (9) semester hours of graduate work, exclusive of work taken as a student-at-large (see page 17), at Northern Illinois University, a student may apply for admission to candidacy. He must, however, apply for candidacy no later than the end of the semester in which he will complete his fifteenth (15) semester hour of graduate work, exclusive of work taken as a student-at-large (see p. 17), at Northern Illinois University.

To be admitted to candidacy a student must: (1) have on file in the Graduate School and be following a program of courses approved by his adviser; (2) have a minimum grade point average of 3.00 in courses taken in the Graduate School at Northern Illinois University (This average must be earned in the major field as well as in the total program. Area majors must earn a “B” average in each of the fields comprising the majors.); (3) have removed all deficiencies; and (4) have the scores of his Aptitude Test of the Graduate Record Examinations on file in the Graduate School Office, a condition met prior to admission. A classified student who fails to make admission to candidacy by the end of the semester in which he completes his fifteenth (15) semester hour of graduate work, exclusive of work taken as a student-at-large (see p. 17), at Northern Illinois University will be given an academic dismissal.

Deficiencies

A graduate of an approved college or university is presumed to be eligible for advanced work in any department if he presents a major in the area of work of that department. Any specific courses or their equivalents which are prerequisites to advanced courses shall be looked upon as deficiencies to be made up before the student takes such advanced courses.

Students who elect the sequence in education for elementary school teachers will be expected to regard as deficiencies those courses necessary for certification as an elementary school teacher in the State of Illinois.

Credit Requirement

A candidate for a master’s degree must earn a minimum of 30 semester hours of graduate credit and a minimum grade average of “B.” (This average must be earned in the major field as well as in the total program. Area majors must earn a “B” average in each of the fields comprising the majors.) The minimum required number of semester hours in residence is 21. Graduate credit is given only for those courses in which a grade of “C” or better is earned.

Normally, a candidate for the degree Master of Science in Education is expected to earn not less than 9 semester hours in courses outside his major field. In exceptional cases, this requirement may be waived by the Dean of the Graduate School. For an exception to be considered, the student, with the consent of his adviser or advisory committee, must submit a written petition to the Dean of the Graduate School, stating clearly his reasons for desiring a waiver.

The degree Master of Science in Education is conferred only on students following a program of courses which will satisfy Illinois Certification requirements for the standard elementary or secondary certificate, except for those completing approved programs in the area of the community college or school business management in the College of Education.

Credits Transferable

Subject to the approval of the Dean of the Graduate School, a student will be allowed to transfer a maximum of 6 semester hours of graduate credit from another institution, none of which shall be in extension or correspondence work.* To receive consideration of work done elsewhere, the student must file a petition with the Dean and request the registrar of the other institution to send a transcript of his work directly to the Office of the Graduate School. No official transfer of credit will be made until the student has been admitted to candidacy.

Credit for Extension Work

With the approval of the major department, a student will be permitted to offer for credit a maximum of 9 semester hours in extension work taken from this institution.* A list of

*Students who wish credit by transfer and also wish to take courses in extension should keep in mind the requirement that a minimum of 21 semester hours must be earned in residence.
REQUIREMENTS FOR GRADUATE DEGREES

centers approved for graduate extension work may be secured from the Director of Extension.

Courses for Which Credit Is Allowed

Only courses which are numbered 400-499, 500-599, and 600-699 carry credit toward the master's degree. Not more than fifty percent of the credit counted toward a master's degree may be earned in courses numbered 400-499.

Some courses numbered in the 400's carry only undergraduate credit. Graduate students enrolled in 400 level courses are responsible for ascertaining whether these courses have been approved for graduate credit. Only those courses listed in this catalog or its supplements carry graduate credit.

Limitation of Time

All work for the master's degree, including work transferred from other institutions, must be completed within a period of six consecutive years.

Repetition of a Course

If a course taken to complete the requirements for a master's degree does not fall within the six-year period permitted for the accumulation of the total semester hour credits required for the degree, the course, with departmental approval, may be retaken for credit.

Advisory System

Each student is assigned an adviser or advisory committee whose purpose is to guide his selection of courses and to recommend him, when properly qualified, for the degree.

The program of courses should be formulated by the student in conference with his adviser or advisory committee during the first semester of graduate work. Program of courses forms may be obtained from the Office of the Dean of the Graduate School and must be completed before a student is admitted to candidacy. (See p. 23.)

If any changes are made in this program of courses it is the responsibility of the student to see that his adviser submits such changes to the Graduate School on the appropriate forms.

Thesis

The candidate, if his program so requires, shall submit an original and two copies of a thesis, together with five abstracts thereof, approved by a departmental committee. The original, the two copies, and the abstracts must be submitted as indicated in Theses and Dissertations: Some Basic Requirements, available from the Graduate School.

Once a student has formally begun the thesis or its equivalent he must continue registration in course number 599 or its equivalent in each subsequent semester, with the exception of summer sessions, until all requirements for the degree or certificate are completed.

Registration for this purpose may be in absentia.

If circumstances prohibit continuing registration as stipulated above, a graduate student must request a leave of absence from the Dean of the Graduate School. Any student interrupting his registration without obtaining a leave of absence will be withdrawn from his degree program. Any student requesting reinstatement in a degree program should direct such a request in writing to the Dean of the Graduate School.

Any student using the services and facilities, academic or otherwise, of the University during a summer session must be registered for the period during which the facilities are used or services are rendered.

Examinations

Final comprehensive examinations are required of all candidates for the master's degree; they may be either written or oral or both at the option of the department. These examinations are given by the major department or departments. Any student planning to take a comprehensive examination must file a letter of intent with the appropriate department head. (See Graduate School Calendar.)

Departments concerned will post notices of the date and place for each examination at least two weeks before it is to be administered.

REQUIREMENTS FOR SIXTH-YEAR PROGRAMS

Certificate of Advanced Study

The purpose of the sixth-year programs leading to the Certificate of Advanced Study is primarily to encourage and enable school administrators, supervisors, and classroom teachers (elementary, secondary, and junior college) to attain greater mastery of their chosen fields than they can attain in five years of formal study and, secondly, to provide the stimulation which will lead some qualified students through an intermediate stage toward the doctorate.

Credit Requirement

A candidate for the Certificate of Advanced Study must
earn a minimum of 30 semester hours beyond the master’s degree or its equivalent with at least a 3.00 average exclusive of work taken to remove deficiencies. All credit may be concentrated in one major area or distributed in such fashion that a maximum of 10 semester hours is earned in fields closely related to the major area. Credit for at least 21 semester hours must be earned in courses given on the campus of Northern Illinois University.

Admission

For admission to pursue the Certificate of Advanced Study (as distinct from admission to the Graduate School) an applicant must (a) hold a master’s degree or equivalent from an approved institution whose requirements for the degree are substantially equivalent to those of Northern Illinois University or (b) be in the last semester of work leading to that degree at Northern Illinois University. To be admitted in classified status, the student must have an average of 3.20 in his graduate work at the master’s level.

Students of Northern Illinois University having complete admission files in the Graduate School Office must re-apply (without additional fee) to pursue work leading to the completion of the sixth-year program. New students must supply the necessary fee and admission data. (See p. 15 for submission dates.)

Admission to Candidacy

Admission to the sixth-year program does not imply that a student is, or may become, a candidate for the Certificate of Advanced Study.

Upon the completion of nine (9) semester hours of graduate work, exclusive of work taken as a student-at-large (see p. 17), at Northern Illinois University, a student may apply for admission to candidacy. He must, however, apply for candidacy no later than the end of the semester in which he will complete his fifteenth (15) semester hour of graduate work, exclusive of work taken as a student-at-large (see p. 17), at Northern Illinois University. A classified student who fails to make admission to candidacy by the end of the semester in which he completes his fifteenth (15) semester hour of graduate work, exclusive of work taken as a student-at-large (see p. 17), at Northern Illinois University will be given an academic dismissal.

To be admitted to candidacy a student must: (1) have on file in the Graduate School and be following an approved program of courses; (2) have a minimum grade point average of 3.00 in courses taken in the Graduate School at Northern Illinois University; (3) have removed all deficiencies; and (4) have the scores of his Aptitude Test of the Graduate Record Examinations on file in the Graduate School Office.

Credits Transferable

If a transfer of graduate credit is desired, applicants should file a petition with the Dean and request the registrar of any institution concerned to send a transcript directly to the Office of the Graduate School. Subject to the approval of the Dean and the chairman of the advisory committee, a student may transfer a maximum of 8 semester hours of graduate credit from another institution, none of which shall be in extension or correspondence work. No official transfer of credit will be made until the student has been admitted to candidacy.

Advisory System

Each student is assigned an advisory committee appointed by the Dean of the Graduate School upon recommendation of the head of the major department. The committee will review the advisee’s selection of a major, help him confirm or revise the selection, assist in planning the program of courses, and evaluate his work periodically.

Program of Courses

Early in his first term, or, if feasible, before his initial registration, a student should confer with members of his advisory committee to plan a program of courses leading to the certificate or degree. The original of the program, properly signed, must be filed with the Dean of the Graduate School, a copy retained by the chairman of the advisory committee and another retained by the student. If any changes are made in this program of courses it is the responsibility of the student to see that his adviser submits such changes to the Graduate School on the appropriate forms.

Qualifying Examination

During the first term of his work in the sixth-year program, a student shall successfully complete, at the option of the major department, a qualifying examination. Failure to complete the examination successfully will be considered sufficient cause for drop or probation notice at the discretion of the advisory committee, the head of the major department, and the Dean of the Graduate School.
REQUIREMENTS FOR GRADUATE DEGREES

Credit for Extension Work

With the approval of the major department a student will be permitted to offer for credit at sixth-year level a maximum of 6 semester hours in extension work taken from this institution. A list of centers approved for graduate extension work may be secured from the Director of Extension.

Courses for Which Credit Is Allowed

Only courses which are numbered 400-499, 500-599, and 600-699 and which are taught by members of the graduate faculty carry graduate credit. Not more than 9 semester hours of the credit counted toward the Certificate of Advanced Study may be earned in courses numbered 400-499. Credit for at least 21 semester hours must be earned in courses numbered 500-699.

Some courses numbered in the 400’s carry only undergraduate credit. Graduate students enrolled in 400-level courses are responsible for ascertaining whether these courses have been approved for graduate credit. Only those courses listed in this catalog or in its supplement carry graduate credit.

Limitation of Time

All work for the Certificate of Advanced Study, including work transferred from other institutions, must be completed within a period of six consecutive years.

Repetition of a Course

If a course taken to complete the requirements for a C.A.S. does not fall within the six-year period permitted for the accumulation of the total semester hour credits required for the degree, the course, with departmental approval, may be retaken for credit.

Thesis

Every candidate shall submit an original and two copies of a significant research study, field study, or thesis, together with five abstracts thereof, approved by a departmental committee. The original, the two copies, and the abstracts must be submitted as indicated in Theses and Dissertations: Some Basic Requirements, available from the Graduate School. Once a student has formally begun the thesis or its equivalent he must continue registration in course number 599 or its equivalent in each subsequent semester, with the exception of summer sessions, until all requirements for the degree or certificate are completed.

Registration for this purpose may be in absentia.

If circumstances prohibit continuing registration as stipulated above, a graduate student must request a leave of absence from the Dean of the Graduate School. Any student interrupting his registration without obtaining a leave of absence will be withdrawn from his degree program. Any student requesting re-instatement in a degree program should direct such a request in writing to the Dean of the Graduate School.

Any student using the services and facilities, academic or otherwise, of the University during a summer session must be registered for the period during which the facilities are used or services are rendered.

Final Examination

The final examination of each candidate is administered by the department responsible for the candidate’s major area. Comprehensive in nature, it is a written or an oral examination, or both. Any student planning to take a comprehensive examination must file a letter of intent with the appropriate department head. (See Graduate School Calendar.)

Departmental Requirements

Other than the requirement previously indicated that, unless exception is granted, a candidate for a certificate or degree will be expected to earn a minimum of 20 semester hours in his major department, departmental requirements which govern the structuring of programs of study for individual students are flexible. The primary aim of Northern’s sixth-year program is to help experienced teachers, supervisors, and administrators improve themselves. It is to help these people become master teachers or administrators. Hence emphasis will be placed on individual needs as they are determined by the advisory committee in conferences with the student rather than on adherence to the requirements of a specifically prescribed program.

Master of Business Administration*

The purpose of the degree Master of Business Administration, a two-year program, is to prepare students for responsible careers in business enterprises and other organizations such as public institutions, educational systems, and non-profit organizations.

Credit Requirement

A candidate for the degree Master of Business Administra-

*See pp. 162-163 for details concerning this degree.
tion must earn approximately 60 semester hours beyond the bachelor’s degree with at least a 3.00 average exclusive of work taken to remove deficiencies.

Admission to Candidacy

Upon the completion of nine (9) semester hours of graduate work, exclusive of work taken as a student-at-large (see p. 17), at Northern Illinois University, a student may apply for admission to candidacy. He must, however, apply for candidacy no later than the end of the semester in which he will complete his fifteenth (15) semester hour of graduate work, exclusive of work taken as a student-at-large (see p. 17), at Northern Illinois University. A classified student who fails to make admission to candidacy by the end of the semester in which he completes his fifteenth (15) semester hour of graduate work, exclusive of work taken as a student-at-large (see p. 17), at Northern Illinois University will be given an academic dismissal.

To be admitted to candidacy a student must: (1) have on file in the Graduate School and be following an approved program of courses; (2) have a minimum grade point average of 3.00 in courses taken in the Graduate School at Northern Illinois University; (3) have the scores of his Aptitude Test of the Graduate Record Examinations on file in the Graduate School Office; and (4) have the scores of his Admission Test for Graduate Study in Business on file in the Graduate Studies in Business Office.

Credits Transferable

If a transfer of graduate credit is desired, the applicant should file a petition with the Dean and request the registrar of any institution concerned to send a transcript directly to the Office of the Graduate School. Subject to the approval of the Dean and the chairman of the advisory committee, a student may transfer a maximum of six (6) semester hours of graduate credit from another institution to apply to Phase One of the M.B.A. and a maximum of eight (8) semester hours to apply to Phase Two of the M.B.A. No transfer credit from another institution shall be in extension or correspondence work. No transfer of credit will be made until the student has been admitted to candidacy. (See also: Residence Requirement.)

Credit for Extension Work

With the approval of the student’s adviser, a maximum of 9 semester hours of graduate credit in extension work taken from this institution may be applied to Phase One of the M.B.A.; a maximum of 6 additional semester hours of graduate credit in extension work taken from this institution may be applied to Phase Two of the M.B.A. (See also: Residence Requirement.)

Residence Requirement

In Phase One there is no minimum requirement for the number of graduate credits to be earned in residence. A student may not, however, use a combined total of more than nine (9) semester hours in transfer and extension credit in the completion of this Phase.

Twenty-one (21) semester hours of graduate credit in Phase Two must be earned in residence at Northern Illinois University. Therefore, the total amount of combined credit in transfer and extension applied to Phase Two may not exceed nine (9) semester hours.

Courses for Which Credit Is Allowed

Not more than six (6) semester hours of credit earned in courses numbered 400-499 may be applied to Phase Two of the M.B.A.

Advisory System

Upon admission students are assigned a faculty adviser whose purpose is to guide their selection of courses and to recommend them, when properly qualified, for the degree.

Program of Courses

Early in his first term, or if feasible, before his initial registration, a student should confer with members of his advisory committee to plan a program of courses leading to the certificate or degree. The original of the program, properly signed, must be filed with the Dean of the Graduate School, a copy retained by the chairman of the advisory committee and another retained by the student. If any changes are made in this program of courses it is the responsibility of the student to see that his adviser submits such changes to the Graduate School on the appropriate forms.

Limitation of Time

A student required to complete more than 45 semester hours of graduate work at Northern Illinois University in the program leading to the degree Master of Business Administration must complete all of the work within a period of seven
REQUIREMENTS FOR GRADUATE DEGREES

consecutive years. A student required to complete 45 semester hours or less of graduate credit at Northern Illinois University must complete all of the work within a period of six consecutive years.

Repetition of a Course

If a course taken to complete the requirements for a Master of Business Administration degree does not fall within the six or seven year period permitted, whichever is applicable, for the accumulation of the total semester hour credits required for the degree, the course, with departmental approval, may be re-taken for credit.

Thesis

The writing of a thesis is optional.

Master of Fine Arts*

The degree Master of Fine Arts requires 60 semester hours of graduate study. The degree is designed primarily for those students who plan to prepare themselves for college teaching in one of the studio areas or for a profession in the fine and commercial arts fields.

Credit Requirements

A candidate for the degree Master of Fine Arts must earn 60 semester hours beyond the bachelor's degree with at least a 3.00 average exclusive of work taken to remove deficiencies.

Admission

The basic requirements for admission after the completion of the bachelor's degree are the same as those for admission to the Graduate School. Students having the degree Master of Arts and continuing in a Master of Fine Arts program must have a minimum average of 3.20 in graduate work to be admitted as a classified student.

Students of Northern Illinois University having complete admission files in the Graduate School Office must reapply (without additional fee) to pursue work leading to the degree Master of Fine Arts. New students must supply the necessary fee and admission data.

General Requirements and Procedures

Requirements and procedures such as Admission to Candidacy, Credits Transferable, Advisory System, Program of Courses, Qualifying Examinations, Credit for Extension Work, Courses for Which Credit Is Allowed, Final Examination are the same as for the Certificate of Advanced Study previously cited.

Limitation of Time

All work for the degree Master of Fine Arts, including work transferred from other institutions, must be completed within a period of seven consecutive years.

Repetition of a Course

If a course taken to complete the requirements for a M.F.A. does not fall within the seven-year period permitted for the accumulation of the total semester hour credits required for the degree, the course, with departmental approval, may be retaken for credit.

One-Man Show

The student's work must culminate in a one-man show. Three photographic copies of the one-man show must be submitted to the Graduate School as the equivalent of a thesis. Instructions for documentation of the one-man show are available from the Department of Art.

REQUIREMENTS FOR DOCTORAL PROGRAMS

Doctor of Education

Doctor of Philosophy

The doctorate is the highest degree granted by the University. It is conferred only for work of distinction in which the student displays powers of original scholarship. The doctorate will not be conferred merely for accumulating credits.

1. Admission to and Retention in Doctoral Work

   a. Admission—Normally a student will be expected to have bachelor's and master's degrees from Northern Illinois University or from other accredited institutions whose requirements are substantially equivalent to those of Northern. No student will be admitted to doctoral work unless his undergraduate and graduate record (including test scores) indicates his ability to do work of high quality in his chosen field.

   For admission to programs beyond a master's degree, a student must have at least a 3.20 average in graduate
work at the master's level and approval of the department in which he plans to major.

Two official copies of undergraduate and graduate transcripts should be sent directly to the Dean of the Graduate School. At least four letters of recommendation are required: they should be from the student's present employer and from teachers qualified to judge his ability to do graduate work.

Admission to doctoral work in a specific department may also require passing whatever entrance tests, screening devices, or interviews are required by the individual department and approved by the Graduate Council.

b. Retention—Retention in doctoral work will depend upon a student's maintaining the honor point average (3.00) required by the Graduate School. A student who receives 12 semester hours of graduate credit below "B" or 6 semester hours below "C" will be given an academic dismissal.

Students will be expected to pass whatever examinations are required and to fulfill the language requirement or research tool requirement and other special requirements.

2. Course Requirement—Graduate students working for a doctor's degree will be expected to complete at least three academic years of work beyond the bachelor's degree. This will include formal course work, independent study, research, and dissertation. When translated into semester hours, this will be approximately the equivalent of 90 semester hours. A minimum of 24 semester hours of graduate work must be taken at Northern Illinois University. Transfer credit will be allowed at the discretion of the department concerned and of the Dean of the Graduate School. Not more than 25 semester hours subsequent to the bachelor's degree shall be in graduate courses numbered 400-499. Most of the work will be in the student's major field or area of concentration. At the discretion of the student's major department, some course work may be taken in related fields.

3. Dissertation Requirement—Normally the dissertation and research will be the equivalent of about two full semesters' work (24-32 semester hours). The dissertation will be a substantial contribution to knowledge in which the student exhibits original scholarship. Its subject must be approved by the student's adviser or advisory committee. The dissertation will be microfilmed. It must be submitted in accordance with Theses and Dissertations: Some Basic Requirements, available from the Graduate School.

Once admitted to candidacy in any doctoral program the student must continue registration in course number 699 (Doctoral Dissertation) in each subsequent semester, with the exception of summer sessions, until all requirements for the degree are completed.

Registration for this purpose may be in absentia.

If circumstances prohibit continuing registration as stipulated above, a graduate student must request a leave of absence from the Dean of the Graduate School. Any student interrupting his registration without obtaining a leave of absence will be withdrawn from his degree program. Any student requesting reinstatement in a degree program should direct such a request in writing to the Dean of the Graduate School.

Any student using the services and facilities, academic or otherwise, of the University during a summer session must be registered for the period during which the facilities are used or services are rendered.

4. Language Requirement—Students working toward a Ph.D. must demonstrate a reading knowledge of two foreign languages or a reading knowledge of one foreign language and proficiency in a research tool. The language and/or research tool requirement must be met before a student is admitted to candidacy.

Students taking language examinations in French, German, Spanish or Russian will be required to take the Graduate School Foreign Language Tests of Educational Testing Services. Examinations in other foreign languages will be administered by the Department of Foreign Languages of Northern Illinois University.

5. Residence Requirement—Students pursuing a doctorate must be enrolled for a minimum of 12 semester hours in each of two consecutive semesters.*

The residency requirement for the doctorate may be fulfilled by a doctoral candidate having a full-time assistantship or a half-time instructorship if he carries 6 semester hours of academic work in each of two consecutive semesters.

*A summer session in which a student earns 12 semester hours immediately following or followed immediately by, a semester in which a student earns 12 semester hours will be regarded as the equivalent of one academic year of two consecutive semesters, except in the Departments of Education.
The residence requirement for doctoral programs may be satisfied during the period a student is pursuing the master’s degree, provided it is within the seven-year time limitation placed on doctoral programs.

6. Candidacy—The student is admitted to candidacy upon the satisfactory completion of most or all of the course work prescribed in the program, the language and/or research tool requirements, the candidacy examination, the filing of an approved dissertation topic, and recommendation of his advisory committee.

7. Qualifying, Candidacy, and Oral Examinations
   a. After at least one semester (about 12-15 semester hours of work beyond the master’s degree), the student may be required, at the discretion of his major department, to take qualifying examinations, which may be written or oral or both and which test the background of the student in his major and related fields, and his competence to pursue further graduate work. A student who fails this examination may, with the permission of his major department, repeat it after the lapse of at least one semester. A student who fails this examination a second time will not be permitted to continue work toward the doctorate.

   b. When a student has completed most or all of his course work, and not later than eight months before the granting of the doctor’s degree, he will take a written candidacy examination.** This examination will cover work in the student’s major department and related fields. A student who fails this examination may, with the permission of his examining committee, repeat it after the lapse of at least one semester. A student who fails this examination a second time will not be permitted to continue work toward the doctorate.

   c. After completing all other requirements for the doctorate (including the dissertation), the student will present an oral defense of his doctoral dissertation before an examining committee.

   d. Committees to conduct examinations will be nominated by the head of the student’s major department and appointed by the Graduate Dean. Representation on candidacy and dissertation examining committees will be such as to insure the presence of professors representing appropriate major and minor fields. The number of professors on the committees will normally be three to five. If a student has taken all his graduate work in one department, at least one faculty member in a related department will be nominated for the committee to conduct the final oral defense of the doctoral dissertation.

8. Limitation of Time—Students who hold a baccalaureate degree but not an advanced degree, and who are admitted to a doctoral program, must be admitted to candidacy within 7 consecutive years from the time of the first enrollment in graduate course work applicable to the doctorate.

   Students who hold a master’s degree and who are admitted to a doctoral program must be admitted to candidacy within 6 consecutive years from the time of the first enrollment in graduate course work subsequent to the master’s degree and applicable to the doctorate.

   Students who hold a sixth-year degree or certificate and who are admitted to a doctoral program must be admitted to candidacy within 5 consecutive years from the time of the first enrollment in graduate course work subsequent to the sixth-year degree or certificate which is applicable to the doctorate.

   Students must complete all requirements for the doctorate within 3 consecutive years after being admitted to candidacy. (See also Residence Requirements, above.)

9. Extension Work—Depending on the number of residence credits transferred from other institutions, up to 9 semester hours in extension work taken at this institution will, with the approval of the major department, be allowed at the fifth-year level; but no further extension credits will be counted toward the Ph.D. or Ed.D.* No credit will be allowed for extension work taken at other institutions. More detailed requirements for the doctorate in Business Education, Chemistry, Economics, Education, English, Hist-
tory, Political Science and Psychology are listed under the specific departments.

STUDENT RESPONSIBILITY

It is the responsibility of the student to know and observe all regulations and procedures relating to the program he is pursuing. In no case will a regulation be waived or an exception granted because a student pleads that he was ignorant of the regulation or that he was not informed of it by his adviser or other authority. A student planning to graduate should be familiar with the dates relating to application for graduation and other pertinent deadlines. (See Calendar.)

A student must satisfy the requirements of the catalog in force at the time he is admitted to and begins course work in a degree program, or he may graduate under a subsequent catalog provided he complies with all the requirements of the later catalog.

An unclassified student must satisfy the requirements of the catalog in force at the time he becomes classified and is admitted to a degree program, or he may graduate under a subsequent catalog provided he complies with all the requirements of the later catalog.

The following publications are available from the Office of the Graduate School: Graduate School Catalog, Graduate Calendar, Handbook for Graduate Students, Information for Prospective Graduate Students from Other Countries, and Theses and Dissertations: Some Basic Requirements.
College of Liberal Arts and Sciences

Biological Sciences
Center for Southeast Asia Studies
Chemistry
Earth Sciences
Economics
English
Foreign Languages
Geography
Geology
History
Journalism
Library Science
Mathematics
Philosophy
Physics
Political Science
Psychology
Social Sciences
Sociology and Anthropology
Speech
The Department of Biological Sciences offers graduate programs leading to the degrees Master of Science in Education and Master of Science and, at sixth-year level, to the Certificate of Advanced Study. The Departments of Biological Sciences, Chemistry, Geography, Geology, and Physics offer an area major in General Science leading to the degree Master of Science in Education.

The prospective graduate student in Biology should obtain the Handbook for the Graduate Student in Biology, from the office of the Department of Biological Sciences. This booklet provides more detailed information about the program of the Department, and the student will be held responsible for a knowledge of the material.

The Biological Sciences Department requires that all graduate students must have achieved a satisfactory grade on the "General Advisory Examination for Biology Graduate Students" before they may obtain an approved graduate program or start on their research work. This examination is administered on the first Saturday after the start of classes in each regular semester or summer session. Each degree candidate must submit a score on the biology section of the Graduate Record Examinations.

Each student should understand that while one academic year is the minimum time for work leading to the degree Master of Science or Master of Science in Education, most students will find that an additional semester or summer session may be necessary. If the student has deficiencies, the total number of hours required may exceed 30.

MASTER OF SCIENCE IN EDUCATION

Major in Biology

Students who elect a graduate major in Biology toward the degree Master of Science in Education may elect either a thesis or a non-thesis option.

1. Thesis option.
   a. The student must successfully complete 400-500 level courses in each of the following fields: ecology, evolution, genetics, microbiology (includes mycology, protozoology, and parasitology), and physiology. Courses taken for the undergraduate degree may satisfy these requirements in part or entirely, provided that a grade of "B" or better was earned. Such courses, however, cannot be used as credit toward a master's degree.
   b. Required courses: 561, 599, 661, 670. Course 670 may be repeated to a maximum of 6 semester hours of credit.
   c. Electives in Biology to make up the remainder of the required semester hours in the major.
   d. The thesis may be based on original research or a scholarly analysis of published literature.

   a. The student must have the equivalent of the undergraduate major in Biology, including at least 12 semester hours each in Zoology, Botany, and Chemistry (through organic).
   b. The student must take at least one graduate course in each of the following areas: ecology, evolution, genetics, physiology, and microbiology (includes mycology, protozoology, and parasitology). In addition, the student must take one field course, not counting the course used to satisfy the ecology requirement.
   c. Electives to make up the remainder of the required semester hours in the major.
   d. Semester hours outside of the major should be selected from other sciences or Mathematics.

Major in General Science

Students who elect an area major in General Science leading to the degree Master of Science in Education must have completed an undergraduate major or equivalent in Biological Sciences, Chemistry, Geography, Geology, or Physics, or have completed an undergraduate General Science major. In those science fields where no undergraduate credit was earned, the student may be required to take courses for no graduate credit as deficiencies. The student is advised to choose not more than three of the four fields mentioned above.
In science fields (Biology, Chemistry, Earth Sciences, Physics) where no undergraduate major or equivalent has been earned, a minimum of 8 semester hours from the 400 or 500 course offerings shall be earned, the courses being chosen with the advice and consent of the department head in each field.

MASTER OF SCIENCE

Students who elect this degree with a major in Biology must have the equivalent of an undergraduate major in Biology and a minor in Chemistry (including organic). The course of study and the thesis topic shall be selected in conference with the major adviser. Work may be concentrated in a selected area such as genetics or microbiology. All students must take Biological Sciences 561, 599, 661, and 670. The maximum number of semester hours in research and thesis applied toward fulfilling degree requirements shall be 12.

CERTIFICATE OF ADVANCED STUDY

Students working for the Certificate of Advanced Study in the Biological Sciences must consult with the Head of the Department before planning a program. The requirements will be flexible, the candidate's background and interests being the determining factors. There will be a program of supervised research culminating in a thesis.

Course Offerings

GENERAL BIOLOGY

400. Methods and Materials for High School Biology (3)
Aims of biology in the life of the individual and the community and the methods and materials best suited to the development of these aims. Visits to high schools, field trips, and a three-day period at the Taft Campus. Students will pay their own expenses. Offered first nine weeks of each semester. Prerequisites: 16 semester hours in Biology and a cumulative average of 2.15 in Biological Sciences courses.

405. North American Ecosystems (6)
A laboratory and field analysis of environments. Lecture and laboratory on campus with minimum of 3 weeks in field. Students pay field expenses. Prerequisites: B.Sci. 416 and permission of instructor.

406. Biological Conservation (3)
Biological basis of conservation practices and the relationship of those practices to human welfare. Materials and procedures of teaching conservation. Field trips. Prerequisite: A year of Biology.

408. Genetics (3)
Principles of heredity. Primarily for the Biology major or minor. Four periods a week. Prerequisite: 8 semester hours of Biology. Math. 155 recommended.

409. Cytogenetics (3)
Cell nuclei and the behavior of chromosomes in plants and animals. Prerequisite: 8 semester hours of Biology. B.Sci. 408 recommended.

413. Microbial Physiology (3)
Physical and chemical aspects of the functions of bacteria and other microorganisms. Four periods a week. Prerequisites: B.Sci. 313 and organic chemistry.

416. General Ecology (3)
Structure and dynamics of biotic communities and populations. Students pay expenses of field trips. Prerequisites: A course in Zoology and Botany.

418. Human Heredity (2)
Human heredity in individuals and populations. Primarily for non-Biology majors. Does not carry graduate credit for Biology majors. Prerequisite: A course in Biology.

442. Evolution (2)
Theories of evolution: development of concepts of evolution; factors in organic evolution. Prerequisite: 16 semester hours in Biology or 8 semester hours in Biology and 8 semester hours in Chemistry, Physics, or Geology.

443. Cytology (4)
Cellular structure and function. Cellular organelles and their relationship to metabolic processes, including reproduction and development. Prerequisites: B.Sci. 211 and 251 or equivalent.

458. Optical and Instrumental Methods in Biology (2)
1. Optical equipment, especially the microscope; 2. measuring instruments; 3. homeostasis devices (incubators, water baths, etc.). Prerequisites: A high school course in physics, or equivalent, and consent of instructor.

465. Cellular Physiology (3)
Principles underlying cellular activity. Topics include the biochemistry of cells, cell organelles, cell environment, membranes, and energy conversions. Prerequisites: B.Sci. 310 or 355, a course in organic chemistry.
480. Genetics Laboratory (2)
Experiments designed to accompany B.Sci. 408. Prerequisite: B.Sci. 408 or concurrent registration in 408.

491. History of Biology (2)
Origin and development of major ideas and syntheses in biology. Relation between condition of the other sciences and society and advances in biological knowledge. Prerequisite: 8 semester hours of Biology.

500A. Science Problems of Elementary Grades (2)
Development of constructive attitudes toward modern science in relation to problems in the elementary school. Does not carry graduate credit for Biology majors. Prerequisite: B. Sci. 305 or consent of instructor.

500B. Methods and Materials for High School Biology (2)
Problems of teaching biology in high school. Current research in this area. Prerequisite: B.Sci. 400.

505. Institute of Science for High School Teachers of Biology and General Science (4)
New information in the field and the interrelationships among the biological sciences usable in the secondary school. Field trips, lectures by visiting scientists, and individual student projects. May be repeated to a maximum of 12 semester hours, 8 of which may count toward the master's degree.

508. Genetic Concepts (3)
Discussion of the concepts arising from current research in genetics. Prerequisite: B.Sci. 408.

530. Radiation Biology (3)
The effects of radiation upon cells and organisms. Prerequisites: B.Sci. 355. 408 or equivalent, and one year of Chemistry.

540. Experimental Genetics (2)
Fundamental principles of genetics and cytogenetics illustrated by laboratory work with fruit flies, fungi, or other suitable organisms. Laboratory fee—$3.00. Prerequisite: B.Sci. 480 or equivalent.

543. Histology (3)
Animal cells and tissues including their ultra-structure. Cellular structure in relationship to tissue and organ systems. Prerequisite: B.Sci. 443 or consent of instructor.

550. Experimental Parasitology (3)
Continuation of B.Sci. 450.

561. Introduction to Scientific Literature (2)
Practical use of biological literature. Prerequisite: 30 semester hours of Biology.

562. Aquatic Biology (3)
Aquatic environments—physiographic, physical, and chemical and aquatic life. Collecting, preserving, identifying, and recognizing native animals and plants. Prerequisites: B.Sci. 211 and 251.

570. Introduction to Biostatistics (3)
Lectures and conferences on statistical treatment of biological research data. Prerequisite: Math. 155 or equivalent.

582. Mechanisms of Evolution (3)
Theory and operation of evolutionary mechanisms (isolating, karyological, genetical). Prerequisites: B.Sci. 408, 409, 442.

599. Thesis
A. Master's degree study (1-6)
B. Certificate of Advanced Study (1-6)
The student is eligible to register for this course after his research problem is approved. May be repeated to a maximum of 6 semester hours of credit. Prerequisite: Consent of research supervisor.

600. A-B-C-D-E-G Special Topics in Biology
A—Physiology (1-9)
B—Development and Morphogenesis (1-9)
C—Genetics (1-9)
D—Microbiology (1-9)
E—Environmental Biology (1-9)
G—Systematics and Evolution (1-9)
Lectures, discussions, and reports on topics of special interest in a particular field of biology. 1 to 9 semester hours as scheduled; courses may be repeated in one or more fields of biology. The maximum number of semester hours is to be 9 in any field of biology. Prerequisite: Consent of instructor.

661. Seminar (1)
Special topics in biology. May be repeated to a maximum of 4 semester hours. Prerequisite: B.Sci. 561.

670. Research (1-9)
Independent study of problems under the supervision of an adviser in the Department. May be repeated to a maximum of 12 semester hours toward one degree. Prerequisite: Consent of the research supervisor.

689. Seminar in College Teaching in Biology (3)
Discussion and conferences on problems, techniques, and actual practice in college teaching. Prerequisite: Permission of Department.
BOTANY

410. Plant Anatomy (3)
Structure of vascular plants, primarily flowering plants. Prerequisite: B.Sci. 211.

412. Mycology (3)
Culture, morphology, and economic significance of the fungi. Prerequisite: B.Sci. 211.

414. Fresh-Water Algae (3)
Identification, economic importance, and limnological relations of the algae. Prerequisite: B.Sci. 211.

415. Applied Microbiology (3)
Designed to acquaint the student with the various microbial processes and problems encountered in the community, industry and government. Prerequisites: B.Sci. 313 and a course in Organic Chemistry.

510. Physiology of Plant Growth and Development (3)
Endogenous and exogenous regulations of growth and development processes in plants. Prerequisites: B.Sci. 310 and two years of chemistry or consent of instructor.

511. Plant Nutrition (3)
Inorganic nutrition of plants. Roles of the essential elements and techniques of investigation in plant nutrition. Prerequisites: B.Sci. 310 and two years of chemistry or consent of instructor.

512. Plant Pathology (3)
Specific causal agents of plant diseases, their identification, and control measures. Parasitism and the economy of crop diseases. Prerequisite: B.Sci. 410 and consent of instructor.

514. Taxonomy (3)
Fundamental principles of classification of higher plants. Ecological distribution. Prerequisite: Beginning course in taxonomy.

516. Plant Ecology (3)
Influence of environmental factors upon plant associations evaluated. Representative communities analyzed in detail. Research techniques used in field and laboratory. Students will pay expenses of field trips. Prerequisite: B.Sci. 416 or consent of instructor.

518. Soil Microbiology (3)
The major groups of soil microorganisms: their significance and reactions. Prerequisites: B.Sci. 313, one semester of Chemistry, and consent of instructor.

520. Plant Morphogenesis (3)
Cultures of plant cells, tissues, and organs in relation to problems of differentiation and development. Prerequisites: B.Sci. 410 and consent of instructor.

ZOOLOGY

450. Animal Parasitology (4)
Introductory study of animal parasitism. Laboratory fee of $2.50. Prerequisite: B.Sci. 251 or equivalent.

451. Protozoology (3)
Systematic examination of the protozoa. Prerequisite: B.Sci. 251 or equivalent.

452. Ornithology (3)
Avian taxonomy, anatomy, and behavior. Several field trips taken to appropriate areas. Prerequisite: One year of Zoology.

453. Entomology (3)
Insect anatomy and taxonomy, including general ecology and economic importance. Other arthropod groups are broadly considered in relation to insects. Prerequisite: B.Sci. 251 or equivalent.

455. Comparative Physiology (3)
Mechanisms responsible for maintaining the functional integrity of invertebrates and lower vertebrates. Prerequisites: One year of Zoology—one year of Chemistry.

456. Ichthyology (2)
Taxonomy, ecology, and conservation of fresh water fish. Prerequisites: B.Sci. 211, 251.

457. Mammalogy (3)
Mammals of the world with emphasis on Illinois forms. Characteristics, ecology, economic value, and a collection of study skins. Prerequisites: B.Sci. 251 and consent of instructor.

459. Comparative Vertebrate Ethology (3)
Determination of the function, biological significance, causation, and evolution of species' typical behavior. Five periods a week. Prerequisite: 12 semester hours of Zoology.

461. Endocrinology (3)
Ductless glands and their functions. Prerequisites: B.Sci. 355 and consent of instructor.

462. Insect Physiology (3)
Physical and chemical aspects of the functions of insects and other arthropods. Prerequisites: B.Sci. 251, Chem. 231 or 331 B.Sci. 453 and Phys. 251 recommended.
463. Invertebrate Zoology (4)  
Structure, behavior, and classification of major invertebrate types. Prerequisite: B.Sci. 251 or equivalent.

464. Comparative Reproductive Physiology (3)  
An introductory comparative study of the anatomical aspects of reproduction and the physiological contributions to animal fertility. Prerequisite: One of the following: B.Sci. 355, 356, 257, or 455.

517. Animal Ecology (3)  
Analysis of the relationship between animals and the environment; response to environmental stress; the dynamics of populations; community organization. Experimental techniques emphasized. Prerequisite: B.Sci. 416 or 570 or consent of instructor.

551. Advanced Protozoology (3)  
Culture and other laboratory techniques used in the investigation of the protozoa. Prerequisite: B.Sci. 451.

552. Advanced Ornithology (4)  
A survey of the worldwide avian families emphasizing systematics, morphology, ecology and behavior. Prerequisite: B.Sci. 452.

553. Advanced Entomology (3)  
History of insect classification, rules of nomenclature and procedures in systematic studies. Evolutionary origin of basic insect structure, functional morphology, life cycles, systematic review of major insect groups and ecology. Saturday field trips and a student problem. Students will pay expenses of field trips. Prerequisite: B.Sci. 453 or equivalent.

554. Advanced Embryology (3)  
Continuation of B.Sci. 354. Cellular and molecular aspects of development. Assigned experimental work. Prerequisite: B.Sci. 354 or consent of instructor.

555. Advanced Physiology (3)  
Special topics in regulatory physiology with emphasis on servomechanisms. Prerequisites: B.Sci. 355 or 455 and a course in Organic Chemistry.

560. Field Zoology (3)  
Collection, preservation, and identification of lower vertebrates and terrestrial and aquatic invertebrates. Detailed study of habits and life histories of selected forms. Students will pay expenses of field trips. Prerequisite: B.Sci. 251 or equivalent.

586. Systematics of the Chordates (3)  
Intensive study of classification of chordates with the emphasis on phylogenetic relationship of the major divisions. Morphological, genetic, and numerically oriented taxonomic approaches. Prerequisite: B.Sci. 356.
Center for Southeast Asian Studies and Training

Faculty: Thomas, Coordinator, Beaudry, de Queljoe, Tirtha, Wiens, Wit.

The Center for Southeast Asian Studies and Training commenced operations in September, 1963. The primary functions of the Center are: the coordination of Southeast Asian courses offered by various departments; the development of specialized library and research facilities; the facilitation of research by graduate students and faculty; the promotion of various exchange programs with universities in Southeast Asia; the provision of consultation to high schools and colleges desiring assistance in the development of their Asian studies; and the administration of various operational programs concerned with Southeast Asia.

Since the Center is not a degree offering unit, all graduate degrees will be obtained primarily through the departments whose special requirements must be met.

The following courses are suggested to be taken by graduate students interested in a Southeast Asian affairs concentration:

History

449 History of Malaysia; 541 Seminar in Southeast Asian History;

Earth Sciences

452 Geography of Southeast Asia

Political Science

450 Governmental Systems in Southeast Asia; 530 Southeast Asia and International Politics;

Sociology

454 Thai Society and Culture; 455 The Community in Southeast Asia.

Other courses which may focus substantially or wholly on Southeast Asia are:

Economics

515A Economic Area Studies (Asia);

Earth Sciences

601C Special Topics in Regional Geography (Asia);

History

439 Summer Institute in Asian Civilizations; 636E Independent Study (Asian History);

Political Science

451 Asian Political Thought; 545 Foreign Policies of the Major Asian Powers; 651 Seminar in Governmental and Administrative Problems of Underdeveloped Countries; 655 Foreign Study and Internship; 660 Seminar in Politics and Governments of Asia;

Anthropology

401 Peoples and Cultures of South and East Asia; 428 Peasant Societies.
Department of Chemistry


The Department of Chemistry offers programs leading to the Master of Science, the Master of Science in Education, the Certificate of Advanced Study, and the Doctor of Philosophy degree. The Departments of Biological Sciences, Chemistry, Geography, Geology, and Physics cooperate to offer an area major in General Science leading to the degree Master of Science in Education. Bulletins describing graduate programs in Chemistry are available from the Department Head.

MASTER OF SCIENCE

A candidate seeking to qualify for the degree Master of Science with a major in Chemistry shall satisfy the following departmental requirements in addition to satisfying Graduate School requirements.

1. The candidate shall meet the chemistry, physics, and mathematics requirements for the B.S. degree in Chemistry at Northern Illinois University.

2. The student is required to take background examinations in the fields of physical, organic, inorganic, and analytical chemistry prior to registration. These examinations are usually given a week before registration for the purpose of aiding the adviser in the preparation of a course of study for the candidate and to aid in counseling the candidate as to the advisability of continuing in the program for the M.S. degree.

3. A minimum of 30 semester hours of graduate work is required, of which a maximum of 15 semester hours may be in research.

4. The student must successfully complete Chemistry 446 and three of the following courses: Chemistry 575, 510, 522, and 532. In addition to these four required courses, at least two other courses in any area of chemistry or in closely related fields must be completed satisfactorily.

MASTER OF SCIENCE IN EDUCATION

Major in Chemistry

Students who elect a graduate major in Chemistry leading to the degree Master of Science in Education must take a minimum of 11 semester hours from the graduate catalog offerings of the Department of Chemistry.

Area Major in General Science

Students who elect an area major in General Science will find the requirements listed under Biological Sciences on pages 34-35.

CERTIFICATE OF ADVANCED STUDY

The Certificate of Advanced Study may be awarded to students pursuing programs in Chemistry beyond the master’s degree.

The certificate is given in accordance with the general requirements of the Graduate School to those students following a sequence of courses approved by the Department Head or by the assigned adviser.

The program of courses to be taken will be constructed with consideration given to the student’s interests and background.

DOCTOR OF PHILOSOPHY

An applicant seeking admission to an advanced degree in Chemistry must meet Graduate School requirements and shall have completed the chemistry, physics, and mathematics requirements for the B.S. degree in Chemistry at Northern Illinois University.

The prospective candidate for the degree Doctor of Philosophy in Chemistry may select for advanced study and research any of the following areas: analytical, biological, inorganic, organic, or physical chemistry. Departmental requirements for the degree Doctor of Philosophy are as follows:

1. Course requirements. Every candidate for the Ph.D. is required to
   (a) Successfully complete Chemistry 446 and any three of the following four courses: Chemistry 575, 510, 522, and 532.
   (b) Participate in seminar (Chemistry 515) each semester.
   (c) Successfully complete, in addition to courses mentioned above, at least 18 semester hours in courses numbered between 500 and 600 and/or approved courses numbered between 400 and 500. These courses are selected from any area of chemistry and, at the discretion of the candidate’s advisory committee, related fields.
   (d) Enroll in the doctoral research course (Chemistry 699) as soon as possible after passing the two
qualifying examinations, and continue such enrollment each semester in residence until graduate work terminates.

2. Examinations. For admission to candidacy for the Ph.D. in Chemistry, the following examinations must be satisfactorily completed:

(a) Background examinations are required of all entering graduate students (described above in the requirements for the M.S. degree).

(b) Qualifying examinations. These are given each semester in the following five areas: analytical, biological, inorganic, organic, and physical chemistry. Doctoral students are required to pass two qualifying examinations, one in the area of their major interest and any one of the other four. To be eligible to take the examinations, a student must have successfully completed Chemistry 446 and three of the following four courses: Chemistry 575, 510, 522, and 532. A student who fails to pass the specified examinations may, with the permission of the Department, retake them after the lapse of at least one semester. Failure on the second attempt will terminate further work toward the doctorate but not the master's degree.

(c) Cumulative examinations. These are given four times each in the fall and spring semesters and twice in the summer session. The dates are announced only one week in advance to discourage long periods of intensive review. Doctoral candidates take cumulative examinations only in the area of their major interest. Beginning with the first semester, after passing qualifying examinations, a student must take at least 3 of the 4 offered each semester until 6 have been passed before failing 10. Thus, if 10 cumulative examinations are failed before 6 are passed, further work toward the doctorate is terminated.

(d) Language examinations. A reading knowledge of German and either French or Russian must be demonstrated. Foreign students are permitted to substitute their native language (if other than German or English) in place of the French or Russian requirement.

(e) An oral examination consisting of the presentation and defense of an original research proposal is taken soon after 6 cumulative examinations are passed. The research proposition cannot be the same problem as the student's doctoral dissertation work nor one too closely related to it; it may, however, be an extension or new aspect of the dissertation research. The oral examination is conducted by the candidate's doctoral committee.

3. Dissertation. The candidate must complete an approved research problem and incorporate the results in a dissertation. The dissertation will be a substantial contribution to knowledge in which original scholarship is demonstrated. An oral defense of the dissertation before the candidate's doctoral committee is required for its final approval.

A doctoral committee for each student is nominated by the Head of the Department and appointed by the Dean of the Graduate School. The size of the committee normally will be three to five with the professor supervising the doctoral research acting as chairman. The doctoral committee will conduct the research proposition oral and the dissertation oral examinations.

Course Offerings

405. Chemical Instrumentation (3)
Electrical measurements and basic electronic circuits. Applications of amplifiers, comparison measurements, servo systems, operational amplifiers, timers, and counters to chemical operations. One lecture and six hours of laboratory. Prerequisite: Chem. 440 Corequisite: Math. 234.

407. History of Chemistry (2)
Historical development of the important theories of chemistry, covering the origins, critical periods of development, and the personalities of famous chemists who contributed. Prerequisite: At least one year of college chemistry.

408. Chemical Literature (2)
The use of chemical literature. Two lecture periods a week. Prerequisites: Chem 331 and one year of college German or equivalent.

409. Science Institute for In-Service Elementary Teachers (1-8)(Also listed as Phys. 409)
Subject matter in Biological Sciences, Chemistry, Earth Sciences, and Physics necessary for effective science teaching in the lower grades. Prerequisite: Acceptance by the director of the institute.

421. Analytical Chemistry (3)
More detailed treatment of the principles and systematic methods of chemical analysis. Two lectures and one three-hour laboratory period a week. Prerequisites: Chem. 320 and 440.
425. Instrumental Methods of Analysis (3)
Fundamentals of physico-chemical techniques of chemical analysis. Interpretations and application of electrical, optical, thermal, and magnetic measurements in chemical analysis. Two lectures and one four-hour laboratory period a week. Not offered for graduate credit for the M.S. (Chemistry). Prerequisite: Chem. 440 or consent of instructor.

431. Advanced Organic Techniques (3)
Synthesis and identification of representative organic compounds by application of fundamental organic reactions. Advanced laboratory operations of separation and purification. One lecture and one five-hour laboratory period a week. Prerequisites: Chem. 331 and 333 or equivalent.

432. Qualitative Organic Analysis (3)
Identification of organic compounds and mixtures (after separation) by characteristic organic group reactions and instrumental means. One lecture and two three-hour laboratory periods a week. Prerequisite: Chem. 333 or equivalent.

440. Physical Chemistry I (3)
The gaseous, liquid, and solid states: thermodynamics; chemical equilibrium; kinetic theory. Four lecture periods a week. Prerequisites: Chem. 320, Math. 233 or concurrent registration, Phys. 251. Not offered for graduate credit for the M.S. (Chemistry).

441. Physical Chemistry II (3)
Atomic and molecular structure, spectroscopy, kinetics, chemical statistics. Four lecture periods a week. Prerequisites: Chem. 440, and Math. 234 or concurrent registration. Not offered for graduate credit for the M.S. (Chemistry).

446. Theoretical Chemistry (3)
Continuation of Chem. 440 and 441. Atomic structure, chemical bonding, and introduction to elementary quantum mechanics. Three lectures a week. Prerequisite: Chem. 441.

447. Physical Chemistry Laboratory (1)
One four-hour laboratory a week. Prerequisite: Chem. 440.

448. Physical Chemistry Laboratory (1)
One four-hour laboratory a week. Prerequisite: Concurrent or previous enrollment in Chem. 441.

451. Nuclear Chemistry (3)
Principles of radioactive decay. Elementary properties of nuclei and nuclear structure. Research techniques and instrumentation. Applications to the study of nuclei and chemical systems. Three lectures a week. Prerequisite: Chem. 441.

453. Radioisotope Techniques (1)
Intended to prepare and instruct students in the safe handling and use of radioisotopes. Topics include basic principles and criteria of radiation measurement, principles and practices of radiation safety, and applications of radioisotopes to chemistry and related sciences. One four-hour laboratory a week. Prerequisites: Chem. 320 or Chem. 332 and consent of instructor.

460. Inorganic Chemistry (3)
Application of the modern theories of bonding to inorganic chemistry. Study of certain selected elements in detail. Correlation of structure and properties. Structure and spectra of coordination compounds. Not offered for credit for the M.S. (Chemistry). Three lecture periods a week. Prerequisite: Chem. 331 or consent of instructor.

462. Inorganic Preparations (3)
Application of fundamental principles to inorganic chemistry. Preparation and purification of selected inorganic compounds. One lecture and two three-hour laboratory periods a week. Prerequisite: Chem. 460 or equivalent.

470. Biological Chemistry (3)
Structure and properties of biologically important compounds. Properties of enzymes. Metabolism of carbohydrates, lipids, and some nitrogenous compounds. Three lectures a week. Prerequisite: Chem. 331.

471. Biological Chemistry Laboratory (2)
Experiments in isolation and separation using chromatographic and electrophoretic techniques. Enzyme properties and purification. Metabolism experiments. Two three-hour laboratory periods a week. Prerequisite: Chem. 332. Co-requisite: Chem. 470.

473. Advanced Biological Chemistry (3)
Detailed study of the intermediary metabolism of certain classes of biologically important compounds. Three lecture periods a week. Prerequisite: Chem. 470.

474. Advanced Biochemical Techniques (3)
Theory and practice in the use of current biochemical techniques, such as micro-biological assays, chromatographic techniques, use of radioisotopes in biological systems. One lecture and two three-hour laboratory periods a week. Prerequisite: Chem. 471.

475. Introductory Physical Biochemistry (3)
Principles involved in the application of physical chemistry to biological problems. Intended for students with no previous course in physical chemistry. Three lecture periods a week. Not for graduate credit for Chemistry majors. Prerequisite: Chem. 470 or consent of instructor.
499. Teaching of Physical Sciences (2)
(Also listed as Phys. 499)
Instructional problems confronting the secondary school teacher in classroom and laboratory. Examination and analysis of modern curricula such as PSSC, CHEMS, CBA, and IPS. Four hours a week for nine weeks. Prerequisite: Physics, Chemistry, or General Science major or minor.

500. Advanced Principles of Chemistry (4)
Fundamental particles, atomic structure, electronic configurations, periodic system, chemical bond, elementary organic and biochemistry. For secondary teachers. Not open to Chemistry majors for credit. Prerequisite: One year of college chemistry.

501. Advanced Principles of Chemistry (4)
Energy relations in chemistry, chemical equilibrium, oxidation-reduction, acids and bases, complex ions. Methods of chemical separation and measurement. For secondary teachers. Prerequisite: One year of college chemistry.

505. Institute for Science Teachers (1-8)
Lectures, demonstrations, laboratory work, and field trips, designed for the science teacher. Subject matter from chemistry, physics, biology, and earth sciences. May be repeated to a maximum of 16 semester hours. Invitation by institute director is required.

510. Theoretical Inorganic Chemistry (3)
Modern treatment of principles of inorganic chemistry emphasizing chemical bonding, stereochemistry, coordination compounds, as well as other selected topics. Prerequisite: Chem. 400 or equivalent.

511. Advanced Inorganic Chemistry (3)
Continuation of Chem. 510 with emphasis on periodic properties, acids and bases, and non-aqueous solvents. Prerequisite: Chem. 510.

515. Chemistry Seminar (1)
Discussion of selected topics in chemistry under staff supervision. May be repeated to a maximum of 4 semester hours. Prerequisite: Consent of instructor.

522. Advanced Analytical Chemistry (3)
Fundamental principles of chemical separations and measurements with emphasis on non-instrumental methods. New reagents and techniques are surveyed. Prerequisite: Chem. 441 or equivalent.

524. Optical Methods in Analytical Chemistry (3)
Theoretical and practical applications of spectral measurements to research and chemical analysis, with emphasis on emission and absorption spectrometry in the principal regions of the electromagnetic spectrum. Prerequisite: Chem. 425 or consent of instructor.

531. Organic Reactions (3)
Analysis and classification of organic reactions using modern organic chemical theory. Prerequisite: Chem. 331 or equivalent.

532. Theoretical Organic Chemistry (3)
Mechanism and structure in organic chemistry including structural theory, stereochemistry, and the study of the reactive intermediates of organic chemistry. Prerequisites: Chem. 331 and 441.

533. Theoretical Organic Chemistry (3)
Physical factors affecting the course of organic reactions, quantitative structure-reactivity relationships; applications of modern theory. Prerequisite: Chem. 532 or equivalent.

535. Physical Methods in Organic Chemistry (3)
Identification of organic compounds by physical methods including mass spectroscopy and paramagnetic resonance spectroscopy, configurational and conformational assignment techniques, and other physical methods. Prerequisites: Chem. 425 and 441 or equivalent.

541. Chemical Thermodynamics (3)
Fundamental laws of thermodynamics and applications to chemical problems. Calculation of thermodynamic quantities. Prerequisite: Chem. 441.

542. Kinetics (3)
Theories and applications of rates of chemical reactions including reactions in the gas phase and in solution. Applications of kinetics in the determination of reaction mechanisms. Prerequisite: Chem. 441.

543. Quantum Chemistry I (3)
Postulatory basis of quantum theory. The time-independent Schrödinger equation and its applications. Operator techniques are emphasized. Prerequisites: Chem. 441 and Math. 234 or 420 or equivalent.

547. Quantum Chemistry II (3)
Introduction to matrix mechanics and the elements of group theory. The applications of group theory in Crystal field theory, molecular vibrations, and LCAO-MO calculations. Introduction to quantum statistics. Prerequisite: Chem. 543.

550. Statistical Thermodynamics (3)
Principles of statistical mechanics and application to the calculation of thermodynamic properties. Prerequisite: Chem. 541 or equivalent.

555. Electroanalytical Chemistry (3)
Theory, practice, and applicability of electrical measurements in analysis and research. Polarography, potentiometry, and conductometry are the major electrometric methods emphasized. Prerequisite: Chem. 425 or consent of instructor.
EARTH SCIENCES

570. Enzymes (3)
Basic principles of the concepts of enzyme kinetics, theory and design of experimental methods, and of interpretation of enzyme mechanisms. Three lectures a week. Prerequisite: Chem. 470; Chem. 542 is recommended.

575. Physical Chemistry of Macromolecules (3)
Comprehensive introduction to the use of physical chemistry in the study of macromolecules. Three lecture periods a week. Prerequisite: Chem. 441.

The individual investigation of a special problem under the supervision of an adviser. This work normally culminates in the writing of the thesis. May be repeated to a maximum of 15 semester hours towards the M.S. degree. For the M.S.Ed. a maximum of 6 semester hours may be earned for a non-laboratory investigation. An additional 15 semester hours may be earned towards the Certificate of Advanced Study. Prerequisite: Consent of instructor.

600. A—B—C—D—E Special Topics in Chemistry
A—Inorganic (1-9)
B—Analytical (1-9)
C—Organic (1-9)
D—Physical (1-9)
E—Biological (1-9)
Lectures, discussions, and reports on topics of special interest in a particular field of chemistry. 1 to 9 semester hours as scheduled; course may be repeated in one or more fields of chemistry. The maximum number of semester hours is to be 9 in any field of chemistry. Prerequisite: Consent of instructor.

630. Heterocyclic Chemistry (3)
A systematic survey of the chemical behavior of heterocyclic compounds as a function of ring size and heteroatom. Mechanistic aspects will be emphasized. Heteroatoms to be considered include nitrogen, oxygen, and sulfur. Prerequisites: Chem. 531 and 532.

699. Doctoral Research and Dissertation
(credits arranged)

Earth Sciences
The curriculum leading to a Master of Science in Education, with a major in Earth Sciences, is now administered jointly by the Departments of Geography and Geology. See listings of either department for requirements and course descriptions.
The Department of Economics offers graduate programs leading to the degrees Master of Arts, Master of Science in Education, and Doctor of Philosophy. After earning a master’s degree, a student may work toward a Certificate of Advanced Study. Students, classified or unclassified, who plan to pursue the graduate curriculum in Economics should consult the departmental graduate adviser before enrolling in course work. No more than twelve semester hours of work taken in an unclassified status will be accepted toward a master’s degree, and a student will be recommended for classified status only if his grade point average while unclassified is at least 3.00.

A student whose background in Economics is, in the judgment of the department’s Graduate Committee, deficient may be required to take additional work at the undergraduate level.

**MASTER OF ARTS**

A student pursuing the Master of Arts program in Economics may choose, with the consent of his departmental graduate adviser, either of the following options:

- **Option A:** A program consisting of a minimum of 24 semester hours of course work and a thesis.
- **Option B:** A program consisting of a minimum of 30 semester hours of course work.

A student selecting Option B will normally be expected to enroll in a course in research methods.

Regardless of which option is chosen, the student will select, in conjunction with his graduate adviser, a program of study which will include a minimum of 24 semester hours in Economics. The department Graduate Committee will consider a petition to accept as Economics credits three additional semester hours of credit in a closely related field.

Each student will be required to complete a course in statistical methods (441) and a one-year sequence in economic theory (500 and 501). If the department Graduate Committee finds justification in the student’s previous background, one or all of the above requirements may be waived.

**Comprehensive Examination**

Comprehensive examinations will be taken by each candi-
ECONOMICS

Economics has been sought almost exclusively by persons planning a career in college or university teaching. In recent years, however, junior colleges, governmental agencies and private industry have employed increasing numbers of persons holding the doctorate in Economics. While it is agreed that every candidate for a doctorate in Economics ought to have a broad and general knowledge of his discipline, at the same time the interests and career objectives of individual students would seem to call for some degree of concentration in their programs of study. This program has been designed with a sufficient degree of flexibility to insure that programs for individual students with specific career objectives in mind can be accommodated.

Admission Policy: Same as Graduate School requirements with the following addition: The Department of Economics requires that students who wish to begin studies at the doctoral level rank within the top one-third of Northern Illinois University graduate students on the Graduate Record Examinations. The Department may waive this requirement on the basis of the student’s previous performance in graduate work.

Course Requirements: Same as Graduate School requirements with the following addition: Successful completion of Economics courses 441 (Advanced Statistics for Economists), and 500-501 (Economic Theory) or their equivalents will be required of all students working for the doctorate. The Department of Economics requires that each student working for the doctorate in Economics will prepare himself to be examined in four fields, one of which will be economic theory. One minor field may, with the permission of the graduate adviser, be taken outside of the department. Fields offered within the department are:

- Economic Theory
- Comparative Economics
- Economic Growth and Development
- Government and Business
- History of Economic Thought
- International Economics
- Labor and Manpower Economics
- Mathematical and Quantitative Economics
- Monetary Economics
- Public Finance

A major field is defined as a concentration in which the student has 15 or more semester hours; a minor field consists of 9 or more semester hours. A candidate desiring to be examined in a major or minor area for which he does not have the requisite number of semester hours may petition the Department of Economics for permission to be examined in that area. The candidate in all cases assumes responsibility for an area of knowledge and will be examined accordingly.

Dissertation Requirement: Same as Graduate School requirements.

Language and Research Skills Requirements: Before being admitted to candidacy for the Ph.D. in Economics, a student must demonstrate a reading knowledge of two foreign languages or a reading knowledge of one foreign language and proficiency in the use of a suitable research tool, such as statistics, mathematics, accounting, or computer sciences. (See p. 29 for information regarding foreign language examination.) The substitution of a research tool for a foreign language must be approved by the student's adviser. Proficiency may be demonstrated by the successful completion of such courses as are designated by the Department of Economics or by special examination.

Qualifying Examination: Same as Graduate School requirements.

Candidacy Examinations: When a student has completed most or all of his course work, and not later than eight months before the granting of the doctor's degree, he will take a written comprehensive examination covering each of the fields specified above. A student who successfully completes these examinations will be admitted to candidacy for the doctorate. A student who fails any of these examinations may, with the permission of his examining committee, repeat those failed after the lapse of at least one semester. A student who fails any of the examinations a second time will not be permitted to continue work toward the doctorate.

Oral Examination: Same as Graduate School requirements.

Course Offerings

400. Survey of Market Economics (3)

Prices, output, distribution, and industrial efficiency in alternative input and output markets; structural maladjustments, employment, and inflation; government-business relations and government-labor relations: international prices; alternative economic systems. Open only to non-Economics graduate students who have not taken more than 6 semester hours of Economics.

401. Survey of Income Economics (3)

Income, employment, prices and their determinants. Theories of consumption. Investment. Taxation. Fiscal, monetary and financial institutions and practices. Government debt, exchange rates and
balance of payments as influences on levels of economic activity. Prerequisite or co-requisite: Econ. 400.

410. Economics of Planning (3)
An analysis of planning concepts in the public and private sectors and the functional relationships between them. Prerequisite: Econ. 261.

420. Structure of Industry (3)
Analysis of the structure of selected industries. Prerequisite: Econ. 261.

422. Economic History of the United States (3)
The evolution and expansion of American economic institutions and processes from colonial times to the 20th century. Stresses environmental factors, strategic location of raw materials, the impact of functional technology, and the transition to finance capitalism.

431. Agricultural Economic Policy (3)
Alternative methods of solving farm problems and analysis of consequences for farmer, consumer, and taxpayer. Prerequisite: Econ. 261.

433. Business Cycles (3)
The history of business fluctuations, techniques and theories of analysis, and counter-cyclical monetary and fiscal policies.

441. Advanced Statistics for Economists (3)
Reliability and significance; index number construction; multiple and partial correlation, non-linear; and forecasting. Prerequisites: a 3 semester hour course in statistics and Econ. 261.

451. Economics of Social Accounts (3)
The study of how accounting concepts are and can be used as part of the tools of economic analysis. Development and use of national income and product, flow of funds, balance of payments, and regional accounts, and the input-output tables. Prerequisite: Econ. 261 or consent of instructor.

452. Comparative Labor Relations (3)
Patterns of industrial relations systems in European and selected emerging economies. Scope of collective bargaining and social welfare legislation. Cooperation between the various national labor movements. Prerequisite: Econ. 365.

453. Economics of Manpower (3)
Analysis of factors affecting demand for and supply of labor. Impact of technology and development of manpower policy and proposals. Prerequisite: Econ. 261 or consent of instructor.

463. Comparative Economic Development (3)
Contemporary economies and their development. Particular empha-

sis on the development of the economies of the Soviet Union, England, China, India and the United States. In each case economic development is related to the system in existence (viz., communism, welfare state, private enterprise, etc.). Prerequisite: Econ. 260. Econ. 363 is desirable but is not required.

464. Public Finance (3)
Local, state, and national tax systems within the total economy; public debt and fiscal policies; public finance and education in Illinois. Prerequisite: Econ. 261 or consent of instructor.

465. Government and Business (3)
Government in economic life: analysis of why government has undertaken certain activities, especially regulatory, and how regulatory commissions function and evaluation of effectiveness of regulation. Prerequisite: Econ. 260 or Pol.S. 140.

466. History of Economic Thought (3)
The ideas of economics as they have developed through the centuries, and how these ideas are related to the economic conditions of the times. Main emphasis on classical and more recent schools of thought. Prerequisite: Econ. 261.

469. Economic Education (3)
A refresher course for teachers-in-service emphasizing contemporary economic issues. The Task Force Report of the Joint Council on Economic Education is the reference for improvement of economic literacy. For summer and extension offering.

470. Research Methods in Economics (3)
An introduction to research techniques applicable to economics.

475. Economics of Technology (3)
Analysis of development, accumulation, and dissemination of technology within and between economies.

476. Modern Economic Thought (3)
The evolution of neo-classical and modern theories of value, distribution, money and income. Prerequisite: Econ. 466.

484. State and Local Finance (3)
Analysis of the expenditure-revenue process in state and local governments. The effect of intergovernmental grants and the future of fiscal federalism. Prerequisite: Econ. 261.

495. Seminar in Current Problems (2-4)
Issues and policies in government, politics, and economies in their historical and sociological perspectives.

500. Micro-Economic Analysis (3)
Domestic and international price systems with regard to resource
allocation, welfare, and income distribution. A brief introduction to the concepts involved in input-output analysis and linear programming.

501. Macro-Economic Analysis (3)
Factors determining levels of aggregate income, employment, and prices.

502. Economics of Decision Making (3)
Meaning and use of advanced tools in economic and business decision making; game theory, input-output, linear programming, projection, and decision theory. Prerequisite: Econ. 500.

509. The Financial System and Monetary Policy (3)
Financial system of the United States; its effect upon resource allocation and levels of resource use.

510. Seminar in Comparative Central Banking (3)
Comparative institutions, problems, and developments in the operation of the central banks. Current problems in monetary policy throughout the world. Prerequisite: 3 semester hours in money and banking.

515. Economic Area Studies (1-9)
A. Asia
B. Europe
C. Africa
D. Latin America
May be repeated to a maximum total—A, B, C, and/or D—of 9 semester hours. Prerequisite: Econ. 463 or consent of instructor.

550. Problems in Industrial Relations (3)
Through case studies industrial relations are examined in a wide variety of contexts. Understanding of the fundamental economic and social factors is stressed. Prerequisite: Econ. 365 or consent of instructor.

559. International Monetary Systems (3)
The contemporary international monetary system and its development.

560. Seminar in Money, Income, and Prices (3)
The role of money in the level of income, employment, and prices. Relationship between monetary and fiscal policies. Prerequisite: Consent of instructor.

562. Business Cycles (3)
Prosperity-recession-depression-recovery patterns of modern economic society presented against a background of earlier attempts to account for the cyclical character of the economy. Prerequisite: Econ. 360.

563. Seminar in Modern Economic Systems (3)
The economic systems of the United States, Great Britain, the Soviet Union, Fascist Italy, and Nazi Germany. Stresses the actual operation of the respective economies. Prerequisite: Econ. 363.

564. Seminar in Education and Economic Growth (3)
Research in the economics of education: concepts and measurement of human capital: investment in education and economic growth; taxation and expenditure on public education. Prerequisite: Consent of instructor.

565. Econometrics (3)
Measurement of supply and demand functions, consumption functions, production functions, cost curves, and systems of economic relations. Prerequisites: Econ. 261 and consent of instructor.

566. Independent Study in Economics (3)
Individually arranged readings within the various fields of economics. May be repeated for additional credit at post-master's level of study. Prerequisites: Econ. 500 and Econ. 501.

567. Seminar in Transportation and Public Utilities (3)
Research in the fields of transportation and public utilities. Emphasis on current problems of the industries. When taken in connection with the Metropolitan Resource Development program, research will be in the area of the problems facing these agencies in metropolitan areas. Prerequisite: Beginning course in Economics or government.

568. International Economic Theory (3)
Recent development in the theory of international trade and finance. International factor pricing, trade, and employment and international economic cooperation. May be repeated to a maximum of 6 semester hours. Prerequisite: Consent of instructor.

569. Seminar in Trusts and Monopolies (3)
History of attempts to control large scale enterprise through government regulation. A substantial amount of individual research required. Prerequisite: A beginning course in Economics or government.

576. American Economic Thought (3)
The history of American economic thought from colonial times to the twentieth century. Prerequisite: Undergraduate major in Economics or History or equivalent.

595. Special Topics in Economics
A. Current Issues in Economic Theory (1-9)
B. Current Issues in Economic Policy (1-9)
C. Regional Economics (1-9)
D. Alternative Economic Systems (1-9)
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E. Labor and Manpower Studies (1-9)
1 to 9 semester hours as scheduled. Course may be repeated in one or more fields of economics. The maximum number of semester hours is to be 9 in any field of economics. Prerequisite: Graduate standing and consent of instructor.

599. Thesis
A. Master's Degree Study (1-6)
B. Certificate of Advanced Study (1-6)

600. Mathematical Economics I (3)
Economic behavior of firms, households, commodity markets. Relation of traditional theories to programming models, theory of games and other decision theories. Dynamic models of behavior. Equilibrium of multiple markets. Prerequisite: Econ. 500. or written consent of instructor.

601. Mathematical Economics II (3)
Mathematical models of growth and fluctuations dealing with macroeconomics, monetary theory, fiscal policy. The cobweb, static and dynamic multipliers, multiplier-accelerator models, trade cycle models. Relations among stocks, flows, and time lags. Prerequisite: Econ. 501. or written consent of instructor.

622. Seminar in Economic History (3)
The tools of economic analysis applied to the economic process and institutions in different time locations. Extended treatment of the data and theories of changes in these processes and institutions through time. Prerequisite: Consent of instructor.

650. Seminar in Economic and Social Security (3)
Defines the dynamic forces that now create insecurity and examines public and private measures designed to lessen insecurity.

651. Economics of Moneyflows (3)
History, measurement, and analysis of moneyflows. Emphasis upon movement of money and near money in the economy and the effect of such movement upon the stability and growth of the economy and sub-sections thereof.

655. Seminar in Quantitative Economics (3)
Application of mathematical and statistical techniques to the analysis of economic problems. May be repeated once for additional credit. Prerequisite: Consent of instructor.

658. Seminar in International Economic Problems (3)
Selected contemporary problems of the international economy. With the consent of the instructor may be repeated for credit. Prerequisite: Consent of instructor.

663. Seminar in Alternative Economic Systems (3)
The private enterprise, socialistic and communistic economic models contrasted with the economic institutions and practices of the United States, Europe, the Soviet Union, and China. Prerequisite: Econ. 363 or equivalent.

664. Seminar in Public Finance (3)
An advanced seminar in the theory of public finance. Prerequisite: An undergraduate course in public finance or fiscal policy.

665. Fiscal Policy Seminar (3)
Workings of the economy and the ability of the economist to influence stabilization policy. Prerequisite: Econ. 350 or 164.

668. Seminar in Money and Banking (3)
Selected topics in Money and Banking. May be repeated once for additional credit at post-master's level of study. Prerequisite: Consent of instructor.

671. Seminar in Economic Theory (3)
Individual research in those areas of economic theory that meet the needs of the students. May be repeated once for additional credit at post-master's level of study. Prerequisite: Consent of instructor.

672. Seminar in Economic Growth (3)
An analysis of the causes, mechanisms, and patterns of economic growth, with special emphasis on capital formation. Prerequisite: Consent of instructor.

673. Seminar in the History of Economic Thought (3)
Studies in the development of economic ideas using original source materials. May be repeated once for additional credit at post-master's level of study. Prerequisite: Consent of instructor.

674. Seminar in Labor Economics and Labor Relations (3)
The economics of labor and of labor-management relations. Emphasis upon individual research. May be repeated once for additional credit at post-master's level of study. Prerequisite: Consent of instructor.

675. Seminar in Post-Keynesian Economics (3)
Development in economic thought since the time of John Maynard Keynes. Prerequisite: An undergraduate course in the history of economic thought or the equivalent.

690. Current Research Colloquium (3-6)
Faculty and graduate student discussion of problems in their current research. May be repeated once with consent of adviser. Prerequisite: 42 semester hours of graduate credit.

695. Internship in Economics (2-15)
May be repeated to a maximum of 15 semester hours. Prerequisite: Written consent of Departmental Graduate Committee.

699. Doctoral Research and Dissertation (2-15)
Department of English

Faculty: Hagelman, Department Head, Baker, Bond, Burtness, Carrington, Caruthers, Christensen, Fox, Garab, Gerber, Greene, Herbert, James, Kallich, Mellard, Murray, Patterson, Schrier, Seat, Soudek, Stryk, Van Cromphout, Williams.

The Department of English offers graduate programs leading to degrees at both the master’s and doctoral levels. Beginning with all applicants for the Summer Session, 1970, the scores on the Aptitude Test of the Graduate Record Examinations and those on the Advanced Test of the Graduate Record Examinations will be required as admission credentials. Well prepared students with baccalaureate degrees may begin work immediately to fulfill the requirements for the doctorate. English 501T is required of all graduate students in English, and should be taken early in a student’s program of studies.

MASTER’S DEGREES

Two master’s degrees are awarded by the Department of English. The Master of Arts degree serves those interested in continuing graduate work at the doctoral level and those undertaking the graduate study of English as one of the humanities. This program emphasizes competency in the use of foreign languages; critical, scholarly habits leading to independent study and research; course work in those fields omitted from or slighted in the undergraduate major. The Master of Science in Education degree, which requires no foreign language, serves those interested in the graduate study of English as additional preparation for high school teaching.

All candidates for a master’s degree with a major in English will be required to pass a written Comprehensive Examination based on a list of literary works selected by the Graduate Faculty of the Department of English. This list is made available to students at the beginning of the academic year; examinations during that year are based on that list. Students are responsible for using the list effectively to prepare for their examinations. During his last semester of course work, the student must secure the approval of the Director of Graduate Studies in English to take the regularly scheduled examination in that semester.

MASTER OF ARTS

The candidate for the degree Master of Arts must earn a minimum of 30 semester hours of graduate credit with a grade point average of 3.0. The student and his graduate adviser plan a schedule of courses designed to extend the student’s knowledge of the discipline. The candidate for the Master of Arts degree must pass a language proficiency examination in one of the following languages: French, German, Spanish, Italian, Russian, Latin, or Greek. The student’s graduate adviser may grant permission for limited study in fields closely related to English; he may also approve the substitution of additional course work for the thesis.

Linguistics Option

A linguistics concentration is provided within the context of the Master of Arts degree: English 511T, 517T, 518: 6 semester hours from English 512T, 514T, 515T, 536T, 599, 614T: 15 semester hours from graduate courses in literature.

MASTER OF SCIENCE IN EDUCATION

A student who elects a graduate major in English for the degree Master of Science in Education will complete at least 21 semester hours in graduate English courses. With his adviser’s approval he may take as many as 9 semester hours in related graduate work in such other disciplines as Foreign Languages, History, Philosophy, Speech, Sociology, Theatre, and Education. Or he may take a sequence of courses within the English Department in a second area. Neither foreign language reading proficiency nor thesis is required.

CERTIFICATE OF ADVANCED STUDY

A student who wishes to pursue the sixth-year program leading to the Certificate of Advanced Study should consult with the Head of the Department of English.

DOCTOR OF PHILOSOPHY

The Doctor of Philosophy represents the highest level of academic achievement formally recognized in the humanities. The degree is a symbol of distinguished standards of excellence in scholarship, as well as mastery of advanced techniques in a discipline.

The Ph.D. degree in English at Northern Illinois University is designed for prospective scholars and teachers; the Department of English encourages outstanding candidates to seek it. Generous fellowships and teaching assistantships are available for qualified applicants.

The Department utilizes all of its resources to assist the candidate in his progress. After careful analysis of the applicant’s background and training, a graduate faculty mem-
ber counsels the student in planning an appropriate program. Small graduate seminars conducted by active scholars enable the student to develop the critical and investigative skills and insights necessary to successful scholarship and teaching.

Carefully selected students who hold only a baccalaureate degree may enroll immediately in the Ph.D. program. Qualified full-time students should be able to complete all the requirements for the Ph.D. degree in four years beyond the baccalaureate degree or three years beyond the master's.

The Ph.D. degree in English is granted not on the basis of successful completion of a definite number of prescribed courses but chiefly in recognition of the candidate's high attainments and ability as shown, first, by passing the required examinations on his general and special fields (as detailed below), and second, by the preparation of a dissertation.

**Departmental Requirements**

1. **Admission to the Program.** For admission to the program leading to the degree of Doctor of Philosophy in English, the student must:
   a. Show evidence of his capability of pursuing doctoral work.
   b. Secure departmental approval of a program of study. All students seeking the Ph.D. shall have either in their undergraduate or graduate records individual courses in Chaucer, Shakespeare, and Milton. Students in the Ph.D. program must have English 511T (or another graduate level course in Old English Language or Middle English Language). The Ph.D. program shall include at least four seminars at the 600 level and three graduate courses (500 or 600 level) in each of the following areas:
      - English literature before 1660
      - English literature after 1660
      - American literature

   The student shall have the option of electing a minor field consisting of a program of not more than 12 semester hours of closely related courses in any one of the following fields or in some other field approved by the Department:
   - American Studies
   - Comparative Literature
   - Drama
   - Foreign Languages
   - History
   - Linguistics
   - Philosophy
   - Political Science
   - Psychology
   - Sociology and Anthropology

2. **Admission to Candidacy.** For admission to candidacy to the Ph.D. in English, the student must:
   a. Demonstrate a satisfactory reading knowledge of two foreign languages, of which at least one shall be a modern language. The choice of languages shall be subject to departmental approval. The language examinations must be passed in the first two semesters of a student's residence in the doctoral program.
   b. Secure departmental approval of a dissertation topic and prospectus.
   c. Qualify for the Ph.D. program, when he has successfully completed 30 hours of graduate work, by passing the Master's Comprehensive Examination or its equivalent.
   d. Write an examination on three fields of study which he will elect from the following ten:
      1. Linguistics or philology
      2. Medieval literature (Old English literature and Middle English literature)
      3. Renaissance
      4. 17th Century (through Restoration)
      5. 18th Century
      6. 19th Century
      7. 20th Century
      8. American literature to 1865
      9. American literature since 1865
      10. A special field as determined by the examination committee and student in consultation.

   At least one of his three options shall be in English literature. The student may request permission of the Director of Graduate Studies in English to write the examination when he has successfully completed twenty hours of course work after qualifying for the Ph.D. program.

3. **Dissertation Requirement.** The candidate must write a dissertation which will contribute to literary or linguistic scholarship. The candidate will present an oral defense of his dissertation before his dissertation committee for its final approval. This committee shall consist of three or more members of the graduate faculty of the Department especially qualified in the area of the dissertation, one of whom shall be the dissertation director; it may include members from related fields.

**Course Offerings**

**NOTE:** The "T" after some numbers indicates that an old number is being re-used for a new or retitled course.
GENERAL

500T. The College Teaching of English (3)
For teaching interns only. May be repeated for a maximum of 6 semester hours. Only 3 semester hours of English 500 may be applied toward a Master's or Doctor's degree in English.

501T. Bibliography and Methods of Research (3)
Introduction to the philosophy and methods of literary research. Required of all graduate students.

502T. Interpretation of Literary Texts (3)
The techniques of close reading. Intensive analysis, interpretation and assessment of critical and imaginative works. Recommended for first-year graduate students.

505. Literary Criticism to 1800 (3)

506T. Literary Criticism Since 1800 (3)

507T. Topics in Literature (3)
Course devoted to the study of special topics and periods of literature. May be repeated up to 9 semester hours.

509. Master's Thesis (3-6)

602T. Seminar: Textual Studies (3)
Advanced study of analytical bibliography, either descriptive or textual. Prerequisite: English 501T.

607. Seminar: Topics in Literature (3)
Seminar devoted to advanced study of special topics and periods of literature. May be repeated to a maximum of 9 semester hours.

699. Doctoral Dissertation (credit arranged)
May be repeated to 30 semester hours.

LANGUAGE

511T. History of the English Language (3)

512. Old English (3)

513T. Middle English (3)

514T. Advanced Linguistics (3)

515T. Descriptive English Linguistics (3)

516T. Grammars of Modern English (3)

517T. Phonology (3)

518. Advanced Morphology and Syntax (3)

519. Dialectology (3)

614T. Seminar: English Linguistics (3)

ENGLISH LITERATURE TO 1660

536. Beowulf (3)

537. Chaucer (3)

538. 16th Century Prose and Poetry (3)
English prose and poetry, 1485-1603.

539. English Drama to 1600 (3)

540. English Drama 1600-1660 (3)

541. Shakespeare (3)

542. 17th Century Prose and Poetry (3)

543. Spenser (3)

544. Milton (3)

636. Seminar: Medieval Literature (3)

637. Seminar: Chaucer (3)

638. Seminar: 16th Century English Literature (3)

641. Seminar: Shakespeare (3)

642. Seminar: 17th Century English Literature (3)

644. Seminar: Milton (3)

ENGLISH LITERATURE SINCE 1660

556. Restoration and Early 18th Century Literature (3)

557. Later 18th Century English Literature (3)

558T. English Drama 1660-1800 (3)

559T. 18th Century English Novel (3)
560T. English Romantic Period (3)
561T. Victorian Poetry 1830-1880 (3)
562T. 19th Century English Prose (3)
563T. The 19th Century English Novel (3)
564. English Literature 1880-1920 (3)
   A survey of representative writers and literary movements
during the transitional period between Victorian and modern
literature.
565. English Literature since 1900 (3)
   A survey of the major forces defining the modern tradition.
Representative works from all genres.
566. 20th Century English Poetry (3)
567. 20th Century Drama (3)
   This course in the drama as an international genre is also
listed under American Literature.
568. 20th Century English Fiction (3)
656. Seminar: Restoration and 18th Century English
   Literature (3)
662. Seminar: 19th Century English Literature (3)
664. Seminar: English Literature 1880-1920 (3)
665. Seminar: 20th Century English Literature (3)

AMERICAN LITERATURE

567. 20th Century Drama (3)
   This course in the drama as an international genre is also listed under
   English Literature Since 1660.
576T. American Literature to 1830 (3)
577. American Literature 1830-1865 (3)
578T. American Literature 1865-1900 (3)
579. 19th Century American Novel (3)
583. American Literature since 1900. (3)
584T. 20th Century American Poetry (3)
585. 20th Century American Fiction (3)
595. Black American Writers (3)
676. Seminar: American Literature to 1830 (3)
677. Seminar: 19th Century American Literature (3)
683. 20th Century American Literature (3)
Department of Foreign Languages

Faculty: Allen, Acting Department Head. DeQueljoe, Horner, Mahmoud, Mocega, Morgenroth, Murray, Reissner, Schoenbohm, Schreiner, Suhadolc, Velinsky.

Though a graduate major in Foreign Languages is not offered, properly qualified students may carry the following courses for graduate credit. It is advisable, however, for the student to consult with the Department before enrollment.

Course Offerings

FRENCH

400F. Advanced Composition in French (3)
Prerequisite: F.Lan. 303 or equivalent.

401F. French Literature I (3)
A general survey of French literature of the 19th and 20th centuries.
Prerequisite: F.Lan. 301.

402F. French Literature II (3)
Prerequisite: F.Lan. 401F.

405F. French Phonetics and Phonemics (3)
Prerequisite: F.Lan. 400F or equivalent.

407F. French Civilization (3)
Prerequisite: F.Lan. 301.

411. 19th Century French Literature: Romanticism (3)
Prerequisite: F.Lan. 401F.

412. 19th Century French Literature: Realism and Naturalism (3)
Prerequisite: F.Lan. 401F.

413. 19th Century French Literature: Symbolism and the Modern Movement (3)
Prerequisite: F.Lan. 401F.

414. Medieval French Literature (3)
A general treatment of the literary expression in France, from the beginnings to the end of the 15th century, with emphasis on the 12th and 13th centuries. Prerequisite: F.Lan. 402F.

421. French Literature of the Renaissance (3)
Prerequisite: F.Lan. 402F.

422. Moliere (3)
Prerequisite: F.Lan. 402F.

423-424. 18th Century French Literature (3)-(3)
Prerequisite: F.Lan. 402F.

425-426. 20th Century French Literature (3)-(3)
Prerequisite: F.Lan. 401F.

445-446. 17th Century French Literature (3)-(3)
Prerequisite: F.Lan. 402F.

GERMAN

400G. Advanced Composition in German (3)
Prerequisite: F.Lan. 353 or equivalent.

401G. German Literature I (3)
A general survey of German Literature from the 18th century to the present. Prerequisite: F.Lan. 351.

405G. The Structure of German (3)
An analysis of German phonology and syntax with emphasis on the structural differences between German and English. Prerequisite: F.Lan. 400G or equivalent.

407G. German Civilization (3)
Prerequisite: F.Lan. 351.

441. 19th Century German Romanticism (3)
Prerequisite: F.Lan. 401G.

442. 19th Century German Realism (3)
Prerequisite: F.Lan. 401G.

443. 19th Century German Naturalism and Symbolism (3)
Prerequisite: F.Lan. 401G.

453. Early German Literature (3)
Prerequisite: F.Lan. 401G.

454. The Age of Baroque (3)
Prerequisite: F.Lan. 401G.

455-456. German Literature of the Classical Age (3)-(3)
Prerequisite: F.Lan. 401G.

457-458. 20th Century German Literature (3)-(3)
Prerequisite: F.Lan. 401G.
491. Goethe (3)
Prerequisite: F.Lan. 401G.

ITALIAN

439. Italian for Advanced Students (3)
A complete treatment of Italian designed to prepare the advanced student for further study of the language and literature of Italy, or for research. Prerequisite: An undergraduate minor in another Romance language or Latin or equivalent. This course is open to specially-qualified undergraduates with permission of the instructor.

450. Masterpieces of Italian Literature (3)
Prerequisite: F.Lan. 439 or F.Lan. 349.

LATIN

431. Tacitus (3)
Several Books of the Histories of the Annals in their entirety. Prerequisite: F.Lan. 333 or equivalent.

433. Cicero (4)
Prerequisite: F.Lan. 232 or equivalent.

434. Roman Poets (4)
Prerequisite: F.Lan. 232 or equivalent.

435. Roman Playwrights (4)
Prerequisite: F.Lan. 232 or equivalent.

436. Selected Readings in Latin (4)
Medieval and modern Latin authors (e.g., Einhard. St. Thomas Aquinas, Grotius). Prerequisite: F.Lan. 232 or equivalent.

PORTUGUESE

469. Portuguese for Advanced Students (3)
A complete treatment of Portuguese designed to prepare the advanced student for further study of the language and literature of Portugal and Brazil, or for research. Prerequisite: An undergraduate minor in another Romance language or Latin or equivalent. This course is open to specially-qualified undergraduates with permission of the instructor.

470. Masterpieces of Portuguese and Brazilian Literature (3)
Prerequisite: F.Lan. 371 or F.Lan. 469.

RUSSIAN

407R. Slavic Civilizations (3)
Prerequisite: F.Lan. 383.

481-482. Pushkin and His Time (3)-(3)

483-484. 19th Century Russian Literature (3)-(3)

485-486. 20th Century Russian Literature (3)-(3)

487. Chekhov (3)

488. Russian Poetry (3)

489. Russian Drama (3)

SPANISH

400S. Advanced Composition in Spanish (3)
Prerequisite: F.Lan. 365 or equivalent.

401S. Spanish Literature I (3)
A general survey of Spanish Peninsular Literature from the 18th century to the present. Prerequisite: F.Lan. 361.

402S. Spanish Literature II (3)
Prerequisite: F.Lan. 401S.

403. Spanish American Literature I (3)
Prerequisite: F.Lan. 401S.

405S. Spanish Phonetics and Phonemics (3)
Prerequisite: F.Lan. 400S or equivalent.

407S. Hispanic Civilizations (3)
Prerequisite: F.Lan. 361.

461. Classical Spanish Drama (3)
Prerequisite: F.Lan. 402S.

463. Cervantes: The Quixote (3)
Prerequisite: F.Lan. 402S.

466. Literature of Uruguay, Argentina, and Chile (3)
A general treatment of the regional literature of the River Plate Republics and Chile, with emphasis on the period since 1914. Prerequisite: F.Lan. 479.
FOREIGN LANGUAGES

471. Romanticism and After in Spain (3)
   Prerequisite: F.Lan. 401S.

472. 19th Century Spanish Realism (3)
   Prerequisite: F.Lan. 401S.

473. The Generation of 1898 (3)
   Prerequisite: F.Lan. 401S.

474. Contemporary Spanish Literature (3)
   Prerequisite: F.Lan. 473.

477. Mexican Literature (3)
   A general treatment of Mexican Literature, with emphasis on the
   20th century. Prerequisite: F.Lan. 403.

564. Spanish Poetry (3)
   Intensive study of Peninsular poetry. The course may be organized
   as a survey, or with particular emphasis on a period or school, or as a
   combination of the above. May be repeated under a different
   instructor. Prerequisite: F.Lan. 402S.

565. Classical Spanish Prose (3)
   Intensive study of Golden Age prose, with special emphasis on the
   picaresque novel. Prerequisite: F.Lan. 402S.

578. Spanish American Literature II (3)
   A survey of the Colonial and Independence periods in all genres.
   Prerequisite: F.Lan. 403.

GENERAL

499. Independent Study in a Foreign Language (1-3)
   Individually arranged programs designed to meet special needs. May
   be repeated to a maximum of six semester hours. Prior consent of
   Department required.

590. Reading Skills in a Foreign Language (0)
   A preparation for the Graduate Reading Exam in a Foreign
   Language.
Department of Geography


The Department of Geography offers graduate programs leading to the degrees Master of Science in Education with a major in Earth Sciences or in Geography and Master of Science with a major in Geography and, at the sixth-year level, a program leading to the Certificate of Advanced Study. The Departments of Biological Sciences, Chemistry, Geography, Geology, and Physics offer an area major in General Science leading to the degree Master of Science in Education.

MASTER OF SCIENCE IN EDUCATION

Major in Earth Sciences

A student who elects a major in the Earth Sciences toward the degree Master of Science in Education must satisfy the following requirements in the Earth Sciences.

1. A Bachelor of Science in Education degree in Earth Sciences as listed in the undergraduate catalog, or its equivalent in related fields. Students not meeting the requirements for the B.S.Ed. in Earth Sciences shall have their deficiencies reviewed by the Earth Sciences Council. Deficiencies in 100 and 200 numbered courses may be removed by taking Geol. 520 (Earth Science for Public School Teachers). Additional deficiencies must be removed by taking appropriate undergraduate courses.

2. Requirements for the M.S.Ed in Earth Sciences—The student shall acquire either 30 semester hours of graduate credit in Geography, Geology, and related courses, including the writing of a thesis, or 33 semester hours without thesis. A maximum of 12 semester hours of formal course work is allowed in any one of the areas of Geography, Geology, and related fields of Meteorology and Earth Science. Geol. 429 (Field Geology) will be required of all students in the M.S.Ed. program.

Major in General Science

Students who elect an area major in General Science will find the requirements listed under Biological Sciences on pages 34-35.

Major in Geography

A student who elects a major in Geography leading to the Master of Science in Education degree is required to consult with a committee selected by his adviser before arranging a program of courses. A student may choose, with the consent of his departmental graduate adviser, either of the following options:

Option A: a program consisting of 30 semester hours, including a minimum of 24 semester hours of course work and a thesis. A program will normally consist of at least 20 semester hours in Geography courses, including the thesis.

Option B: a program consisting of a minimum of 30 semester hours of course work. A program will normally consist of at least 20 semester hours in Geography courses.

Additional requirements:

1. Successfully complete a course in History of Geographic Thought (Geog. 568).
2. Pass a written comprehensive examination.

MASTER OF SCIENCE

Major in Geography

A student who elects a major in Geography leading to the Master of Science degree is required to consult with a committee selected by his adviser before arranging a program of courses. A student may choose, with the consent of his departmental graduate adviser, either of the following options:

Option A: a program consisting of 30 semester hours, including 24 semester hours of course work and a thesis. A program will normally consist of at least 20 semester hours in Geography courses.

Option B: a program consisting of a minimum of 30 semester hours, including 3 semester hours in Geog. 571. A program will normally consist of at least 20 semester hours in Geography courses.

Additional requirements:

1. Pass a reading knowledge examination in an appropriate modern foreign language or satisfactorily complete a course in Advanced Quantitative Techniques in Geography (Geog. 561).
2. Successfully complete a course in History of Geographic Thought (Geog. 568).
3. Pass a comprehensive written examination.
CERTIFICATE OF ADVANCED STUDY

Candidates for the Certificate of Advanced Study in the area of Geography or Earth Sciences should consult with the Chairman of the Department.

Course Offerings

Geography courses formerly had Earth Science numbers (E.Sci.).

402. Pedology (3)
The origin, genesis, and distribution of soils with emphasis on the soils of the U.S. Additional fee will be charged for required field trips. Prerequisite: Geog. 302.

422. Edaphology (4)
Chemical and physical interactions of soils affecting the distribution and development of higher plants. Prerequisites: Geog. 302, Chem. 110 or 210.

425. Geography of Australia and the Southwest Pacific (3)
A regional study of the physical and cultural characteristics of Australia, New Zealand, and the southwest Pacific area.

430. Geography of North America (3)
Prerequisite: Geog. 101 or 200 or consent of instructor.

431. Geography of Europe (3)
Prerequisite: Geog. 101 or 200 or consent of instructor.

432. Geography of South America (3)
Prerequisite: Geog. 101 or 200 or consent of instructor.

433. Geography of Africa (3)
Prerequisite: Geog. 101 or 200 or consent of instructor.

434. Agricultural Geography (3)
The factors that help explain the nature and distribution of crop farming and animal husbandry in various parts of the world. Prerequisite: Geog. 101 or 200-201 or consent of instructor.

435. Geography of the Far East (3)
Prerequisite: Geog. 101 or 200 or consent of instructor.

436. Geography of Middle America (3)
An examination of physical and cultural patterns in Mexico, Central America, and the West Indies using the regional method. Prerequisite: Geog. 101 or 200.

437. Industrial and Commercial Geography (3)
The factors that help explain the nature and distribution of manufacturing, transportation, and trade in various parts of the world. Prerequisite: Geog. 101 or 200-201 or consent of instructor.

438. Geography of Transportation (3)
Prerequisite: Geog. 101 or 200 or consent of instructor.

443. Regional Geomorphology of the U.S. (3)
The principle relief features of North America. A systemic textbook and laboratory manual study of the physiographic provinces of North America. Field trip required. Prerequisite: Geol. 120 or Geog. 201 or consent of instructor.

448. Meteorology for Science Teachers (3)
To introduce the secondary school teacher to some of the basic principles of meteorology such as physical principles governing the atmosphere, weather systems, clouds, and instruments.

450. Geography of Illinois (2)
An intensive regional study of the State. The relationship and significance of various regions to each other and to the whole United States. Prerequisite: Geog. 101 or equivalent.

451. Political Geography (3)
Relationship of the physical and social environments of human groups with the political character of the state or nation to which they belong and in which they live. A world survey of political geography. Prerequisite: Geog. 101 or equivalent.

452. Geography of Southeast Asia (3)
A regional study of the physical and cultural characteristics of peninsular and insular Southeast Asia. Prerequisite: Geog. 101 or 200 or consent of instructor.

453. Regional Problems in Conservation (3)
The social or human elements in conservation practices as they are related to the scientific aspects of the conservation of natural resources. Prerequisite: Geog. 353 or consent of instructor.

454. Settlement Geography (3)
A geographic analysis of the characteristics and distribution of rural settlement forms throughout the world. Prerequisite: Geog. 203.

456. Advanced Cartography and Graphics (2)
Special problems in cartographic design and symbolization. Statistical graphs and charts, layout and overlays, reproduction methods. Prerequisite: Geog. 255 or consent of instructor.

457. Population Geography (3)
A geographic analysis of world population.
458. Geography of the U.S.S.R. (3)
The U.S.S.R. from both a topical and regional approach. An attempt is made to obtain an accurate appraisal of the natural resources base of Russia as well as an estimate of her industrial and agricultural strength. Prerequisite: Geog. 101 or equivalent.

460. General Research Methods in the Earth Sciences (2)
A general research course covering the following: definition of research; scientific methods; technical, logical, and quantitative methods and techniques.

461. Quantitative Techniques in Geography (2)
Statistical design and processing of geographic data. Prerequisite: Consent of instructor.

462. Urban Geography (3)
An interpretation of the structure and functional base of the nucleated settlement. Prerequisite: Geog. 200 or consent of instructor.

465. Geographic Field Work (2-8)
Field observations, techniques, record taking, mapping and interpreting the geography of a local area. May be repeated with permission of Department. Prerequisite: Geog. 101 or 200 and major or minor in Department.

466. Advanced Remote Imagery Interpretation (2)
Prerequisite: Geog. 365 or consent of instructor.

469. Education Methods and Materials in Geography (3)
The place of geography in the primary and secondary schools. Development and presentation of modern concepts in geographic education; the proper use of visual aids and other materials in the classroom.

470. Regional Climatology (3)
Prerequisite: Geog. 101 or 200 or 276.

471. Quantitative Methods in Climatology (2)
A survey of the methods of handling and processing of climatological data. The nature of the data. Various climate classification systems. Prerequisites: Geog. 375 or Geog. 461.

474. Micro-climatology (3)
The effect of factors of climate in limited regions. Prerequisites: Math. 155. Phys. 150.

480. Introduction to Dynamic Meteorology (3)
Meteorological thermodynamics, equations of motion, vorticity equations, continuity equation, etc. Prerequisites: Math. 230. Phys. 250 and 251.

481. Dynamic Meteorology (3)
Continuation of Geog. 480. Prerequisites: Geog. 480, Math. 231.

485. Physical Meteorology (2)
Selected topics in atmospheric visibility, terrestrial and solar radiation and precipitation physics. Prerequisites: Math. 155, Phys. 250 and 251.

492. Hydrology (3)
Quantitative study of precipitation, run-off, evaporation, transpiration, and infiltration. Mass diagrams, hydrographs, and distribution graphs. Prerequisites: Math. 155 and consent of instructor.

498. Seminar in Current Problems (2-3)
A. Geography
B. Hydrology
C. Climatology and Meteorology
D. Soil Science
Selected topics, stressing literature. May be repeated to a maximum of 6 semester hours. Prerequisites: Graduate standing and consent of instructor.

502. Geography of Underdeveloped Areas (3)
A geographic appraisal of resource problems and development potentials of the developing nations.

503. Geography of Water Resources (3)

504. Historical Geography (3)
Objectives and methods in studying Historical Geography with an emphasis upon North America – selected studies in the changing geography of the continent.

506. Geography Institute for Teachers (1-8)
Development of substantive knowledge of systematic or regional geography, understanding of geographical methodology and exploration of means of articulating advanced work into field and classroom instruction. Prerequisite: Consent of institute director.

522. Soil Regions of the World (3)
Prerequisites: Geog. 402, 422, or consent of instructor.

534. Geography of Landforms (3)
Landforms analyzed on the basis of their characteristics to illustrate and improve methods of description; classification, and the portrayal of their geographic arrangement. Prerequisite: Geog. 442 required, Geog. 492 desirable.
GEOGRAPHY

537. Location Theory in Geography (3)
Basic theory and its practical application to the location of industries.

543. Advanced Regional Climatology (3)
Intensive study of the climates of selected regions of the earth's surface from the viewpoint of dynamic and synoptic climatology; the relationships between these climates, their natural vegetation, landforms, and soils. Prerequisite: Geog. 470 or consent of instructor.

550. Vegetation Regions of the World (3)
Plant physiognomy on an ecological basis, including climatic, edaphic, and cultural factors influencing the nature and pattern of land utilization. Prerequisite: Consent of instructor.

551. Advanced Political Geography (3)
A geographical approach to the origins and present viability of specific nation-states: degrees of internal coherence; the concept of "effective national territory"; regional blocs and spheres of influence; sensitive frontiers; a comparative evaluation of national power. Prerequisite: Geog. 451 or equivalent.

558. Readings in Geography (1-3)
Independent study directed toward those phases of geographic literature needed by the student to strengthen background knowledge. May be repeated to a maximum of 6 semester hours.

559. Geographic Aspects of Regional Planning and Development (3)
A geographical analysis of functional and comprehensive planning at various levels. Case studies, with emphasis upon the U.S. and the relationships between planning and economic development.

561. Advanced Quantitative Techniques in Geography (2)
Prerequisite: Geog. 461

562. Advanced Studies in Land Utilization (3)
Detailed examination, using the problem approach, of the major physical and cultural factors influencing the nature and pattern of land utilization. Prerequisite: Geog. 434 or 437 or consent of instructor.

563. Geographic Research Procedure (3)
An introduction to specialized research sources and the procedures of modern analysis in spatial variations.

568. History of Geographic Thought (3)
The evolution of concepts pertaining to the nature, scope, and methodology of geography since classical times; major emphasis on the modern period. Prerequisite: Consent of instructor.

571. Master's Research (1-3)
Independent study of problems under the supervision of adviser appointed by department chairman. May be repeated to a maximum of 6 semester hours.

599. Thesis
A. Master's Thesis (1-6)
B. Certificate of Advanced Study Thesis (1-6)
May be repeated to a maximum of 6 semester hours.

600. Seminar in Systematic Geography
A. Landforms (1-9)
B. Climatology (1-9)
C. Natural Resources (1-9)
D. Economic (1-9)
E. Cultural (1-9)
G. Urban Geography (1-9)
H. Political (1-9)

Lectures, discussions, and reports on topics of special interest in a particular field of systematic geography. 1 to 9 semester hours as scheduled; course may be repeated in any field of systematic geography. Prerequisite: Consent of instructor.

601. Seminar in Regional Geography
A. Africa (1-9)
B. Anglo-America (1-9)
C. Asia (1-9)
D. Europe (1-9)
E. Latin America (1-9)

Lectures, discussions, and reports on topics of special interest in a particular field of regional geography. 1 to 9 semester hours as scheduled; course may be repeated in any field of regional geography. Prerequisite: Consent of instructor.

668. Seminar in Current Geographic Thought (3)

671. Independent Research in Geography (1-9)
Individual investigation of special problems in the field of geography under supervision of one or more staff members. May be repeated to a maximum of 9 semester hours.
Department of Geology

Faculty: Weiss, Department Chairman, Casella, Flemal, Frost, Goldich, Keighin, McGinnis, Morris, Odom, Rubel, Turek.

The Department of Geology offers graduate programs leading to the degree Master of Science in Education with a major in Earth Sciences and Master of Science with a major in Geology and, at the sixth-year level, a program leading to the Certificate of Advanced Study. The Departments of Biological Sciences, Chemistry, Geography, Geology, and Physics offer an area major in General Science leading to the degree Master of Science in Education.

MASTER OF SCIENCE IN EDUCATION

Major in Earth Sciences

A student who elects a major in the Earth Sciences toward the degree Master of Science in Education must satisfy the following requirements in the Earth Sciences.

1. A Bachelor of Science in Education degree in Earth Sciences as listed in the undergraduate catalog, or its equivalent in related fields. Students not meeting the requirements for the B.S.Ed. in Earth Sciences shall have their deficiencies reviewed by the Earth Sciences Council. Deficiencies in 100 and 200 numbered courses may be removed by taking Geol. 520 (Earth Science for Public School Teachers). Additional deficiencies must be removed by taking appropriate undergraduate courses.

2. Requirements for the M.S.Ed. in Earth Sciences—The student shall acquire either 30 semester hours of graduate credit in Geography, Geology, and related courses, including the writing of a thesis, or 33 semester hours without thesis. A maximum of 12 semester hours of formal course work is allowed in any one of the areas of Geography, Geology, and related fields of Meteorology and Earth Science. Geol. 429 (Field Geology) will be required of all students in the M.S.Ed. program.

Major in General Science

Students who elect an area major in General Science will find the requirements listed under Biological Sciences on pages 34-35.

MASTER OF SCIENCE

Major in Geology

A student who elects a program leading to the degree of Master of Science with a major in Geology must satisfy the following departmental requirements in addition to satisfying Graduate School requirements.

1. The student is normally expected to meet the geology, chemistry, physics, and mathematics requirements for the B.S. degree in Geology at Northern Illinois University.

2. A minimum of 30 semester hours of graduate work is required; this will normally include at least 24 semester hours in geology.

3. The student must pass a comprehensive examination and write a thesis.

CERTIFICATE OF ADVANCED STUDY

Candidates for the Certificate of Advanced Study in the area of Geology or Earth Sciences should consult with the Chairman of the Department.

Course Offerings

Geology courses formerly had Earth Science numbers, (E.Sci.).

410. Structural and Determinative Mineralogy (3)
Crystal structures and the chemical and physical factors that govern them. Mineralogical methods such as X-ray, DTA and Atomic Absorption are emphasized in the laboratory. Prerequisites: Geol. 210 and Chem. 211.

411. Optical Petrography (3)
The application of the polarizing microscope to the identification of mineral fragments by the immersion technique and the systematic investigation of thin sections of igneous, metamorphic and sedimentary rocks. Prerequisite: Geol. 410.

420. Geochemistry (3)
Application of basic chemical concepts to important problems in geology. Prerequisite: Chem. 211 or consent of instructor.

429. Field Geology for Earth Science Teachers (3)
Field and library survey of the salient geological features and landforms of northern Illinois and southern Wisconsin. May not be included in major programs in geology. Prerequisite: Introductory course in physical and historical geology.

442. Geomorphology (3)
The origin and development of landforms. Prerequisite: Geol. 120 or Geog. 201 or consent of instructor.
444. Economic Geology (4)
Nature, origin, and economic development and utilization of selected mineral resources of the world. Three lectures, one two-hour laboratory, field trips. Prerequisite: Consent of instructor.

447. Quantitative Techniques in Geology (3)
Methods and practice of quantifying, collecting, analyzing, and summarizing geologic data. Prerequisite: Math. 155 or equivalent.

449. Earth Science Materials and Procedures for Public School Teachers (3)
Consideration and use of recent earth science books and teaching methods suitable in the public schools. Prerequisite: Consent of instructor or major or minor in this field.

475. Paleontology I (3)
The morphology, paleoecology, and stratigraphic distribution of the lower invertebrates (Foraminifera through Brachiopoda). Principles of evolution are stressed in the investigation of fossil populations. Two lectures, one two-hour laboratory. Several field trips. Prerequisites: Geol. 211 and one year of biology.

476. Paleontology II (3)
Continuation of Geol. 475, with detailed investigation of the higher invertebrates (Mollusca through Arthropoda). Analysis of animals of problematic affinities. Study of selected suites of fossil plants and vertebrate fossils. Two lectures, one two-hour laboratory. Several field trips. Prerequisite: Geol. 475 or consent of instructor.

477. Paleoecology (3)
Analysis and interpretation of ancient ecologic systems, including ecologic parameters of depositional environments, and paleoautecology and paleosyneology of marine and terrestrial organisms. Prerequisite: Geol. 340 or Geol. 476.

490. Hydrogeology (3)
Ground water resources, sources, and occurrence. Factors governing its movement through aquifers. Physical and chemical changes produced during the hydrologic cycle. An analysis of procedures for measuring a water resource. Prerequisite: Consent of instructor.

496. Geophysics (3)
A description and analysis of the seismic, gravitational, magnetic, electrical, and thermal properties of the earth.

497. Regional Field Geology (2)
Extended field trips to regions of broad geologic interest. Emphasis will be placed on understanding the region as a whole, as well as its relationships to adjacent areas. May be repeated to a maximum of 4 semester hours. Special fee will be assessed. Prerequisite: Consent of instructor.

500. Clay Mineralogy (3)
The structure, properties and origin of clay minerals and the mineralogy and diagenesis of argillaceous sediments. Prerequisite: Geol. 410 or equivalent.

505. Institute of Earth Sciences for Teachers (1-8)
New information in the fields and the interrelationships between the earth sciences usable in the public school. Field trips, lectures by visiting scientists, and individual student projects. Prerequisite: Teaching experience in science.

520. Earth Science for Public School Teachers (3)
The subject matter principles and concepts of the earth sciences which are usable in the public school science curriculum. Will prepare students for courses in the Earth Science M.S. in Ed. degree program. Prerequisite: A major or minor in a natural science.

525. Isotope Geology (3)
Radioactive decay schemes useful for determining the age of rocks and minerals. Application of radioactive and stable isotopes to the study of geologic processes, as for example, metamorphic and magmatic activity, ore deposition, and crustal evolution. Prerequisite: Geol. 311 or consent of instructor.

540. Mineralogy of the Principal Silicates (4)
Application of crystal chemistry to structural and compositional variations of important silicate minerals: theory and application of powder and some single-crystal techniques in structural analysis. Prerequisites: Geol. 410 or equivalent and Math. 239.

544. Glacial Geology (3)
Prerequisite: Geol. 210

545. Matter and Energy Relations in Space (3)
A descriptive study of matter and energy in space: a ratio and proportion study of the causal relations between physical and chemical properties and of the forces which bring about changes in our universe. Recommended as a free elective. Prerequisite: Geol. 344 or equivalent.

546. Paleontology for Earth Science Teachers (3)
History, identification and ecology of selected invertebrate, vertebrate and plant groups. Prerequisite: Geol. 121

547. Oceanography (3)
The chemical and physical nature of the world’s oceans. Prerequisite: One year of laboratory science.

548. Stratigraphy (3)
A systematic study of selected aspects of the North American stratigraphic record with emphasis on broad sedimentary patterns and
tectonic development. Offered in alternate years. Prerequisite: Geol.
340, or concurrent registration.

549. Advanced Structural Geology I (3)
The origin and the mechanics involved in the formation of various
structural features occurring in nature. Prerequisite: Geol. 311.

552. Petrology of Clastic Sediments and Rocks (4)
The origin of terrigenous clastic sediments, and their occurrence in
modern environments. Texture, composition, and sedimentary struc-
tures of sediments and rocks by megascopic and microscopic methods,
including thin sections, emphasized in the laboratory. Prerequisite:
Geol. 411.

553. Petrology of Precipitated Sediments and Rocks (4)
Biogenic and inorganically precipitated modern sediments and their
ancient rock analogs: origins, environments, mineralogy, textures, and
methods of study, including thin sections. Lectures and laboratory.
Prerequisite: Geol. 411.

554. Exploration Geophysics (3)
The theory and application of basic geophysical methods. Emphasis
will be placed on methods pertaining to groundwater and engineering
investigations. Prerequisites: Phys. 250 and 251 and Math. 231 or 233,
or consent of instructor.

556. Advanced Structural Geology II (3)
The application of mechanical principles to the problems of the
evolution of the North American Continent. Prerequisite: Geol. 549.

557. Survey of Literature in the Earth Sciences (1-3)
Individual reading directed to those phases of literature which are
needed for critical thinking in earth sciences. May be repeated to a
maximum of 6 semester hours.

560. Procedures and Techniques in Reporting of Research
in the Earth Sciences (2)
The procedures and techniques for reporting the results of original
investigations. Prerequisite: Eligibility to do graduate research in the
Department of Geology.

570. Special Problems in Earth Sciences (1-3)
Independent study under supervision of an adviser. May be repeated
to a maximum of 9 semester hours.

575. Igneous Petrology (4)
Origin of igneous rocks with emphasis on silicate melt equilibria,
rock associations, petrography and field relations. Two lecture periods:
two lab periods. Prerequisite: Geol. 411.

580. Metamorphic Petrology (3)
The chemical and structural adjustments of mineral assemblages to
metamorphic conditions. The methods of Structural Petrology will be
emphasized. Prerequisite: Geol. 411.

591. Micropaleontology (3)
Microscopic fossils useful in solving stratigraphic problems. Prerequi-
site: Consent of instructor.

599. Thesis
A. Master's Thesis (1-6)
B. Certificate of Advanced Study Thesis (1-6)
May be repeated to a maximum of 6 semester hours.

646. Geology Seminar (1-9 semester hours may be
earned in each subdivision)
A. Mineralogy
B. Petrology
C. Stratigraphy and Sedimentation
D. Geomorphology and Quaternary Geology
E. Geophysics
F. Geochemistry and Isotope Geology
G. Paleobiology
H. Structural Geology
I. Hydrology
J. Mineral Deposits

670. Independent Research in Geology (1-3)
Individual investigation of special problems in the field of geology
under supervision of one or more staff members. May be repeated to a
maximum of 6 semester hours. Prerequisite: 22 semester hours of
graduate work in the Earth Sciences.
Department of History


The Department of History offers three degrees and a certificate at the graduate level: Master of Arts, Master of Science in Education. Doctor of Philosophy, and the Certificate of Advanced Study. These may be sought by persons wishing to enlarge their knowledge and understanding of human experience, past and present. This goal may be attained by historical research and investigation as well as by study in advanced history courses. Graduate work in History is appropriate for persons desiring to improve their competence or to enter upon careers in teaching or educational administration. branches of state and federal government, the arts, literature, journalism, or law.

Individuals with a general grade-point average of 2.75 or better in the last two years of undergraduate work and a 3.00 grade-point average or better in undergraduate History courses may apply for graduate study as outlined below. The student who has not had adequate previous work in History may be required to enroll in one or more undergraduate courses on a deficiency basis.

Graduate courses in History are principally of three types; advanced lecture-discussion courses; reading seminars designed to acquaint the student with the literature and problems of a selected field; and research seminars in which the student engages in intensive research on a particular historical topic and in the process gains experience in historical methodology and the use of primary and secondary source materials.

Students admitted to graduate study in History must submit their proposed program of study to the appropriate departmental graduate adviser for approval. Students are advised to write or telephone for an appointment before coming to campus. Final examinations are required for each of the degrees described below. Students are responsible for ascertaining the applicable dates set by the Graduate School for filing notice of intent to take final comprehensive examinations, for submission of completed theses and dissertations, and for filing applications for degree candidacy.

MASTER OF ARTS

The Department offers two programs leading to the Master of Arts degree. The "A" program is intended primarily for the student who wishes to obtain experience in historical scholarship. Provided he meets other requirements for admission to the Ph.D. program, the student who elects this option may be permitted to pursue the Ph.D. degree in History at Northern Illinois University. Those wishing ultimately to pursue a career in college or university teaching and research are advised to pursue this program. The "B" option is intended primarily for those who wish to acquire a broad background in several fields of History.

In both programs, students are expected to complete not less than 24 semester hours in History courses. The remaining hours necessary to fulfill the 30 semester hours required for the degree may be taken in History or in some related subject. Students in either the "A" or the "B" program must satisfactorily complete History 626. History of Historical Thought and Writing, or its equivalent.

A

Of the 24 semester hours required in History, not less than 12 nor more than 18 semester hours may be concentrated in one of the following fields of History: Ancient, Medieval, Modern European, Russian, Asian, British, United States, or Latin American. Two research seminars and one reading seminar are required.

A thesis is required. It is usually written in the field of concentration; 3 semester hours earned for the thesis may be counted as part of the 12-18 semester hours in the major field. In preparing the thesis, the student will be expected to demonstrate his ability to do research in original source material, to organize and evaluate the materials with which he is working, and to present his findings in a satisfactory literary form.

The student will be required to demonstrate his reading proficiency in one foreign language, usually French, German, Spanish, or Russian. Another language may be substituted, if appropriate to thesis research and approved by the Department.

B

Of the 24 semester hours required in History, not less than 9 semester hours must be concentrated in each of two of the following fields of History: Ancient, Medieval, Modern
European, Russian, Asian, British, United States, or Latin American. Two research seminars are required. A foreign language proficiency and a thesis are not required. The "B" option is normally considered a terminal degree program.

**MASTER OF SCIENCE IN EDUCATION**  
(Area Programs)

The History Department cooperates with other departments, particularly with the Departments of Education, English, Journalism, Economics, Sociology and Anthropology, and Political Science, to devise area programs leading to this degree. The student takes not less than 15 semester hours in History. The actual division of work between departments is, however, determined by the student, the History Department's graduate adviser, and the adviser appointed by the cooperating department. Credit earned in independent study courses will not be counted toward the degree in the area major. The minimum of 15 semester hours in History must include at least one reading seminar and one research seminar. No thesis or language proficiency is required.

**CERTIFICATE OF ADVANCED STUDY**

The Certificate of Advanced Study in History is designed primarily for those persons who wish to broaden their historical perspective through additional course work. Any student with a master's degree and a graduate grade point average of 3.20 or better will be permitted to apply for admission. Of the 30 semester hours required for the Certificate, not less than 20 semester hours must be in History, divided approximately equally between any two of the following fields of History: Ancient, Medieval, Modern European, United States, Latin American, Russian, Asian, or British. If the student has the master's degree in History, at least one of the fields chosen for the Certificate must be different from those studied for the master's degree.

Foreign language proficiency is not required, but a research paper is necessary. The student will usually write the paper in one of the two fields of concentration. Discussion of possible topics should begin as early as possible. A total of 3 semester hours may be obtained for the paper and may be counted toward one of the fields of concentration by enrollment in an independent study course.

**CERTIFICATE OF ADVANCED STUDY**  
(Area Programs)

The History Department cooperates with other departments, particularly Economics, Sociology and Anthropology, and Political Science, to offer an area program leading to the Certificate.

**DOCTOR OF PHILOSOPHY**

The Ph.D. degree is the highest mark of intellectual achievement in the United States in the humanities and social sciences. It is primarily a research degree and is awarded only to those who have met rigorous standards, including the demonstration of excellence in scholarship. The Ph.D. degree is generally regarded as the indispensable qualification for college and university teachers. The members of the History Department are concerned that the ideal of academic excellence associated with the degree be maintained at Northern Illinois University.

Departmental Requirements

1. Fields of Concentration
   Each student shall complete approximately 30 semester hours in one major field and approximately 15 semester hours in each of two minor fields, exclusive of credit allowed for the dissertation. If applicable and approved by the History Department, hours earned in completing the master's degree may be counted in computing the semester hour requirement for the Ph.D. Major and minor fields will be selected in consultation with the department's adviser of Ph.D. candidates. For further details see The History Graduate Student's Manual.

   - **Major and Minor Fields**
     - Ancient History
     - Medieval History
     - Modern European History
     - Russian History
     - Asian History
     - British History
     - United States History
     - Latin American History

2. Course Requirements
   a. History 626, History of Historical Thought and Writing, or its equivalent.
   b. A minimum of 12 semester hours in History seminars.

3. Language Proficiency
   The student must pass examinations designed to test his reading proficiency in two foreign languages, usually French, German, Spanish, or Russian. With the approval of the Department, another modern or ancient foreign language may be substituted for one of these. One of the
language proficiency examinations must be passed before the student sits for the qualifying examination. The second must be passed before he sits for the candidacy examination. See also The History Graduate Student's Manual.

4. Dissertation
   a. After a student has satisfactorily completed the candidacy examination, the Department will appoint a dissertation committee, which will receive and pass upon the formal dissertation proposal of the Ph.D. candidate.
   b. Every candidate for the doctorate must present an acceptable dissertation in his major field. It must be in a form suitable for publication. This study must be based on primary sources, and it must present a substantial contribution to knowledge. The candidate must make a satisfactory defense of his dissertation before an examining board appointed by the Dean of the Graduate School.

5. Examinations
   a. Qualifying Examination. No later than the third semester of Ph.D. level work, every student must pass a qualifying examination designed to ascertain his ability to pursue further graduate study in History. The student will be examined on 1) his capacity for critical reading; and 2) his knowledge of significant historical problems and of bibliography. The student may be questioned broadly upon a variety of topics related to the literature of his proposed major field, and questioned more closely regarding topics to which he has given special attention. This will be an oral examination conducted by at least two members of the graduate faculty designated by the Department. Students who have taken the M.A. degree ("A" program) from this institution may be exempted from the qualifying examination; but this exemption will be granted only upon the formal recommendation of the student's M.A. comprehensive committee and the approval of the Head of the Department.
   b. Candidacy Examination of Subjects. Subsequent to the qualifying examination but prior to submitting the dissertation, every Ph.D. student must pass an oral candidacy examination designed to test his knowledge of subject matter in major and minor fields. The candidacy examination will be conducted by a five-member board appointed by the Dean of the Graduate School. The dissertation adviser is normally the chairman of the examining board. A candidate who fails the examination may, with the consent of his committee, take the examination a second time after the lapse of at least six months; a second failure shall be final.

FOREIGN STUDY IN HISTORY

Since 1956 the History Department has offered study abroad programs at regular intervals, usually in cooperation with a British university. The purpose is to afford students of history and allied disciplines an opportunity to study at first hand the historical developments and traditions of other peoples and their cultures and also to provide personal contact with the locales of important historical events and with the artifacts of man's past. Course content, duration of the program, and foreign countries included will vary. The course carries either undergraduate or graduate credit. Interested students should consult with the Department Head or the Office of Foreign Study Programs for relevant details of forthcoming programs. See University Foreign Study Programs.

Course Offerings

GENERAL

420. Historiography (2-3)
   The art and craft of history, the development of historical interpretations, and the great historians in their intellectual milieu from the dawn of history through the mid-20th century.

519. A-B-C-D-E-F-G-H Reading Seminar (3)
   A. Ancient History
   B. Medieval History
   C. Modern European History
   D. Russian History
   E. Asian History
   F. British History
   G. United States History
   H. Latin American History
   Intensive reading and discussion over a selected field in History designed to acquaint the student with the literature and problems of the field. Specified areas to be announced in the schedule. Any one course may be repeated to a maximum of 12 semester hours. Prerequisite: Consent of graduate adviser in History.

599. Thesis (3)
   Open only to the student engaged in writing a thesis under the
Master of Arts "A" program. The student enrolls with the faculty member directing the thesis.

624. Philosophies of History (3)
An introduction to the problems of the discipline of history through an examination of the major philosophical issues involved in historical thought. May be substituted for History 626 with consent of graduate adviser in History.

625. Teaching History at the College Level (2)
Lectures and discussions of the problems of university instruction in history.

626. History of Historical Thought and Writing (3)
An introduction to the problems of the discipline of history through an examination of the major works of the great historians of the world.

636. A-B-C-D-E-F-G H Independent Study (3)
A. Ancient History
B. Medieval History
C. Modern European History
D. Russian History
E. Asian History
F. British History
G. United States History
H. Latin American History

Open to qualified students who wish to undertake work in any of these fields. Consent of the faculty member with whom the student wishes to study is necessary. May be repeated to a maximum of 9 semester hours. Prerequisite: Consent of graduate adviser in History.

699. Doctoral Research and Dissertation (2-15)
May be repeated for additional credit. Prerequisite: Consent of graduate adviser in History.

ASIAN HISTORY

439. Summer Institute in Asian Civilizations: (6)
Lectures, readings, addresses by guest speakers, films, and exhibits designed to acquaint public school teachers and other persons in public life who received little or no formal training in Asian subjects in their university careers with the basic history, the religious and cultural foundations, and the contemporary problems of the major civilizations of Asia. Time will also be devoted to the use of bibliographic and other materials useful to secondary school teachers.

440. History of India to 1740 (3)
Introduction to traditional India: the coming of Islam; the Mughal Empire; the era of European rivalries and the beginnings of British hegemony.

441. History of India since 1740 (3)
The British challenge to traditional Indian society and the Indian response: the Mutiny; the emergence of Indian nationalism; devolution of power and partition.

445. The Chinese Revolution (3)
Intellectual and social backgrounds of the Nationalist revolutionary movement; political history of the revolutionary period to the present.

449. History of Malaysia and Indonesia (3)
The political and cultural history of the Malaysian and Indonesian peoples from the 8th century A.D. through the mid-twentieth century. Emphasis is placed on indigenous values and institutions and how these have been modified or displaced by experience with imperialism and modernization.

539. Seminar in Chinese History (3)
Selected problems in the history of China. May be repeated to a maximum of 6 semester hours. Prerequisite: Consent of graduate adviser in History.

541. Seminar in Southeast Asian History (3)
Study of selected problems in Southeast Asian history with emphasis usually placed on Malaysia, Indonesia, and the Philippines. May be repeated to a maximum of 6 semester hours. Prerequisite: Consent of graduate adviser in History.

542. Seminar in Indian History (3)
Selected problems in the history of India, with emphasis upon the economic, social, and political development of modern India. May be repeated to a maximum of 6 semester hours.

543. Seminar in Japanese History (3)
Selected problems in the history of Japan. May be repeated to a maximum of 6 semester hours.

BRITISH HISTORY

466. British Constitutional History (3)
British political and legal institutions from Anglo-Saxon times to the mid-20th century.

467. History of the Empire and Commonwealth (3)
The British Empire and the Commonwealth of Nations from the 16th century to the present.
HISTORY

468. Tudor and Stuart England (3)
Elizabethan and Jacobean culture; the Reformation; the Revolution of 1640-60.

475. The Foundations of Modern England, 1714-1815 (3)
The agricultural and industrial revolutions and their impact upon the social, political, economic, and intellectual life of Great Britain during the eighteenth century.

476. Dominance and Decline: English History, 1815-1914 (3)
Great Britain during its period of world power and prestige. Emphasis is placed on capitalism and its impact upon the social, political, economic, and intellectual life.

477. Britain 1914 to the Present (3)
A continuation of Hist. 476. The social transformation effected by the First World War; decline of the Liberal Party; the General Strike, Depression, foundations and background to the Welfare State. Prerequisite: Hist. 336.

492. British Labor Movement, 18th Century to the Present (3)
A course in labor history focusing on the beginnings of modern trade unionism, working class political organizations, radicalism during the 19th century, the antecedents of the Labor Party, and the ideological dilemma of the present day Labor Party.

533. Seminar in Tudor and Stuart History (3)
Selected problems in the early history of modern Britain. May be repeated to a maximum of 6 semester hours. Prerequisite: Consent of graduate adviser in History.

537. Seminar in Modern British History (3)
Selected problems in the political, economic, and social history of modern Britain. May be repeated to a maximum of 6 semester hours. Prerequisite: Consent of graduate adviser in History.

EUROPEAN HISTORY

402. The Greek City State (3)
Greek political ideas and practice. The problem of government in the major philosophers, historians, and dramatists. Special attention is given to the Athenian democracy of Pericles.

403. The Roman Revolution (3)
A source-based study of the end of the Roman Republic, 146-29 B.C.: development of the Roman constitution and Roman views of the state; analysis of the failure of democracy in the ancient world.

404. The Later Graeco-Roman World (3)
The decline of classical civilization and the foundations of the Middle Ages from Marcus Aurelius to the end of the sixth century.

430. The Renaissance (3)
The social, political, and ideological breakdown of Medieval Europe with consideration of the reaction of the new class of artists and intellectuals to the special problems of their age.

431. The Reformation (3)
A survey examination of the varieties of religious revolution and counter-revolution which led Western Europe to the threshold of modernity.

432. History of Ideas to 500 A.D. (3)
Definition and limitation of the field of intellectual history and its relationship to other fields such as science and philosophy. The big questions about which man has always speculated and an explanation of the effect of ideas on people in the periods of the primitive and Near Eastern Origins, the Classical and Hellenistic Greeks, the Hebrews, the Romans, and the Early Christians.

433. History of Ideas, 500-1600 A.D. (3)
A continuation of Hist. 432. The Medieval fusion of Classical, Teutonic, Christian, Islamic, Celtic cultures: education, philosophy, science, religion, government, law, art, literature as they reflect the fusion. The transition to modern culture in the Renaissance and Reformation.

434. Europe in the Age of the Democratic Revolution, 1750-1815 (3)
The origins of modern democratic ideas and institutions are studied in the context of the 18th century Enlightenment, the radical reorganization brought about by the Revolution of 1789-94, the conservative reaction and the consolidation and diffusion of the Revolutionary achievement by Napoleon.

435. 20th Century Europe (3)
European and world affairs in this century. Origins of the two World Wars, the Great Depression, rise of totalitarian governments, retreat of Europe from Asia and Africa, attempts at international organization.

436. Great Revolutionary Movements of Modern History (3)
Exercises in analyzing the nature of revolutionary ideals and action in the history of Europe since the 15th century.

437. Modern Europe, 1815-1870 (3)
Selected topics in the political, social, economic, and intellectual history of Europe from the fall of Napoleon to the unification of Germany.
438. Modern Europe, 1870-1914 (3)
Selected topics in the political, social, economic, and intellectual history of Europe in the pre-World War I era.

446. Europe in the Seventeenth Century (3)
Europe in an age of crisis and consolidation: the Thirty Years' War and social unrest; institutional difficulties and mercantilism; baroque civilization; the hegemony of Louis XIV.

447. Medieval Europe, 500-1200 (3)
Surveys the life and culture of the early Middle Ages, from the Germanic migration to the 13th century.

448. Europe in the Later Middle Ages (3)
A continuation of Hist. 447. Surveys the renewal of town life, the age of scholasticism, the development of monarchies and parliaments, the flowering of art and architecture.

460. Diplomatic History of Modern Europe, 1815-1890 (3)
The impact of national, industrial, and social problems on the international scene. The development of the balance of power and the unification of Italy and Germany, followed by the new imperialism. The Age of Bismarck.

461. Diplomatic History of Modern Europe, 1890-1945 (3)
The decline of Europe as the center of world affairs. The causes of two World Wars and the consequences. The end of colonialism and the efforts at international cooperation. The search for peace and the policy of appeasement.

462. European Intellectual History, 1500-1740 (3)
a general discussion of the ideas and ideologies which have created much of modern world civilization.

463. European Intellectual History, 1740-1850 (3)
a continuation of Hist. 462. The Age of Enlightenment: the growth of secularism, science, liberalism, utilitarianism, and humanitarianism; the revolutionary crisis; the Romantic movement; the rise of nationalism, conservatism, democracy, and socialism.

469. European Intellectual History, 1850 to the Present (3)
a continuation of Hist. 463. The rise of Realism and positivism: Darwinism and scientific theories of race; imperialism; the new science; Freud: the anti-rationalist revolt; existentialism.

473. History of Science from Antiquity to Newton (3)
Science in the ancient Near East; Hellenic and Hellenistic Science: the Arabs; Medieval Science; the Copernican Revolution; the new physics; and the new biology.

474. History of Science since 1650 (3)
Newtonian Astronomy; Chemistry from Boyle to Mendeleyev; the life sciences in 18th and 19th centuries; geology and evolution; physics from the 18th to the early 20th century.

480. France Under the Old Regime (3)
A survey of the development of French society from Capetian times through the French Revolution.

481. France since 1815 (3)
French society, government, and culture from the fall of Napoleon I to the present, emphasizing the Revolutionary heritage, the coming of industrialism and democracy, the rise and fall of the French colonial empire; the ordeal of France in the twentieth century.

483. History of Spain 1391-1815 (3)
Development of Spain into one of the foremost states of early modern Europe and the reasons for her decline. An effort will be made to relate developments in Spain to developments in the Spanish Empire.

484. History of Spain since 1815 (3)
The struggle for liberalization with a discussion of the Spanish Civil War and its political, social, and economic aftermath.

488. Germany and Central Europe to 1815 (3)
The medieval heritage; the Renaissance and Reformation; the rise of Austrian hegemony; the Thirty Years' War; Brandenburg Prussia; the impact of the Enlightenment; the French Revolution and Napoleon; the aftermath of the Congress of Vienna.

489. Germany and Central Europe since 1815 (3)
Against the background of the age of absolutism and of revolution, the course surveys the Napoleonic era, the rise of Prussia, nationalism and unification, power politics, imperialism, two World Wars, National Socialism and its aftermath.

530. Seminar in Ancient History (3)
Selected problems of European history during the ancient period to 500 A.D. May be repeated to a maximum of 12 semester hours. Prerequisite: Consent of graduate adviser in History.

531. Seminar in Medieval History (3)
Selected problems of European history during the Medieval period, 500-1500 A.D. May be repeated to a maximum of 12 semester hours. Prerequisite: Consent of graduate adviser in History.

532. Seminar in Early Modern Europe (3)
Selected problems of European history during the sixteenth and seventeenth centuries. May be repeated to a maximum of 6 semester hours. Prerequisite: Consent of graduate adviser in History.
534. Seminar in Modern European History (3)
Selected problems of European history since 1600 A.D. May be repeated to a maximum of 12 semester hours. Prerequisite: Consent of graduate adviser in History.

631. Seminar in Modern European Economic History (3)
Studies in the development of economic institutions and ideas. May be repeated to a maximum of 6 semester hours. Prerequisite: Consent of graduate adviser in History.

632. Seminar in European Intellectual History (3)
Selected topics inviting the student to describe and analyze interesting patterns of thought and feeling which have shaped the lives of Europeans from the decay of the Catholic imagination through the new consciousness of Enlightenment, Romanticism, Scientism, and secular social and political ideologies. May be repeated to a maximum of 6 semester hours.

HISTORY OF THE AMERICAS

415. Colonial America to 1763 (3)
A survey of Colonial America emphasizing the role of the colonies in the British Empire and the social, economic, intellectual, and political factors which influenced later American history.

416. The American Revolution, 1763-1789 (3)
An examination of the period 1763-1789 in which stress is placed on the causes of the American Revolution, the character of this revolution, and its results as seen in the Confederation Period and the Constitution.

417. United States, 1789-1815 (3)
The foundations of the nation in the Presidencies of George Washington, John Adams, Thomas Jefferson, and James Madison. Analysis of the Hamiltonian financial system, the principles of American foreign policy, the origins of political parties, and the social-political philosophies of major figures.

418. Civil War and Reconstruction, 1850-1877 (3)
The sectional crisis of the 1850's, the Civil War, and the period of political reconstruction: special attention to cultural and social factors involved in the sectional conflict and the war's lasting effects upon national and regional life.

419. Industrial America, 1877-1901 (3)
The impact of industry and the city upon vital aspects of American life and society, with particular emphasis upon the response of farmers, workers, politicians, and intellectuals to the problems of an emerging urban-industrial society.

421. Recent American History, 1901-1933 (3)
American development from the turn of the century to the age of the Great Depression; special emphasis on the development of Progressivism, the diplomacy of imperialism, World War I and its aftermath, the triumph of "normalcy," and the causes and consequences of the Great Depression.

422. Recent American History, 1933 to the Present (3)
American development from the New Deal to the present: consideration of both domestic and foreign policy, especially the emergence of the welfare state, entrance into World War II, and America's internal and diplomatic affairs during the postwar years.

423. American Intellectual History to 1865 (3)
America's intellectual heritage from Western civilization, and the change in that heritage which entered into the development of an American ideology. Prerequisite: Hist. 220.

424. American Intellectual History since 1865 (3)
Traditional American ideas and concepts in relation to the intellectual challenge arising from America's transition to a secular, urban-industrial society during the past century. Prerequisite: Hist. 221.

425. Ancient America (3)
The pre-history of the Americas, from the coming of the Indians to the arrival of the Europeans. The cultural, social, and political achievements of the high civilizations of ancient America and the problems connected with their development.

426. The History of Mexico since 1810 (3)
The quest for independence—political, economic, and cultural—with particular attention to the Revolution of 1910-1920. Prerequisites: Hist. 325, 326, or consent of instructor.

427. Problems in the Recent History of Latin America (3)
A broad study of factors underlying Latin American unrest since World War II. Prerequisites: Hist. 325, 326, or consent of instructor.

428. The Middle Period of American History, 1815-1850 (3)
The United States from the Era of Good Feeling through the Jacksonian democratic movement and the age of Manifest Destiny.

429. History of American Labor from 1787 (3)
Role of the working class in American history from the Early National Period to the present, with emphasis upon the growth of organized labor, labor problems, and labor's relation to other segments of American society during the 20th century.

450. Diplomatic History of the United States to 1898 (3)
American diplomacy, the theory and conduct of foreign affairs, and America's world role from colonial backgrounds to the Spanish-American War.
451. Diplomatic History of the United States since 1898 (3)
   The theory and practice of American foreign relations, the United States' emergence as a world power, and the conduct of diplomatic affairs from the Spanish-American War to the Cold War.

452. Illinois and the Old Northwest (3)
   Settlement of the Northwest Territory and its regional history, with primary attention to the history of Illinois.

455. American Social and Cultural History to 1865 (3)
   The development of the American character in relation to social institutions, economic life and cultural changes.

456. American Social and Cultural History since 1865 (3)
   Continuation of Hist. 455. Special emphasis on economic abundance, the frontier, the American college and university, immigration, industrialism, and religious denominationalism.

457. History of Religion in America to 1865 (3)
   The transplanting of European denominations to the New World: their transformation under American conditions: the rise of indigenous faiths: relations between the churches and society, and between church and state.

458. History of Religion in America since 1865 (3)
   The impact of science upon traditional beliefs: the rise of social concern: religious pluralism in America, and forces making for unity: theological trends. Denominations both "Mainstream" and otherwise.

459. Problems in the History of the African-American (3)
   Selected problems of interpretation relating to the history of people of African descent in the Americas. Particular emphasis is placed upon the black population of the United States and some attention is given to the problem of race relations.

478. American Constitutional History to 1865 (3)
   American constitutional development, including English backgrounds, the Colonial and Revolutionary eras, and the evolution of the Federal Constitution to 1865, with consideration of the economic, political, and intellectual factors which have contributed to its growth. Prerequisite: Hist. 220.

479. American Constitutional History since 1865 (3)
   American constitutional development since 1865, including Reconstruction, the impact of the Industrial Revolution, and such significant 20th century constitutional issues as civil liberties, segregation, and the government’s role in the economy. Prerequisite: Hist. 221.

485. Brazil from Empire to Republic (3)
   The early emergence of Brazil as a major force in the Western Hemisphere and its potential as a world power: the evolution of Brazil’s political institutions, economy, social structure, and culture.

486. Republic of the Rio De La Plata (3)
   A comparative study of Argentina and the buffer states of Paraguay and Uruguay since 1810: their quest for national identity and varied efforts to overcome such problems as political instability, foreign intervention, colonial economics, and social unrest, with emphasis on issues and trends in the 20th century.

518. Seminar in American Diplomatic History (3)
   Selected problems in American foreign relations. May be repeated to a maximum of 6 semester hours. Prerequisite: Consent of graduate adviser in History.

520. Seminar in American Colonial History (3)
   Selected problems in 17th and 18th century American history, including the Early National Period. May be repeated to a maximum of 6 semester hours. Prerequisite: Consent of graduate adviser in History.

521. Seminar in 19th Century American History (3)
   Selected problems of American history in the 19th century. May be repeated to a maximum of 6 semester hours. Prerequisite: Consent of graduate adviser in History.

522. Seminar in 20th Century American History (3)
   Selected problems of American history in the 20th century. May be repeated to a maximum of 6 semester hours. Prerequisite: Consent of graduate adviser in History.

523. Seminar in Latin-American History (3)
   Selected problems in Latin-American history. May be repeated to a maximum of 6 semester hours. Prerequisite: Consent of graduate adviser in History.

524. Seminar in American Frontier History (3)
   Frontier historiography and selected research problems in American frontier studies. May be repeated to a maximum of 6 semester hours. Prerequisite: Consent of graduate adviser in History.

525. Seminar in American Economic History (3)
   Studies in the development of institutions and ideas. May be repeated to a maximum of 6 semester hours. Prerequisite: Consent of graduate adviser in History.

623. Seminar in American Intellectual and Social History (3)
   An intensive examination of ideas and preconceptions in American thought on both the popular and scholarly levels during various periods. Prerequisite: Consent of graduate adviser in History.
RUSSIAN HISTORY

443. Russian Thought and Culture before 1917 (3)
Pre-Soviet social, cultural, and intellectual life. Emphasis on the period since Peter the Great.

454. Soviet Thought and Culture since 1917 (3)
Soviet social, cultural, and intellectual life, 1917 to the present. The on-going revolution in Soviet culture—the formation of the "new Soviet man" and a "Socialist Culture."

464. The Society and Institutions of Imperial Russia (3)
The development of the society and institutions in Russia from 1689 to 1917. Special emphasis will be placed on the changing character of Russian society and the attempts to create an effective state organization in Russia.

472. Soviet Foreign Policy from 1917 to the Present (3)
Soviet foreign policy from the birth of the Soviet State to its emergence as a world power. Goals and methods of Soviet conduct in world affairs are analyzed with special attention to the conventional and ideological elements, the constant and variable factors, and the domestic and Communist-bloc politics that shape Soviet foreign policy.

540. Seminar in Russian History (3)
Selected problems in Russian history. May be repeated to a maximum of 12 semester hours. Prerequisite: Consent of graduate adviser in History.

Department of Journalism


Two Master's Degrees are open to students in Journalism: Master of Arts and Master of Science in Education.

MASTER OF ARTS

A student pursuing a Master of Arts degree with a major in Journalism should have had at least 9-12 undergraduate semester hours in journalism or professional experience equivalent to these semester hours. A student may be required to make up deficiencies by enrolling in, or passing proficiency examinations in the area of reporting, editing, photography, press history or other course equivalents prescribed by departmental advisers without graduate credit.

Of the 30 semester hours of graduate credit required for the degree, at least 21 semester hours are to be taken in journalism at the graduate level.

1. The student is required to take 15 semester hours in this group:
   Journ. 410 Mass Media in Society (3)
   Journ. 500 Independent Study (2-4)
   Journ. 501 Mass Communications Research Methods (1-3)

2. The student must elect 6 semester hours from the following:
   Journ. 400 History of Journalism (3)
   Journ. 435 Public Relations I (3)
   Journ. 436 Public Relations II (3)
   Journ. 450 School Publications (1-3)
   Journ. 451 Teaching Journalism (3)
   Journ. 460 Law of the Press (3)
   Journ. 470 Industrial Journalism (3)
   Journ. 490 Reading in Journalism (2)
   Journ. 515 The Press of Suburbia (3)
   Journ. 520 Seminar in Press Problems (3-6)
   (Course may be repeated once.)

3. Reading knowledge of one foreign language is required.
4. The student is required to write a thesis for from 3-6 semester hours of credit; or to complete an equivalent number of semester hours in or outside the Department. If the thesis is not written, a candidate must submit copies of three acceptable research papers prepared for other courses of graduate work.

5. A written comprehensive examination is required upon completion of course work, or during the last semester of study (prior to approval of a thesis topic if the thesis...
option is selected). A final oral examination also may be required.

**MASTER OF SCIENCE IN EDUCATION**

The Journalism Department cooperates with other departments, particularly with the Departments of Education, English, Political Science, Speech, Home Economics, Industry and Technology, Sociology and Anthropology, Philosophy, and Psychology and the College of Business to devise area programs leading to the degree Master of Science in Education.

The division of work between departments is determined by the student and his graduate program advisers, but usually a minimum of 15 semester hours is required in Journalism. A thesis either in Journalism or in the subject matter of the cooperating department is required.

**Course Offerings**

400. History of Journalism (3)

Development of newspapers and periodicals from beginnings in Europe through the emergence of modern journalism. Current world news gathering agencies.

410. Mass Media in Modern Society (3)

The concept and role of mass communications, rights, restrictions, and responsibilities of the mass media; interactions of mass communications and society.

435. Public Relations I (3)

Communications theory and principles relating to influencing of public opinion. Analysis of public relations problems and procedures. Case studies in public relations. Practice in solving public relations problems. Preparation of public relations materials.

436. Public Relations II (3)

Cases, concepts and campaigns in public relations. Practice in planning and conducting campaigns to achieve specific goals. Anticipate and solve specific public relations problems, including pre-and post testing to measure results. Prerequisite: Joun. 435 or consent of instructor.

450. School Publications (1-3)

For high school and junior college journalism teachers and school publications directors. Instruction in technical skills, staff organization, and production problems for newspaper and yearbook advisers.

451. Teaching Journalism (3)

Teaching methods of journalism in secondary schools and junior colleges: courses of study, organization, bibliography; use of journalism courses for school publication production.

460. Law of the Press (3)

Legal regulations, libel laws, and restrictions on the press, publishing, radio, and television.

470. The Industrial Press (3)

Practical work in planning, editing, and producing specialized publications, including reporting, copywriting, picture editing, advertising layout, and business management.

490. Readings in Journalism (2)

A selected review of journalism literature, including books, research studies, periodicals.

500. Independent Study (2-4)

Open to qualified students who wish to do individual advanced work in Journalism or mass communications. Prerequisite: Consent of instructor.

501. Mass Communications Research Methods (1-3)

Procedures; sources of information; introduction to and use of mass communication research tools; application of research techniques to restricted problems.

515. The Press in Suburbia (3)

Evolution of media in metropolitan suburbs; special aims that determine news, editorial and business policy; content problems; group publication and its effect on staffing, editing, mechanical and business operation; research and future development. Prerequisite: Consent of instructor.

520. Seminar in Press Problems (3)

Selected problems in press freedom, federal-local censorship, press privileges, display and suppression of news, and the public's right to know. Also selected problems in influences of the press on social, economic and political affairs; public opinion; and the formation of thought processes. Course may be repeated once.

550. Press and World Affairs (3)

International communications problems of the press in international affairs; a detailed study of international news agencies and services, investigation of the foreign press by countries with emphasis on the press under Fascism, Communism, and Democracy; and world censorship.

599. Thesis (3-6)

The student is eligible to register for this course after he has completed Journ. 501 and has been accepted as a candidate in an area major leading to the master's degree. May be repeated to a maximum of 6 semester hours.
Department of Library Science

Faculty: Walther, Department Head, Broadus, Osborn, Schormann, Spargo, White.

The Department of Library Science offers graduate programs leading to the degrees Master of Science in Education and Master of Arts.

MASTER OF ARTS

In addition to the general admission requirements listed in the graduate catalog, candidates for the M.A. in Library Science must complete the following undergraduate courses with at least a B average (should be taken during the summer session or first semester of residence concurrently with graduate courses). Students who have completed comparable courses or have had experience in libraries may satisfy this requirement by passing an examination prior to admission. Students may be required to complete additional undergraduate courses outside the Department to satisfy deficiencies:

Lib.S. 311 Introduction to Selection of Library Materials (3)
Lib.S. 312 Introduction to Reference Materials (3)
Lib.S. 412 Cataloging and Classification (3)

Graduate Course Requirements

Three of the following four courses are required of all students:

Lib.S. 521 Bibliography of the Humanities (3)
Lib.S. 522 Bibliography of the Social Sciences (3)
Lib.S. 523 Advanced Reference and Bibliography (2)
Lib.S. 524 Bibliography of the Sciences (3)

The student must have a reading knowledge of one foreign language. Demonstration of reading competence may be satisfied in either of two ways: by transcript evidence of two years of college work or its equivalent in a language; or by a foreign-language reading examination given by the Department of Foreign Languages.

The student must take a minimum of 30 semester hours, 9 of which may be courses outside the Department and 6 of which may be thesis. The student must take a comprehensive examination not later than seven weeks prior to graduation.

MASTER OF SCIENCE IN EDUCATION

Students who elect an area major in Library Science and Education leading to the degree Master of Science in Education will be expected to do approximately half of their graduate work in courses prescribed by the Department of Library Science. The nature and scope of the courses prescribed will be determined by an examination of the individual student's undergraduate academic record and his general background.

Course Offerings

415. Library Work with Children and Young People (3)

The objectives and services of library work with children and young people.

418. Reading Interests of Adolescents (3)

Intensive study of principles of selection of materials for the secondary school and for young people's division of public library, with emphasis on literature and biography; study of the reading interests of young people; methods of stimulating and guiding reading.

434. The Public Library as a Service Organization (3)

The role of the public library in adult education and as information center of the community. Special emphasis on problems of public support, public relations, and community development. Administrative principles and techniques; library surveys and wider areas of service.

500. Workshop (1-3)

Intensive study of problems of the school or public library in the areas of selection, reference, and cataloguing. May be repeated to a maximum of 6 semester hours.

505. Library Materials for Children (3)

Evaluation and use of books, magazines, films, filmstrips, records, tapes, radio and television broadcasts and other sources of information for children.

506. Analysis of Adult Reading (2)

The critical evaluation and analysis of books and other library materials suited to adults; appraisal of reading interests, habits and needs of adults; various mass media as sources of information.

512. Advanced Cataloging and Classification (3)

Special problems in the organization of library materials with considerable attention to Library of Congress classification.

513. History of Books and Libraries (2)

The role of books and libraries in Western culture. The invention of printing and the rise of the idea of literary property. Development of the great world libraries to 1840. Open to all students.
514. The American Library Movement (2)
The rise of the American public and school library as part of the 19th century growth of popular education. The continued development in the 20th century of the library: school, public, local, and regional.

515. College and University Libraries (3)
A survey of problems in the field: administration, personnel, purposes. Special emphasis on cooperation, buildings, and service to research workers.

516. Special Libraries (2)
Intensive study of the techniques of selection, cataloging, preparation, and service of materials in specialized libraries. A field trip to the Chicago area will be part of the course.

517. Library Administration and Management (3)
Administrative theory and principles and their implication and application to managerial activity in all types of libraries and scientific and technical information centers. Motivation and training of personnel; work evaluation.

518. Technical Processes (3)

521. Bibliography of the Humanities (3)

522. Bibliography of the Social Sciences (3)
Intensive study of reference materials and the formation of working collections in this field of knowledge. Special emphasis on sources of education and of business information.

523. Advanced Reference and Bibliography (2)
Systematic bibliography, including national and trade bibliographies, document catalogs, current status of bibliographic control and cooperation on the regional, national, and international level.

524. Bibliography of the Sciences (3)
Intensive study of reference materials, periodicals, as well as popular reading in the pure sciences and technology.

525. Foundations of Librarianship (3)
The development of libraries. Current issues, library legislation, professional materials, professional associations, library education, and library leaders.

526. Bibliography of Business Sources (2)
Survey and analysis of books, periodicals, and document sources of information in business, business law, finance and marketing with emphasis on problem solving.

530. Special Problems in Librarianship (1-6)
Research in the field of librarianship. Class will meet one day a week, and students will prepare a research paper for varying credit, dependent upon subject and scope.

533. Administration of Learning Centers (3)
Principles and philosophy of learning centers: special emphasis on technical procedures selection and evaluation of various teaching media and equipment. Designing, planning and servicing of multi-media materials: financing.

534. Library Systems (3)
Current patterns of regional library development: problems associated with library systems: significance of state and federal programs and national information networks.

550. Graduate Seminar in Librarianship (1)
Designed to round out the student's professional preparation by giving attention to special topics, problems, or trends by means of visits, lectures, both from the university faculty and outside, topical reports and discussion. May be repeated once for credit.

552. Seminar in Information Retrieval (2)
Analysis of new methods of indexing, cataloging, and bibliographic organization, with some attention to mechanical and electronic devices.

558. Seminar in Current Library Building Problems (2)
Space requirements for all types of libraries. Automated library services. Human engineering, selection of all forms of mass media, specification writing, layout of equipment for information retrieval services.

599. Master's Thesis (1-6)
Open to students writing a thesis under the M.A. program.
Department of Mathematics

Faculty: Ostberg, Department Head, Angotti, Beach, Behr, Blau, Christiano, C. Gupta, Hardgrove, Hellmich, Kambayashi, S. Klasa, Kuller, Leonard, Lindsey, McFadden, Munson, Neath, Powers, Quirk, Rodine, Shapiro, Sons, Trail, Welch, Underlich, Zettl.

The Department of Mathematics offers graduate programs leading to the degrees Master of Science in Education and Master of Science and to the Certificate of Advanced Study.

Admission to graduate work in mathematics presupposes an undergraduate major, including a minimum of 12 semester hours beyond the calculus. Students with any deficiency in this respect will be required to take additional courses to complete the work for the master's degree.

MASTER OF SCIENCE

Students who elect a graduate major in Mathematics toward the degree Master of Science must satisfy the following course requirements in Mathematics:

1. 430 or equivalent if this course was not included in the undergraduate program.
2. 431, 532, and 660.
3. At least five courses to be selected from 422, 423, 425, 426, 427, 428, 429, 430, 431, 433, 434, 438, 439, 442, 443, 446, 447, 448, 453, 454, 455, 458, 460, 507, 510, 512, 514, 515, 518, 520, 525, 526, 528, 534, 535, 542, 551, 552, 553, 554, 560, 612, 616, 632, 634. At least three of these courses must be on the 500 or 600 level.
4. Courses in related areas up to 6 semester hours outside the Department of Mathematics may be included only in special cases where approval is given by the major adviser.

MASTER OF SCIENCE IN EDUCATION

Students who elect a graduate major in Mathematics toward the degree Master of Science in Education must satisfy the following course requirements in Mathematics:

1. 408 and 409 or equivalent if these courses were not included in the undergraduate program.
2. 550 and 660.
3. At least five courses to be selected from 422, 423, 425, 426, 427, 428, 429, 430, 431, 433, 434, 438, 439, 442, 443, 446, 447, 448, 453, 454, 455, 460, 507, 510, 512, 514, 515, 518, 520, 525, 526, 528, 532, 560, 612, 616, 632, 634. At least two of these courses must be on the 500 or 600 level.

CERTIFICATE OF ADVANCED STUDY

The requirements for the Certificate of Advanced Study vary according to the background and needs of individual students. Each program must be approved by the head of the Department of Mathematics.

Course Offerings

402. Curriculum and Instruction in Elementary School Mathematics (3)
The aims and organization of materials for the mathematics programs for the elementary school. Primarily for Elementary Education majors. Not open for credit toward the major or minor in Mathematics. Prerequisite: Math. 201 or equivalent.

408. Curriculum and Instruction in Junior High School Mathematics (3)
The aims and organization of materials for the mathematics programs of the junior high school. Accepted as Mathematics credit only for those preparing to teach. Prerequisites: Math. 353 and Educ. 302 or 375.

409. Curriculum and Instruction in Secondary School Mathematics (3)
The aims and organization of materials for the mathematics programs of the secondary school. Accepted as Mathematics credit only for those preparing to teach. Prerequisites: Math. 353 and Educ. 302.

417. Methods of Experimental Statistics (3)
Basic experimental statistics including methods of estimation and hypothesis testing, analysis of variance procedures, principles of experimental design, completely randomized and randomized complete block designs, factorial arrangements of treatments, linear regression and correlation analysis, covariance analysis and distribution-free methods. Prerequisite: Math. 350 or both Math. 211 and Math. 301, or equivalent.

420. Differential Equations (3)
Elements of ordinary differential equations. Techniques of solutions. Applications to problems in geometry and science. This course is not open to students who have received credit for Math. 233 and Math. 234. Prerequisite: Math. 231 or equivalent.

422. Linear Analysis I (3)
An introduction to the study of applied analysis using the techniques of linear algebra. Prerequisite: Math. 231 or Math. 233, or equivalent.
423. Linear Analysis II (3)
   Continuation of Math. 422. Prerequisite: Math. 422.

425. Algebra I (3)
   Elements of group theory up to the fundamental homomorphism theorem; basic theory of commutative rings and fields. Additional topics may include polynomial rings, vector spaces, Galois theory and elementary homology theory. Prerequisite: Math. 231 or Math. 233 or Math. 239, or equivalent.

426. Algebra II (3)
   Continuation of Math. 425. Prerequisite: Math. 425.

427. Linear and Multilinear Algebra (3)
   The general theory of vector spaces, linear transformations and matrices. Topics will include determinants, tensor products, canonical forms, and bilinear and quadratic forms. Prerequisite: Math. 425 or equivalent.

428. Introduction to Computer Science I (3)
   A survey of the developments in digital computing. Each student will complete a computing project in his field of interest. Prerequisite: Math. 305A or equivalent.

429. Introduction to Computer Science II (3)
   Continuation of Math. 428. Prerequisite: Math. 428.

430. Advanced Calculus I (3)
   A rigorous re-examination of the calculus and an introduction to the theory of real variables. Prerequisite: Math. 232 or Math. 234, or equivalent.

431. Advanced Calculus II (3)
   Continuation of Math. 430. Prerequisite: Math. 430 or equivalent.

433. Logic and Recursive Function Theory I (3)
   An introduction to axiomatic set theory and formal number systems. Topics will include formal systems and languages, primitive and general recursive functions, and higher axioms and models for set theory. Prerequisite: Math. 231 or Math. 233 or Math. 239, or equivalent.

434. Logic and Recursive Function Theory II (3)
   Continuation of Math. 433. Prerequisite: Math. 433.

438. Introduction to Probability Theory (3)
   The mathematical study of probability including probability spaces, random variables, probability distributions, special distributions, laws of large numbers, and limiting distributions. Prerequisites: Math. 350, and either Math. 231 or Math. 233, or equivalent.

439. Introduction to Mathematical Statistics (3)
   An introductory study of mathematical statistics including distributions of functions of random variables, interval estimation, sufficiency, completeness, point estimation, statistical hypotheses, analysis of variance, and the multivariate normal distribution. Prerequisite: Math. 438.

442. Numerical Mathematics I (3)
   The theory of numerical methods. Topics will include error analysis, numerical differentiation and integration, numerical matrix operations, and applications. Prerequisites: Math. 305A and either Math. 231 or Math. 233, or equivalent.

443. Numerical Mathematics II (3)
   A continuation of Math. 442. Prerequisite: Math. 442.

446. Topology (3)
   Introduction to the study of metric and topological spaces. The notions of separation, continuity, connectedness, and compactness. Prerequisite: Math. 232 or Math. 234, or equivalent.

447. Algebraic Topology (3)
   Introduction to the study of algebraic topology. Topics will include the classification of 2-manifolds, the fundamental group, and elementary homology theory. Prerequisites: Math. 425 and Math. 446, or equivalent.

448. Topics in Geometry (3)
   The definition and study of manifolds using topological methods. Prerequisite: Math. 446 or equivalent.

453. Linear Geometry I (3)
   A treatment of affine and related geometries using the techniques of linear algebra. Prerequisite: Math. 231 or Math. 233 or Math. 239, or equivalent.

454. Linear Geometry II (3)
   Continuation of Math. 453. Prerequisite: Math. 453.

455. Number Theory (3)
   Divisibility, primes, congruences, quadratic reciprocity, Diophantine equations, continued fractions, and other selected topics. Prerequisite: Math. 231 or Math. 233 or Math. 239, or equivalent.

460. Elements of the Theory of a Complex Variable (3)
   The theory of functions of a complex variable emphasizing applications of complex function theory. Prerequisite: Math. 232 or Math. 234, or equivalent.
502. The Teaching of Arithmetic in the Elementary School (3) (Also listed as Educ. 502)
Consideration of the implications of research for methods of teaching, and the selections and arrangement of concepts and materials. Prerequisite: Math. 402 or equivalent.

507. Theory of Numbers (3)
Prerequisite: Math. 455 or equivalent.

510. Mathematics of Statistics (3)
Prerequisite: Consent of Department.

512. Probability I (3)
Topics from classical definitions of probability, theorems of total and compound probability, repeated trials, probability of hypotheses, Bayes’ theorem, Bernoulli’s theorem, binomial and Poisson distributions, games of chance, mathematical expectation, laws of large numbers, recurrent continuum. Math. 612 is a continuation of this course. Prerequisite: Consent of Department.

515. Advanced Analytic Geometry (3)
Coordinates and cosines, planes and lines, determinants and matrices, surfaces and curves, quadric surfaces, and transformations. Prerequisite: Math. 231 or equivalent.

518. Synthetic Projective Geometry (3)
Projective transformations, ideal elements, cross ratio, duality; poles, polars, collineations, involutions; the theorems of Desargues, Pascal, Brianchon; the projective theory of conics. Prerequisite: Math. 231 or equivalent.

520. Differential Equations II (3)
Continuation of Math. 420. Further consideration given to ordinary differential equations of the first order and high orders. Partial differential equations of the first and second orders. Prerequisite: Math. 420 or equivalent.

525. Modern Algebra I (3)
A detailed study of the explicit structure and morphisms of postulationally defined systems. Math. 526 is a continuation of this course. Prerequisite: Math. 426 or equivalent.

526. Modern Algebra II (3)
Continuation of Math. 525. Prerequisite: Math. 525 or equivalent.

528. Theory of Finite Groups (3)
Abstract groups, subgroups, invariant subgroups and the Jordan-Holder Decomposition Theorem, Abelian groups. Prerequisite: Math. 231 or equivalent.

532. Introduction to Complex Variables and Applications I (3)
Topics selected from point sets, paths, regions, continuity and differentiability, the Cauchy-Riemann differential equations, Cauchy’s Integral Theorem, Cauchy’s Integral Formula, Laurent Expansion, singularities, transformations, conformal mapping, Riemann Surfaces. Math. 632 is a continuation of this course. Prerequisite: Math. 431 or consent of instructor.

534. Real Variables I (3)
The properties of sets, the theory of functions, and an introduction to measure theory. Prerequisite: Math. 431 or consent of instructor.

535. Foundations of Mathematics (3)
The construction of the number system, axioms, the algebras of sets and statements; symbolic logic, quantification theory, infinite sets, transfinite cardinals and ordinals; the philosophies of mathematics. Prerequisite: Math. 231 or equivalent.

542. Numerical Analysis (3)
Continuation of Math. 443. Prerequisite: Consent of Department.

550. Seminar in the Teaching of Secondary School Mathematics (3)
Intensive study of improvement in the teaching of selected topics in secondary school mathematics. Prerequisite: Consent of instructor.

551. Seminar in Geometry (3)
Advanced topics in geometry. May be repeated to a maximum of 9 semester hours. Prerequisite: Consent of Department.

552. Seminar in Analysis (3)
Advanced topics in real and complex analysis. May be repeated to a maximum of 9 semester hours. Prerequisite: Consent of Department.

553. Seminar in Algebra (3)
Advanced topics in algebra. May be repeated to a maximum of 9 semester hours. Prerequisite: Consent of Department.

554. Seminar in Applied Mathematics (3)
Advanced topics in probability, statistics, computing, applied mathematics, etc. May be repeated to a maximum of 9 semester hours. Prerequisite: Consent of Department.

560. Directed Readings in Mathematics (2-3)
A directed study in some area of mathematics. The purpose is to acquaint the graduate student with an area of mathematics for which there is insufficient demand to warrant a regular class. May be repeated to a maximum of 6 semester hours. Prerequisites: 9 semester hours of graduate mathematics and permission of the Department Head.
612. Probability II (3)
Continuation of Math. 512. Prerequisite: Math. 512 or equivalent.

616. Topics in Point-Set Topology (3)
Selections from the following topics: spaces satisfying the Jordan curve theorem, plane continuous curves, topological characterization of the plane, upper semi-continuous collections. Prerequisite: Math. 446 or equivalent.

632. Introduction to Complex Variables and Applications II (3)
Continuation of Math. 532. Prerequisite: Math. 532 or equivalent.

634. Real Variables II (3)
Continuation of Math. 534. Measure and types of integrals. Prerequisite: Math. 534.

660. Individual Problems in Mathematics and Mathematics Education (2)
Individual problems related to mathematics or to the teaching of mathematics in the elementary or secondary schools. Opportunity for preparation of the thesis is offered. May be repeated to a maximum of 4 semester hours. Prerequisite: Consent of instructor.
Department of Philosophy

Faculty: Stanage, Department Chairman. Coe, Dye, Gelven, Gotesky, Kisiel, King, Leslie, Livingston, Myers, Van Steenburgh, Verene, Walton, Wu.

MASTER OF ARTS

All students studying for the degree Master of Arts in Philosophy are required to complete 30 semester hours of graduate study and pass a comprehensive examination. In completing these 30 semester hours a candidate may receive up to 6 semester hours of credit for writing a thesis (Philosophy 599); he may also receive up to 6 semester hours of credit for courses taken outside the field of Philosophy. Writing a thesis and work outside Philosophy are options rather than requirements for the degree. In addition, all graduate students in Philosophy are required to take Philosophy 590 within the first year of their residency.

All courses are to be chosen with the approval of the student’s adviser, thereby insuring adequate coverage of the various fields of Philosophy represented on the comprehensive examination. Each student will be allowed only two opportunities to pass the comprehensive examination.

Course Offerings

401. Advanced Symbolic Logic (3)
Topics vary, but will be selected from characteristic issues: for example, foundations of quantification theory, including Herbrand’s theorem, Lowenheim-Skolem theorem, Godel’s completeness theorem; basic proof theory, including Godel’s incompleteness theorem; elements of recursive function theory and undecidability theorems; and axiomatic set theory. The relevance of symbolic logic to the analysis of philosophical problems will be considered. Prerequisite: Phil. 302 or consent of instructor.

402. Philosophy of Logic (3)
A consideration of the various definitions of logic and theories of its role in mathematics, natural science, and philosophy. Texts will be selected from such philosophers as Aristotle, Hegel, Mill, Peirce, Bradley, Dewey, and Strawson. Prerequisite: 9 semester hours of Philosophy including Phil. 100 or Phil. 302, or consent of instructor.

411. Theories and Problems of Knowledge (3)
A study of various contemporary views of knowledge. Consideration of such problems as the conditions of meaning, the nature of truth, the relationship between sensation, perception, and intuition, the difference between knowing and believing, methods of verification, and types of judgment. Analysis of the works of such philosophers as Meinong, Husserl, Brentano, Russell, Lewis, Wittgenstein, and Austin. Emphasis is placed on either analyzing several theories of knowledge or tracing a problem through the thought of several philosophers. Prerequisite: 9 semester hours of Philosophy.

419. Medieval Philosophy (3)
Prerequisite: 12 semester hours of Philosophy.

421. Plato (3)
Prerequisite: 12 semester hours of Philosophy.

422. Aristotle (3)
Prerequisite: 12 semester hours of Philosophy.

423. 17th and 18th Century Rationalist Philosophies (3)
A critical exegesis of selected writings by such philosophers as Descartes, Malebranche, Spinoza, Leibniz, and Wolff. Prerequisite: 12 semester hours of Philosophy.

424. 17th and 18th Century Empiricist Philosophies (3)
A critical exegesis of selected writings by such philosophers as Hobbes, Locke, Berkeley, Hume, and Reid. Prerequisite: 12 semester hours of Philosophy.

425. Kant (3)
Prerequisite: 12 semester hours of Philosophy.

426. 20th Century Systematic and Phenomenological Philosophies (3)
A critical exegesis of selected writings by such philosophers as Dewey, Husserl, Bergson, Whitehead, Heidegger, and Merleau-Ponty. Prerequisite: 12 semester hours of Philosophy.

427. 19th Century Idealist Philosophies (3)
A critical exegesis of selected writings by such philosophers as Fichte, Schelling, Hegel, Schopenhauer, Nietzsche, and Bradley. Prerequisite: 12 semester hours of Philosophy.

428. 20th Century Analytic Philosophies (3)
A critical exegesis of selected writings by such philosophers as Moore, Russell, Wittgenstein, Carnap, C.I. Lewis, Ryle, and Austin. Prerequisite: 12 semester hours of Philosophy.

429. 19th Century Empirical Philosophies (3)
A critical exegesis of selected writings by such philosophers as Comte, Marx, Mill, Mach, and Peirce. Prerequisite: 12 semester hours of Philosophy.
431. Contemporary Ethical Theory (3)

A study of the major problems and theories under discussion by specialists in ethical theory. Emphasis will be placed on meta-ethical problems and the analysis of ethical concepts. Readings will be selected from such philosophers as Toulmin, Nowell-Smith, Baier, Hare, and Rawls. Prerequisite: 9 semester hours of Philosophy, including 3 semester hours in ethics, or consent of instructor.

442. Theories of Value (3)

A study of the major theories of value experience, evaluation, and the language of value. The works of major theorists such as Dewey, Croce, C.I. Lewis, Perry, and Stevenson, as well as recent articles in the field, will be analyzed. Prerequisite: 12 semester hours of Philosophy, including 3 semester hours in ethics or aesthetics, or consent of instructor.

452. Contemporary Philosophy of Science (3)

An analysis of the recent literature dealing with the structure and methods of science. Issues centering around topics such as induction, description, concept formation, and verification will be discussed in terms of the works of such philosophers as Hanson, Margenau, Hempel, Nagel, and Toulmin. Prerequisite: 9 semester hours of Philosophy, including 3 semester hours in philosophy of science, or consent of instructor.

462. Philosophy of Culture (3)

Various philosophical theories of man's culture and the areas of man's cultural life such as myth, religion, language, art, history, and sciences. Consideration of the works of such philosophers as Collingwood, Cassirer, Dewey, Whitehead, and Ortega y Gasset. Emphasis is placed on the relevance of an analysis of culture for the philosophical understanding of man. Designed to be of interest to advanced students in the humanities. Prerequisite: 9 semester hours of Philosophy or consent of instructor.

471. Classical Theories in the Philosophy of Religion (3)

An analysis of some of the views which have achieved major importance in this field. Texts will be selected from such key works as Hume's Dialogues Concerning Natural Religion, Kant's Religion within the Limits of Reason Alone, Schleiermacher's On Religion, and Feuerbach's Essence of Christianity. Prerequisite: 12 semester hours of Philosophy.

482. Classical American Philosophers (3)

An analysis of some of the major figures in American thought from the Colonial Period through the 20th century. Selections from the works of such philosophers as Edwards, Emerson, Royce, Peirce, Dewey, Santayana, and Cohen will be studied. Prerequisite: 9 semester hours of Philosophy or consent of instructor.

490. Seminar in Philosophy (3)

An intensive study of one major figure, problem, or position in historical or contemporary philosophy. May be repeated to a maximum of 9 semester hours provided no repetition of subject matter occurs. Prerequisite: 9 semester hours in Philosophy or consent of instructor.

491. Directed Readings (2-4)

Enrollment is contingent upon a student's proposed course of study and the approval of it by the faculty member selected to supervise his reading. Prerequisite: Consent of Department.

500. Advanced Logic (3)

A more intensive study of special problems in logical semantics, modal logics, pragmatics or in special logics which do not fit into any accepted pattern of modern logical analysis. A single problem such as partial or complete formalization or several logical problems related to each other may be studied. Prerequisites: Phil. 100 and 302 or consent of instructor.

502. Seminar in Advanced Logic and Theory of Signs (3)*

Advanced topics in mathematical logic, modal logic, semantics, pragmatics, and various philosophical issues related to logical theory. Prerequisite: Phil. 302 or consent of instructor.

503. Seminar in Philosophy of Language (3)

510. Seminar in Advanced Metaphysics and Epistemology (3)*

Advanced topics in metaphysics and epistemology. Prerequisite: Phil. 111 or 311, or consent of instructor.

511. Seminar in Epistemology (3)

512. Seminar in Metaphysics (3)

520. Seminar in the History of Philosophy (3)*

Advanced topics in ancient, medieval, and modern history of philosophy. Prerequisites: Phil. 321 and 322, or consent of instructor.

531. Seminar in Advanced Ethical Theory (3)*

Special topics in advanced ethical theory. Prerequisite: Phil. 431 or consent of instructor.

532. Seminar in Advanced Value Theory (3)

540. Philosophy of Mind (3)

Some recent developments in philosophy having a bearing on such

*May be repeated for additional credit providing no repetition of subject matter occurs.
concepts as perception, thought, intentionality, and belief, and the role of these concepts in such philosophical problems as the relation of mind and body, the veridicality of perception, and the nature of personal identity. Prerequisites: Two courses in Philosophy or consent of instructor.

550. Contemporary Political and Social Philosophy (3)
A critical study of selected political and social concepts such as justice, equality, freedom, and related issues with reference to the views of representative contemporary thinkers. Prerequisites: Two courses in Philosophy or consent of instructor.

552. Seminar in the Philosophy of Science (3)

570. Seminar in the Philosophy of Religion (3)
Detailed analysis of one or more key issues in contemporary analytic philosophy of religion, or in important recent theories of the nature and function of religion. Prerequisite: Phil. 491, or consent of instructor.

590. Methods and Procedures of Professional Philosophy (3)
An introduction to philosophy as a profession. Study of the methods of research, procedures of publication, bibliographic resources, form and style of philosophical writing, and other topics related to philosophical scholarship. Intended to provide the candidate for an advanced degree in Philosophy with first hand experience in the activities distinctive to professional philosophy. Required of all graduate students in Philosophy during their first year of graduate study. Prerequisite: Consent of Department.

591. Special Topics in Recent Philosophy (3)*
Intensive studies of selected topics in recent philosophical literature. Extensive use will be made of journal articles and books that are of importance in current philosophical thought. Prerequisites: Phil. 321 and 322 or consent of instructor.

595. Special Studies and Research (1-4)*
Guided research for students wishing to do special studies of an advanced nature. Students will be expected to write a number of short papers and will select their research topics in consultation with the instructor. Prerequisite: Consent of instructor.

599. Thesis (3)
Guidance in the writing of the master's thesis. May be repeated to a maximum of 6 semester hours. Prerequisite: Consent of Department.

*May be repeated for additional credit providing no repetition of subject matter occurs.
Department of Physics


The Department of Physics offers programs leading to the degrees Master of Science in Education and Master of Science and, at the sixth-year level, to the Certificate of Advanced Study. The Departments of Biological Sciences, Chemistry, Earth Sciences, and Physics cooperate in offering an area major in General Science leading to the degree Master of Science in Education.

MASTER OF SCIENCE IN EDUCATION

Major in Physics

Students who elect a graduate major in Physics toward the degree Master of Science in Education may elect either a thesis or a non-thesis option.

1. Thesis Option. The student must successfully complete a minimum of 15 semester hours of physics chosen from 400-600 level offerings of the Department and including up to 6 semester hours in 599. The choice of courses must be approved by the student’s advisory committee. The thesis is to be based on original research or a scholarly analysis of published literature.

2. Non-thesis Option. The student must successfully complete a minimum of 15 semester hours of courses from the 400-600 level offerings of the Department. The choice of courses must be approved by the student’s advisory committee.

Area Major in General Science

Students who elect an area major in General Science will find the requirements on pages 34-35.

MASTER OF SCIENCE

A candidate seeking to qualify for the degree Master of Science with a major in Physics shall satisfy the following Departmental requirements:

1. A minimum requirement is 24 semester hours in Physics, of which not more than 12 semester hours may be at the 400 level. The remaining hours required to satisfy the minimum of 30 semester hours for the graduate degree are to be chosen from Physics or closely related fields after consultation with the adviser. In addition, all graduate students are required to register for Seminar each semester (Physics 698). Not more than 6 semester hours of credit in Physics 599 may be applied toward the required 30 semester hours. The choice of courses must be approved by the student’s advisory committee.

2. A proficiency examination will be administered for the purpose of aiding the adviser in the preparation of a course of study for the candidate and in counseling the candidate as to the advisability of continuing in the program for the M.S. degree. A student will not be admitted to candidacy until he has this examination.

3. A thesis and a final oral examination will be required.

CERTIFICATE OF ADVANCED STUDY

The Certificate of Advanced Study may be awarded to students pursuing programs in Physics beyond the master’s degree. This certificate is given, in accordance with the general requirements of the Graduate School, to those students following a sequence of courses approved by the Department Head and the assigned adviser. The program of courses to be taken will be drawn up with consideration being given to the student’s interests and background.

Course Offerings

400. Analytical Mechanics II (3)

409. Science Institute for In-Service Elementary Teachers (1-8)
- (Also listed as Chem. 409)
- Subject matter in Biological Sciences, Chemistry, Earth Sciences, and Physics necessary for effective science teaching in the lower grades. Prerequisite: Acceptance by the director of the institute.

450. Advanced General Physics (2-4)
- Topics selected to furnish thorough background for teaching. Not open to Physics majors. Two to six periods a week. Prerequisites: Phys. 250-251.

451. Advanced General Physics (2-4)
- Continuation of Phys. 450. Not open to Physics majors. Two to six periods a week. Prerequisite: Phys. 450 or equivalent.
PHYSICS

460. Quantum Mechanics I (3)
Schrodinger wave equation, eigen-values and eigen-functions, methods of approximation, and simple applications. Prerequisite: Phys. 400.

470. Electricity and Magnetism II (3)

472. Physical Measurements (2)
Special laboratory problems. Prerequisite: Phys. 371.

477. Introduction to Astro-Physics (3)
Kepler's laws and solar system, analysis of solar radiation, nuclear reactions in the sun, and other selected topics. Prerequisite: Phys. 300.

483. Modern Physics II (3)
Scattering theory, radioactive decay, nuclear reactions, models of the atomic nucleus, properties and structure of solids, cosmic rays and elementary particles. Prerequisite: Phys. 383.

485. Methods of Mathematical Physics II (3)
Tensor analysis. Functions of complex variable, residue calculus, partial differential equations of mathematical physics, and Green's function. Prerequisite: Phys. 385 or consent of Department.

490. Science Teaching in the Elementary and Junior High School—Grades K-9 (3)
Instructional methods and materials for teaching science in elementary and junior high schools. Analysis of modern curricula and practice in the use of associated laboratory materials developed for use at all levels from grades K through 9. Course designed for the classroom teacher and pre-teacher, but open to science supervisors and administrators. Not open to Physics majors or minors. Prerequisite: A general physical science course or equivalent, or consent of the instructor.

491. Introduction to Research (1-3)
Research under staff supervision. Enrollment by consent of the Department.

499. Teaching of Physical Sciences (2)
(Also listed as Chem. 499)
Instructional problems confronting the secondary school teacher in classroom and laboratory. Examination and analysis of modern curricula such as PSSC, CHEMS, CBA, and IPS. Four hours a week for nine weeks. Prerequisite: Physics, Chemistry, or General Science major or minor.

500. Classical Mechanics (3)
Hamiltonian formulation, canonical transformations, Hamilton-Jacobi theory, special relativity, continuous media and fields. Prerequisite: Phys. 400.

505. Institute for Science Teachers (1-8)
Lectures, demonstrations, laboratory work, and field trips, designed for the science teacher. Subject matter from the fields of chemistry, physics, biology, and earth sciences. May be repeated to a maximum of 16 semester hours. On application to institute director and by invitation only.

550. Topics in Nuclear and Solid State Physics (3)
Designed to present to high school teachers of physics and other sciences a selection of topics in contemporary physics. Not open to candidates for the M.S. or Ph.D. in Physics. Prerequisite: Phys. 450. Co-requisite: Math 230.

551. Topics in Relativity and Spectroscopy (3)
Designed to present to high school teachers of physics and other sciences a selection of topics in contemporary physics. Not open to candidates for the M.S. or Ph.D. in Physics. Prerequisite: Phys. 450. Co-requisite: Math 230.

559. Special Problems in Physics (1-10)
Special problems in physics under supervision of staff. Problems may be technical in nature or concerned with teaching procedure. May be repeated to a maximum of 10 semester hours. Prerequisite: Consent of instructor.

560. Quantum Mechanics II (3)
Perturbation theory, semi-classical treatment of radiation, systems of identical particles, scattering theory, Dirac theory of the electron. Prerequisite: Phys. 400.

563. Statistical Physics I (3)

564. Statistical Physics II (3)

566. Solid State Physics I (3)
Crystal structure, lattice vibrations, thermal and transport properties, free electron and band theories, Brillouin zones, Fermi surfaces, semiconductors. Prerequisite: Phys. 460.

567. Solid State Physics II (3)
Symmetry and Crystal field theory, magnetic properties, lattice vacancies, diffusion, optical properties, superconductivity. Prerequisite: Phys. 566.

570. Electromagnetic Theory I (3)
Maxwell's equation, plane waves in isotropic and anisotropic
dielectrics, conducting media, wave guides and plasmas, dipole radiation and diffraction. Prerequisite: Phys. 470.

571. Electromagnetic Theory II (3)
Radiation from moving charges, relativistic formulation of electrodynamics, collisions and scattering, multipole radiation, radiation damping and self forces. Prerequisite: Phys. 570.

580. Atomic and Molecular Physics (3)

582. Nuclear Physics I (3)
Nuclear properties, the deuteron problem, nucleon-nucleon scattering, nuclear decay, radiation detection, structure and models of the nucleus. Prerequisite: Phys. 483 or equivalent. Co-requisite: Phys. 560.

583. Nuclear Physics Laboratory (2)
The properties of particles from natural and artificial disintegration of nuclei, the corresponding measuring instruments. Prerequisite: Phys. 582.

584. Nuclear Physics II (3)
Particle accelerators, nuclear reactions, nuclear models, nuclear energy, elementary particles. Prerequisite: Phys. 582 or consent of instructor.

585. Methods of Theoretical Physics I (3)
Calculus of variation, integral equations, integral transforms, approximation methods. Prerequisite: Phys. 483.

586. Methods of Theoretical Physics II (3)
Applications of group theory to physics, introduction to Hilbert space. Diagrammatic techniques, correlation functions. Prerequisite: Phys. 560 and 585.

599. Research (1-6)
A. Master's Thesis
B. Certificate of Advanced Study
The individual investigation of a problem under the supervision of an adviser in the Department. Prerequisite: Consent of research supervisor and the Department.

651. Relativity (3)
Lorentz transformations and kinematics of special relativity; relativistic dynamics and manifestly covariant electrodynamics; general relativity as a theory of gravitation. Prerequisites: Phys. 500 and 570.

660. Quantum Mechanics III (3)
Symmetry and invariance in quantum mechanics, field quantization, introductory quantum field theory. Prerequisite: Phys. 560.

661. Field Theory (3)
Field quantization, interacting fields, and Feynman-Dyson perturbation theory; renormalization program in quantum electrodynamics. Prerequisite: Phys. 660.

668. Quantum Theory of Solids I (3)
Space groups, lattice vibrational and electronic spectra of solids; elementary theory of the electron gas; effective mass theory, impurity states in metals and semiconductors. Prerequisite: Phys. 567.

669. Quantum Theory of Solids II (3)
Electrical conductivity and other transport coefficients, optical properties of metals and semiconductors. Fermiology, magnetic properties, and superconductivity. Prerequisite: Phys. 668.

676. High Energy Physics I (3)
Classification of particles into baryons, mesons, and leptons and their fundamental properties, symmetries and conservation laws. Prerequisite: Phys. 660.

677. High Energy Physics II (3)
Phenomenological study of the strong, electromagnetic and weak interactions. Prerequisite: Phys. 676.

682T. Theoretical Nuclear Physics I (3)
Nuclear forces, nuclear moments and shapes, binding energies, nuclear models, collective nuclear motions. Prerequisite: Phys. 582.

684. Theoretical Nuclear Physics II (3)
Electromagnetic properties of nuclei, particle emission, scattering theory, optical model, direct reactions. Prerequisite: Phys. 682.

686. Fundamental Particle Theory I (3)

687. Fundamental Particle Theory II (3)
Mandelstam representation and partial-wave dispersion relations. Regge pole theory; unitary symmetry and current algebra. Prerequisite: Phys. 686.

690. A-B-C Special Topics in Physics (1-6)
A. Solid State Physics
B. Nuclear Physics
C. Elementary Particle Physics
Lectures and discussions on topics in various fields of physics at the graduate level. 1 to 6 semester hours as scheduled; course may be repeated in one or more fields of physics; 6 semester hours is the maximum in any one area; not more than 15 semester hours will count toward a master's degree. Prerequisite: Consent of Department.

698. Physics Seminar (0)
Discussion of current problems in physics under guidance of staff.
Department of Political Science

Faculty: Monat, Department Chairman. Agranoff, Banovetz, Dionisopoulos, Dubin, Esseks, Fouts, Frisch, Fusaro, Glenn, Groves, Kent, Krauss, Little, Maryanov, McKeough, Nicholson, Papastathopoulos, Rehfuss, Scott, Sherbenou, Thomas, Wit.

The Department of Political Science offers graduate programs leading to the degrees Master of Arts and Master of Science in Education, the Certificate of Advanced Study, and Doctor of Philosophy.

Five fields of concentration are available in Political Science: American Government and Politics, International Politics, Foreign and Comparative Government, Political Theory and Political Behavior, and Public Administration. Graduate study may lead to careers in government service (federal, state, and local), community group work, teaching, and professional writing and research. The Public Administration program offers professional preparation leading to internship opportunities in government agencies as part of course work toward a graduate degree; active efforts are made to place students in career government positions upon completion of their studies. Foreign study and overseas internship opportunities also exist in the Comparative Government concentration. All programs are related to the student’s career objectives by the departmental adviser.

MASTER OF ARTS

Students interested in pursuing a Master of Arts degree with a major in Political Science normally should have had at least 9 undergraduate semester hours in Political Science or its equivalent. When this is lacking, a student may be required to make up deficiencies by enrolling in or auditing designated courses or engaging in supervised reading without graduate credit.

Of the minimum 30 semester hours of graduate credit required for the degree, at least 24 semester hours are to be taken in Political Science at the graduate level, including:

1. 9 semester hours in one and 6 semester hours in each of two of the fields of concentration listed above. Students in an interdisciplinary area concentration or in the public administration program, who choose to write a thesis, may take (if so directed) 6 semester hours outside the Department in lieu of one of their three selected fields.

2. Political Science 550, Scope and Method of Political Science (3).

3. Political Science 599, Thesis (6), or 6 semester hours taken either within or outside the Department of Political Science in an approved and related field(s). If the thesis is not to be written, a candidate must also submit copies of one acceptable research paper previously prepared for graduate courses in each of two of his three selected fields of specialization.

A written comprehensive examination is required upon completion of course work, or during the last semester of study (prior to approval of a thesis topic if the thesis option is selected). A final oral examination also may be required.

MASTER OF SCIENCE IN EDUCATION

(Area Programs)

The Department of Political Science cooperates with such other departments as Economics, Education, History, Journalism, and Sociology and Anthropology to devise area programs leading to this degree. The actual division of course study to produce the required 30 semester hours is determined by the student with advisers representing the departments concerned. All courses must be related to an overall program. A minimum of 15 semester hours in Political Science is necessary. A written comprehensive examination is required.

CERTIFICATE OF ADVANCED STUDY

Any student with a master’s degree who meets the admission requirements of the Graduate School, has an acceptable background in Political Science, and has a good graduate record will be permitted to pursue the Certificate. Of the 30 semester hours required, not less than 21 semester hours must be in Political Science, divided approximately equally between any two of the five fields: American Government and Politics, International Politics, Foreign and Comparative Government, Political Theory and Political Behavior, and Public Administration. A thesis is required.

Reading knowledge of a foreign language as well as a qualifying examination prior to admission to candidacy also may be required. A final comprehensive examination, written, oral, or both, is required.
CERTIFICATE OF ADVANCED STUDY

(Area Programs)

The Department of Political Science cooperates with other departments to devise area programs leading to this certificate. Students in such area programs shall select one department for major concentration and a second for minor concentration, the exact distribution of courses to produce the required 30 semester hours being determined in consultation with departmental faculty advisers. A thesis and a final comprehensive examination are required.

DOCTOR OF PHILOSOPHY

While traditionally the degree Doctor of Philosophy in Political Science has been the badge of distinction of college and university teachers, doctoral programs in Political Science are also designed with other career objectives in mind: professional research, public service, and college administration. The Department of Political Science is conscious of these several career objectives.

Admission Policy: Same as Graduate School requirements with the following addition: The Department of Political Science will take into consideration the student's previous performance in graduate work, here or elsewhere, and will require that, subject to special exception for persons with outstanding records, all students who wish to begin studies at the doctoral level should fall within the top one-third of Northern Illinois University graduate students on the Graduate Record Examinations. The Department also normally requires students to take the Advanced Test in Political Science of the Graduate Record Examination prior to admission.

Course Requirements: Same as Graduate School requirements with the following addition: The Department of Political Science requires that each graduate student at the doctoral level be examined in four fields. Three of these must be in Political Science, and the fourth may be in a related discipline. The student may want to do work in two related disciplines; he will, nevertheless, be examined in three fields in Political Science. The fields offered by the Department are: (1) American Government and Politics; (2) International Politics; (3) Comparative Government; (4) Political Theory and Political Behavior; and (5) Public Administration.

As a general rule, initial discussions pertaining to the student's program, whether for the semester or overall, will be with his assigned graduate adviser. Many students will have a career objective in mind in undertaking work at the doctoral level, and the graduate adviser will relate the student's program thereto. Registering for courses without the adviser's approval might lead to the accumulation of graduate credits in Political Science and related disciplines, but provides no assurance that this Department will support an application for admission to candidacy for the Ph.D.

Dissertation Requirement: Same as Graduate School requirements.

Language and Research Skills Requirements: Before admission to candidacy students working toward a Ph.D. in Political Science must demonstrate a reading knowledge in two foreign languages, or, alternatively, a reading knowledge in one foreign language plus proficiency in the use of a political science research tool (for example, statistics or computer science) depending upon the student's fields of specialization. (See p. 29 for information regarding foreign language examinations.) The substitution of a research tool for a foreign language must be approved by the student's adviser or advisory committee. Research tool requirements may be satisfied either by successfully completing such course(s) as the Department of Political Science approves or by special examination. Both the language and research skill requirements must be satisfied before the student is admitted to candidacy for the doctorate.

Residence Requirement: Same as Graduate School requirements.

Qualifying Examination: Same as Graduate School requirements.

Candidacy Examinations: When a student has completed most or all of his course work, and not later than eight months before the granting of the Ph.D. in Political Science, he will take a candidacy examination. This examination, including written and oral phases, will cover (1) four fields in Political Science if the student has elected to work only within this discipline; (2) three fields in Political Science and one field from an approved related discipline or (3) three fields in Political Science and two fields from approved related disciplines. A student who successfully completes this requirement will be admitted to candidacy for the doctorate in Political Science. Any student who fails the candidacy examination may, with the permission of his examining committee and after the lapse of at least one semester, be permitted to repeat. If he fails the candidacy examination a second time, he will
not be permitted to continue work toward the doctorate in the Department of Political Science.

Oral Examination: Same as Graduate School requirements.

Limitation of Time: Same as Graduate School requirements.

Teaching Skill Requirement: All students in the Ph.D. program will be required to participate in a training program in classroom techniques. Ordinarily the requirement will be met through direct involvement in the instructional program for at least one semester under the close supervision of a faculty member.

Course Offerings

AMERICAN GOVERNMENT AND POLITICS

405. Urban Politics (3)
The organization, conduct, and problems of politics in American urban government. Prerequisite: Pol.S. 140 or equivalent. Recommended: Pol.S. 340 or equivalent.

410. American Constitutional Development (3)
American constitutional law and its growth, based on an analysis and discussion of leading judicial decisions, with attention to the environmental setting of the cases. Prerequisite: Pol.S. 140 or equivalent.

411. Problems in American Constitutional Development (3)
American constitutional law and such major contemporary problems as civil rights. Prerequisite. Pol.S. 410.

506. Intergovernmental Relations (3)
An analysis of national-state, national-local, state-local, interstate and inter-local relationships within the United States. The nature of federalism constitutional and statutory power bases, and cooperative problem-solving.

520. Administrative Law (3)
The law as it affects public officials and their activities, the legal control of relations of public and private groups, rights and duties of interested parties.

544. Legislative Behavior (3)
Research and discussion of problems in legislative organization.

645. Seminar in American Government and Politics I (3), II (3)
Research and discussion of selected topics. Each may be repeated to a maximum of 6 semester hours.

650. Seminar in Public Law (3)
Survey of the literature and research in public law with special reference to Anglo-American legal history, systems, and jurisprudence.

652. Seminar in Political Parties (3)
Survey of the literature and research pertaining to American political parties.

INTERNATIONAL POLITICS

447. Sub-Saharan Africa in International Politics (3)
The foreign relations of the new states of Sub-Saharan Africa. Included will be an examination of relations among these states, their relations with European and other non-African states, and the international implications of the national liberation movements in Southern Africa.

460. International Organization (3)

461. Foreign Policies of the Western European Powers (3)
The traditional and contemporary foreign policies of such major Western European countries as Great Britain, France, and Germany. Prerequisite. Pol.S. 140 or equivalent. Recommended: Pol.S. 210 or equivalent.

466. Theory and International Politics (3)
A study of the various attempts to establish a theoretical framework for and to apply new techniques to a study of international politics.

500. American National Security Policy (3)
An analysis of national security policy and problems. U.S. national security objectives, major themes of policy and strategy, policy-making structure, instruments of policy (military, political, psychological, economic, and intelligence).

530. Southeast Asia and International Politics (3)
An examination of Southeast Asia's role in contemporary international politics with emphasis on conflict and cooperation among neighboring states, commitment vs. neutrality in the cold war, and participation in international organizations. Prerequisite: Pol.S. 450 or equivalent.

540. Problems of American Foreign Policy (3)
An examination of major problems in the formulation and conduct of American foreign policy.
541. International Law (3)
Principles of the international law of peace, war, and neutrality.

542. Latin America and International Politics (3)
An examination of the role of Latin American countries in regional and world affairs.

545. Foreign Policies of the Major Asian Powers (3)
An examination of the foreign policies of such countries as China, India, and Japan.

546. Soviet Foreign Policy (3)
The traditional objectives of Russian foreign policy and the contemporary policies of the Soviet Union.

560. The Commonwealth of Nations (3)
The development, structure, and functioning of the Commonwealth as an international organization.

644. Seminar in International Politics (3)
Research and class discussion of selected topics. May be repeated to a maximum of 9 semester hours.

FOREIGN AND COMPARATIVE GOVERNMENT

443. Government and Politics in Western Europe (3)
An analysis of governmental institutions, political processes, and environmental factors which affect political behavior in such countries as Britain, France, Germany, and Italy. Prerequisite: Pol.S. 140. Recommended: Pol.S. 230.

444. Government and Politics in the Soviet Union (3)

446. Major Governments of Asia (3)
Analysis of the political systems of China, Japan, and India.

448. Government and Politics in Eastern Europe (3)

450. Governmental Systems in Southeast Asia (3)
A comparative study of governmental and administrative institutions, processes, and politics in such countries as contemporary South Viet-Nam, Malaysia, Cambodia, Laos, Thailand, and Indonesia in terms of their cultures, traditions, current aspirations, and problems. Prerequisite: Pol.S. 140. Recommended: Pol.S. 230.

452. Governmental Systems in Latin America (3)
An analysis of governmental and administrative institutions, processes, and politics in selected countries of Latin America in terms of their cultures, traditions, current aspirations, and problems. Prerequisite: Pol.S. 140. Recommended: Pol.S. 230.

507. Government and Politics in South Asia (3)
The development, structure, functions, and processes of government and politics in such countries as India, Pakistan, Ceylon, and smaller neighboring states.

543. Comparative Political Parties (3)
Political party systems in major foreign countries.

547. Governmental Systems in Africa (3)
Colonialism and nationalism in Africa: the emergence of independent governments; contemporary political and administrative problems.

548. Governmental Systems in Northeast Asia (3)
Political and administrative institutions, processes, and politics in such major Northeast Asian countries as contemporary China, Japan, and Korea in terms of their cultures, traditions and current problems.

553. British Government and Politics (3)
The development, structure, functions, and processes of government and politics in Great Britain.

646. Seminar in Comparative Government (3)
Reading and research in the field of comparative government, emphasizing specific geographical areas as well as the methods and concepts of the study of comparative government. May be repeated to a maximum of 9 semester hours.

651. Seminar in Governmental and Administrative Problems of Underdeveloped Countries (3)
Research and discussion of selected topics. May be counted in Public Administration concentration.

655. Foreign Study and Internship (3-9)
Individual research, study, and work abroad. May be counted in Public Administration concentration.

660. Seminar in Politics and Governments of Asia (3)
Research and discussion of selected topics.

POLITICAL THEORY AND POLITICAL BEHAVIOR

420. Political Opinion and Behavior (3)
The nature and formation of political opinion. techniques for its
POLITICAL SCIENCE

measurement, political and electoral behavior. Prerequisite: Pol.S. 140. Recommended: Pol.S. 370.

439. Classical and Medieval Political Theory (3)
A systematic analysis of the major pre-modern political theorists and theories, with emphasis on the Socratic revolution in Western thought and its consequence for human thought about man, the state, law, justice, property, power, and happiness. Emphasis on Plato, Aristotle, Cicero, Saint Augustine, Saint Thomas Aquinas, and Machiavelli. Prerequisite: Pol.S. 140. Recommended: Pol.S. 370.

440. Modern Political Theory (3)

441. Recent Political Theory (3)

442. American Political Thought (3)
Leading American political thinkers and their ideas from colonial times to the present. Prerequisite: Pol.S. 140. Recommended: Pol.S. 370.

451. Asian Political Thought (3)
Major political concepts which have influenced Japanese, Chinese, Indian and Southeast Asian societies. Prerequisite: Pol.S. 140 or equivalent. Recommended: Pol.S. 370 or equivalent.

510 The Roots of Political Behavior (3)
An examination of the foundations of political behavior of individuals and groups: a survey of the research methods used to study such behavior.

512. Ethics and Political Theory (3)
An analysis of major principles.

513. Principles of Plato’s Political Theory (3)
An analysis of major principles.

514. The Theory of American Democracy (3)
The development of American Democratic political theory from colonial times to the present.

521. Jurisprudence (3)
The nature and source of law, law and the state, law and justice, principal schools of legal theory, the role of law in political behavior.

531 Theory and Practice of Communism (3)
Marxism and the origins of modern communism. The theories of Lenin, Trotsky, Stalin, Mao Tse-Tung, and Tito. Discussion of the practice of communism in the Soviet Union, Soviet Satellites, and China; the international communist movement.

640. Seminar in Political Theory (3)
Research and class discussion of selected topics.

641. Seminar in Political Behavior (3)
Research and class discussion of selected topics in empirical theory and methodology.

PUBLIC ADMINISTRATION

402. Administration in Government (3)
The general organization of the federal administration and its role in the political process. Relation to executive political leadership, the Congress, judiciary, pressure groups, and public opinion. Prerequisite: Pol.S. 140. Recommended: Pol.S. 347.

415. Public Policy Formulation (3)

502. Urban Planning and Zoning (3)
The basic theory, techniques, and practice of modern urban planning and land use regulation; current trends and problems: social, political, and economic characteristics of urban, suburban, and metropolitan political systems.

505. Problems of Municipal Administration (3)
The administration of local government services in urban and metropolitan areas. Analysis of particular problems faced by local governments in the performance of line and staff functions. Recommended: Pol.S. 347 or equivalent.

556. Public Personnel Administration (3)
Personnel theory and practice in public administration. Recruitment and selection, job and salary classification, grievance and complaint procedures, human relations, retirement.

557. Fiscal Administration (3)
The basic theory, techniques, and practice of government budget and finance administration.

558. Organization and Methods in Public Administration (3)
Basic concepts and techniques in connection with management analysis. Organization theory.
647. Seminar in Public Administration (3)
Research and discussion of selected topics.

648. Seminar in Comparative Public Administration (3)
Research and discussion of administrative problems, processes, and methods in various governments. May be counted in Foreign and Comparative Government concentration.

656. Internship in Public Administration (2-6)
Individual work in government agency. May be repeated. Prerequisite: Written consent of Department Chairman.

657. Seminar in Administrative Theory (3)
Intensive examination of selected topics related to the science of public management, the politics of administration, and the role of government agencies in the formulation of public policy.

GENERAL

490. Materials and Problems of High School Instruction in the Social Sciences (2)
Offered in conjunction with the Departments of Sociology and Anthropology, and Economics.

491. Materials and Problems of Elementary School Instruction in the Social Sciences (2)
Offered in conjunction with the Departments of Sociology and Anthropology, and Economics.

495. Seminar in Current Problems (2-4)
Contemporary issues and policies in government and politics. May be repeated. Prerequisite: Consent of department adviser.

549. Independent Study in Political Science (2-4)
Open to qualified students who wish to do individual advanced work in political science. May be repeated to a maximum of 8 semester hours. Prerequisite: Written consent of Department Chairman or department graduate student adviser.

550. Scope and Method of Political Science (3)
Methodology for thesis preparation, research problems, discussions, and criticism.

599. Thesis (2-6)

699. Doctoral Research and Dissertation (2-16)
May be repeated to a maximum of 32 semester hours.
Department of Psychology

Faculty: Dean, Department Chairman. Bell, Bischof, Ditrichs, Doty, Feldman, Gorry, Grier, Hershberger, Kaplan, Katkovsky, Lints, Lotsof, McAllister, Martin, Ordy, Pielstick, Revusky, Shybut, Simon, Vaughter, Woodruff.

MASTER OF ARTS

The degree Master of Arts, with a major in the field of Psychology, is designed to give the student an adequate graduate foundation on which to build the remainder of his professional education. It is recognized that in no way should the M.A. in Psychology be regarded as a terminal degree from the professional standpoint, since there are few opportunities in the field of Psychology for one with this limited education level. There is need for further preparation before one can be regarded as a psychologist, either in the research or applied areas. The major is designed to give the student: (1) some core experiences in the field of Psychology; (2) an opportunity to do some intensive study in a restricted area of the field; (3) an opportunity to take two or three courses from outside the field of Psychology to enrich his educational experiences; and (4) experience in research and thesis writing.

Students who elect a graduate major in Psychology must satisfy the following requirements:

| Core Courses: 500A, 500B, 504, 506 | Semester Hours | 12 |
| Thesis: Psych. 599 | 3 |
| Graduate courses in Psychology and related fields: | 17 |
| (to be determined by the student and his adviser) | 32 |

DOCTOR OF PHILOSOPHY

The doctoral program in Psychology is built around the major areas of Bio-Psychology, Developmental, Personality, Clinical, Learning and Performance, and School Psychology. Additional supporting course work is offered in motivation, perception, and quantitative methods. Some emphasis is placed upon the preparation of psychology teachers for careers in higher education.

Several principles serve as guidelines: 1) the development of knowledge of methodologies, 2) acquaintance with basic literature, 3) integration of course work, practical experience, and research experience, 4) emphasis upon depth in a relatively few areas, and 5) study in related fields when appropriate.

Among the requirements for the Ph.D. in Psychology are the following:

1. Students must complete a minimum of 24 semester hours of graduate work beyond the master's degree, exclusive of dissertation and internship. These must be taken in the Department of Psychology at Northern Illinois University.
2. Students in clinical or school psychology programs must do a year of internship in addition to the usual 90 semester hours beyond the bachelor's degree.
3. Students may select a minor area of study other than psychology if approved by the adviser.
4. Students must demonstrate a reading knowledge in two foreign languages, or, alternately, a reading knowledge in one foreign language plus proficiency in the use of a scientific research tool (e.g., statistics or computer science).
5. Students entering Northern Illinois University with a master's degree from another institution will be expected to take the written examination in statistics and methodology and enroll in the professional seminar sequence. With departmental approval students with adequate background may be exempted from either or both semesters of the professional seminar sequence.
6. The comprehensive examination will consist of an extensive written examination over his major area, a less extensive written examination over his minor area, and an oral examination over both of these areas. Students may not select the research tool area as the minor area for the comprehensive examination.
7. The Ph.D. candidate will complete a dissertation. Normally the dissertation and related research will be the equivalent of two semesters' work (24-32 semester hours). The dissertation will be a substantial contribution to knowledge in which the student displays powers of original scholarship. Prior to the time the student begins gathering his specific research data, a prospectus of his dissertation must be approved by the members of his advisory committee and filed with the Department.
8. After completing all other requirements for the Ph.D. in Psychology, including a dissertation which has been approved by his committee, the student will present an oral defense of his dissertation. Normally, this oral defense will be conducted in the presence of his
committee; however, other members of the department and the faculties of other disciplines will be invited to attend and participate.

Course Offerings

405. Industrial Psychology (3)
The functions of psychology as a science and as a profession in contemporary industry. Emphasis on the technical literature in the field. Prerequisites: A course in statistics and Psych. 351 or consent of instructor.

415. Psychology of Exceptional Children (3)
Psychology of atypical children—gifted, mentally subnormal, physically handicapped, chronically ill, and socially maladjusted. Their needs and dynamics of behavior in home, classes, and institution. Prerequisite: Psych. 225 or equivalent.

416. Introduction to Psychopathology (3)
An introduction to the study of abnormal behavior with emphasis on the neuroses and psychoses. The dynamics of mental disorders and psychological factors involved in the treatment of mental disorders. Prerequisites: Psych. 102 and additional Psychology course.

428. History of Psychology (3)
A review of the historical roots of the science of psychology and the development of the field to contemporary times. Prerequisites: Psych. 102 and one other course in Psychology.

430. Psychology of Motivation (3)
Theory and research in the psychology of motivation: an investigation of the dynamics of behavior. Prerequisites: Psych. 102 and an additional course in Psychology.

431. Physiological Psychology (4)
An understanding of the physiological functioning of the body as it affects behavior. Emphasis is given to the neurological factors involved. Lecture and laboratory.

432. Psychology of Personality (2)
Consideration of basic concepts used in study of personality. Discussion and examination of contemporary studies in personality, with a critical evaluation based on experimental, psychometric, and other evidence. Prerequisites: Psych. 102, plus one other course in Psychology.

433. Psychology of Personality, Laboratory (2)
Training in current research techniques used in the study of personality. Experiments will be conducted in the areas of emotional processes, motivation, conflict, and learning as applied to the study of personality. Prerequisite: Psych. 432, or concurrent enrollment.

445. Psychology of Thinking (3)
A general introduction to the areas of verbal learning and verbal behavior. Emphasis will be placed on empirical findings derived from the experimental laboratory. Topics to be discussed will include rote learning, primary and secondary generalization, conceptual learning, and problem solving. Prerequisite: Psych. 330 or consent of instructor.

465. Developmental Psychology (3)
The span of life from conception to death, emphasizing the outstanding characteristics of normal behavior for each period. Prerequisites: Psych. 102 plus one other course in Psychology.

470. Social Factors and Behavior (3)
Individual behavior in relation to a variety of social stimuli; emphasis on such concepts as social interaction and influence, socialization, group processes, leadership, mass media, and prejudice. Prerequisites: Psych. 102 and one additional course in Psychology.

480. Comparative Psychology (3)
A critical examination of experimental studies using animals as subjects. A comparison of the behavior of the various species. Lecture and laboratory. Prerequisites: Psych. 102 and an additional course in Psychology.

485. Individual Study in Psychology (1-3)
Qualified students interested in specific problems in psychology may take this course, working with any faculty member of the Department. The student must have written permission from the faculty member with whom he is doing the work and the Chairman of the Department. May be repeated to a maximum of 6 semester hours.

500A. Proseminar in Psychology (3)
Experimental Perspective
A survey of recent findings and issues in the areas of: philosophy of science and history of psychology; sensation and perception, and learning and motivation.

500B. Proseminar in Psychology (3)
Personality Perspective
A survey of recent findings and issues in the areas of developmental psychology and individual differences, personality and social psychology, and psychopathology and clinical psychology.

504. Advanced Psychological Statistics (3)
Probability and probability models: linear functions of independent random variables: sampling: the binomial, hypergeometric, normal, t.
chi-square, and F distributions; estimation of parameters; tests of statistical hypotheses; correlation; introduction to nonparametric methods. Prerequisite: A course in statistics or consent of instructor.

505. Statistical Problems in Psychology (3)
Consideration of advanced statistical techniques used in psychological research, such as analysis of variance and complex correlational methods. Prerequisite: A course in statistics or consent of instructor.

506. Experimental Design (3)
A basic course in experimental design and data analysis, including such designs as factorial experiments, randomized blocks, Latin squares, incomplete blocks, and nested designs; the uses of confounding and fractional replication; some nonparametric tests related to the analysis of variance designs. Prerequisite: Psych. 504.

507. Psychometric Techniques (3)
A consideration of the assumptions involved and the techniques available in psychometrics. Consideration made of development of psychological tests. Prerequisite: Psych. 504.

508. Factor Analysis (3)
A study of various factor analysis techniques, with emphasis placed on their applications to behavioral investigations.

512. Principles of Psychotherapy (3)
Analysis of the various techniques and theories of psychotherapy and an evaluation of their respective effectiveness.

516. Advanced Psychopathology (3)

526. Theories of Personality (3)
A systematic study of the theoretical contributions of major psychologists to basic understanding of the dynamics of human personality.

531. Physiological Bases of Behavior (3)
A detailed study of the behavior of the organism traceable to organic functioning. Prerequisite: A course in physiological psychology or a laboratory course in physiology.

535. Theories of Learning (3)
A general study of theories of learning with particular emphasis on theories which have emerged from the psychological laboratory.

540. Introduction to Clinical Psychology (2)
Introduction to the area of clinical psychology, with a survey of specific skills and techniques used. Consideration of research in the area.

541. Introduction to Clinical Psychology, Laboratory (2)
Observation of an initial contact with subjects under direct supervision of clinical staff. Controlled introduction to use of clinical instruments. Prerequisite: Psych. 540 or concurrent enrollment.

542. Assessment of Cognitive Functions (2)
The theory, methods, and empirical data regarding cognitive functions. The assessment of intelligence and central nervous system dysfunction will be emphasized. Prerequisites: Psych. 540 and consent of instructor.

543. Assessment of Cognitive Functions, Laboratory (2)
Supervised practice in administering, evaluating, and reporting the results of the assessment of intelligence, brain damage, cognitive disorders, etc. Prerequisites: Psych. 542 or concurrent enrollment and consent of instructor.

544. Assessment of Personality (2)
Methods of appraising personality in a clinical setting. Critical evaluation of psychodiagnostic tools, such as Rorschach and TAT. A review of the research literature on psychodiagnostics. Prerequisites: Psych. 542 and consent of instructor.

545. Assessment of Personality, Laboratory (2)
Supervised practice in the administration and interpretation of various tools for personality assessment, with particular emphasis on projective techniques. Prerequisite: Psych. 544 or concurrent enrollment.

548. Current Problems in Assessment (3)
A consideration of current problems in psychological assessment. The exact topics will vary with each presentation. May be repeated. Prerequisite: Consent of instructor.

549. Current Problems in Psychotherapy (3)
A consideration of problems in psychological diagnosis met in practicum situations and in the current literature of the field. The exact topics will vary with each presentation. May be repeated. Prerequisite: Psych. 546 or consent of instructor.

550. Techniques of Behavior Modification (4)
Lecture and Laboratory. Prerequisites: Psych. 512, 541 and consent of instructor.

554. Practicum in Psychotherapy (1-3)
May be repeated to a maximum of 9 hours. Prerequisite: Consent of instructor.

555. Internship
A. Clinical Psychology (0)
B. School Psychology (0)
A period of one academic year in a setting such as a hospital, clinic, or school, where the student will perform the functions of a psychologist under the direct supervision of qualified personnel. The
internship setting must have the approval of the Department of Psychology. Prerequisites: Psych. 549 and approval of the Department of Psychology.

560. Mathematical Psychology I (3)
The nature of quantitative models in psychology, their mathematical basis and techniques of construction. Elementary models from learning, psychophysics, choice behavior, and other areas are examined. Emphasis is on preparation to read current literature and conduct research. Prerequisite: A year of mathematical statistics, or consent of instructor.

561. Mathematical Psychology II (3)
A continuation of Psychology 560 in which more advanced models from the current literature, and their mathematical basis, are considered. Emphasis is given to the axioms and models for measurement in psychology. Prerequisite: Psychology 560.

570. Studies in Experimental Psychology (2-6)
A. Learning
B. Perception
C. Motivation
D. Sensory Processes
E. Physiological
G. Comparative
H. Mathematical

Specialized courses in the area of experimental psychology offered under the appropriate heading. The courses will be on specific topics within this area and may be lecture, laboratory, seminar, or a combination of these methods. The topics and the semester hours of credit will vary from semester to semester. May be repeated to a maximum of 15 semester hours in each sub-section.

571. Studies in General Psychology (2-6)
A. Behavioral Development
B. Individual Differences
C. Personality
D. Quantitative Methods
E. Instrumentation
G. Social Behavior

Specialized courses in the area of general psychology offered under the appropriate heading. The courses will be on specific topics within this area and may be lecture, laboratory, seminar, or a combination of these methods. The topics and the semester hours of credit will vary from semester to semester. May be repeated to a maximum of 6 semester hours in each sub-section.

572. Studies in Clinical Psychology (2-6)
A. Clinical Methods
B. Behavioral Pathology
C. Group Processes
D. Child-Clinical

Specialized courses in the area of clinical psychology offered under the appropriate heading. The courses will be on specific topics within this area and may be lecture, laboratory, seminar, or a combination of these methods. The topics and the semester hours of credit will vary from semester to semester. May be repeated to a maximum of 15 semester hours in each sub-section.

580. Seminar in Psychology (2-4)
A. Psychotherapy
B. School Psychology
C. Professional Problems
D. College Teaching

Specialized topics will be considered that are of professional concern to those entering the field of Psychology. A and B may be repeated once; C and D may not be repeated. Prerequisite: Consent of instructor.

585. Independent Study (1-10)
May be repeated to a maximum of 6 semester hours for the M.A., and 15 semester hours for the Ph.D.

599. Master’s Thesis (3)
The student is eligible to register for this course after he has been accepted as a candidate for the master’s degree by the Department of Psychology.

699. Ph.D. Dissertation (2-15)
May be repeated for additional credit.

Social Sciences
Area majors involving the Social Sciences are possible through the departments of Economics, Political Science, and Sociology and Anthropology. Students interested in a Social Sciences major should consult the Chairman of one of these three departments.
Department of Sociology and Anthropology


The Department of Sociology and Anthropology offers graduate courses and research opportunities leading to the degree Master of Arts and to the Certificate of Advanced Study. The Department also cooperates with other departments in offering an area major leading to the degree Master of Science in Education.

Graduate work in this field is designed to prepare students for teaching or research in Sociology and Anthropology, for positions in public and private administration, and for further advanced study.

Students desiring to pursue the graduate curriculum in Sociology and Anthropology are required to consult with the departmental graduate adviser before being admitted to courses. Unclassified students who wish to be admitted to the graduate curriculum in Sociology and Anthropology are also urged to consult with the departmental graduate adviser in order to insure that the requirements of the Department are being met in the program of courses which they elect. No more than 12 semester hours of work taken in an unclassified status will be accepted toward a master’s degree, and no student will be recommended for classified status unless his grade point average while unclassified is in excess of 3.00.

MASTER OF ARTS

Major in Sociology and Anthropology

CONCENTRATION IN SOCIOLOGY

Students who elect the master’s program with a major in Sociology must have had at least 10 semester hours in Sociology and a course in statistics. When this is lacking, they will be required to compensate during the graduate program. Students pursuing the master’s degree in Sociology will be required to complete one advanced course in statistics (575), one graduate course or seminar in sociological theory (570, 571, 670) and one graduate seminar in research methods (576, 675, 676).

In addition students are required to elect either (A) a thesis (599A), and a comprehensive examination in the field in which the thesis falls, or (B) comprehensive examinations in theory, methods and one other field (social organization and institutions, social psychology, disorganization, comparative analysis of societies).

The remaining work for the degree is to be elected from the graduate offerings of the department in consultation with the graduate adviser. Total for the degree: 30 semester hours.

CONCENTRATION IN ANTHROPOLOGY

Students who elect the master’s program with a concentration in Anthropology must have had at least 15 semester hours in Anthropology or the equivalent and a course in statistics. Students lacking these prerequisites will be required to compensate during the graduate program.

Candidates for the master’s degree with a concentration in Anthropology shall be required to complete one course in anthropological theory (520 or 521), one course in sociological theory (470, 473, 570, 571, 670), two graduate seminars (620A or B and C or D), and a thesis (599). The remaining work for the degree (minimum of 12 semester hours) may be elected from any of the anthropology courses offered for graduate credit or, with the consent of the Department Chairman, 6 of these hours may be in related fields (e.g., English 432, Philosophy 420, 460; Biological Sciences 408, 418, 442; Sociology 450, 461, 553; History 420). A written preliminary thesis proposal must be approved prior to registration for Thesis (599).

Total for the degree: 30 semester hours.

Candidates for the master’s degree in either concentration are required to take a final written examination, based on a reading list prepared by the Department staff and available at the Department Office (Watson East 315). An oral examination may be required at the option of the Department.

MASTER OF SCIENCE IN EDUCATION

Area Major

The Department of Sociology and Anthropology cooperates with other departments in the University in offering an area major leading to the Master of Science in Education degree. Students who elect this program will be expected to complete at least half the work for the degree in Sociology and Anthropology. The program of courses will be selected in conference with the graduate adviser and will include at least one course or seminar in theory (470, 473, 570, 571, 670) and one course or seminar in research methods (476, 576). No
thesis is required. Credit earned in independent study courses will not be counted toward the degree in the area major.

Total for the degree: 30 semester hours.

CERTIFICATE OF ADVANCED STUDY

Major in Sociology and Anthropology

Prerequisite: master's degree. Candidates working toward the Certificate of Advanced Study in Sociology and Anthropology will plan a course of study designed especially to meet their needs. The course of study will then be presented to the advisory committee for its approval. The program may be concentrated entirely in Sociology and Anthropology, although a minor of 9 semester hours in a closely related field is acceptable. A comprehensive examination, either written or oral, or both, and a thesis are required. Total for the certificate: 30 semester hours.

Course Offerings

SOCIOLOGY

453. Sociology of Education (3)

The relationship of the educational system to the social structure; the changing function of education in an advanced industrial society; the impact of education on technological changes and social mobility; a comparison of systems in various cultures. Prerequisite: 6 semester hours of Sociology or consent of instructor.

454. Thai Society and Culture (3)

An analysis of the main features of the society and culture of Thailand: the population characteristics, the social systems, groups, rural and urban contrasts, social change and social problems.

455. The Community in Southeast Asia (3)

A comparative study of village communities in selected southeast Asian countries with major focus on elements of the social structure and the inter-relation of rural and urban communities to the society as a whole. Emphasis will be given to the uniformities and differences among the societies studied. Prerequisite: Soc.&A. 170 or 220 or equivalent.

457. Comparative Family Systems (3)

Structural-functional and comparative analysis of family systems in relation to other societal systems and to social change. Prerequisite: 6 semester hours of Sociology or consent of instructor.

460. Collective Behavior (3)

A systematic study of social processes which emerge in unstructured social situations: principles of behavior as expressed in crowds, mobs, panic, fads, fashion, social movement; personal organization and behavior in unstructured social situations. Prerequisites: Soc.&A. 170 and 260 or equivalent.

461. Intergroup Relations (3)

Analysis and exposition of cultural and social-psychological influences underlying relations among racial, ethnic, and other minority and majority groups. Emphasis upon problems of prejudice and discrimination, and the promotion of harmonious intergroup relations. Prerequisite: 6 semester hours of Sociology or consent of instructor.

462. Gerontology (3)

The social problems of the aged and the aging. Prerequisite: 6 semester hours of Sociology or consent of instructor.

470. History of Social Thought (3)

Ancient and medieval philosophies leading to the development of modern sociological theory.

473. Sociological Theory (3)

Sociological theory as a body of unifying principles and as a guide for research. The significant contributions of outstanding sociologists past and present. Primarily for majors in Sociology.

476. Social Science Research (3)

Principal methods of research in the social sciences: the planning and execution of a research project: current techniques of collecting, analyzing, interpreting, and reporting data. Prerequisites: 6 semester hours in one of the social science fields and a course in statistics.

483. Social Disorganization (3)

Effects on social patterns and institutions of various disruptive forces: social conflict as a process: aspects of social control and social change in influencing reorganization of groups. Prerequisite: 6 semester hours of Sociology or consent of instructor.

487. Probation and Parole (3)

Early development, types of service, administrative organization, investigative and supervisory aspects of probation and parole within the legal structure of society. Prerequisite: Soc.&A. 288.

488. Juvenile Delinquency (3)

Social and psychological factors in delinquent behavior: causation, prevention, and rehabilitation; the role of community agencies: the juvenile court. Visits to juvenile correctional agencies. Prerequisite: Soc.&A. 170, 288.

495. Seminar in Current Problems (3)

Issues and policies in government, politics, and economics in their historical and sociological perspectives.
550. Complex Organizations (3)
Comparative analyses of the functioning of complex groupings; growth, authority, leadership and decision-making, centralization and dispersion, survival and change in various types of organizations. Prerequisites: Soc.&A. 170 and one other course in sociology.

552. Community Analysis (3)
Selected topics and studies in the structure and functioning of urban communities. Attention given to urbanization and other processes and factors associated. Prerequisite: 9 semester hours of Sociology or consent of instructor.

553. Social Dynamics (3)
The constants of social change, the variability of rates of change, the factors involved from a sociological point of view in the various forms of revolution typified by the Industrial Revolution, the Protestant Reformation, and various political movements. Prerequisite: 9 semester hours of Sociology or consent of instructor.

558. Social Dynamics of Non-Western Societies (3)
Structural change including evolution, revolution, social disintegration and the development of new forms; the role of elites. Prerequisites: Soc.&A. 455 and consent of instructor.

559. Development: Modernization and Social Structure (3)
Sociological analysis of economic development, agrarian reform, industrialization and urbanization in economically underdeveloped countries. Prerequisites: Soc.&A. 455 and consent of instructor.

560. Personality in Social Structure (3)
Development of judgmental capacity. Attitude change and social structure. Prerequisite: 9 semester hours in sociology including a course in social psychology or consent of instructor.

563. The Individual in Mass Society (3)
Recent research on relationships between personality and opinions: social and psychological foundations of communication, ideology, conformity and alienation. Prerequisite: 9 semester hours in Sociology including a course in social psychology or consent of instructor.

564. Research Fields and Problems in Social Psychology (3)
Historical developments related to recent research in experimental social psychology, small groups, and related fields. May be repeated to a maximum of 6 semester hours. Prerequisites: A course in social psychology and consent of instructor.

570. Classical Sociological Theory (3)
Critique of Durkheim, Weber, and other early theorists. Prerequisite: Soc.&A. 470 or equivalent.
658. Seminar in Comparative Analysis of Societies (3)
Comparative and functional analyses of social systems, locality groupings, and social change. A maximum of 9 semester hours may be taken in Soc.&A. 658 and 659. Prerequisite: Soc.&A. 558 or 559 or consent of instructor.

659. Seminar in Selected Societies (3)
A maximum of 9 semester hours may be taken in Soc.&A. 658 and 659 combined. Prerequisite: Soc.&A. 558 or 559 or consent of instructor.

661. Seminar in Social Psychology (3)
Theory, experimental social psychology, small groups, gerontology, or other topics. May be repeated to a maximum of 9 semester hours. Prerequisite: A graduate course in social psychology or consent of instructor.

670. Seminar in Sociological Theory (3)
Analyses of viewpoints, such as functionalism, systems theory, conflict theory, symbolic interactionism, or areas such as logic or research, social change, sociology of knowledge, or other topics. May be repeated to a maximum of 9 semester hours. Prerequisite: Soc.&A. 571 or 572 or consent of instructor.

675. Seminar in Special Research Techniques (3)
Survey methods, measurement and scaling, design, factor analysis or other topics. May be repeated to a maximum of 9 semester hours. Prerequisite: Consent of instructor.

676. Seminar in Methodological Issues (3)
May be repeated to a maximum of 6 semester hours. Prerequisite: Soc.&A. 576.

681. Seminar in Crime, Delinquency and Correctional Administration (3)
Comparative analyses and typologies of delinquency and crime, corrections, the prison systems, criminal law, or other topics. May be repeated to a maximum of 6 semester hours. Prerequisite: Soc.&A. 581 or equivalent.

682. Seminar in Social Disorganization (3)
Analysis of selected topics such as conflict, revolution, natural catastrophes, social change, or other topics. May be repeated to a maximum of 6 semester hours. Prerequisite: Soc.&A. 583 or consent of instructor.

ANTHROPOLOGY

401. Peoples and Cultures of South and East Asia (3)
A descriptive and analytical examination of representative societies of India, China, Japan, and Southeast Asia, dealing with their cultural histories, economic, social, political, and religious institutions. Related problems of cultural and social change will also be considered. Prerequisite: Soc.&A. 220.

402. Indians of South America (3)
Description and analysis of representative aboriginal cultures of South and Meso America in the ethnographic present. Archaeological background and recent acculturation will be considered. Prerequisite: Soc.&A. 220.

403. Peoples and Cultures of Africa South of the Sahara (3)
A descriptive and analytic examination of representative African societies dealing with their culture histories, economic, political, and social organization, as well as religion and arts. Contemporary problems of culture change and social transformation within the context of decolonization. Prerequisite: Soc.&A. 220.

404. Peoples of the Caribbean (3)
Description, analysis, historical development, and change of several Caribbean cultures; emphasis on social, economic, religious, and esthetic elements. Prerequisite: Soc.&A. 220.

405. Peoples of Meso-America (3)
Cultural background of Meso-American ethnic groups, historical and contemporary socio-cultural systems of Indian, Negro, and Mestizo groups in rural and urban areas. Attention to the processes of acculturation, urbanization, and current cultural modifications influenced by contemporary society. Prerequisite: Soc.&A. 220.

406. Indians of North America (3)
A description and analysis of the cultures of nonliterate peoples of North America. Social, economic, and religious life; languages and arts of representative North American Indian groups. Prerequisite: Soc.&A. 220.

411. Survey of Old World Prehistory (3)
A descriptive and analytical survey of the origins, development, and diversification of the prehistoric cultures of Africa, Europe, and Asia, to the beginnings of written history. Prerequisite: Soc.&A. 210.

412. Archaeology of North America (3)
A detailed analysis of culture sequences in various archaeological areas of North America. Inter-relationships between areas will be stressed. Prerequisite: Soc.&A. 210.

413. Archaeology of South America (3)
The major cultures of South America from its earliest occupation to the fall of the Inca State, with emphasis on the Central Andes. Prerequisite: Soc.&A. 210.
SOCIOLOGY AND ANTHROPOLOGY

414. Archaeology of Meso-America (3)
A descriptive and analytical examination of Pre-Columbian cultures of Mexico and Central America. Prerequisite: Soc.&A. 210.

420. Culture Process (3)
An historical and critical examination of various theories of culture process and their applications. Attention will be given to invention, diffusion, evolution, and acculturation. Similarities between biologic and culture process will be considered. Prerequisites: Soc.&A. 210 and 220.

421. Kinship and Social Structure (3)
Description of primitive social systems with emphasis upon kinship systems and how they articulate with other institutions and activities within each social system. Functional requisites of various kinship systems and their development. Prerequisite: Soc.&A. 220.

422. History of Anthropology (3)
An overview of the historical development of principal anthropological concepts through primary sources. Attention is focused upon major schools of thought and associated figures in social anthropology; also considered are areas within cultural anthropology such as linguistics, archaeology, ethnology, along with physical anthropology. Prerequisite: Soc.&A. 220 or consent of instructor.

423. Current Problems in Anthropology (3)
Selected topics of current interest in anthropology, especially those dealing with very recent developments. Prerequisite: Consent of Department Chairman. May be repeated with consent of Department Chairman.

425. Proseminar in Anthropology (3)
An intensive study of selected topics in anthropology. May be repeated to a maximum of 6 semester hours. Prerequisite: Consent of Department Chairman.

426. Primitive Political Systems (3)
Political activities and how they articulate with other institutions, particularly the legal system. Presentation of the various interpretations and theories that have been applied to the data. Prerequisite: Soc.&A. 220 or consent of instructor.

427. Comparative Economy of Primitive Peoples (3)
Economic activities in primitive societies and how they articulate with other institutions. Presentation of the various interpretations and theories that have been applied to the data. Prerequisite: Soc.&A. 220 or consent of instructor.

428. Peasant Societies (3)
Definition, description, comparison, classification, and analysis of peasant societies and the various theories that have been applied to the “folk-urban” dichotomy. Prerequisite: Soc.&A. 220 or consent of instructor.

429. Primitive Religions (3)
Description of religious and ritual activities and how they articulate with other institutions. Presentation of the various interpretations and theories that have been applied to the data. Prerequisite: Soc.&A. 220 or consent of instructor.

436. Research Methods in Anthropology (3)
Lectures and laboratory exercises to familiarize students with basic research methods and techniques used by ethnologists, archaeologists, and physical anthropologists. Prerequisite: Consent of instructor.

437. Anthropology Field Study (1-6)
Field study of selected archaeological sites, ethnic communities, and anthropological museums. May be repeated to a maximum of 8 semester hours. The length of the trip and the credit hours earned will depend on the area visited. Prerequisite: Consent of instructor.

438. Source Materials for Anthropological Research (3)
Research methods utilizing non-field sources of anthropological data. Emphasis on anthropological literature, government documents, other published information, archival materials, old maps, museum collections, and guides to these source materials. Prerequisite: 9 semester hours of Anthropology.

439. Anthropological Research Training (3-6)
A. Archaeology
B. Ethnology
C. Physical Anthropology
Training and experience in field research or, in the case of physical anthropology, laboratory research. Students will participate, under supervision, in basic research projects. Prerequisite: Consent of instructor.

441. Fossil Man (3)
A descriptive survey of the evolutionary development of man, from the earliest hominid forms to modern Homo sapiens. Theories and recent interpretations pertaining to the origins, diversity, and continuing biological trends of man will be considered. Prerequisite: Soc.&A. 240 or consent of instructor.

442. Cultural Factors in Human Evolution (3)
A descriptive and analytical survey of the cultural and ecological factors which have influenced human biological evolution, including the effects of natural selection, nutrition, tool-making, disease, urbanization, etc. Prerequisite: Soc.&A. 240 or consent of instructor.

443. Race and Race Formation (3)
History of the concept of race and changing racial criteria. Race as
speciation, adaptation and evolutionary process. Prerequisite: Soc.&A. 240 or consent of instructor.

444. Primate Ethology (3)
Comparative studies of living non-human primates (taxonomy, ecology, growth patterns, and behavior), with application to understanding origins and present-day behavior of man.

520. Cultural Systems (3)
Organizing principles and theories currently used in anthropology: culture areas, culture patterns, themes and models. Prerequisite: Soc.&A. 220 or consent of instructor.

521. Fundamentals of Anthropological Theory (3)
A course in the prerequisites of systematic analysis and synthesis of anthropological data. Prerequisites: Soc.&A. 220 and 422 or 420 or equivalent.

530. Independent Study in Anthropology (3)
Supervised readings and field work in special problem areas of anthropology. May be repeated to a maximum of 6 semester hours. Prerequisite: Written permission of Department Chairman.

539. Archaeological Interpretations (3)
A detailed examination of theories and methods basic to cultural, temporal, and environmental interpretation of data recovered by archaeologists. Contributions of other sciences will be stressed. Prerequisite: Soc.&A. 120 or consent of instructor.

599A. Master's Thesis (1-6)
May be repeated to a maximum of 6 semester hours.

599B. C.A.S. Thesis (1-6)
May be repeated to a maximum of 6 semester hours.

620A-B-C-D. Seminar in Anthropology
A. Cultural Anthropology (3)
Intensive study of special topics such as marriage and the family, mythology, the arts, linguistics, and acculturation. May be repeated to a maximum of 6 semester hours. Prerequisite: Soc.&A. 220 or equivalent.

B. Ethnology (3)
Intensive study of some specific area or problem of ethnology. May be repeated to a maximum of 6 semester hours. Prerequisite: Consent of instructor.

C. Archaeology (3)
Intensive study of some specific area or problem of archaeology. May be repeated to a maximum of 6 semester hours. Prerequisite: Consent of instructor.

D. Physical Anthropology (3)
Detailed study of some specific topic within physical anthropology. May be repeated to a maximum of 6 semester hours. Prerequisite: Consent of instructor.
Department of Speech


The Department of Speech offers graduate programs leading to the degrees Master of Arts, Master of Science in Education, and the Certificate of Advanced Study. The graduate program in Speech is adapted to the student’s individual needs and academic background. Each student plans his program in consultation with an adviser from the graduate faculty of the Department.

MASTER OF ARTS
AND
MASTER OF SCIENCE IN EDUCATION

General requirements
1. A student may concentrate his graduate study in the areas of Theatre Arts, Speech Communication, Speech Pathology, or Audiology.
2. With the approval of his adviser, the student may elect a maximum of 10 semester hours in allied studies. The remainder of the semester hours he submits for the degree must be taken in courses offered by the Department of Speech.
3. The seminar course in Speech, Speech 534, will be required of all students.
4. A candidate, with the advice and consent of his adviser, may elect to earn either a Master of Arts or a Master of Science in Education degree with or without a thesis according to the following requirements:

Degree with thesis
a. The student must earn a minimum of 30 semester hours of graduate credit.
b. A thesis must be submitted and approved. A maximum of 6 semester hours may be allotted to thesis research and writing.
c. The student must pass a written examination which will assess his knowledge and ability in his area of concentration in graduate study and an oral examination on his thesis.

Degree without thesis
a. The student must earn a minimum of 36 semester hours of graduate credit.
b. The student must pass a written examination which will assess his knowledge and ability in his area of concentration in graduate study.

Additional requirements for the Master of Science in Education degree
1. If the student’s area of concentration is Speech Communication, Speech 533 will be required. Students who are majoring in Speech Pathology or Audiology will be expected to fulfill the State’s requirements for certification as speech and hearing therapists.
2. Although a student may concentrate his graduate study in the area of Theatre Arts, Speech Communication, Speech Pathology or Audiology, his adviser will reserve the right to require courses in more than one area if the student’s academic background is deficient in certain basic courses.
3. Graduate students whose area of concentration is Speech Pathology or Audiology must fulfill the following additional requirements:
a. Completion of the minimum academic requirements for the Certificate of Clinical Competence (ASHA).
b. An experience assignment during each semester of full-time registration. Such assignments will be of a research, clinical or teaching nature, dependent upon the needs of the student and the availability of the assignment.

CERTIFICATE OF ADVANCED STUDY

The candidate for the Certificate of Advanced Study must arrange a program which meets the approval of the Department of Speech. The nature of the program will depend on the student’s experience and academic background.

The candidate shall pass a basic reading proficiency examination in a foreign language.

Course Offerings

THEATRE ARTS

411. Directing (3)

Principles of blocking, timing, control of focus, and other elements of directing. Planning the interpretive concept of a production and reporting such plans in prompt book form. Problems of training and directing amateur actors. Procedures of supervising the production from casting to performance. Laboratory experience in directing scenes and one-act plays. Prerequisite: Consent of instructor.
412. Playwriting (3)
The conventions and techniques that playwrights use to communicate in the theatre. Analysis of selected plays. Lectures and discussion combined with exercises in the planning and writing of scenes and short plays.

413. Dramatic Theory (2)
An analysis of the basic elements of the art of drama—dramatic action, characterization, and dialogue form—together with an historical consideration of how these elements functioned in the major forms and styles of drama.

414. Problems in Creative Dramatics (3)
A presentation of the theory of creative dramatics through a survey of research and methodological literature. Laboratory practice in creative dramatics and dramatic play with children will be required.

415. Educational Theatre Methods (2)
Place of play production in the high school and college. Objectives, principles, procedures, and materials. Laboratory experience in play selection and educational theatre organization and supervision.

417. Stage Costume Design (3)
Designing and planning costumes for the stage. Analysis of costume aesthetics and historical periods and creative reconstruction for dramatic presentation. Preparation of designs from initial research to finished renderings and production plans.

418. Stage Design (3)
Modern techniques in designing stage scenery. Analysis of production requirements, historical period, and theatrical style. Preparation of designs through initial research, sketches, designer's elevations and floor plans. Practical experience through supervised participation in the mounting of theatrical productions.

470. History of Theatre to 1650 (3)
The origin of theatre as a social force and an artistic form and its development to the middle of the 17th century. Relation of play to theatre, actor, and audience to social, literary, and artistic interests in the classical Greek, Roman, Elizabethan, and Neo-Classical French periods. Reading and analysis of theatre classics worthy of revival.

471. Theatre History, 1650-Present (3)
The history of the theatre and its literature from the middle of the 17th century to the present. Analysis of significant persons and events, including Moliere, Restoration, French Romanticism, the rise of the director, independent theatre movement, realism and expressionism.

511. Seminar: Performing Arts in the Theatre (3)
The subject and materials of this seminar will change from term to term. Each unit will be related to some advanced concept in the performing arts and will include laboratories and artistic projects. May be repeated for credit.

A. Classical Styles of Performance
B. Experimental Styles of Performance
C. Directing Problems in the Modern Theatre
D. Acting Problems in Varying Forms of Theatre

513. Seminar: Theatre History (3)
The subject and materials of this seminar will change from term to term. May be repeated for credit.

A. Classical and Neo-Classical Theatre
B. British Theatre
C. Roots of the Modern Theatre
D. Early American Theatre
E. Modern American Theatre

515. Seminar: Production, Design and Technical Problems (3)
The subject and materials of this seminar will change from term to term. Historical and artistic developments in theatre design, mechanics, or technical practices will be treated. Laboratories and artistic projects will be included. May be repeated for credit.

A. The Physical Theatre
B. Developments in Technical Practices
C. Theatre Architecture
D. History of Costume
E. Lighting Theory
F. Scene Design

516. Voice and Diction in the Educational Theatre (2)
Training methods involved in the development of good stage speech and an effective stage voice, including a study of foreign and regional dialects for character impersonation.

612. Theatrical Criticism (3)
The major contributors to the arts of dramatic and theatrical criticism from the Greeks to the present day as they have influenced dramatic and theatrical practices.

617. Seminar in Theatre Research (3)
An intensive investigation of a single significant dramatic form or theatrical phenomenon. The selection of each topic will be made on the basis of current research needs and will be announced prior to each semester. May be repeated to a maximum of 6 semester hours. Prerequisite: Consent of instructor.
SPEECH

SPEECH COMMUNICATION

400. Introduction to Rhetorical Criticism (3)
Introduces the student to basic concepts, terminology, and methods of rhetorical criticism, both classical and modern, and emphasizes the historical continuity in the evolution of public speaking from the ancient Greeks to the present age.

401. Contemporary Public Address (3)
An application of the logical, historical, and aesthetic disciplines to the study of the speeches of representative spokesmen of 20th century thought.

402. Group Communication (3)
The nature of group processes. Leadership, communication, and decision-making problems in small groups.

404. Communication Theories (3)
The role of spoken communication in social adaptation. Relationships among thought language, and expression; verbal perception and cognition; communication models.

408. Semantics of Oral Discourse (3)
An approach to the problems in the use of symbols of thought and attitude in speech. Consideration of recent contributions of semantics and general semantics and their impact on such functions of oral discourse as the informative, logical, and evocative.

461. Organizational Communications Seminar (3)
Communication systems within and among organizations; types and components of communication systems; the effects of communication systems upon values, productivity, morale, dispersion of responsibility, etc.

500. Greek and Roman Rhetoric (3)
Emphasis on the contributions to rhetorical theory of Plato, Aristotle, Cicero, and Quintilian.

501. Medieval and Renaissance Rhetoric (3)
Survey of rhetoric from circa 300 A.D. to circa 1700. Consideration of the contributions of such rhetoricians as Augustine, Victor, Cappella, Alcuin, Ramus, Bacon, and Wilson.

502. Modern Rhetoric (3)
Survey of rhetorical theory from circa 1700 to the present. Emphasis on the contributions of Campbell, Blair, Whately, John Quincy Adams, and the leading theorists of the 20th century.

503. History and Criticism of American Public Address I (3)
Rhetorical criticism of the speeches of some of the principal American speakers in the period from colonial times to the close of the Civil War, including consideration of the historical setting of the speeches and an analysis of the ideas, structure, style, and presentation of the speeches.

504. History and Criticism of American Public Address II (3)
Continuation of Spch. 503 with the focus on the speeches of some of the principal American speakers in the period from the close of the Civil War to the end of the 19th century.

506. Advanced Public Speaking and Group Discussion (2)
For school administrators and teachers who are not specialists in speech but who, in the discharge of their professional and civic duties, are called upon to give various types of speeches, to lead group discussions, and to preside at meetings governed by parliamentary law.

507. Theory of Discussion (3)
Survey of the development of contemporary theories and research in the study of discussion.

508. History and Criticism of British Public Address I (3)
The application of the principles of rhetorical theory in the study of the principal 18th century British speakers including an analysis of the social milieu for the speeches as well as an evaluation of basic premises, forms of support, structure, and style.

509. History and Criticism of British Public Address II (3)
Continuation of Spch. 508 with concentration on the speeches of some of the principal nineteenth and twentieth century speakers.

560. Special Topics in the History and Criticism of Public Address (3)
Intensive studies of selected topics in the history and criticism of public address. Extensive use will be made of books, government documents, articles in journals and newspapers, and speeches relevant to the topic selected. May be repeated to a maximum of 9 semester hours, provided that no repetition of subject matter occurs.

607. Seminar in Persuasion (3)
Survey of the literature and research in the field of persuasion with special reference to the analysis of theories and techniques of obtaining attention and motivation in oral advocacy. Prerequisites: Spch. 304 and/or 404 or their equivalent in courses taken in another institution.

SPEECH PATHOLOGY AND AUDIOLOGY

420. Hearing Problems and Audiometric Methods (3)
An introduction to clinical audiology; etiology, diagnosis, and rehabilitation of auditory disorders. Observation and orientation in hearing testing.
421. Aural Rehabilitation (3)
Methods and materials of speech writing, auditory training, hearing aids, and speech conservation for the hard-of-hearing. Observation and presentation of sample lessons. Prerequisite: Spch. 420. Students must enroll for at least 1 semester hour of Spch. 428 Clinical Practice in Audiology.

422. Clinical Methods in Speech Pathology (3)
Therapeutic procedures for the correction of speech defective children in the public school. Problems of surveying, scheduling, and administering a public school speech correction program. Six periods a week for nine weeks. Prerequisite: Consent of instructor.

424. Stuttering (3)
Modern theories of stuttering. An overview of etiological and concomitant factors in stuttering with emphasis on basic therapy procedures for stuttering children and adults.

425. Organic Disorders of Speech (3)
Causes, symptoms, and speech therapy procedures for cerebral palsy, aphasia in children and adults, and other language disabilities related to pathologies of the central nervous system.

426. Assessment of Hearing (3)
A lecture-laboratory course in the standard audiometric battery, special tests of auditory function, and their evaluation and interpretation. Clinical practice in hearing testing. Prerequisites: Spch. 420 and consent of instructor.

427. Clinical Practice in Speech Pathology (1-3)
Supervised clinical practice in the University Clinic, Out-Patient Diagnostic and Therapy Clinic, and/or the Summer Speech Center. Forty-five clock hours of clinical practice for a semester hour of credit. May be repeated to a maximum of 3 semester hours. Prerequisite: Consent of instructor.

428. Clinical Practice in Audiology (1-3)
Hearing testing, aural rehabilitation, and conservation of speech in the University Speech and Hearing Clinic, Summer Speech and Hearing Center, or other clinical opportunities. May be repeated to a maximum of 3 semester hours. Prerequisite: Consent of instructor.

521. Seminar in Voice and Articulation Disorders (3-6)
A. Voice Disorders (3)
B. Articulation Disorders (3)
Discussion and review of the literature concerning the etiology, and treatment of voice and articulation disorders.

522. Clinical Measurement in Speech Pathology (3)
Principles and methods of assessing the significant parameters of normal and defective speech with particular emphasis upon measurement and diagnosis: clinical practicum.

525. Speech Science (3)
The acoustical, physiological, and psychological foundations of oral communication: laboratory experimentation.

526. Seminar in Language Development (3)
Theories and research on speech and language acquisition from infant vocalizations to the decoding and encoding of abstract concepts, description, measurement and analysis of normal and variant language patterns.

527. Anatomy and Physiology of the Ear (3)
The study of the anatomical aspects of the human auditory system. Major division of the auditory system as a function of the embryonic formation, morphological and physiological aspects. Prerequisite: Consent of instructor.

528. Behavioral Characteristics of the Acoustically Deprived (3)
Psychological and social behavior of the acoustically handicapped studied in detail. Methods of testing this population for therapy and rehabilitation. Prerequisite: Consent of instructor.

529. Industrial and Military Audiology (3)
Methods and procedures of analyzing noise levels in various industrial and military environments. Damage risk criteria and control programs. Effects of various levels of noise on the basic communication process and its effects on the human auditory system.

540. Seminar in Audiological Assessment (3)
Recruitment, non-organic hearing loss or other specialized considerations in the functioning of the auditory system. Prerequisites: Spch. 420 and 426.

541. Seminar in Aural Rehabilitation for Adults (3)
Speech reading, auditory training, hearing aids, or speech conversation for the hard-of-hearing. Prerequisites: Spch. 420 and 421.

542. Aural Habilitation for Children with Hearing Impairments (3)
Methods and procedures of evaluating hearing loss in young children
and infants. Parent counseling and early use of hearing aids. Pre-school and elementary therapy technique as related to language development, speech therapy, auditory training, and environmental development. Prerequisite: Consent of instructor.

544. Seminar in Stuttering (3)
Advanced study of stuttering behavior, including an intensive investigation of research with particular emphasis upon theories of behavior and their application to the stuttering problem; clinical practicum.

545. Seminars in Organic Disorders of Speech (3-9)
Problems in etiology, diagnosis and therapy of speech and language disturbances associated with organic handicaps. May be offered concurrently and repeated for credit.
   A. Cleft Palate and Speech—Laryngectomy (3)
   B. Cerebral Palsy (3)
   C. Aphasia (3)

546. Audition (3)
Acoustics, psychophysical methods, and the measurement of the normal ear's response to sound.

547. Acoustic Instrumentation (3)
Theoretical and practical aspects of electronic audio frequency laboratory equipment commonly used for evaluation and research in speech pathology and audiology.

625. Experimental Phonetics (3)
Research literature and laboratory methodology employed in the analysis of vocalized speech and the speech mechanism. Includes laboratory experiences relating to speech synthesis, acoustics, phonetic analysis, and the physiological correlates of verbal behavior.

640. Seminar in Pediatric Audiology (3)
The significance of early detection of auditory disorders in the young child. Methods, techniques, and procedures used in obtaining audiological diagnosis of the auditory system of the pediatric case. Prerequisite: Consent of instructor.

SPEECH EDUCATION AND RESEARCH

432. Communications Research Methodology (3)
A survey of research problems and procedures in speech with consideration of treatments and analysis of experimental data.

433. Measurement and Evaluation of Speech (3)
Principles and methods of appraising speech performance and related behaviors. Emphasis on teacher-made tests and measures with consideration given to relevant standardized tests.

434. The Teaching of Speech (3)
The problems confronting the teacher of speech. Lectures and collateral reading on the following major subjects: the organization, content, and methods of teaching the foundation course in speech and other courses in a balanced speech curriculum. Six periods a week for nine weeks. Prerequisites: Spch. 305, 415.

435. Oral Communication in the Elementary Classroom (3)
A survey of the theories, practices, and research which relate oral communication to effective learning in the elementary school. Evaluation of speech behaviors in the elementary classroom. May be offered for nine weeks.

533. Seminar in the Teaching of Speech (3)

534. Seminar in Speech (3)
An overview of history and contemporary philosophy in the field of speech with special reference to the cooperative interaction of audiology, dramatics, speech communication, and speech pathology, and their mutual contributions to the humanities and the sciences.

535. The Forensic Program (3)
The organization, direction, and evaluation of intra-school, community, and interschool activities in debate, discussion, extem pore speaking, and oratory.

536. Seminar in Oral Interpretation in Senior High School (3)
A summary and critical analysis of literature concerning oral interpretation on the senior high school level. Considers the planning of a high school program.

598A. Directed Individual Study I (1-3)
Independent study of problems in any area of speech: speech pathology, interpretation, radio and television, speech communication, speech education, audiology, and related fields. May be repeated to a maximum of 3 semester hours. Prerequisite: Consent of instructor.

598B. Directed Individual Study II (1-3)
Independent pursuit of advanced problems in speech of special concern to qualified graduate students. Open only to candidates enrolled in the sixth-year program. May be repeated to a maximum of 3 semester hours. Prerequisite: Consent of instructor.

599A. Thesis I (1-6)
Open only to students engaged in writing a thesis in a Master of Arts or a Master of Science in Education program. May be repeated to a maximum of 6 semester hours. Prerequisite: Consent of the student's graduate adviser.
599B. Thesis II (1-6)
Open only to students engaged in writing a thesis in a Certificate of Advanced Study program. May be repeated to a maximum of 6 semester hours. Prerequisite: Consent of the student’s graduate adviser.

630. Seminar in Speech Education (3)

RADIO AND TELEVISION

450. Educational Radio and Television (2)
The literature in the areas of radio and television programming with an analysis of their pedagogical applications. Composition and delivery of various types of programs and continuity. Four periods a week for first nine weeks.

452. Broadcasting and Society (3)
The broadcasting media and their social responsibility within the larger framework of mass communications; special reference to such elements of control as public opinion, government, self-regulation and professional criticism.

453. Mass Media Laboratory (1)
The practical experience of responsible positions in Northern Illinois University’s campus broadcasting and film facilities. May be repeated to a maximum of 4 semester hours. Prerequisite: Sph. 350 or consent of instructor.

454. Educational Television Programming (3)

550. Seminar in Broadcasting (3)
May be repeated to a maximum of 6 semester hours. Prerequisite: Consent of instructor.
College of Fine and Applied Arts

Art
Home Economics
Industry and Technology
Music
MASTER OF ARTS

The degree Master of Arts is designed for those students who wish to concentrate their study in one of three areas: Studio Art, Art History, or the Teaching of Art. Candidates for a Master of Arts degree must complete a minimum of 30 semester hours of graduate work and must choose their area of emphasis prior to requesting candidacy for a degree. Degree requirements include:

Studio Emphasis:
1. 2 semester hours of seminar (Art 580)
2. 6 semester hours of Art History
3. A minimum of 18 semester hours of studio courses with a concentration in a major area (Art 504, 510 required)
4. A one-man show. Three photographic copies of the one-man show must be submitted to the Graduate School as the equivalent of a thesis.

Art History Emphasis:
1. 3 semester hours of seminar (Art 601)
2. 6 semester hours of Art 508
3. A reading knowledge of one modern foreign language
4. A minimum of 15 semester hours of Art History
5. A thesis (2 semester hours).

Art Teaching Emphasis
1. 2 semester hours of seminar (Art 580)
2. 9-12 semester hours of art education
3. 15-17 semester hours of studio and art history courses.
4. A thesis (2 semester hours).

The student’s major adviser will guide him in planning his program, in the preparation of his thesis or one-man show, and in the preparation for the final departmental examination.

MASTER OF FINE ARTS

The degree Master of Fine Arts requires 60 semester hours of graduate study. The degree is designed primarily for those students who plan to prepare themselves for college teaching in one of the studio areas or for a profession in the fine and commercial art fields.

Included in the student’s program are:
1. 4 semester hours of seminar (Art 580)
2. 9 to 12 semester hours of Art History
3. 3 semester hours of Art 680, Teaching Art at the College Level (internship)
4. 6 semester hours of Art 508, Technical Resources of the Artist
5. A one-man show. Three photographic copies of the one-man show must be submitted to the Graduate School as the equivalent of a thesis.

In certain cases, Art 508 may be waived by the student's advisory committee.

The student's major adviser will guide him in planning his program, in the preparation of his one-man show, and in preparation for the final departmental examination.

Course Offerings

401. Foreign Study Program (1-9)
Development of an appreciation and an understanding of works of art through the history of art as revealed in extant examples. Visits to artists' and craftsmen's studios and museums.

413. Advanced Photography (3)
Further exploration of the technical and aesthetic aspects of photography as a contemporary art medium. Studio and lecture. Six periods a week. May be repeated to a maximum of 9 semester hours. Prerequisite: Art 313 or consent of instructor.

421. Advanced Painting (3)
Individually selected problems in studio techniques of painting in a variety of media. Studio and lecture. Six periods a week. Prerequisite: Art 326.

422. Advanced Painting (3)
Advanced studio problems in various painting media. Six periods a week. Studio and lecture. Prerequisite: Art 421.

431. Advanced Printmaking (3)
Opportunity for individual development of printmaking skills and techniques through selected problems. Studio and lecture. Six periods a week. Prerequisite: Art 336.

432. Advanced Printmaking (3)
Continuation of the study of printmaking techniques through work in selected areas. Studio and lecture. Six periods a week. Prerequisite: Art 431.

445. Technical Problems in Ceramics (3)
Advanced theory and laboratory experience in glaze calculation and testing, clay body formulation, and testing, engobe formulation, properties of glaze oxide, kiln firing, and kiln construction. Study of contemporary and historical examples of ceramics. Six periods a week. May be repeated to a maximum of 9 semester hours. Prerequisite: Art 441 or consent of instructor.

451. Advanced Metalwork and Jewelry (3)
Further work in techniques and design in contemporary metalwork and jewelry. Studio and lecture. Six periods a week. Prerequisite: Art 354.

452. Advanced Metalwork and Jewelry (3)
Opportunity to develop studio skills in the technical processes and design of contemporary metalwork and jewelry. Studio and lecture. Six periods a week. Prerequisite: Art 451.

461. Advanced Sculpture (3)
Further work in processes, materials, and design of sculpture in selected media. Studio and lecture. Six periods a week. Prerequisite: Art 364.

462. Advanced Sculpture (3)
Continuation of Art 461 with emphasis on expression and competency in the processes and design of sculpture. Individual problems. Studio and lecture. Six periods a week. Prerequisite: Art 461.

471. Advanced Weaving (3)
Advanced study and application of contemporary techniques of weaving. Emphasis on personal expression in two and three dimensional form. May be repeated to a maximum of 9 semester hours. Prerequisite: Art 371.

472. Advanced Textile Printing (3)
Advanced studio work in textile print processes, which may include batik, tie-dye, silk screen and direct painting on fabrics. May be repeated to a maximum of 9 semester hours. Prerequisite: Art 372.

473. Tapestry and Rug Weaving (3)
Study and application of historic and contemporary methods of tapestry and rug weaving. May be repeated to a maximum of 9 semester hours.

475. Tubular and Double Weaving (3)
Study and use of double and tubular weaving techniques on four and multiple harness looms. Prerequisite: Art 471 or consent of instructor.

476. Art of the Eastern Mediterranean and Anatolia
An analytical study of the art and architecture of the Eastern Mediterranean, Western Asia Minor, Anatolia and the Levant Coast from the beginning of the Stone Age to the Downfall of the Phoenician Commercial Empire.
483. Art in Elementary Schools (3)
Art education in relation to the needs, growth, and development patterns of children. Studio and lecture. Not open to Art majors.

485. Studies in Art History (3)
A course designed to study specific topics in art history. Topics to be announced. May be repeated but limited to 3 semester hours per topic.

486. Special Problems in Art History (3)
Specific studies in related areas of art history: i.e., aesthetics, iconography, criticism, or literary sources of art. May be repeated, but limited to 3 semester hours per topic. Prerequisite: 6 hours of art history survey or equivalent, or permission of instructor.

487. Southeast Asian Art (3)

488. African Art (3)
The ancient and contemporary art of Africa.

489. Workshop in Art Education (2 or 3)
Concentrated study with professional art educators. Offered irregularly as specialists become available. May be repeated.

490. Independent Research (1-9)
Work on individual problems in the student's major field. May be repeated to a maximum of 9 semester hours. Prerequisite: Consent of Head of Department and instructor.

491. History of Prints and Graphic Processes (3)
The development of woodcuts, etching, engraving, lithography, etc., in the history of art.

496. History of Decorative Arts (3)
Chronological survey of the minor arts (furniture, textiles, ceramics, glass, etc.) in the history of art.

497. History of Architecture I: to 1400 (3)
Building styles, theories, form, and construction as exemplified by the major architectural monuments from the ancient world through the end of the middle ages.

498. History of Architecture II: 1400-1900 (3)
Building styles, theories, form, and construction as exemplified by the major architectural monuments from the Renaissance through the nineteenth century.

501. Drawing (3)
Advanced problems in drawing based upon a study of the human figure. May be repeated to a maximum of 9 semester hours. Prerequisite: Art 401 or consent of instructor.

504. Drawing (3)
Analytical studies of style and composition in the drawing media. Attention will be given to the capacities and limitations of pencil, pen, brush, ink, silverpoint, reed, etc. May be repeated to a maximum of 9 semester hours.

508. Studio Problems in the Technical and Historical Resources of the Artist: Drawing (3)
The media and processes of the artist and their historical significance. The studies emphasize drawing techniques from the 14th through the 19th centuries.

509. Studio Problems in the Technical and Historical Resources of the Artist: Painting (3)
The media and processes of the artist and their historical significance. The studies emphasize painting techniques from the 14th through the 19th centuries.

510. Design (3)
Comprehensive problems involving two and three dimensional design in various media. May be repeated to a maximum of 9 semester hours. Prerequisite: Consent of instructor.

511. Advertising Design (3)
Advanced problems in visual communication with an emphasis on media reproduction processes. May be repeated to a maximum of 9 semester hours. Prerequisite: Art 412 or consent of instructor.

512. Design: Technical Problems (3)
Opportunity for research in specialized laboratory problems. May be repeated to a maximum of 9 semester hours. Prerequisite: Consent of instructor.

513. Photography (3)
Photographic techniques in black and white and color with an emphasis on the aesthetic approach to photography. May be repeated to a maximum of 9 semester hours. Prerequisite: Art 413 or consent of instructor.

514. Photography (3)
The techniques and processes in the production of motion pictures as an art form. Individual and group problems in black and white and color production. May be repeated to a maximum of 9 semester hours. Prerequisite: Art 513 or consent of instructor.

515. Design: Seminar (3)
A survey of contemporary design theory and practice including consultant techniques; psychological, sociological, and economic
actors in designing for consumer acceptance. May be repeated to a maximum of 9 semester hours. Prerequisite: Consent of instructor.

516. Industrial Design (3)
Technology and product development. May be repeated to a maximum of 9 semester hours. Prerequisite: Art 417 or consent of instructor.

517. Interior Design (3)
Advanced problems in interior design including both commercial and domestic fields. May be repeated to a maximum of 9 semester hours. Prerequisite: Art 385 or consent of instructor.

522. Painting (3)
Advanced study of pictorial composition through use of various techniques and materials. May be repeated to a maximum of 9 semester hours. Prerequisite: Art 422 or consent of instructor.

523. Painting (3)
The development of individual style in painting. May be repeated to a maximum of 9 semester hours. Prerequisite: Art 522 or consent of instructor.

526. Painting (3)
Painting from the live model. May be repeated to a maximum of 9 semester hours. Prerequisite: Consent of instructor.

531. Printmaking (3)
Advanced work in intaglio, lithography, serigraphy, or woodcut. May be repeated to a maximum of 9 semester hours. Prerequisite: Art 432 or consent of instructor.

532. Printmaking (3)
Experimental printmaking. May be repeated to a maximum of 9 semester hours. Prerequisite: Art 531 or consent of instructor.

533. Printmaking (3)
Advanced: the exploration of technical problems in any of the various areas of printmaking. May be repeated to a maximum of 9 semester hours. Prerequisite: Art 532 or consent of instructor.

541. Ceramics (3)
Exploration of three dimensional form using fired clay. May be repeated to a maximum of 9 semester hours. Prerequisite: Art 444 or consent of instructor.

542. Ceramics (3)
Advanced ceramics laboratory work emphasizing the development of a personal, professional style. May be repeated to a maximum of 9 semester hours. Prerequisite: Art 541 or consent of instructor.

551. Metalwork and Jewelry (3)
Advanced design and execution of contemporary metalwork and jewelry. May be repeated to a maximum of 9 semester hours. Prerequisite: Art 452 or consent of instructor.

552. Silversmithing (3)
Design and execution of flat and hollow ware. May be repeated to a maximum of 9 semester hours. Prerequisite: Art 551 or consent of instructor.

553. Enameling (3)
An investigation of the areas of enameling, glass, and vitreous materials. May be repeated to a maximum of 9 semester hours. Prerequisite: Art 454 or consent of instructor.

560. Sculpture (3)
Advanced: individual development through work in various media. May be repeated to a maximum of 9 semester hours. Prerequisite: Art 462 or consent of instructor.

561. Sculpture (3)
Investigation of the various methods of metal working in sculpture. May be repeated to a maximum of 9 semester hours. Prerequisite: Art 560 or consent of instructor.

562. Sculpture (3)
Technical problems in the casting of metal alloys. May be repeated to a maximum of 9 semester hours. Prerequisites: Art 561 and consent of instructor.

571. Weaving (3)
Advanced weaving laboratory work emphasizing the development of a personal professional style. May be repeated to a maximum of 9 semester hours. Prerequisite: Art 471 or consent of instructor.

572. Advanced Tapestry and Rug Weaving (3)
Advanced laboratory work in tapestry and rug weaving with emphasis on personal and professional style. May be repeated to a maximum of 9 semester hours. Prerequisite: Art 473.

573. Textile Printing (3)
Advanced studio work in varied textile printing media emphasizing the development of a personal and professional style. May be repeated to a maximum of 9 semester hours. Prerequisite: Art 472.

580. Seminar (2)
Investigation and discussion of current and historical issues related to the visual arts. Required of all graduate students. One semester required of M.S. and M.A. candidates and 2 semesters required of M.F.A. candidates.
581. Organization and Supervision of Elementary Art Programs (3)
An investigation of the philosophy, materials, and procedures related to the teaching of art in the elementary schools. Intended for those graduate students who plan to work in art supervisory positions.

582. Organization and Supervision of Secondary Art Programs (3)
Survey of trends and procedures in the teaching of art in the secondary school.

583. Aesthetic Education (3)
A theoretical analysis of the problems of teaching for appreciation in general education. An appraisal of some current attempts at their solution based upon insights afforded by contemporary studies in aesthetics and art education.

584. History and Philosophy of Art Education (3)
Survey and appraisal of the historical and philosophical basis for teaching of art. Consideration of current objectives with implication for change.

585. Research Methods in Art Education (3)
Methods and techniques of research including statistical analysis and data processing. Critical evaluation of selected studies. Prerequisite: Admission to degree candidacy.

588. Learning Theory in Art Education (3)
A study of those theories of learning that are specifically related to the creative experience. The results of this study are applied to the problems of learning and teaching in art education: to questions of method, scope, and sequence in art programs.

589. Workshop in Art (3)
Concentrated study with professional artists. Offered irregularly as specialists become available. May be repeated. A limit of 6 semester hours may be applied toward an advanced degree.

590. Independent Study (1-9)
Work on individual problems in the student's chosen field. Prerequisites: Consent of Head of Department and instructor.

591. Studies in Medieval Art (3)
Specific subjects chosen from Early Christian, Byzantine, Romanesque, or Gothic art.

592. Studies in Italian Renaissance Art (3)
Specific subjects in Italian art from ca. 1200 to ca. 1600.

593. Studies in Northern Renaissance Art (3)
Specific subjects chosen from the arts of Northern Europe from ca. 1400 to ca. 1600.

594. Studies in Seventeenth and Eighteenth Century Art (3)
Specific subjects chosen from Baroque or Rococo art.

595. Studies in Nineteenth Century Art (3)
Specific subjects in nineteenth century art from the time of the French Revolution to ca. 1900.

596. Studies in American Art (3)
Specific subjects chosen from the development of art in America from ca. 1670 to the present.

598. Studies in Oriental Art (3)
Specific subjects chosen from the arts of the Middle East, Far East, or Southeast Asia.

599. Thesis (2-6)
A study of the thesis from the point of view of both content and form. Prerequisite: Admission to degree candidacy.

600. Studies in Ancient Art (3)
Specific subjects in the arts of Egypt, Mesopotamia, Greece, or Rome.

601. Seminar in Art History (3)
Investigation of specific topics in art history. Topics to be announced. May be repeated but limited to 3 semester hours per topic.

602. Studies in Latin American Art (3)
Specific subjects chosen from the arts of Central or South America.

603. Independent Study in the History of Art (3)
A course designed for individual research in special problems and original subjects in art history as determined by the student with his adviser. Prerequisite: Permission of adviser and graduate standing. May be repeated.
604. Studies in Primitive Art (3)
Specific subjects chosen from the arts of Africa, Oceania, or the Americas.

605. Studies in Twentieth Century Art (3)
Specific subjects chosen from the development of contemporary art from ca. 1900 to the present.

622. Comparative Arts (2)
(Also listed as Music 622)
The interrelationship of music and the visual arts in western Europe and the Americas. Offered jointly by the Departments of Art and Music.

680. Teaching Art at the College Level (Internship) (3)
Teaching art at the college level under the supervision of a master teacher. Required of M.F.A. Candidates.

681. Problems in Art Education (1-9)
Independent study in depth of selected problems related to the teaching of art. May be repeated to a maximum of 9 semester hours.
Department of Home Economics

Faculty: Rockwood, Department Head. Barra, Durham, Heltsley, Jeffrey, Matthews, Paek, Parham, Petrich, Reed, Sie, Smith.

The Department of Home Economics offers graduate programs leading to the degrees Master of Science and Master of Science in Education. The graduate programs offer graduate instruction in the following areas:

1. Marriage and Family Life
2. Child Development—Nursery School Education
3. Nutrition and Dietetics
4. Home Economics Education
5. Textiles and Clothing

A candidate for an advanced degree in Home Economics is expected to have an undergraduate major in Home Economics or a major in a closely related field and a minor in Home Economics. Those who plan to teach must fulfill State certification requirements. Deficiencies in the area of specialization at the undergraduate level will be determined by a committee of graduate staff and must be made up before admission to candidacy.

The graduate student works with an adviser in her major area. Approval of her program is subject to a committee of graduate faculty in the department. All candidates for master's degrees are to complete 30 semester hours of credit. A candidate for a degree may offer up to 6 semester hours of credit from the Foreign Study Program, 401. Students earning a Master of Science degree must write a thesis. The candidate for a Master of Science in Education degree may petition the graduate staff of the department to waive the thesis requirement. A final written examination is given. An oral examination may be given upon request of the Department.

All students planning to major in Home Economics should have a conference with the Head of the Department or a member of the graduate faculty in the department before registering for the first time.

MASTER OF SCIENCE

Major in Nutrition and Dietetics

This major increases the student's ability to work as a nutritionist with a promotional or service organization, as an administrative or therapeutic dietitian, as a home economist with a public service company, and as a research assistant in nutrition, dietetics, or food science.


Prerequisite to a major in this area is a minimum of 16 semester hours in Chemistry including General and Organic Chemistry, Biochemistry, or Physiological Chemistry.

Major in Marriage and Family Life

A choice of options is provided so that the student may increase teaching proficiency at the high school or college level, or prepare to work with family agencies or organizations relating to this specialization.

OPTION 1—Marriage and Family Life

Prerequisite: To choose this option a student should have a total of 18 semester hours in the fields of Marriage and Family Life, Child Development, and Psychology and Sociology. Required courses: 20 semester hours within the Department of Home Economics including H.Ec. 500B, 504, 599. Nine semester hours should be elected outside of the major area. Recommended courses: H.Ec. 438, 486, 589, 539.

Additional courses suggested: H.Ec. 434, 458, 439, 500C, 532; Educ. 508; Psych 432, 465; Soc.&A. 650B.

OPTION 2—Marriage and Family Life with Psychology or Sociology

Prerequisite: To choose this option a student should have a total of 18 semester hours in the fields of Marriage and Family Life, Child Development, and Psychology and Sociology.

Required courses: 17 semester hours within the Department of Home Economics including H.Ec. 500B, 504, 599.

Additional Courses suggested: H.Ec. 434, 458, 439, 500C, 532; Educ. 508; Psych. 432, 465; Soc.&A. 650B.

Major in Child Development—Nursery School Education

Students majoring in Child Development—Nursery School Education prepare to teach in and operate a nursery school and to teach nursery school education at the college level.

OPTION 1—Child Development—Nursery School Education

Prerequisite: To choose this option a student should have a total of 18 semester hours in the fields of Child Development and Nursery School Education, Marriage and the Family, and Psychology and Sociology.

Required courses: 20 semester hours in the Department of Home Economics including H.Ec. 434, 500C, 504, 532.
Nine semester hours should be elected outside the major area.

Recommended Courses: H.Ec. 438, 439, 539.

Additional Courses suggested: H.Ec. 458, 589, 552; Educ. 508, 560; Psych. 432, 465.

OPTION 2—Child Development—Nursery School Education and Psychology

Prerequisite: To choose this option a student should have a total of 18 semester hours in the fields of Child Development and Nursery School Education, Marriage and the Family, and Psychology and Education.

Required Courses: 16 semester hours in Home Economics including H.Ec. 434, 500E, 504, 532, 599.

Recommended Courses: H.Ec. 438, 439, 539.

Additional Courses suggested: H.Ec. 458, 589, 552; Educ. 508, 560; Psych. 432, 465.

Major in Textiles and Clothing

This major prepares the student to teach clothing and textiles in high school or at the college level; to work with commercial textiles and clothing design; or to qualify for technical work in the textiles field. The choice of option is guided by the academic goals and professional requirements of the field of specialization.

OPTION 1—Textiles and Clothing

Prerequisites: To choose this option a student should have had a total of 18 semester hours in textiles and clothing.

Required courses: Twenty-one (21) semester hours within the Department of Home Economics including Home Economics 454 (3), 464 (3), 466 (3), 500E (3), 504 (3), 562 (2), 599 (1-6). Education 508 (3).

Recommended courses: Home Economics 452 (3), 468 (3), 554 (3), 568A (2), or 568B (2), 570 (2), 572 (3) 610 (3). University Seminar 401—Foreign Study Seminar Textiles and Clothing Program only (1-9). Students may elect courses in other departments with approval of the adviser.

OPTION 2—Textiles, Clothing and Art

Prerequisites: To choose this option a student should have had a total of 18 semester hours in the fields of textiles, clothing and art.

Required courses: A minimum of 20 semester hours within the Department of Home Economics including Home Economics 452 (3), 454 (3), 464 (3), 466 (3), 500E (3), 562 (2), and either 601 (1-3), or 504 (3) and 599 (1-6). The student electing the 601 sequence must take three additional credits under advisement. The thesis requirement may be waived by substituting extensive work in Home Economics 601 which will culminate in a public show of the student's work. Art 510 or 512. choice to be made in consultation with the Head of the Art Department.

Recommended courses: Art 571 (3), 572 (3), and 580 (1), Home Economics 468 (3), 470 (3), 554 (3), 570 (2), 572 (3), 610 (3).

OPTION 3—Textiles, Clothing and Sociology and Anthropology

Prerequisites: To choose this option a student should have had a total of 20 semester hours in textiles and clothing and sociology and anthropology.


OPTION 4—Textiles

Prerequisites: To choose this option a student should have had coursework and laboratory experience in inorganic and organic chemistry and either quantitative or qualitative chemical analysis; Home Economics 351; Mathematics 410 or equivalent.

Required courses: A minimum of 24 semester hours in the Department of Home Economics including 466 (3), 500E (3), 504 (3), 562 (2), 564 (3), 566 (3), 568A (2) or 568B (2), and 599 (1-6). Education 508 (3).

Recommended courses: Home Economics 572 (3), 610 (3).

MASTER OF SCIENCE IN EDUCATION

Major in Home Economics Education

The program is designed to prepare for improved classroom teaching in secondary schools and junior colleges, and for supervisory positions in home economics. Candidates for the degree may elect either a thesis or a non-thesis option. Students must elect 9 semester hours outside the major area.

Required courses: H.Ec. 504, 520, 521, 525.

Recommended electives: H.Ec. 407, 438, 458, 500D.

HOME ECONOMICS

Thesis Option: The required 30 semester hours must include Home Economics 599, 6 semester hours. The thesis must be approved by the adviser and another graduate staff member.

Non-Thesis Option: The required 30 semester hours must include at least 9 semester hours outside the major field.

This degree is conferred only on students who meet Illinois certification requirements. Students who are not certified upon entering the program must plan a program which will lead to certification.

Course Offerings

407. Consumer Product Analysis (2)
   Current trends in regard to consumption; consumer movement in the United States; laws and agencies protecting and serving the consumer; product testing of foods, fabrics, and home furnishings. Prerequisite: Course in Chemistry or consent of instructor.

   Readings in and discussion of selected classic studies and recent developments in the field of nutrition and foods. Implications for dietitians, nutritionists, teachers, extension workers, and others. Prerequisite: Consent of instructor.

409. Food Facilities—Design, Layout and Equipment (3)
   Layout and design of food service facilities. Selection of equipment. Consideration of relationships between facility and service. Prerequisite: Consent of instructor.

410. Nutrition (3)
   Study of nutrition with special consideration of the influence of modifying factors as age, sex, and activity of family members. Prerequisite: H.Ec. 200.

412. World Nutrition (3)
   Survey of problems characteristic of nations such as nutritional status, incidence and treatment of deficiency diseases, population and food supply. Programs on national, international, and community level. Prerequisite: H.Ec. 410 or consent of instructor.

424. Advanced Foods (3)
   Food preparation as influenced by cultural and national food patterns. Prerequisite: H.Ec. 200 or consent of instructor.

428. Experimental Foods I (3)
   Application of scientific method in the study and design of experimental food problems. Development of attitudes and techniques through group and individual projects. Prerequisites: H.Ec. 300 and consent of instructor.

429. Experimental Foods II (3)
   Experiments on individual basis. Prerequisites: H.Ec. 428, registration by consent of instructor.

431. Internship in Community Programs for Young Children (3-6)
   Observation and participation in community programs for young children. Students will be assigned to an experience appropriate to their professional interest. Child Development majors are required to take the course for 6 semester hours of credit. Prerequisites: H.Ec. 330, 331, and consent of major adviser.

434. Administration and Supervision in Early Childhood Education (3)
   Basic principles in the guidance of young children, with emphasis on the individual child. Planning for the total program, the administration and supervision of various types of group care for children under five. Work with parents. Prerequisite: H.Ec. 331 or consent of instructor.

438. Parent Education (3)
   Basic principles in organization, formulation, and presentation of parent study programs. The student experiences ways of working with parents of children ranging in age from pre-school through adolescence. The group dynamics approach is used in planning and carrying out meetings, with opportunity to test a variety of types of meetings. The use of mass media to educate parents is demonstrated. Prerequisite: Consent of instructor.

439. Infant in the Family (3)
   The infant in the context of the family. Opportunity to become familiar with major scientific findings concerning prenatal and postnatal development of the child from conception through the first two years of life. Integration of this information through observation, laboratory experience, and home visits. Prerequisite: H.Ec. 230 or consent of instructor.

450. Workshop in Home Economics (1-4)
   Advanced techniques in the study of various phases of Home Economics. Nature and length of workshop dependent upon the needs of students. Number enrolled limited. Additional problem required for graduate credit. May be taken more than once but not in the same phase. Maximum of 6 semester hours may be applied toward the master's degree.

452. Flat Pattern and Design (3)
   Basic pattern designing and experience in working with a variety of fabrics and fitting problems. Prerequisite: H.Ec. 252, or consent of instructor.

454. Draping (3)
   Apparel design upon the interrelating factors of material, line, and form. Prerequisite: H.Ec. 252, or consent of instructor.
458. Continuing Education in Home Economics (3)
Curriculum and methods for adult, post high school, and junior college programs. Observation and participation.

464. Cultural Aspects of Clothing (3)
Clothing as a reflection of the physical, social and psychological environment of man; his response to and use of clothing as an aspect of culture and individual behavior.

466. Economics of Apparel and Textile Industries (3)
Factors affecting the production, distribution, and consumption of clothing and textile products; the role of the apparel and textile industries in the national economy. Prerequisite: Econ. 260.

468. Family Clothing (3)
The socio-economic aspects of consumer behavior which apply to the selection of clothing by families to meet developmental needs. Prerequisites: Psych. 102, Soc.&A. 170 or consent of instructor.

470. Retail Fashion Store Organization and Operations (3)
Functions and practices of retail fashion store management and operation. Observation of the operation of local stores. Prerequisites: H.Ec. 358, Mrktg. 342.

484. Family Relationships (3)
Interpersonal relationships within the family group as influenced by basic human needs, family member roles, values and attitudes in a changing society. Problems unique to different stages of the family life cycle. Prerequisite: H.Ec. 180 or Psych. 102.

485. Comparative American Families (3)
Identification of contemporary family behavior patterns and interactions according to differences by: sex, rural-urban residence, level of living, education, occupation, ethnicity, and religion. Prerequisite: Soc.&A. 170.

486. Aging and the Family (3)
The multi-disciplinary approach to aging; changing family functions and its consequences with reference to workforce participation, financial status, health status of the aged and its implications for the family; housing needs: leisure in contemporary and future society; the role of public and private agencies and institutions in the provision of services for the aged. Prerequisite: Psych. 102 or equivalent.

500. Seminar (3)
Readings and reports in the areas of Home Economics:

A. Nutrition and Dietetics
B. Marriage and Family Life
C. Child Development and Nursery School Education
D. Home Economics Education
E. Textiles and Clothing

504. Research Methods (3)
Evaluating and understanding research. Identifying needed research. Planning a research problem.

515. Diet Therapy II (3)
A survey of recent trends in diet therapy. Prerequisite: H.Ec. 415.

520. Curriculum in Home Economics (3)
Principles of curriculum development involving theoretical and philosophical concepts with specific emphasis on home economics programs including elementary, secondary, continuing education, and college. Prerequisite: H.Ec. 344 or consent of instructor.

521. Evaluation in Home Economics (3)
Methods of evaluation. Relationship to curriculum. Selection, construction, and use of evaluation devices for home economics programs. Prerequisite: H.Ec. 344 or consent of instructor.

522. Trends and Issues in Home Economics (3)
Exploration of current issues in Home Economics Education at the secondary, post-high school, and college level. Consideration of trends contributing to the issues and proposed solutions.

524. Home Economics in the Junior College (3)
Exploration of curriculum, teaching methods, evaluation, and facilities for occupational, technical, and pre-professional programs in home economics in the junior college.

525. Supervision in Home Economics (3)
Theories and principles of leadership and supervision as related to home economics student teaching, secondary departments, and state departments. Objectives, techniques, and evaluation of supervision.

532. Child Development and Early Childhood Education (3)
Literature in the field of Child Development and Early Childhood Education covering the first five years of life. Prerequisite: H.Ec. 434 or consent of instructor.

539. Parent Education Leadership Practicum (3)
Under staff supervision, the student organizes, develops, and sustains a parent education group. These groups may be associated with schools, correctional institution, government-sponsored projects, churches, and other community organizations. Prerequisite: H.Ec. 438 or consent of instructor.

547. Advanced Nutrition (3)
A comprehensive study of major nutrients with emphasis on their metabolism, interrelationships, and biochemical importance. Recent research. Prerequisite: H.Ec. 410 or its equivalent.
552. Maternal, Infant and Child Nutrition (2)
Nutrition in pregnancy, lactation, infancy and childhood. Prerequisite: Consent of instructor.

554. Advanced Draping (3)
Exploration of the possibilities and limitations of draping technique. Emphasis is placed on the execution of original ideas. Prerequisite: H.Ec. 454.

560. Nutrition Education for Elementary and Secondary School Teachers (3)

562. Current Problems in Consumer Textiles (2)
New developments in textiles: analysis of quality control and production standards, evaluation of current problems. Prerequisites: H.Ec. 351 and 207 or 407, or equivalent.

564. Experimental Textiles (3)
Measurement of properties and components of current textile fabrics: experimental designs, comparative testing, handling of data, analysis of results. Prerequisites: H.Ec. 351, Math. 510, Quantitative or Qualitative Chemistry, or equivalents or consent of instructor.

566. Textile Microanalysis (2)
Introduction to histological and microchemical methods as applied to the study of textile fibers. Prerequisite: H.Ec. 351.

568. Independent Study in Textiles (2)
Properties, structure, composition, and manufacture of fibers as related to end-use. Prerequisite: Organic Chemistry.

A. Cellulose and Cellulose-like Fibers
B. Protein and Protein-like Fibers

570. Advanced Flat Pattern (2)
Pattern design using a sloper with emphasis on individuality in style and use of fabric. Augmented techniques for unusual designs. Prerequisite: H.Ec. 452.

572. Historic Textiles (3)
Methods of textile formation and textile design processes over time and in diverse cultures. Prerequisite: H.Ec. 152 or equivalent.

589. Marriage and Family Life (3)
An analysis of our Western Family System; its present crisis; some causes and effects. Theories underlying these changes occurring in the family system. Prerequisite: H.Ec. 484 or consent of instructor.

599. Thesis (1-6)
Independent study under supervision of an adviser. Work on thesis. Prerequisite: H.Ec. 504.

601. Problems in Home Economics (1-3)
Independent study, individual problems, action or other research. May be repeated to a maximum of 6 semester hours. Prerequisite: Consent of the Head of the Department.

610. Teaching College Level Home Economics (3)
Teaching at college level under the direct supervision of an experienced faculty member. Prerequisite: Consent of major adviser.
Department of Industry and Technology

Faculty: Jacobson, Department Head, Beck, Brown, Cornell, Frantz, Gilbert, Hamm, Johnson, Kohler, Lauda, Newell, Quick, Senteney, Simpson, Suhr, Warner.

The Department of Industry and Technology offers graduate work leading to the degrees Master of Science in Education and Master of Science and to the Certificate of Advanced Study. Graduate instruction is in the following areas:

1. Industrial Education
2. Industrial Arts
3. Industrial Training
4. Safety

A candidate for an advanced degree is expected to have at least an undergraduate minor in this field or a major in a closely related field. Students should review the admission and graduate degree requirements found in this catalog.

The classified graduate student selects, with a faculty member's concurrence, an adviser from the graduate faculty. They plan a program of courses leading to a master's degree. For the Certificate of Advanced Study an advisory committee of three graduate faculty members of the department assist the student in planning his program of courses.

All candidates for master's degrees are to complete successfully a minimum of 30 or 32 semester hours of programmed graduate credit, depending upon their program, as well as passing a comprehensive written examination. An oral examination may be given upon request of the Department.

Course requirements for Vocational Trade and Industrial Teachers, Industrial Cooperative Coordinators, or Trade and Industrial Supervisors may be met by taking the following courses under either the Master of Science or Master of Science in Education program.

1. Trade and Industrial Teacher Certification Requirements (Minimum 8 semester hours)
   - Ind.&T.447 Occupational Analysis (2)
   - Ind.&T.544 Content and Methods of Industrial Education (3)
   - Ind.&T.545 Curriculum Construction in Industrial Education (2)
   - Ind.&T.546 Evaluation in Industrial Education (3)

2. Industrial Cooperative Coordinator Certification Requirements (Minimum 13 semester hours)
   - Ind.&T.417 Industrial Cooperative Education (2)
   - Ind.&T.447 Occupational Analysis (2)
   - Ind.&T.541 History and Philosophy of Industrial Education (3)
   - Ind.&T.544 Content and Methods of Industrial Education (3)
   - Ind.&T.576 Administration and Supervision of Industrial Education (3)

3. Trade and Industrial Supervisor Certification Requirements (Minimum 18 semester hours)
   - Ind.&T.417 Industrial Cooperative Education (2)
   - Ind.&T.447 Occupational Analysis (2)
   - Ind.&T.541 History and Philosophy of Industrial Education (3)
   - Ind.&T.544 Content and Methods of Industrial Education (3)
   - Ind.&T.545 Curriculum Construction in Industrial Education (2)
   - Ind.&T.546 Evaluation in Industrial Education (3)
   - Ind.&T.576 Administration and Supervision of Industrial Education (3)

MASTER OF SCIENCE IN EDUCATION

Industrial Education teachers, under advisement, may select courses to improve their teaching competencies and qualify for advancement.

A graduate major working toward the degree Master of Science in Education must satisfy one of the following program requirements:

1. A minimum of 24 semester hours of work in courses plus a thesis (Ind.&T.599) for 6 semester hours: total minimum—30 semester hours.
2. A minimum of 32 semester hours of work in courses.

Other requirements:

1. Ind.&T.500 Introduction to Graduate Work in Industrial Education.
2. Ind.&T.541 History and Philosophy of Industrial Education
3. Of the total semester hours for the degree (30-32) 9 should be earned in courses outside the major field.
4. At least 20 or 22 semester hours must be taken in the department.
MASTER OF SCIENCE

Students may select the Master of Science degree if they wish increased depth within the work offered in this department. Students from business, industry, and industrial education may plan work to increase their job efficiency and thus qualify for advancement.

Students who elect a graduate major in this department toward the degree Master of Science must satisfy one of the following program requirements:

1. A minimum of 24 semester hours of work in courses plus a thesis (Ind.&T.599) for 6 semester hours: total minimum—30 semester hours.
2. A minimum of 32 semester hours of work in courses.

Other requirements:
1. Ind.&T. 500 Introduction to Graduate Work in Industrial Education.
2. Of the total semester hours for the degree (30-32), 12 may be outside the Department of Industry and Technology.

CERTIFICATE OF ADVANCED STUDY

Since the purpose of the sixth-year program is to permit the student to attain greater mastery of a chosen field, the requirements are flexible. The student is expected to complete a minimum of 30 semester hours graduate work beyond the master's degree. Emphasis may be placed on areas of work within the Department such as Industrial Education, Industrial Training and Technologies, or Safety. Other departments of the University may be drawn upon where deemed desirable.

Course Offerings

INDUSTRY AND TECHNOLOGY

413. Design in Industrial Education (3)
The principles of design and the application of such principles in designing industrial education and other creative projects.

417. Industrial Cooperative Education (2)
Problems and procedures in the operation of cooperative part-time programs.

440. Facilities for Industrial Education (3)
Experience in planning facilities for industrial education classes. Problems relating to new buildings and equipment, as well as problems of redesign. Scale layouts are planned and drawn. Prerequisite: Ind.&T.345.

444. Industrial Training and Evaluation (3)
The history of employee training, kinds of training, training programs, and instructional methods and evaluation procedures.

447. Occupational Analysis (2)
Techniques and procedures in analyzing occupations to ascertain their basic elements.

476. Supervision in Industry (2)
Principles, methods, and techniques for supervision of people in their work. For supervisory personnel and those preparing for such positions.

477. Conference Leading for Industry (2)
Purposes, advantages, and limitations of the conference method. Instruction in techniques of conference procedure. Experience in planning, leading, and evaluating conferences and in writing summaries.

484. Instructional Aids in Industrial Education (3)
The design, preparation, use, and evaluation of teaching aids with emphasis on applications in industrial arts and other school classes. Intensive study of the various audio-visual devices.

491. Industrial Quality Control (3)
Techniques of establishing and maintaining quality of product including statistical quality control applications.

493. Materials Analysis (3)
Principles related to the behavior of materials and the examination and testing of these materials. Prerequisite: Ind.&T.293 or consent of instructor.

495. Industrial Computer Programming (3)
Digital computer programming of industrial technology and industrial education problems. Use and organization of computer systems. Application topics including models for decision making, computer simulation, man-machine communication, industrial information storage and retrieval, data collection and transmission, symbolic computation and advanced computer languages. Prerequisite: Ind.&T.295.

500. Introduction to Graduate Work in Industrial Education (3)
The methods of research available for use by graduate students in industrial education; a review of current research studies in this field; and the application of the findings of these studies to the improvement of industrial arts, vocational-industrial, and technical education programs.

An opportunity for the individual student to undertake advanced study of technical problems in various technical areas.
501A General (1-3)
501B Crafts (1-3)
501C Drawing (1-3)
501D Electricity and Electronics (1-3)
501E Graphic Arts (1-3)
501G Metal (1-3)
501H Woodworking (1-3)

May be repeated. A limit of 6 semester hours in all courses may be applied toward advanced degrees. Prerequisite: Consent of instructor.

541. History and Philosophy of Industrial Education (3)
The leaders, organizations, and movements that have contributed to the development of industrial education. Philosophies, issues, and problems, relating to past and present.

542A. Industrial Arts Activities for Classroom Teachers (3)
Classroom teachers in grades K-6 observe children’s activities with tools and materials. Construction of sample projects, teaching aids, and resource units. Not recommended for Industrial Arts majors.

542B. Industrial Arts in Grades K-6 (3)
Organization and administration of industrial arts activities in grades K-6. Classroom observations followed by consideration of purposes, selection of activities, purchase of tools and equipment, and means of starting a program. For administrators and Industrial Arts majors.

544. Content and Methods of Industrial Education (3)
Interest and motivation of learning, skill development, teaching devices, methods and procedures, and shop management. Designed to improve the techniques of teaching industrial education subjects.

545. Curriculum Construction in Industrial Education (2)
The concepts underlying course construction in industrial education. Problems in the selection and organization of instructional materials and course content.

546. Evaluation in Industrial Education (3)
The principles and techniques of evaluation of instruction as applied to courses in industrial education.

566. Problems in Adult Education (3)
History of the adult education movement; learning abilities, educational interests, and needs of adults; problems and procedures in organizing and operating adult education programs; relation of adult education to public school education.

576. Administration and Supervision of Industrial Education (3)
Administrative and supervisory problems pertaining specifically to industrial education in the secondary school: leadership, communica-

tions, personnel, functions, curriculum construction and materials, evaluation, laboratory supervision; and administration of supplies, textbooks, and equipment.

584. Trends in Industrial Education (2)
The evaluation and significance of trends from the viewpoints of theory and practice.

599. Thesis or Directed Study (1-6)
Open to qualified students who wish to do individual research. The thesis is written in this course. May be repeated. Prerequisites: Consent of adviser and instructor.

645. Technology in Industrial Education (3)
Modern industrial developments such as automation, use of new types of energy, and synthetic materials.

647. Occupational Surveys (3)
Problems, methods, and procedures involved in planning, organizing, and conducting occupational surveys in local communities and labor market areas.

658. Seminar in Industrial Education (1-3)
Individual and group concerns related to industrial education. May be repeated. A limit of 6 semester hours may be applied for advanced degrees.

676. Programs and Organization of Industrial Education (3)
The philosophy, objectives, organization, administration, and significant literature for vocational-industrial all-day, part-time, and evening programs, including apprenticeship and vocational rehabilitation. Special attention given to legislation and standards for state and Federal aid to local vocational-industrial and technical programs.

690. Industrial Education for the In-Service Teacher (3)
Problems of in-service education that need to be considered in upgrading programs of industrial education. Special emphasis given to individual problems.

SAFETY

MASTER OF SCIENCE IN EDUCATION

Area Major with Education

Together with the Department of Education, the Department of Industry and Technology offers an area major leading to the Master of Science in Education degree for teachers and administrators.

Course sequence is determined through joint advisement by
INDUSTRY AND TECHNOLOGY

the two departments. Course work is about equally distributed between these two areas.

Approval by the adviser in each department is required when an area major program is planned.

1. Required courses: Ind.&T. 500, 588, and 599; Educ. 500 and 501.

2. Recommended courses: Ind.&T. 487, 585, 586, and 587; Educ. 534, 535, 541, and 543.

MASTER OF SCIENCE

Students who elect a graduate major in the Department of Industry and Technology toward the degree Master of Science and wish to concentrate in the area of Safety must satisfy the Master of Science degree requirements of the Department of Industry and Technology. See pages 120-121.

For all other major programs in the Department of Industry and Technology, including Industrial Education, the following courses may be taken as elective semester hours outside the major area.

445. Mass-Teaching Methods for Driver Education (3)
Principles and practices with driving simulators, multiple-car driving ranges, educational television, programmed learning, and team-teaching in driver education programs. Laboratory practice teaching experience. Prerequisite: Ind.&T. 385 or consent of instructor.

446. Safety Education Teaching Practices (3)
Principles, practices, and procedures for teaching safety in the elementary and secondary schools. Teaching aids and sources of material for safety activities and planning a safety unit. Prerequisite: Ind.&T. 285 or 286, or consent of instructor.

478. Transportation Supervision (2)
Development of a control program. Theory of selection, orientation, and supervision of personnel; theory of selection, dispatching, and scheduling of equipment; accident investigation and analysis. Program evaluation. Prerequisite: Ind.&T. 285 or consent of instructor.

485. Workshop in Disaster Preparedness (2)

487. Industrial Accident Prevention (3)
Principles, responsibilities, and techniques for providing safety to industrial operations. Organization of a safety program; motivating and supporting safety work; locating and correcting hazards; new product safety.

489. Accident Records Management (3)
Theory and function of accident reporting systems. Accident report design, systems, record management and utilization. Areas include school, industry, and governmental agencies.

585. Research in Safety (1-3)
Open to qualified students who wish to do individual research in safety. May be repeated. A limit of 6 semester hours may be earned toward advanced degrees. Prerequisites: Consent of adviser and instructor.

586. Seminar in Safety (1-6)
The organization, policies, and practices used in safety programs, with an emphasis upon the development of newly identified safety programs. May be repeated. A limit of 6 semester hours may be earned toward advanced degrees.

587. Programs and Organization of Driver Education (2)
An advanced course in driver education. Administration problems, methods and materials, driver behavior, research, evaluation, and public relations. Prerequisite: Ind.&T. 385 or other approved driver education course.

588. School Safety Programs (3)
Organization of school safety programs. Planning, administering, and supervising safety programs in the schools.

589. Highway Traffic Administration (2)
Orientation in highway traffic control and accident prevention functions of agencies responsible for management of motor vehicle transportation with emphasis on records, laws, law enforcement, licensing, and traffic engineering.

590. Analysis of Accident Causation (2)
Analysis of accident research and statistics with emphasis on psychological, sociological, physical, and environmental factors. Prerequisites: Soc.&A. 360 or equivalent and Educ. 508 or equivalent or consent of instructor.

591. Behavioral Factors in Safety (3)
Department of Music


The Department of Music offers programs leading to the degree Master of Music and to the Certificate of Advanced Study. All programs are arranged in consultation with a departmental adviser and must have the approval of the adviser.

MASTER OF MUSIC

The Master of Music degree may be earned with a major in Music Education, Music Theory and Composition, Music History and Literature, and in Performance and Pedagogy in Piano, Voice, or an Orchestral Instrument.

Only those persons whose undergraduate preparation has been at least equivalent to the comparable undergraduate music curriculum at Northern Illinois University will be admitted to a program leading to the Master of Music Degree. Students whose previous work fails to meet these requirements may in some cases be permitted to begin graduate work in Music. They will be required, however, to make up any deficiencies as determined by the Music Department before being admitted to a Master of Music program. In the case of the Master of Music in Music Education, such deficiencies may be in the area of teacher certification as well as in the area of preparation in the major field.

The completion of the degree Bachelor of Music with a Performance major is the normal prerequisite for admission to a course of study leading to the Master of Music degree in Performance and Pedagogy. Students holding the B.S., B.A., or B.M.E. degree may be eligible, however, if, in the opinion of the Music faculty, they have reached the necessary level of proficiency in the major performance area. Candidates for a program in Performance and Pedagogy must pass an audition in the major performance area before admission to the program.

Requirements:

With a Major in Music Education

1. Music theory and composition...

2. Music history and literature
3. Music Performance
   a. Major in instrument or voice
   b. Large Ensemble
4. Music education and research
   a. Music 525-Foundations of Music Education
   b. Music 524-Techniques of Research in Music
   c. Music 599-Thesis or Recital
5. Electives

Total 32

With a Major in Music Theory and Composition

Minimum hours required
1. Music history and literature
2. Music performance
   a. Applied Electives
   b. Ensemble electives
3. Theory and Composition
   a. 2 hours selected from
      Counterpoint 407 (2), or Counterpoint 408 (2)
   b. Advanced Counterpoint (3)
   c. 3 hours selected from
      Advanced Orchestration 505 (3)
      Band Arranging 598 (3), or Vocal Arranging 547 (3)
   d. Composition 552 (4)
4. Music 599 (thesis*)
5. Electives

Total 32

With a Major in Music History and Literature

Minimum hours required
1. Music history and literature
2. Theory and composition
3. Music performance
4. Music 599 (thesis*)
5. Electives

Total 32

*May be a written thesis in music theory or an original composition, subject to the approval of the appropriate committee.
MUSIC

a. Applied 4
b. Ensembles 2
4. Music 599 4
5. Electives in Humanities or Music History and Literature 6-9

Total 32

With a Major in Performance and Pedagogy in Piano or Voice

Minimum hours required

1. Music history and literature 6
2. *Music performance, major area 10
3. Recital 4
4. **Electives 12

Total 32

With a Major in Performance and Pedagogy in an Orchestral Instrument

Minimum hours required

1. Music theory and composition 6
2. Music history and literature 6
3. Music performance 12
   a. Major instrument 10
   b. Large or small ensemble or both 2
4. Recital 4
5. Electives 4

Total 32

Graduation Requirements

In partial fulfillment of graduation requirements, candidates for the Master of Music degree in Performance and Pedagogy must prepare and perform a full length public recital. Candidates for the Master of Music degree with a major in Music Education, upon approval of the departmental graduate faculty, may present a formal public recital or they may elect to write a thesis. Candidates for the Master of Music degree with a major in Music Theory and Composition may elect to write a thesis or submit an original composition. Candidates for the Master of Music degree with a major in Music History and Literature must write a thesis.

CERTIFICATE OF ADVANCED STUDY

Students wishing to enroll in the sixth-year program leading to the Certificate of Advanced Study in Music should consult with the Head of the Department. Each program will be planned to meet the student's individual needs. Admission to a program leading to the Certificate of Advanced Study in Music will be granted only to those candidates who have completed work equivalent to that required for the Master of Music degree at Northern Illinois University. Candidates for the Certificate of Advanced Study must submit a thesis.

Course Offerings

MUSIC HISTORY AND LITERATURE

423. History and Literature of Music III (2)
   A survey of European and American music from Impressionism to the present.

437. Piano Literature (2)
   A survey of clavier and piano literature to the mid-19th century. Two periods a week. For piano majors, or consent of instructor.

438. Piano Literature (2)
   A survey of the late Romantic and contemporary piano literature. Two periods a week. For piano majors, or consent of instructor.

445. History of American Music (2)
   The development of music in the United States from the Colonial Period to the present. Particular emphasis on pre-Revolutionary War music and contemporary compositions.

521. The History and Development of Instrumental Forms (3)
   Analytical techniques applied to the sonata, suite, and related forms.

522. The History and Development of Vocal Forms (3)
   The mass, oratorio, cantata, art song, opera, and related forms.

523. Contemporary Idioms and Techniques (3)
   Analytical techniques applied to 20th century harmonic and
contrapuntal development; serial procedures, jazz, electronic and computer music, and avant-garde works. Prerequisite: Undergraduate music degree or consent of instructor.

530. Seminar in Music History & Literature (3)
Research and analysis in selected areas of music history and literature. May be repeated to a maximum of six semester hours.

603. The Renaissance (3)
An introduction to music in the Renaissance (ca. 1450-1600), with study of representative styles.

604. The Art Song (3)
The history of the art song from the early 17th century to the present with particular emphasis on the German Lied.

605. The Oratorio and Cantata (3)
The development of the oratorio and cantata with special stress on Baroque idioms.

606. Survey of Operatic Literature (3)
The history and development of the opera from the Florentine Camerata to the present.

607. Symphonic Literature (3)
A survey of orchestral music from its beginning. The Mannheim composers, the Viennese classics, the Romantics, the National schools, the late European and American developments. Works will be analyzed and their historical, cultural, and philosophical background discussed.

608. Chamber Music Literature (3)
A study of chamber music from the trio sonata to present day media.

622. Comparative Arts (2)
(Also listed as Art 622)
The interrelationship of music and the visual arts in western Europe and the Americas. Offered jointly by the Departments of Art and Music.

MUSIC THEORY AND COMPOSITION

407. Counterpoint I (2)
Class performance, analysis, and writing of counterpoint in Renaissance style as exemplified by works of such composers as Josquin, Lassus, Palestrina and others. Preliminary study of Gregorian Chant. Prerequisite: Music 201-202

408. Counterpoint II (2)
Aural study, analysis, and writing of contemporary "linear counterpoint" as employed by such 20th century composers as Stravinsky, Bartok, Hindemith, Schoenberg and others. Prerequisite: Music 407 or consent of instructor.

418. Physics of Musical Instruments and Sound (2)
The science of musical sound and the physical principles involved in the production of music by the various instruments and the voice. Elements of architectural acoustics of music rooms and acoustical engineering of electronic recorders and reproducers. Open to non-majors by consent of instructor.

504. Seminar in Theory and Composition (3)
Projects and studies in theory and composition. Topic to be announced. May be repeated to a maximum of six semester hours.

505. Advanced Orchestration (3)
The scoring of original and other works for various combinations of instruments as well as one complete score for full symphony orchestra.

507. Advanced Counterpoint (3)
Analysis and use of contrapuntal devices employed in the passacaglia, canon, and fugue.

547. Vocal Arranging (3)
The practical exposition of the principles of choral composing and arranging for various vocal combinations, as well as developing a style of writing for single voice with accompaniment.

552. Composition (2)
Composing in all musical media and forms. May be repeated.

598. Band Arranging (3)
A practical exposition of the principles of arranging for various wind instrumental solos and ensembles with particular stress on the band and wind ensemble.

601. Evolution of Harmonic Theories (3)
Music theory from antiquity through the present.

MUSIC PERFORMANCE

Conducting

512. Advanced Choral Techniques and Conducting (3)
A practical exposition of all facets of choral directing, effective rehearsal procedures, score study, and organization of choral ensembles.

513. Advanced Instrumental Techniques and Conducting (3)
Advanced problems in baton techniques and score reading and the analysis of graded band and orchestra literature. Conducting of band
and orchestra groups from the University or from the University "Music for Youth" summer camp.

Piano and Organ

430. Keyboard Instruments, Secondary (½-1)
Development of the basic keyboard skills necessary for public school teaching. Students must meet required standards of proficiency. For non-majors only. May be repeated. Prerequisite: Consent of instructor.

533. Keyboard Instrument, Primary (1-4)*
Individual study in the student's major medium of performance. May be repeated. Prerequisite: Consent of instructor.

535. Piano Pedagogy (3)
The methods and materials used in teaching piano either in the public schools or privately. Class piano methods, organizations, and materials. Observation of and participation in University piano classes.

Voice

440. Voice (½-1)
Development of the basic vocal skills necessary for public school teaching. Students must meet required standards of proficiency. For non-vocal majors only. May be repeated. Prerequisite: Consent of instructor.

446. Vocal Ensemble (1)
The study and performance of selected choral repertoire for men's, women's or mixed voices. May be repeated. Prerequisite: Consent of instructor.

447. Concert Choir (1)
The study and performance of choral masterworks from the 17th through the 20th century. May be repeated. Prerequisite: Consent of instructor.

485. Chorus (1)
Open to all graduate students proficient in singing and interested in choral activities. May be repeated.

543. Private Voice (1-4)*
Individual study in the student's major medium of performance. May be repeated. Prerequisite: Consent of instructor.

Band and Orchestra

450. Band and Orchestral Instruments, Secondary (½-1)
Individual study of a band or an orchestral instrument. For non-majors only. May be repeated. Prerequisite: Consent of instructor.

456. Instrumental Ensemble (1)
Brass, stringed, and woodwind ensembles. May be repeated. Prerequisite: Consent of instructor.

480. Symphony Orchestra (1)
Open to all qualified graduate students. May be repeated. Prerequisite: Consent of instructor.

492. University Bands (1)
Open to all qualified graduate students. May be repeated. Prerequisite: Consent of instructor.

536. Seminar in Performance and Pedagogy (3)
Projects related to problems of performance and/or pedagogy. Topic to be announced. May be repeated to a maximum of six semester hours.

553. Band and Orchestral Instruments, Primary (1-4)*
Individual study in the student's major medium of performance. May be repeated. Prerequisite: Consent of instructor.

MUSIC EDUCATION AND RESEARCH

509. Supervision and Administration of the Music Program (3)
Functions and techniques of supervision and administration of the music program. Emphasis on problems in curriculum, equipment and materials, budget, schedules, and programs. Techniques for in-service training in music for classroom teachers.

511. Workshop in General Music (1)
A short concentrated course covering one or more aspects of General Music at one or more educational levels, with particular emphasis on recent developments and contemporary trends in the field. May be repeated to a maximum of 3 semester hours. Not more than 2 semester hours may be applied to the M.M. or the C.A.S.

519. Measurement, Evaluation, and Guidance in Music (3)
Measurement includes standardized tests, classroom or studio marking, auditioning, and adjudication. Evaluation weighs such measures of aptitude in the light of professional and educational criteria. Guidance considers the use of these data in counseling programs in public schools and colleges.
524. Techniques of Research in Music (3)
The nature of research and scientific method; application to problems in music and music education; problem of definition; development of a research design; probability and sampling procedure; specialized techniques for the location, collection, quantification, and treatment of data. Required for the M.M. degree with a major in Music Education.

525. Foundations of Music Education (3)
The historical and philosophical bases of music education. The application of learning theories to problems of music teaching. Required for the M.M. degree with a major in Music Education.

526. Current Trends in Elementary Music Education (3)
A detailed study of the conceptual and behavioral approaches to the elementary general music program. Evaluation of current methods and materials.

527. Curriculum Problems in Secondary Music Education (3)
A detailed consideration of the music program in the Junior and Senior High School. Particular attention given to the general music program as a part of the humanities; and music learning in performance groups.

529. Seminar in Music Education (3)
Investigation of specific issues in the various areas of music education. Topics to be announced. May be repeated to a maximum of six semester hours.

545. Advanced Music Instructional Techniques and Materials—Voice (2)
Techniques and procedures of teaching vocal production and interpretation in group lessons. Emphasis is on current materials in the field.

551. Advanced Music Instructional Techniques and Materials—Woodwinds (2)
Techniques of class and individual instruction in orchestral woodwind instruments, with particular emphasis upon intermediate and advanced levels. Review and evaluation of solo, ensemble, and other instructional literature for all levels.

561. Advanced Music Instructional Techniques and Materials—Strings (2)
Techniques of class and individual instruction in orchestral stringed instruments, with particular emphasis upon intermediate and advanced levels. Review and evaluation of solo, ensemble, and other instructional literature for all levels.

571. Advanced Music Instructional Techniques and Materials—Brasses (2)
Techniques of class and individual instruction in orchestral brass instruments, with particular emphasis upon intermediate and advanced levels. Review and evaluation of solo, ensemble, and other instructional literature for all levels.

582. Workshop for Instrumental Directors (1)
A short concentrated course covering one or more aspects of the instrumental music program at one or more educational levels, with particular emphasis upon recent developments and contemporary trends in his field. May be repeated to a maximum of 3 semester hours. Not more than 2 semester hours may be applied to the M.M. or C.A.S.

586. Workshop for Choral Directors (1)
An intensive discussion and demonstration of practical choral techniques with a view to improving choral rehearsal procedures and performance abilities. May be repeated to a maximum of 3 semester hours. Not more than 2 semester hours may be applied to the M.M. or C.A.S.

599. Thesis or Recital (2 or 4)
The preparation and presentation of a thesis or a graduate recital, the choice to be approved by the departmental graduate faculty. May be taken for two semesters for 2 semester hours or for one semester for 4 semester hours. Required of all candidates for the M.M. degree or the C.A.S. in Music. If taken for the M.M., may be repeated for the C.A.S.

609. Special Problems in Music (2 or 3)
Individual or group study of selected problems. May be repeated to a maximum of six semester hours.

610. Psychology of Music (3)
The functions of the music mind and the factors involved in the development of musical skills and maturity.

614. College Music Teaching (3)
Lectures on the theory of teaching, philosophic assumptions, aesthetic theories, approaches to education, and the implications for teaching music education, music history and literature, and theory courses at the college level.
College of Education

Educational Administration and Services
Elementary Education
Secondary Professional Education
Outdoor Teacher Education
Physical Education for Men
Physical Education for Women
Special Education
Student Teaching
The University School
The School of Nursing
The Departments of Education offer opportunity for study toward the degree Master of Science in Education (fifth year), Master of Science in Community Mental Health, the Certificate of Advanced Study (sixth year), and the degree Doctor of Education. Procedures and other detailed information about these programs are explained in Graduate Study in Education. Copies are available in the offices of the Departments of Education.

Information relative to obtaining a teaching certificate for the junior college level in Illinois and in other states may be obtained from the Department of Secondary Professional Education. Programs of study designed for this level of certification will vary according to the present certification status of the individual, teaching goals, and the geographical area in which the individual desires to teach. However, the degree Master of Science in Education is conferred only on students who meet Illinois certification requirements for the standard elementary or secondary certificate and have approval of this institution, except for those completing approved programs in the area of the community college or school business management in the College of Education.

Students may specialize in the following areas listed under each degree or certificate.

**Master of Science in Education**
- Elementary Education
- Supervision and Curriculum
- Specialization in Reading
- Guidance
- Educational Administration
- School Business Management
- Secondary Professional Education
- History and Philosophy
- Instructional Media
- Early Childhood Education

**Certificate of Advanced Study**
- Educational Administration
- School Business Management
- Elementary Education
- Supervision and Curriculum
- Secondary Professional Education
- Counselor Education

**Doctor of Education**
- Educational Administration
- Guidance and Counseling
- Supervision and Curriculum
- Educational Psychology
- Elementary Education
- Secondary Education
- Instructional Media

**MASTER OF SCIENCE IN EDUCATION**

**General Requirements**

Education majors may earn the degree Master of Science in
Education by electing one of two options. **Option One** includes the writing of a thesis; **Option Two** is a program of courses without a thesis. In either option, the requirements are a minimum of 30 semester hours which are distributed as follows:

**Option One**

<table>
<thead>
<tr>
<th>Semester Hours</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Education</strong> 503 and 6 semester hours of foundations to be selected from Educ. 500, 501, 504, 505</td>
<td>9</td>
</tr>
<tr>
<td>15 semester hours approved by adviser with an emphasis in one of the fields listed above</td>
<td>15</td>
</tr>
<tr>
<td>The master’s thesis, Educ. 599A</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>30</td>
</tr>
</tbody>
</table>

**Option Two**

Same basic requirements as **Option One** except that the thesis (Educ. 599A) is not required. Instead, 6 semester hours in the major field are selected with approval of adviser.

**Objectives for Each Area of Specialization**

1. **Elementary Education.** Specialized study is undertaken for the purpose of strengthening and broadening the professional preparation of teachers for the elementary school. In addition to the basic requirements, course work will be determined on the basis of the individual student’s undergraduate preparation, experience, and professional goals.

2. **Supervision and Curriculum.** The work of this major area is planned to provide the student with information and to develop competence in supervisory techniques, curriculum theory and practice, cooperative planning for improvement of instruction, coordination of educational media utilization, and evaluation of programs of curriculum improvement. This area is especially appropriate for the person desiring to meet the requirements for the general supervisory endorsement on the administrative certificate in compliance with the State of Illinois School Code.

3. **Specialization in Reading.** This program of specialization provides training for experienced teachers in diagnosing reading problems and giving remedial treatment to individual pupils. Teachers with such training and experience are in demand to function as remedial reading teachers and, after broader experience, to serve as coordinators of reading programs in elementary and secondary schools.

4. **Guidance.** This sequence is designed to provide preparation in the theory, techniques, and information needed by the professional school counselor or other interested educators at the elementary and secondary school levels. The requirements as set forth by the Office of the Superintendent of Public Instruction in Illinois for recognition of guidance personnel are fully met. One academic year of practical experience in personnel work or teaching, or both, prior to graduation in this area is essential. A background of other work experience is recommended to enhance the student’s grasp of vital issues in guidance.

5. **Educational Administration.** This program is intended for the beginning student of school administration and should be of particular interest to persons who are entering administrative work. The emphasis is on areas of administrative responsibility, leadership skills, and technical and theoretical resources. Only persons with teaching or administrative experience should apply for this program. The completion of this program will fulfill requirements for the general administrative endorsement on the administrative certificate in compliance with the State of Illinois School Code.

6. **School Business Management.** This area is designed to prepare persons who are entering the work of managing the business affairs of a school system. A student in this program will divide his course time between education and business.

7. **Secondary Professional Education.** This area is intended for the college graduate who is generally interested in increasing his competencies in the field of professional education. Candidates may elect this sequence as a means of obtaining a general background in education. Persons electing this area are not limited to one specific professional goal; however, in order to meet the requirements of the Graduate School, the students must follow a program which insures satisfaction of the certification standards for teaching in the State of Illinois if certification has not already been obtained.

8. **History and Philosophy of Education.** This area is designed to provide background knowledge in the historical and philosophical foundations of education for

*See also: Business, p. 180.*
people who are interested in teaching at the collegiate level, preparing for an advanced degree in this area, or increasing their understanding of the theoretical development of education. The program will be planned to provide a broad background in the history and philosophy of education and to meet the needs of the specific goal of the student. A student in this program will complete approximately one-third of his course work in the Departments of History and/or Philosophy according to the particular pattern of his desired specialization.

9. Instructional Media. This area is designed to provide graduate study in the utilization, production, and administration of instructional materials and devices. Conventional instructional media, as well as more recently developed instructional systems, are considered. The program is intended to be flexible and will meet the goals of those students with varying backgrounds and abilities in the area.

10. Early Childhood Education. Specialized study is undertaken for the purpose of strengthening and broadening the professional preparation of teachers of young children, ages 3-8. The student may select, under guidance of an adviser, areas of emphasis in nursery school, kindergarten, or primary education. In addition to the basic requirements, course work will be determined on the basis of the individual student’s undergraduate preparation, experience, and professional goals.

Area Major. The possibilities for area majors involving the study of Education and one other University subject are listed on page 13. Area major students may expect to spend approximately one-half of their course time in each of the two subject areas: and they shall have two advisers, one from each of their two major departments. Area majors working in Education must pass the appropriate examinations set forth by the Departments of Education before receiving their degrees.

Field Work under supervision is sometimes required in a given program of study especially when, in the adviser’s judgment, such work is necessary to prepare the student in his chosen specialty.

Deficiency study is required in cases in which the student’s background is limited with reference to his chosen specialty.

Internship Programs. The Departments of Education currently utilize internship programs in the areas of educational administration, guidance, the community college, curriculum and supervision, school business management, elementary teaching, and secondary teaching. For further information and internship possibilities see course descriptions, below.

Students who wish further university preparation for teaching in the secondary school have several options. They may (a) major in a subject for teaching offered by one of several college departments, (b) major in Secondary Professional Education as indicated above in 7, or (c) elect an area major involving Education.

Certification at the Master’s level

Elementary Certification and a Master’s Degree

Provisions are made to assist non-certified persons holding degrees in other fields to acquire certification and a Master of Science degree in Education with a specialization in Elementary Education. Details are explained in the Departments of Education bulletin Graduate Study in Education. Copies of this bulletin are available in the Departments of Education offices. Attention is directed to procedures outlined for making application for admission to teacher education, pages 16-17 of the Graduate Catalog.

Secondary Certification Sequences

Persons who hold baccalaureate degrees from accredited institutions without courses in professional education often wish to undertake further college work in order to qualify for secondary teacher certification in Illinois.

The qualified graduate student may seek certification by way of any one of three sequences open to him at Northern. First, he may seek admission to teacher education and meet minimal Illinois certification requirements in regard to professional education courses by completing the following requirements: Educ. 500 Social Foundations of Education; Educ. 501 Psychological Foundations of Education; Educ. 510 Educational Measurement and Evaluation; Educ. 521 Seminar in Adolescent Behavior; a special methods course (or Educ. 424 Methods and Materials in the Secondary School); 7 semester hours in student teaching which must be taken for undergraduate credit.

Second, the student may seek fulfillment of his professional education certification requirements by including the necessary courses in his master’s degree program in Secondary Professional Education. However, student teaching cannot be taken for graduate credit.

Third, under Secondary Professional Education, the fifth-year secondary teaching internship offers the promising young man or woman an unusual opportunity. The internship program calls for (1) careful screening of candidates through
inspection of credentials, testing, and interviews by University staff and hiring school administrators; (2) continuing supervision throughout the teaching internship by personnel from the hiring school and the University; and (3) a combination of internship teaching, seminars, course work, and individual study. The program consists of four phases. **Phase I**, which is taken during the first summer, is blocked with professional education courses. This concentration of professional course work qualifies the candidate for a provisional certificate which permits him to teach during the ensuing internship under contract. **Phase II** consists of the two semesters during which the intern teaches a three-fifths load at three-fifths base pay on a full day schedule. During the first semester the intern attends an on-campus seminar in secondary professional education; during the second semester he will attend a seminar on adolescent behavior. In **Phase III**, the second full summer session, the candidate completes the professional education requirements and strengthens his teaching field through graduate level course work. Completion of this phase should result in full secondary certification in Illinois, permitting full employment as a regular teacher. **Phase IV** consists of completing all requirements for the Master of Science in Education degree at Northern, and meeting the required levels on the comprehensive examinations for the degree. Completing this final phase may permit the candidate to earn the Master of Science in Education degree in two full summer terms, two internship teaching semesters, and a third semester of part-time work in evening courses. The internship program at Northern Illinois University has the approval and cooperation of the Certification Division of the Illinois State Department of Public Instruction and of the North Central Association.

All three of the above sequences are based on the assumption that the individual student enrolled has met certification requirements in general education and has completed a subject matter major for which there are teaching assignments in the public school.

**Application for Admission to Teacher Education by Graduate Students**

All graduate students who have not qualified earlier for teacher certification in Illinois and who wish the approval of this institution for such certification are required to make formal application for admission to teacher education. An application form for admission to teacher education must be completed and forwarded to the Dean of the Graduate School along with the application for graduate study. The reason for early application is to provide appropriate counseling for those seeking certification and institutional approval. The criteria for admission to teacher education are listed on pages 16-17. After the student's application has been approved by the Dean of the Graduate School, the student will be interviewed by the appropriate department head and informed of the procedure for becoming certified in Illinois and the professional education prerequisites for student teaching at this institution. The student will then be interviewed by the director of student teaching and receive application forms for applying for student teaching. After the student has completed all deficiencies for certification, except for student teaching, he will be issued an admission card marked "graduate special" to permit him to do his student teaching.

For admission to student teaching, the student must possess a grade point average of 3.00 in graduate courses taken at Northern Illinois University. Secondary majors must also have a major for which there are student teaching assignments in public schools. No graduate of a college or university who has been rejected for admission to a teacher education program will be admitted at the graduate level. No student will be recommended by the institution for certification who has not met the above admission requirements and those of an approved professional curriculum.

**MASTER OF SCIENCE IN COMMUNITY MENTAL HEALTH**

Admission to the program will require the consent of the interdepartmental training committee. The program of study will be planned by an assigned adviser. A minimum of 30 semester hours of graduate credit is required for the degree. Certification is not required nor is admission to teacher education. If a candidate desires a teaching or guidance credential, it will be necessary for him to meet the requirements for such a credential.

**Option 1**

a. Twelve (12) semester hours in Education courses required:

- Education 560
- Education 562A
- Education 562B
- Education 569
b. Six (6) semester hours in Sociology required including Sociology and Anthropology 552.

c. Six (6) semester hours in Psychology required including Psychology 416.

d. Six (6) semester hours in Home Economics required including Home Economics 441.

Option 2

Same basic requirements as Option 1 but six (6) semester hours of Education 599A (Master's Thesis) will be required. The candidate will take only one course instead of two in Psychology, Sociology, or Home Economics (two of the three).

CERTIFICATE OF ADVANCED STUDY

General Requirements

A candidate for this certificate must:

1. Apply to the Dean of the Graduate School for admission to the Graduate School and the C.A.S. program.

2. File complete application forms with the appropriate Department of Education no later than registration day of the term marking formal admission to the program.

3. Work with his interim adviser planning work for the first semester.

4. Take screening test during his first semester, or earlier.

5. Arrange an interview with the chairman of his advisory committee after receiving notification of acceptance by the Departmental Admission Committee.

6. Confer with his advisory committee to plan a program of study. (Quadruplicate copies of the program shall be prepared.)

In addition, other required procedures for sixth-year programs as indicated on pages 24-26 are to be followed.

Specific Requirements for Each CAS Area of Specialization

1. Educational Administration. This area is designed to prepare qualified graduate students for various administrative positions in school systems. It emphasizes the technical and specialized aspects of administration. In addition, it includes studies intended to refine the student's competency to deal with more general aspects of educational theory. This area is appropriate for the person who wants to fulfill the requirements for the superintendent endorsement on the administrative certificate in compliance with the State of Illinois School Code.

   Candidates for this area must have a minimum of two years of teaching experience and two years of acceptable and successful administrative experience or to satisfy this deficiency through internship experience. (See Educ. 695A.)

   Candidates who do not have a master's degree in the area of educational administration must take Educ. 533, 534, and 551.

2. School Business Management.* This area is designed to afford additional and advanced technical study for persons who are serving as school business managers. The program offers both technical and general theoretical study related to work of school management in school systems of medium and large sizes.

   Candidates are required to have had a minimum of two years of teaching or administrative experience, to have a master's degree in educational administration or business administration, to present evidence of two years of appropriate and successful supervisory experience or to satisfy this deficiency through Internship (Educ. 695A.)

3. Elementary Education. This area is designed for experienced elementary teachers and other educators who are interested in further study of elementary education. Emphasis is on research approaches to the improvement of elementary education. Candidates must have a minimum of two years of successful teaching experience.

4. Supervision and Curriculum. This area is designed for students who wish to continue study in supervision and curriculum with emphasis on their relationship to the behavioral sciences, school community relations, personnel management, and leadership skills pertaining to the curriculum. In addition, the student works on more advanced educational theory of a general nature. Advanced graduate students who are inter-

*See also: Business, p. 180.
5. Secondary Professional Education. This area is designed for those students who are interested in increasing general competency in professional education. Its primary purpose is to serve the needs of persons desiring to increase their effectiveness as classroom teachers or those who plan to enter the field of teacher education.

A candidate must have a minimum of two years successful teaching experience in secondary schools prior to admission to the sixth-year program. His program must include Educ. 602, 599B, and 508. Other courses are to be determined through conference with the appointed committee in terms of the candidate's background, interests, and needs. A candidate who has not had Educ. 500, 501, and 506 or their equivalents will be required to complete them in addition to the foregoing course requirements.

6. Counselor Education. This area offers professional preparation for the attainment of the necessary competencies and level of performance recommended by national professional organizations and the requirements for the Illinois Special Certificate in Guidance. To qualify for study in this area, the candidate must have a master's degree in Counselor Education or satisfy the deficiency prerequisites set by the candidate's committee. Through individualized planning, focused upon the candidate's professional objectives, programs utilizing courses from other departments and having a variety of emphases may be designed: e.g., advanced counselor preparation, administration of pupil personnel and/or guidance services, student personnel work, research in guidance.

DOCTOR OF EDUCATION

General Requirements

The degree Doctor of Education, the highest professional degree offered by the Graduate School through the Departments of Education, is awarded to those students who demonstrate superior qualities and attainment during their period of study and give clear evidence of exceptional promise in their field.

Applicants for the doctoral degree in Education are expected to have a broad base of general education in the Humanities, Sciences, and Social Sciences, represented by a minimum of 75 undergraduate and graduate hours and distributed equitably among the various fields. Where significant deficiencies are found by the candidates' advisory committee, additional hours above the 90 required for the doctor's degree may be prescribed.

This degree is a professional degree intended to prepare for two services: (1) Administrative and Educational Services for those who will serve as administrators or service personnel and (2) Education as a Field of Study for those who wish to continue advanced study for the purpose of becoming superior teachers or teacher educators. Within the first type of service, an area of emphasis may be selected from the following five: (a) Administration. (b) Counselor Education. (c) Educational Psychology. (d) Instructional Media, or (e) Supervision and Curriculum. Within the second type of service, two areas of emphasis are offered: Elementary Education and Secondary Education. Both (1) and (2) may serve to prepare individuals for teaching at the college level. Preparation for research responsibilities both as a producer and consumer is an integral part of the program.

A candidate for the doctorate in any of these areas is required to present evidence of a minimum of three years of acceptable professional experience.

The procedures of initial application, in general, are similar to those listed under the master's degree and the C.A.S. In addition, however, the candidate will have additional interviews, additional letters of recommendation, and take aptitude tests including the Graduate Record Examination as stated elsewhere in this catalog.

To complete the residence requirements, the candidate is expected to fulfill a minimum of one full academic year in residence. This is interpreted to mean two consecutive regular terms, exclusive of summer terms. Residence credit is earned on the campus at DeKalb and may not be satisfied by transfer or extension credit.

All general requirements and procedures referring to admission, residence credit, thesis, final examination, and graduation as set forth by the Graduate School are to be satisfied.

The Departments of Education require the equivalent of at least three years of full-time academic work which includes a minimum of 90 semester hours of graduate work beyond the bachelor's degree including the dissertation. The 90 semester hours include the following:

1. A 15 semester hours core of courses is required of all candidates. This core includes courses that lead to
competencies in (1) Research understandings and skills, (2) Structure of educational systems, and (3) the individual in an educational setting.

2. A minimum of 15 cognate semester hours outside the field of professional education.

3. A minimum of 18 semester hours in the specialization which may include courses which a doctoral committee believes necessary to complete the specialization in any department in any college.

4. A maximum of 30 semester hours from master's degree work may be applied to core, cognate, or specialization requirements noted above.

5. A dissertation for 12 semester hours. The dissertation is to be based upon original research, or it may be related to a field project of highly creative quality. Students must participate in a research seminar before undertaking their thesis problems.

Candidacy Examination. A written candidacy examination covering both the general core and the area of concentration will be scheduled and administered at least twice each year. A graduate student will be eligible to take this examination, with the permission of the chairman of his doctoral committee, if he has completed at least two-thirds of his studies including the Research Techniques core. Dates on which application for the examination can be made will be announced by the Departments. This examination will encompass major areas of professional knowledge. Any student who fails may, with the recommendation of his committee, be granted the opportunity to take a second examination. The second examination, however, will be final.

Final Examinations. A final oral examination related to the dissertation is required and is conducted in accordance with the general requirements of the Graduate School.

Course Offerings

400. Early Childhood Education (3)
The school program for children ages three to seven. Planning the learning environment, developing learning activities, organizing the school day, interpreting children's growth to parents, exploring community resources. Special help for each student in planning for individual classroom situations. Prerequisite: Educ. 375 or equivalent or consent of instructor.

424. Methods and Materials in the Secondary School (3)
Modern principles of teaching and learning in relation to the guidance of learning activities in the high school class. Prerequisite: Consent of instructor.

428. Workshop in Elementary Education (1-6)
Suggestions for experiences suitable for children six to twelve years old. Total time devoted to new media and the construction of teacher-made materials. Prerequisite: Consent of instructor.

430. Survey of Instructional Media (3)
Selection, evaluation, and use of various media, including computerized instruction, programmed instruction, television, and other devices. Laboratory periods.

431. Instructional Materials Production (3)
First in a series of courses in materials production. Construction of overhead transparencies, slides, and other graphic materials. Prerequisite: Educ. 430.

432. Utilization of Instructional Television (3)
The effective utilization of educational television by classroom teachers. Lectures and discussions regarding history, research, and current trends in using instructional television in the classroom. Prerequisite: Educ. 430.

443. Trends and Issues in Kindergarten Education (3)
The contemporary philosophy and psychology in kindergarten education. Emphasis on child development goals, methodology and physical facilities. Prerequisite: Educ. 375 or equivalent courses.

444. Workshop in Kindergarten Education (3)
Suggestions for experiences suitable for kindergarten children in the classroom. Total time devoted to new media and the construction of teacher-made materials. Prerequisite: Consent of instructor.

450. Teaching in Adult Education (3)
A critical examination of major problems of teaching and learning in adult education. The factors which affect learning ability, achievement, and motivation to learn through the adult life-cycle.

451. Organization and Administration of Adult Education (3)
The organizing, financing, staffing, promoting, and evaluating of programs of adult education. Teaching resources and the role of the adult education administrator.

474. Education in Urban Schools (3)
Provides educators with a working knowledge of sociological forces operative in urban school systems. Cultural values, needs, and cognitive styles of disadvantaged children. Teaching strategies will be explored.
481. The Improvement of Reading in the Elementary School (3)
Advanced course in the teaching of developmental reading at the elementary level. Criteria for a desirable reading program and a consideration of innovative procedures in relation to the findings of research. Prerequisites: Educ. 361, 375, or equivalent.

482. The Improvement of Reading in the Secondary Schools (3)
Nature and organization of the junior and senior high school reading program. Ways of increasing basic reading competencies. The teaching of reading in the various content fields as well as the improvement of interests and tastes.

500. Social Foundations of Education (3)
Social forces influencing American education: basic educational traditions as reflections of American culture; the school and cultural change; educational issues and the sources of conflict in American culture.

501. Psychological Foundations of Education (3)
The broad fields of psychology as they relate to and provide foundations for educational practice. A constructive analysis of the principal areas, theories, experimentation, and conclusions in psychology with attention focused on such topics as motivation, intelligence, learning, personality, and emotions.

502. The Teaching of Arithmetic in the Elementary School (3)
(Also listed as Math. 502)
Consideration of the implications of research for methods of teaching, and the selection and arrangement of concepts and materials. Prerequisite: Math. 402 or equivalent.

503. Introduction to Education Research (3)
A basic course in methods of research in education: the planning and conducting of a research study; the developing of skills in problem identification, data collection, analysis, interpretation, and preparation of research reports.

504. Philosophical Foundations of Education (3)
Emphasis on the nature of philosophical inquiry as distinct from other types of investigation which reconstruct educational theory.

505. Historical Foundations of Education (3)
The history of education in Western civilization from the Classical Period to the present with emphasis on leading theories of education and descriptions of school and teacher performance in the light of major problems of given cultural era. Attention given to research skills in this field.

506. Historical Foundations of American Education (3)
The history of education in the United States from colonial times to the present. The prevailing educational thought and practice in each of the various historical periods. Attention given to research skills in this field.

507. The American Preschool Movement (3)
A study of the development of the American preschool movement.

508. Educational Statistics (3)
Introductory course to provide students with the techniques necessary for understanding, analyzing, and interpreting data. Grouping of data, graphical representation, measures of central tendency, variability and relationship, the normal distribution, standard score and percentile interpretation, regression equation, and reliability of statistical measures.

509. Supervision and Administration of the Music Program (3) (Also listed as Music 509)
Functions and techniques of supervision and administration of the music program. Emphasis on problems in curriculum, equipment and materials, budget, schedules, and programs. Techniques for in-service training in music for classroom teachers.

510. Test Construction and Evaluation (3)
Modern concepts of evaluation; the preparation and use of teacher-made tests. Techniques of item analysis and concepts of reliability and validity. Procedures for assessing relatively intangible outcomes, through observational and judgmental techniques.

511. Understanding and Guiding the Elementary School Child (3)
Advanced child development and the role of the teacher in the daily guidance of children. The principal application of child development principles to specific classroom procedures and to the selection of appropriate curriculum experiences.

512. The Elementary School Curriculum (3)
Basic principles in the construction and administration of modern school curricula, the relation of the curriculum to society, and present practices in the schools.

513. Problems in Elementary Education (3)
A seminar requiring individual investigations of problems in elementary education culminating in a research project.

514. Seminar in Elementary Education (3)
The use of theory in the analysis and interpretation of teacher-learning situations, as observed or recorded from elementary classrooms, kindergarten through sixth grade. Particular attention to (1) the identification and use of goals in education and (2) the application of knowledge in the areas of learning, human growth, group behavior, and curriculum. Prerequisite: Consent of instructor.
515. The Teacher in the Elementary School (3)
A practicum in elementary education based on teaching-learning situations. The examination of these situations as they suggest means for the improvement of instruction. Prerequisite: Consent of instructor.

516. Mental Health in the School (3)
Study of mental health concepts, research, and the dynamics of normal human behavior with emphasis on the use of these data by counselors and other school personnel.

517. The Elementary School Principal (3)
The basic performance patterns of the elementary school principal in the organization and administration of the educational process. Prerequisite: Educ. 551 or administrative experience.

518. New Developments in Primary Education (3)
Philosophy and psychology of primary education as related to factors in the contemporary scene.

519. Measurement, Evaluation, and Guidance in Music (3)
(Also listed as Music 519)
Measurement includes standardized tests, classroom or studio marking, auditioning, and adjudication. Evaluation weighs such measures of aptitude in the light of professional and educational criteria. Guidance considers the use of these data in counseling programs in public schools and colleges.

520. Seminar in Child Behavior (3)
An analysis of research dealing with the nature of child development and the implications of such for the classroom teacher. The areas of emotional, intellectual, and social development.

521. Seminar in Adolescent Behavior (3)
An analysis of research dealing with the nature of adolescence and the implications of such for the classroom teacher.

522. Junior High School Organization and Problems (3)
The development of the junior high school organization and its philosophy; forms of curricula; characteristics of junior high school students. Administrative problems such as program making, co-curricular activities, junior high school physical facilities, role of staff, and junior high school-community relations.

523. Seminar in Secondary Education (3)
A seminar concerned with professional and classroom problems of secondary school teachers.

524. Introduction to Comparative Education (3)
An introduction to the purpose, methodology, and research in comparative education with special reference to understanding and comparing systems of education. Advanced systems of education, such as those of England and the Soviet Union, and education in the underdeveloped nations of the world.

525. Foundations of Music Education (3)
(Also listed as Music 525)
The historical and philosophical bases of music education. The application of learning theories to problems of music teaching. Required for M.M. degree with a major in Music Education.

526. Workshop in Education (1-3)
Workshops designed for teachers, supervisors, counselors, and administrators to study contemporary issues and problems of the public school. Content varies to provide the opportunity to study current problems. May be repeated to a maximum of 12 semester hours. Prerequisite: Acceptance by the director of the workshop.

527. The Secondary School Principal (3)
For junior high and high school administrators. Program construction, staff utilization, pupil records, organizational structures, and plant utilization. Prerequisite: Educ. 551 or administrative experience.

530. The Community College (3)
The development of the junior college movement: its present status, purposes, functions, organization, and curriculum; and the characteristics of the emerging community college.

531. Community College Student Personnel Services (3)
A seminar on student personnel services and problems peculiar to the community (junior) college. Analysis of current practice and research in the field with emphasis on personnel practices and instruments, orientation procedures, counseling and record keeping, registration, testing and test interpretation, placement, student activity programs, and institutional research on student characteristics. Prerequisites: Educ. 530, 6 semester hours of guidance and/or measurement or consent of instructor.

532. The College Student and His Culture (3)
Concepts of culture, sub-culture and societal participation with reference to students in the college and university setting.

533. The Organization of Curriculum (3)
The assumptions underlying current curriculum organizations. Decision making procedures regarding development and evaluation of educational programs.

534. Improvement of Instruction (3)
An investigation and analysis of common problems in teaching. The principles which apply at all levels of instruction.

535. Secondary School Curriculum (3)
For advanced students who wish to make a thorough study of basic
principles in the construction and administration of secondary school curricula, the relation of the curriculum to society, and present practices in secondary schools.

536. Supervisory Behavior (3)

The theoretical constructs underlying supervisory behavior in educational settings.

537. Survey of Research in Curriculum (3)

Analysis of curriculum research with emphasis on current research studies. Prerequisite: Educ. 533.

538. Advanced Materials Production (3)

Second in a series of production courses, this course includes the design and production of audio and visual materials of an advanced nature for use in an instructional system. Prerequisite: Education 431 or equivalent.

539. Instructional Television Program Development (3)

Closely supervised preparation of instructional television lessons from conception through execution, utilization, and evaluation. Prerequisite: Educ. 432 or equivalent.

540. Administration of Media Programs (3)

Rationale for, and planning of, media programs. Selection, organization, and distribution of equipment, materials, and staff. Prerequisite: Educ. 430.

541. The Improvement of Instructional Programs (3)

Analysis of supervisory functions, methods, and responsibilities of educational leadership. Group dynamics in inservice programs. Prerequisite: Educ. 533.

542. Fundamentals of Curriculum Development (3)

Application of curriculum principles to the development of educational programs. Assessment of current plans for organization of the curriculum. Prerequisite: Educ. 533.

543. Problems in Curriculum Development (3)

Students are required to undertake a curriculum project which emphasizes current curriculum strategy. Prerequisites: CAS or doctoral students. Educ. 533 or equivalent.

544. School Business Management (2-3)

Management of auxiliary enterprises, including accounting and financial control. Maintenance of buildings and grounds, personnel and office management, transportation, insurance, investments, administration of supplies and equipment, and administrative relationships.

545. Maintenance and Operations in School Business Management (2)

Budgeting, scheduling, cost analysis, including a study of problems of maintaining buildings and grounds. Custodian relationships, scheduling, purchasing, recordkeeping, supply administration. Prerequisite: Consent of instructor.

546. Practicum in School Business Management (1-6)

A concentrated program designed to provide maximum participation by each enrollee and directed by a faculty drawn from many sources, such as school administrators, business managers, boards of education, industry, professors, etc. All phases of business management will be considered, and time will be provided for field trips. Open to school business officials and other school personnel. May be audited for no credit.

550. Workshop in Adult Education (1-3)

Opportunity provided to work cooperatively under the guidance and supervision of an experienced adult educator. An intensive analysis of specific programs of adult education. The literature of the field and the techniques of studying agency problems. Special projects assigned to each student for intensive study. Prerequisite: Consent of instructor.

551. School Organization and Administration (3)

A basic course in organization and administration. Develops a philosophy for school administration and understanding of the following areas of school administration: curricula, pupil administration, supervision, public relations, finance, executive efficiency.

553. Problems in School Administration (3)

A seminar requiring individual investigation of fundamental problems in school administration and school business management culminating in a research paper. Problems based largely on past or anticipated experience of the students. Prerequisites: Educ. 551 and 517 or 527 or consent of instructor.

556. School Organization and Administration for Teachers (2)

The development of insight into the role of the teacher in organizational and administrative problems of the school.

557. Essentials of School Law (3)

Survey course on legal problems in the school setting. Designed for master's degree candidates.

559. Nature and Theory of Administration (3)

Analysis of relationships in organizational structures, decision making and informal organization. Assessment and analysis of models and systems for the solution of problems in administration. Prerequisite: Educ. 551 or consent of instructor.

560. Personnel and Guidance (3)

Introduction to personnel work in elementary and secondary school. Recognition of needs for guidance, guidance principles, practices, and their application.
EDUCATION

561. The Teacher's Role in Personnel Work (2)
The need for personnel work, including guidance, ways of meeting needs of elementary and high school pupils by the classroom or homeroom teacher, or specialized services to which teachers may refer individuals needing help.

562A. Counseling Techniques, Theory and Practice (3)
An introduction to counseling theory and practice with emphasis on interview techniques. Prerequisite: Educ. 560.

562B. Practicum in Counseling (3)
A continuation of Educ. 562A. The practical aspects of the counseling situation. Cases, tapes, role playing, and analysis of the counseling movement and counselor responses. Prerequisites: Educ. 562A, 563, and consent of instructor.

563. Standardized Testing (3)
Principles of measurement as applied to group standardized measures of achievement, special aptitude, intelligence, personality and interest for use in educational personnel work. Administering, scoring, and interpreting these measures.

564. Tools and Techniques in Pupil Personnel Work (3)
The use of various techniques such as anecdotes, autobiographies, sociograms, behavior description, voting scales, and case studies. The use of records in counseling. Emphasis on the counseling interview and on testing is found in other courses. Prerequisite: Educ. 560 (Educ. 563 is recommended).

565. Individual Educational Diagnosis (3)
For training selected school personnel in the administration, scoring, and interpretation of individually administered tests used to diagnose the abilities of students in the classroom. Prerequisite: Consent of instructor.

567. Educational and Occupational Information in Guidance (3)
Methods of obtaining, evaluating, and organizing materials of occupational, educational, personal, and social information in the counseling and group guidance process. Prerequisite: Educ. 560 or equivalent.

568. Guidance in Elementary Education (3)
Principles and methods and practical problems pertinent to the elementary school. Recognition of early remedial problems in reading and behavior. The use and importance of anecdotal personal data records, parent and teacher interviews, and interpretation for referrals. Planning programs for individual pupils with teachers.

569. Professional Seminar in Community Mental Health (3)
Lectures, reading, and discussion. Instructors from various departments and guest lecturers on the following topics: administering community health programs; communication with medical and psychiatric personnel; communication with educators and the schools; communication with the clergy; professional ethics; social service agency organization and interaction; related community organizations and agencies.

570. Methods of Appraisal in Higher Education (3)
Basic concepts and procedures in appraisal of applicants for admission and retention in institutions of higher education.

571. Organization and Administration of Guidance Services (3)
The functions, basic elements, and effective organization of guidance services within the pupil personnel framework. Problems in activating, organizing, and administering guidance services; selection and education of the staff; evaluating the services; utilizing community resources; and developing records. Prerequisite: Educ. 560.

572. School-Community Relations (3)
The responsibility of the school to offer leadership and interpret home-school-community relationships. The task of surveying and utilizing community resources, studying promising programs and practices, and evaluating educational criticism.

573. Seminar in Urban Education—Programs and Organization (3)
Provides educators with an opportunity to become familiar with research, practices, and programs being carried out in the field of urban and compensatory education. Class members will be encouraged to conduct research in areas of interest. Prerequisite: Consent of instructor.

574. Language Arts in Early Childhood Education (3)
Focus is on language experiences as an integral part of the young child's growth and development.

575. Diagnosis and Treatment of Reading Difficulties (3)
Causes of reading difficulties, their diagnosis and correction. Current reading tests. Not for students who have completed Educ. 466.

576. Clinical Diagnosis of Reading Difficulties (3)
A practicum emphasizing case study techniques in the diagnosis of reading problems. The administration of various formal and informal tests and the interpretation of the test results. Making case studies, followed by the preparation of case reports. Written permission of instructor required. Prerequisites: Educ. 481, 482 or equivalent, and 575.

577. Clinical Problems in Teaching Reading (3)
A practicum providing clinical experience in applying procedures-
with severely disabled readers. Written permission of instructor re­quired. Prerequisites: Educ. 481, 482 or equivalent. 575. and 576.

579. Instructional Media Systems (3)
Analysis and design of systems of instruction. Programmed materials and machines, dial access systems, and other multi-media systems are stressed. Prerequisite: Educ. 430.

580. Seminar in Guidance and Counseling (3)
Selected problems in guidance and counseling with emphasis on current issues and individual problems. Prerequisite: Minimum of 12 graduate semester hours in guidance or consent of instructor, or both.

583. The Teaching of Social Studies in the Elementary School (3)
Emphasis on principles of instruction in the social studies; the examination and evaluation of issues in the teaching of social studies.

584. The Teaching of Science in the Elementary School (3)
Implications for instruction are derived from the analysis of selected trends in the teaching of elementary school science.

585. Teaching Language Arts in the Elementary School (3)
Focus on principles of instruction in the language arts and the substantiation of these principles in order that they may become working theory for the teacher.

586. Related Arts in the Elementary School (3)
The function of the arts in the elementary school curriculum: an examination of trends and issues in the planning of learning experiences in the fine and applied arts.

587. Social Learnings in Early Childhood Education (3)
Emphasis on social learnings for the young child. Principles and procedures in the development of social experiences. Child growth and development, democratic values and processes, and common life problems are stressed.

588. Corrective Reading in the Elementary School (3)
Diagnostic techniques and corrective procedures suitable for testing and teaching the less severe reading disability cases among elementary school children. Some supervised laboratory practice with children in a school setting required. Written consent of instructor required. Prerequisite: Educ. 481 or equivalent.

589. Corrective Reading in High School (3)
To acquaint qualified students with corrective procedures appropriate for the less severe reading disability cases in secondary schools. An investigation of classroom corrective procedures and the application of these procedures in teaching secondary school students. The use of the more recently developed visual aids used in teaching reading. Prerequisite: Educ. 466 or 482 or equivalent.

590. Counseling and Guidance Training Institute (9)
A concentrated institute offered to improve the qualifications of (1) personnel engaged in counseling and guidance of students in secondary schools and (2) teachers in such schools preparing to engage in such counseling and guidance. Admission to this course is controlled by committee action growing out of prior application bearing the endorsement of the student’s immediate superior in his employment as a teacher.

591. Advanced Educational Statistics (3)
Concepts dealing with regression and prediction, significance of the mean, and significance of the difference between means, testing experimental hypotheses, and analyses of variance. Prerequisites: Educ. 508 or equivalent, or consent of instructor.

592. Philosophical Analysis of Educational Thought (3)
Procedures of formal and informal philosophical inquiry explored for the purpose of acquiring facility in using philosophical resources for the criticism, development, and refinement of educational theory.

593. Supervision of Student Teachers (3)
To provide cooperating teachers, administrators, and supervisors with a better understanding of the function of student teaching in the professional education of teachers. Discussion of the basic issues to bring out valuable techniques in supervising, directing, and evaluating the experience of the student teacher. Prerequisite: Consent of instructor.

594. Seminar in the Supervision and Administration of Professional Laboratory Experiences (3)
An advanced seminar dealing with the theory and practice of professional laboratory experiences such as micro-teaching, observation, participation, simulation, student teaching, and internships. Prerequisite: Education 593 or consent of instructor.

595B. Internship (TBA)
For those actively engaged in supervisory work. Study under the guidance of the University instructor. Individual observation and conferences and a number of Saturday meetings to consider common problems. Anecdotal records and other materials analyzed and evaluated. Prerequisites: Educ. 543, 593, and consent of the Student Teaching Office.

596. Reading Institute (2-3)
Basic reading problems in the elementary, junior high, and senior high school. Guest instructors and regular staff members. An intensive course for two or three weeks.
597. Independent Research (1-3)
Independent research on the fifth-year level under faculty supervision. May be repeated to a maximum of 3 semester hours. Prerequisites: Admission to candidacy for the master's degree and consent of faculty member who will direct research.

598. Independent Research (1-3)
Independent research projects at the sixth and seventh-year levels under faculty supervision. May be repeated to a maximum of 6 semester hours.

599A. Master's Thesis (3-6)
Open only to the student who elects to write a thesis for the degree Master of Science in Education. The student enrolls with the faculty member directing the thesis. May be taken for 3 semester hours and repeated, or once for 6 semester hours. Prerequisites: Educ. 503 and consent of the adviser.

599B. C.A.S. Thesis or Field Study (3-6)
Prerequisites: Advancement to candidacy for C.A.S. and consent of the chairman of the advisory committee.

601. Advanced Educational Psychology (3)
Detailed analysis of modern learning theories and practices as they relate to education. Further development of major areas of human growth as they relate to the school. A detailed investigation of major research in educational psychology. Prerequisite: Educ. 501.

602. Educational Research Planning and Interpretation (3)
An advanced course dealing with problems in criterion definition and various handicaps in deriving valid inferences. An analysis is made of how these handicaps can be resolved by study design and tool, data, and sample selection. Prerequisites: Educ. 503 or equivalent and consent of instructor.

605. Experimental Research (3)
To develop an understanding of how to set up experimental research and to conduct an experimental research project. It is recommended that the project be conducted in the student's own teaching situation under the direction of the adviser with the approval of his own school administration. May be repeated to a maximum of 6 semester hours. Prerequisite: Sixth-year standing.

606. Seminar in Research Studies in the Field of Reading (3)
Designed for the advanced student who is interested in the serious study of research reports in education, psychology, linguistics, and other disciplines which have a bearing on the problems in teaching reading. Prerequisite: Consent of instructor.

607. Supervisory Problems in Reading (3)
Procedures for developing a curriculum in reading and the supervisory responsibilities of administrators and reading consultants in improving reading instruction in the schools.

610. Seminar in School Business Management (2-3)
The problems involved in the business administration of schools. Concentrated study and research concerned with all phases of school business management, such as accounting and finance, cafeteria management, purchasing, transportation, building planning and construction.

611. Advanced Child Study (3)
The formulation of generalizations about trends and modifications in the research on child development produced during the 20th century. The acquisition of facility in the formulation of hypothetical research designs to advance knowledge in child development. Prerequisites: Sixth-year standing and Educ. 602. Co-requisite: Educ. 612.

612. Practicum in Child Study (3)
The examination and research in child development produced during the last decade. The formulation of hypotheses for research designs applicable to actual classroom procedures. Co-requisite: Educ. 611.

616. Elementary Teacher Education (3)
A survey of selected undergraduate programs of preparation which have been designed to educate teachers for the public elementary schools. Intensive analysis of the program at Northern Illinois University involving supervised laboratory experiences. Internship correlative with this course recommended. Prerequisite: Consent of instructor.

617. Curriculum Design in Elementary Education (3)
Interrelationships of various components of a curriculum design. Curriculum design as a basis for decision making in constructing an instructional program in elementary education. Prerequisite: Consent of instructor.

618. Professional Writing (1)
Guidance in the preparation of professional manuscripts. Presentation of methodology in treatment of material: analytical, descriptive, scientific, historical. Procedures for submitting for publication. Prerequisite: Consent of instructor.

619. Professional Leadership (3)
Educational leadership as the implementation of social policy. Selected problems of ethical nature which are common to teachers. Emphasis upon current issues. Prerequisite: Consent of instructor.

622. Advanced Seminar in Human Development (3)
An in-depth study of the field of human development including child development, adolescent development, and a special emphasis on
maturity and old age. The primary orientation will be toward theories of human development.

623. Supervision in Counseling and Personnel Services (3)
Theory and practical experience relating to supervision of counselors and other personnel workers in elementary, secondary, or higher educational levels.

624. Seminar in Comparative Education (3)
Advanced cross-cultural comparisons of educational systems in order to understand and compare international features in education. A detailed multifactor analysis of the educational systems under investigation.

632. Seminar in European Educational Thought (3)
Educational theories and practices of European leaders that have influenced Western civilization. An examination of original writings by Plato, Aristotle, Comenius, Locke, Rousseau, Pestalozzi, Froebel, Herbart. Emphasis will be placed on historical research techniques and the opportunity to pursue specialized interests.

633. Seminar in American Educational Thought (3)
Theories of education which have been influential in American educational history examined through the means of historical and philosophical research. Prerequisites: Educ. 504 and either 505 or 506, or consent of instructor.

638. Development of Instruction in Media (3)
Development of instructional programs in media at the college level. Prerequisite: Consent of instructor.

639. Communications Application to Instruction (3)
Applies basic concepts of communication to problems in teaching and learning. The role of communication in problem solving, attitude formation, and teaching is emphasized.

640. Seminar: Problems in Media Administration (3)
The administration of media programs at all levels with study and research in areas of finance, management of personnel and facilities, and other operations. Prerequisite: Consent of department head.

645. Field Study in Curriculum (3)
Methods of analyzing and evaluating educational programs through participation in curriculum studies in field settings. Prerequisite: Consent of instructor.

648. Curriculum Inquiry (3)
Analysis of curriculum theories. Construction of new paradigms or models based on current curriculum thought. Prerequisite: Doctoral or CAS student.

653. Seminar in School Administration (3)
The identification and integration of the human and technical skills required for modern school administration. Prerequisite: Educ. 551 or consent of instructor.

654. School Buildings (3)
School plant planning, the school plant survey, population and utilization studies, and evaluation of existing plant. Laboratory and field work. Prerequisite: Educ. 551 or consent of the instructor. This course is also open, with the consent of the instructor, to students who are members of building planning committees.

655. School Finance (3)
Basic course in educational finance. Theoretical and practical aspects of the various phases of financial administration: foundation programs, cost-quality relationship, taxation, state and Federal participation, and the more prevalent aspects of operational finance. Prerequisite: Educ. 551 or consent of instructor.

656. School Administration Field Studies (3)
Methods of administrative planning in the areas of community background, evaluation of buildings, transportation, scheduling, utilization of staff, and financial analysis.

657. School Law (3)
Emphasis on case studies in school law. Designed primarily for students working toward the Certificate of Advanced Study or the doctoral degree.

660. Theories of Counseling (3)
A critical evaluation of theories of counseling. Review of research in the application of theoretical counseling constructs. Prerequisites: Educ. 562A and 562B.

662. Advanced Practicum in Counseling and/or Guidance (3-6)
For students majoring in guidance. Practical experience in counseling and/or guidance functions at elementary, secondary, or higher educational levels. Prerequisites: Educ. 562A, 562B, and consent of instructor.

663. Organization and Administration of the School Testing Program (3)
Procedures of establishing goals for the school testing program, selecting tests appropriate to stated goals, coordinating the testing program with other members of the school's professional staff, and using test results in curriculum analyses and in administrative decisions. Prerequisite: Educ. 510 or 563.

664. Pupil Personnel Administration (3)
Attendance, health, guidance, psychological, and social work
services. Organization patterns and problems of budget, staffing, supervision, and program evaluation. Prerequisite: A master’s degree or its equivalent in guidance or a related area of personnel work.

666. Personnel Services in Higher Education (3)
A comprehensive study of the organizational structure and administrative relationships of personnel services in the collegiate setting. Student personnel services included are admission, testing, records, housing, scholarships and loans, health and counseling, student activities, discipline, student government, and placement. Prerequisite: A master’s degree or its equivalent in guidance or a related area of personnel work.

667. Seminar in Vocational Development Theory (3)
Review of recent and contemporary theories of vocational development. Attention given to analysis of related research. Prerequisite: Educ. 567 or equivalent, or admission to doctoral program, and consent of instructor.

668. Group Procedure in Guidance and Counseling (3)
Theory and practice of working with groups for guidance and counseling purposes, with emphasis on small groups. Review of theories and research in group dynamics, communication, and role playing. Practice with selected techniques in sociodrama, psychodrama, small-group leadership, and multiple counseling. Prerequisite: A master’s degree in guidance or a related area of personnel work.

669. Learning Research Practicum (3)
Extended study of learning theory focusing upon specific and persistent problems of design, translation, and interpretation of learning research for educators. Prerequisites: Educ. 508 and 601 or consent of instructor.

670. Research Seminar in History and Philosophy of Education (2-6)
Selected problems in Education appropriate to historical or philosophical investigation. Training will be given in the methods of research and creative scholarship in these areas. May be repeated to a maximum of 6 semester hours. Prerequisite: Consent of instructor.

671. Advanced Research Seminar (3-12)
Students will design and conduct a study dealing with a problem in education. It may be a pilot study related to the doctoral dissertation. May be repeated to a maximum of 12 semester hours.
Each semester will be devoted to research in one of the four major areas of Educational Psychology.
A—Methodology and Design—Learning
B—Methodology and Design—Developmental
C—Methodology and Design—Statistics and Measurement
D—Methodology and Design—Educational Psychology
Prerequisite: Master’s degree.

673. Administration of Staff Personnel (3)
The problems and issues associated with administration and supervision of school personnel. Organization of staff, collective negotiations, selection of personnel, and development of reward systems.

675. Seminar in Higher Education (3)
Teaching problems in colleges and universities, including professional schools and community colleges. Course organization, methods, and class management. Educational problems confronting higher education in connection with the anticipated expansion in the number of students who will demand admission. Experiments and proposals looking toward increasing the "productivity" and efficiency of college teachers.

682. Non-Parametric Statistics (3)
Application, computation, and interpretations of non-parametric statistical tests and correlation measures. Comparison of these tools and techniques with their parametric counterparts. Prerequisite: Educ. 508 or equivalent.

683. Methods of Correlation (3)
An intensive study of statistical techniques appropriate to analyzing the extent of relationship among two or more variables. Linear and curvilinear analysis, correlation with non-continuous variates, single and multiple variate regression, and methods of multi-factor analysis. Prerequisites: Educ. 508 or equivalent and consent of instructor.

690. Theory of Measurement (3)
Analysis of theoretical approaches to reliability and validity, effects of external factors on test parameters, techniques with composite scores, use of factor analysis. Prerequisites: Educ. 508 and 510 or 563 and consent of instructor.

691. Construction of Scaling Instruments (3)
Techniques of scale construction for use in assessing attitudinal, interest, temperament, personality variables, and psycho-motor skills; reliability and validity of each technique. Prerequisite: Educ. 591 or consent of instructor.

695. Internship (TBA)
Work individually or in small groups in a practical school situation under the guidance of a member of the school’s staff and a University supervisor.

699. Doctoral Research and Dissertation (3-12)
Student must accumulate 12 semester hours prior to graduation. Prerequisite: Candidacy for the doctoral degree and consent of chairman of doctoral committee.
School of Nursing

Faculty: Lefkowitz, Director. Hart, Pender.

The School of Nursing offers a program of graduate studies leading to a Master of Science degree with a major in Nursing.

MASTER OF SCIENCE WITH A MAJOR IN NURSING

Admission to graduate study in Nursing requires graduation from a state approved school of nursing, a baccalaureate degree from an accredited college or university that may not necessarily include an upper division major in Nursing, admission to the Graduate School as a classified student, and consent of the Admissions and Retention Committee of the School of Nursing.

The Master of Science with a major in Nursing may be earned by electing one of two options. Option One includes the writing of a thesis whereas Option Two is a program of courses without a thesis. In either option a minimum of 30 semester hours is required which are distributed as follows:

<table>
<thead>
<tr>
<th>Semester Hours</th>
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<tr>
<td>Option One</td>
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<tr>
<td>a. Area of nursing specialization</td>
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<tr>
<td>b. Cognate courses approved by the department adviser</td>
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<tr>
<td>c. The master's thesis</td>
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<tr>
<td>Option Two</td>
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<tr>
<td>a. Area of nursing specialization</td>
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<tr>
<td>b. Cognate courses approved by the department adviser</td>
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The graduate student plans a program in consultation with an assigned adviser from the School of Nursing. The graduate student may select an area of specialization in medical-surgical nursing, maternal and child health nursing, community health nursing, or nursing administration.

A candidate for a Master of Science with a major in Nursing may select one of the following areas of specialization:

A. Medical-Surgical Nursing
   - Nursing 501 Nursing Perspectives
   - Nursing 502 Nursing Research
   - Nursing 503 Curriculum Development in Nursing
   - Nursing 520 Seminar in Medical-Surgical Nursing
   - Nursing 521 Seminar and Practicum in Teaching Medical-Surgical Nursing

B. Maternal and Child Health Nursing
   - Nursing 501 Nursing Perspectives
   - Nursing 502 Nursing Research
   - Nursing 503 Curriculum Development in Nursing
   - Nursing 540 Seminar in Maternal and Child Health Nursing
   - Nursing 541 Seminar and Practicum in Maternal and Child Health Nursing

C. Community Health Nursing
   - Nursing 501 Nursing Perspectives
   - Nursing 502 Nursing Research
   - Nursing 560 Group Dynamics in Community Health Nursing
   - Nursing 561 Health Structure of the Community Nursing
   - Nursing 562 Seminar and Practicum in Community Nursing

D. Nursing Administration
   - Nursing 501 Nursing Perspectives
   - Nursing 502 Nursing Research
   - Nursing 503 Curriculum Development in Nursing
   - Nursing 570 Nursing Administration
   - Nursing 571 Practicum in Nursing Administration

Course Offerings

442. Aspects of Rehabilitation (3)
   A survey of origins, trends, and contemporary developments in rehabilitative processes and services available to persons with disabling conditions. Open to students in other schools and colleges of the University who have a need for basic understanding of contemporary aspects of rehabilitation.

487. Medical Legal Problems (3)
   Aspects of professional and legal problems and issues in the health fields in relation to the individual, the citizen, and the practitioner.

497. Comparative Health Care Patterns (3)
   An exploration of varying systems for providing health services, and the recruitment and education of personnel. Stress is on the inter-relationship of health care and economic, cultural, and ideological factors in society. Comparison of basic differences in provision of health services in selected countries.

501. Nursing Perspectives (3)
   An overview of nursing giving consideration to the philosophies of
nursing, nursing trends, legal implication, patient care practices, health legislation, and the changing societal role of the nurse.

502. Nursing Research (3)
Analysis and evaluation of nursing research projects and studies. A special emphasis upon the need for continuing research in light of current and future needs of the profession. Prerequisite: Educ. 508 or equivalent.

503. Curriculum Development in Nursing (3)
Utilization of the principles of curriculum development as a frame of reference for planning educational programs in schools of nursing and nursing services.

520. Seminar in Medical-Surgical Nursing (3)
Exploration of selected broad concepts relating to the health of the individual, his family, and community. Analysis of patho-physiology, psycho-social and cultural factors affecting nursing care. Guided observations, readings, lecture, and group discussion.

521. Seminar and Practicum in Teaching Medical-Surgical Nursing (6)
Exploration, analysis, and observation of the role of the instructor of students in nursing. The prospective teacher will have an opportunity to plan, select, teach, and evaluate learning experiences for nursing students. Prerequisites: Nursing 503 and 520.

530. Independent Research (1-3)
Independent research projects under faculty supervision. May be repeated to a maximum of 6 semester hours.

540. Seminar in Maternal and Child Health Nursing I (3)

541. Seminar and Practicum in Maternal and Child Health Nursing II (6)
Updating of knowledge resulting from technological advances.

Utilization of research in Maternal and Child Health Nursing, as well as knowledge available from basic and behavioral sciences as it applies in a clinical setting. Includes field experience. Prerequisite: Nursing 540.

560. Group Dynamics in Community Health (3)
Research and theory in the study of structural and functional characteristics of small groups. Fundamental qualities of group cohesiveness, standards, goals, culture, and leadership are explored. Comparative case studies of small groups in clinical, social, and industrial settings are studied. On-going group processes are observed and evaluated.

561. Health Structure of the Community (3)
Surveys community health through studying determinants of community health. The components of a healthy community and the elements involved for community health improvement. Prerequisite: Nursing 502.

562. Seminar and Practicum in Community Nursing (6)
Examines concepts from the behavioral sciences and psychiatric and public health nursing to provide a theoretical base for practice within a family and community orientation. Clinical experiences focus on work with families in selected community agencies and participation in the collaborative care given by members of an interdisciplinary team. Prerequisites: Nursing 560 and 561.

570. Nursing Administration (3)
Administration as it relates to nursing service and nursing education. Prerequisite: Nursing 503.

571. Practicum in Nursing Administration (6)
A field experience in the administrative area of nursing service or nursing education. The observation and utilization of the administrative processes as a means of effective operation. Prerequisite: Nursing 570.

599. Master's Thesis (2-6)
Open only to the student who elects to write a thesis for the degree Master of Science with a major in Nursing. The student enrolls with the faculty member directing the thesis. Prerequisite: Nursing 502.
Department of Outdoor Teacher Education

Faculty: Hammerman, Department Head, Donaldson, Goering, Jones, Stark, Swan, Wiener.

The Department of Outdoor Teacher Education offers a program leading to the degree Master of Science in Education with a major in Outdoor Teacher Education. The Departments of Outdoor Teacher Education and Education cooperate in offering course work required for the major in Outdoor Teacher Education.

MASTER OF SCIENCE IN EDUCATION

Admission to the program will be by consent of a faculty advisory committee. A final comprehensive examination is required. It may be either written or oral or both at the option of the department.

Students who elect a major in Outdoor Teacher Education leading to the degree Master of Science in Education may follow either of two options:

Option 1.

a. A minimum of 21 semester hours in courses offered by the Department of Outdoor Teacher Education to include O.T.E. 410, 504, 511, and 599. The program of courses will be selected in conference with the graduate faculty adviser and should include sufficient additional courses to bring the total to 21 semester hours.

b. Sufficient additional courses in other departments to bring the total credits to a minimum of 30 semester hours. At least 9 semester hours must be taken outside the Department of Outdoor Teacher Education and must include Educ. 503. A student may also wish to include recommended cognate courses Educ. 500 or 501 in his program of studies.

Option 2.

Students electing Option 2 must satisfy all requirements listed under Option 1 except O.T.E. 599. The Master's Thesis. Option 1 requires the equivalent of five 3 semester hour courses in the major department, O.T.E., plus 6 semester hours for the thesis. Option 2 requires the equivalent of seven 3 semester hour courses in the major department. In addition a student pursuing either option would take a minimum of 9 semester hours of credit in courses outside the major department.

Course Offerings

405. Workshop in Outdoor Education (1-3)

The investigation and application of outdoor education principles to the particular needs and interests of the workshop participant. Participation in outdoor learning experiences, and analysis of instructional materials and resources. May be repeated to a maximum of 6 semester hours of credit.

410. Foundations of Outdoor Education (3)

To acquaint teachers with the basic concepts of outdoor education. The meaning, scope, and value of outdoor education. Emphasis upon procedures and instructional materials especially suited for teaching out-of-doors. May be taken for either graduate or undergraduate credit and is prerequisite for all required courses in the Department of Outdoor Teacher Education.

415. Field Science (3)

Provides a basic fund of scientific knowledge which can be studied in the natural environment. The study of plants, soil, water, insects, weather, and geology. Special attention devoted to research techniques of scientific investigation.

417. Arts and Crafts in Outdoor Education (3)

Participation in a program of arts and crafts activities utilizing natural materials.

504. Historical and Philosophical Development of Outdoor Education (3)

Detailed examination of the meaning and scope of outdoor education. The historical and philosophical foundations of outdoor education. Evolution of this movement in American Public Education traced and recent significant trends and existing Outdoor Education programs examined. Prerequisite: OTE 410.

511. Advanced Field Experiences in Outdoor Teacher Education (3)

For experienced teachers who wish to supplement and enrich their classroom teaching by including outdoor learning experiences. Ways and means of relating various outdoor learning activities to the various subject matter areas of the school curriculum. Prerequisite: OTE 410.

514. Organization and Administration of Outdoor Education Programs (3)

The initiation and administration of outdoor education experiences
of varying lengths and the acquisition, development, and maintenance of outdoor education facilities. Prerequisites: OTE 410 and 504.

520. Analysis and Development of Curriculum Materials in Outdoor Education (3)

The selection, production, and utilization of audio-visual materials related to outdoor education. The student will learn how to operate and care properly for scientific and audio-visual equipment and materials. Techniques of producing and constructing teaching aids will be demonstrated. The educational materials available from educational and commercial sources will be surveyed. Prerequisite: OTE 410.

525. Independent Study in Outdoor Education (1-3)

Individual investigations in Outdoor Education under the supervision of graduate faculty members. May be repeated to a maximum of 3 semester hours. Prerequisites: OTE 410, 504, and consent of adviser.

530. Internship in Outdoor Education (3-6)

A professional internship designed to provide supervised experiences in program planning and organization, outdoor instruction, supervision, and administration. May be repeated to a maximum of six semester hours. Prerequisite: OTE 410, 504 and consent of department head.

599. Master's Thesis (3-6)

Open only to the student engaged in writing a master's thesis under the Master of Science in Education program. The student enrolls with the faculty member directing the thesis. Prerequisites: OTE 410, 504, 511, and Educ. 503.
Department of Physical Education for Men

Faculty: Brigham, Department Head, Dean, Dunn, Healey, Kahler, LaBaw, Stroup, Wells.

The Department of Physical Education for Men offers programs leading to the degree Master of Science in Education and the Certificate of Advanced Study.

MASTER OF SCIENCE IN EDUCATION

Students working toward the degree Master of Science in Education with a major in the Department of Physical Education for Men are expected to have completed an undergraduate major in Physical Education. This major should include Anatomy, Kinesiology, Administration of Physical Education, Tests and Measurements in Physical Education, Theory of Coaching in two sports, and a variety of technique courses in physical education activities.

Any undergraduate deficiencies, as appraised by the Department, must be removed before a student may become a candidate for the degree.

In addition to meeting requirements established for all candidates for the degree, students majoring in the Department of Physical Education for Men must successfully complete a minimum of 21 semester hours of graduate work in the Department and 9 semester hours of work outside the Department. The semester hours in the Department must include PE-M 570 and must also include either PE-M 500 or 510 and either PE-M 520 or 521.

In pursuing the degree, a candidate may choose to follow one of two options.

Option 1: A minimum of 30 semester hours, approved by his adviser, including PE-M 581 and 599A.

Option 2: A minimum of 33 semester hours approved by his adviser.

CERTIFICATE OF ADVANCED STUDY

All students who wish to pursue a program leading to the Certificate of Advanced Study should have a baccalaureate degree or master's degree (or its equivalent) in Physical Education. For other requirements, consult with the Head of the Department.

Course Offerings

400. Materials and Problems in Health Education (2-3)
Health education programs in elementary and secondary schools. Materials and problems involved in teaching health; the promotion of a healthful school environment. Prerequisites: PE-M 190 and 202.

442. Organization of Extracurricular Activities (3)
Organization and administration of an effective program of extracurricular sports. The relationship between physical education class content and intramural and extramural sports. History, objectives, program financing, officiating, and other problems relating to an extracurricular sports program.

500. History and Philosophy of Physical Education (3)
Historical development of physical education from primitive to modern times. Philosophy of modern physical education with application to present-day educational programs.

510. Scientific Foundations of Physical Education (3)
Background of physical education from the biological, anatomical, and physiological aspects, with stress on past and present procedures.

511. Psychology of Coaching (3)
The application of principles of psychology to learning situations involved in competitive sports. The general learning situations involved in the mastery of skills and the special situations involved with individual and group problems of motivation and response.

520. Mechanical Analysis of Motor Skills (3)
Investigations of physical principles operative in the performance of physical education activities with attempt to analyze for methods of greater effectiveness and improved performance. Prerequisite: A course in kinesiology.

521. Care, Treatment, and Prevention of Athletic Injuries (3)
Prevention and correction of accidents in athletic activities. The use of proper personal and field equipment, support methods, conditioning exercises, therapeutic aids, medical examinations, massage, and advanced first aid. Prerequisites: Anatomy and physiology, kinesiology, and first aid.

537. Public Relations for Physical Education (3)
Purposes, materials, and methods relevant to keeping the public informed and interested in the various aspects of the physical education program. A term project for a real or simulated situation will be produced.

538. Planning and Administration of Social Recreation (3)
A treatment of procedures for determining the needs, outlining the
plans, and implementing the program of community and special recreation.

541. Organization and Administration of Inter-Scholastic Athletics (3)
Organization of high school athletics with special reference to national, state, and local control. Staff, program, budget, health and safety, and other phases of administration.

542. Advanced Techniques of Coaching (1-3)
A seminar concerned with current trends in the specific areas of inter-school athletic programs. A detailed study of sport techniques.

544. Workshop in Physical Education (1-3)
Workshops designed for study of special topics of current interest in physical education. Content varies and may focus attention on substantive material or operational problems. May be repeated to a maximum of 12 semester hours. Prerequisite: Acceptance by the director of the workshop.

570. Seminar in Research Studies in Physical Education (3)
Appraisal of recent research and significant literature in physical education for the purpose of orienting the student as to the nature of problems, the research methods used, the conclusions reached, and the questions remaining unanswered. Each student will also be expected to do intensive review of research done in a specific area.

581. Master's Thesis Seminar (3)
A study of research methods applicable to physical education and of acceptable procedures in writing a research report. Each student will do the preliminary work for an independent research study. Prerequisites: PE-M 570 and Admission to Candidacy.

599A. Master's Thesis (3)
Satisfactory completion of master's thesis. Prerequisite: PE-M 581.

599B. C.A.S. Research and Thesis (3-6)
Open only to students who are writing theses for the Certificate of Advanced Study. Topic should be approved before the student enrolls in course. May be repeated to a maximum of 6 semester hours. Prerequisites: Demonstrated proficiency in the use of research tools and admission to candidacy for the C.A.S.

613. Advanced Tests and Measurements in Physical Education (3)
Principles of construction and administration of physical performance tests. Fundamental statistics leading to interpretation of results of testing. Prerequisite: PE-M 360 or equivalent.

631. Seminar in Physical Education Curriculum (3)
Recognition of and proposed solutions to controversial issues involving organizational setup, legal aspects, and administrative problems of correlating the physical education program with other aspects of the school program. Particular attention given to the practical problems of the individual members of the class.

632. Supervision of Physical Education (3)
Methods and policies of the school supervisor of physical education, critical studies of methods of instruction and procedures in supervision applicable to physical education. Planning and improving programs; in-service training; relationships with administration; types of conferences.

634. Planning and Use of Facilities for Physical Education (3)
Principles, terminology, and standards for planning, construction, use and maintenance of facilities for the indicated programs. Standard authoritative references studied and critically evaluated.

635. Advanced Administration of Physical Education (3)
The organizational and administrative problems of physical education on the high school level. Aims and objectives and administrative policies.

671. Individual Research Problems (1-3)
Individual investigations of a problem in physical education, health, or recreation that will involve one of the techniques of research. Students will work under a designated member of the staff and must have their problems approved before registering. Prerequisite: PE-M 570.
Department of Physical Education for Women

Faculty: Duncan, Department Head, Bell, Heidorn, Lane, Mitchem, Moyer, Payne, Popp, Porter, Ringo, Shick.

The Department of Physical Education for Women offers programs leading to the degree Master of Science in Education and to the Certificate of Advanced Study.

MASTER OF SCIENCE IN EDUCATION

Students seeking to qualify for the degree Master of Science in Education with a major in Physical Education are expected to have completed an undergraduate major in Physical Education. (See page 23). Any deficiencies on the undergraduate level, as determined by the graduate faculty of the Department, must be removed prior to the student's admission to candidacy.

In addition to satisfying Graduate School requirements (see pp. 23-24) candidates majoring in the Department of Physical Education for Women must successfully complete a minimum of 9 semester hours of graduate work outside the major field. Candidates must fulfill the following course requirements:

- PE-W 570; three hours from PE-W 465 or 500 or 575; three hours from PE-W 546 or Ed. 508 or 591 or Psych. 504.

In addition students must adopt an area of emphasis with further requirements within areas. All students must plan their program in consultation with their departmental advisers.

In pursuing the degree, a candidate may follow one of two options.

Option 1: A minimum of 30 semester hours including PE-W 570, PE-W 599A, and an oral examination on the Thesis.

Option 2: A minimum of 33 semester hours including PE-W 570.

CERTIFICATE OF ADVANCED STUDY

The sixth-year program leading to the Certificate of Advanced Study offers the opportunity to experienced teachers, supervisors, and administrators to develop further competence through advanced study and research.

An applicant for admission to the sixth-year program must have completed an undergraduate major in Physical Education and possess the master's degree or equivalent with a major in Physical Education. Exceptions to these provisions will be reviewed by the advisory committee. Deficiencies determined by the committee must be removed prior to admission to candidacy.

The program of courses must be planned with and approved by an advisory committee from the major department. Admission to candidacy is dependent upon successful completion of 12 semester hours of work in courses approved for the candidate's program.

Students planning to apply for admission to the sixth-year program with a major in the Department of Physical Education for Women should consult with the Head of the Department.

Course Offerings

434. Curriculum Designs in Elementary Physical Education (3)
Introduction to elementary school physical education curriculum with attention to organization and implementation of programs. Prerequisite: PE-W 302 or PE-W 343 or equivalent.

446. Health Education Problems (2)
Problems, techniques, and materials related to programs of health education in elementary and secondary schools with specific reference to combined programs of health and physical education.

448. Organization and Supervision of Co-curricular Programs for Junior and Senior High Schools (3)
The functions and contributions of intramural and extramural activities as part of junior and senior high school physical education programs. The organization of play days, tournaments, demonstrations, and State G.A.A. programs.

452. Physiology of Activity (3)
The functioning of the systems of the body during activity; the physiological adaptations during work; and the lasting changes which result from different levels of performance. Practical experience in selected experimental procedures. Prerequisite: B.Sci. 257 or equivalent.

453. Adapted Physical Education (3)
Modification of physical education activities to meet the needs of the handicapped. Materials, methods, and the development of a program of adapted physical education activities.

465. History and Philosophy of Dance (3)
Survey of the historical development of dance from primitive man to the contemporary period. Philosophical concepts and significant trends relative to dance and associated areas.

467. Dance Notation (3)
Historical survey of movement notation methods used throughout
PHYSICAL EDUCATION, WOMEN

the world. Theory and practice in writing various methods, with
collection on Labanotation.

468. Seminar in Rhythmic Activities for Elementary and
Junior High Schools (3)
Basic rhythmic movement correlated with creative activities in the
school program. Movement in relation to elementary music composition,
choral reading, original chants, creative writing, graphic media,
percussion, and other accompaniment. Experimentation with various
media.

473. Seminar in Dance and Related Art Forms (3)
The development of aesthetic theory and the philosophy of dance as
an art form. The correlation of dance media with the fine and the
performing arts.

480. Philosophy and Principles of Coaching Sports
for Women (3)
Principles and standards of extramural sports for women. Principles
and techniques of coaching team and individual sports.

486. Principles of Motor Learning (3)
Principles of motor learning and the relationship of current learning
theory and experimental research in motor learning to the teaching of
motor skills in physical activity.

500. History and Philosophy of Physical Education (3)
Historical background of physical education in relation to the
historical patterns of civilization and educational movements. Development
of philosophical concepts paralleling educational philosophy.
Application of basic philosophy to the instructional program.

503. Applied Anatomy (Kinesiology) (3)
Analysis of joint and muscle action in the balance and movement of
the human body in everyday and physical education activities. Prerequisite: Anatomy.

512. Fundamental Basis of Movement (3)
The various systems of the body and their application to body
movement. Practical application to physical education activities. Designed
for the classroom teacher.

532. Principles of Supervision of Health and
Physical Education (3)
Techniques and procedures of supervision in school health and
physical education programs. Prerequisite: Teaching experience.

540. Seminar in Elementary School Physical Education (3)
Present day programs and problems related to elementary school
physical education.

543. Administration of Health and Physical Education (3)
Methods and procedures of administration in school physical
education programs. Prerequisite: Consent of instructor.

544. Problems in Curriculum and Program of
Physical Education (3)
A seminar concerned with individual investigation of principles and
procedures in developing the physical education program for elementary and secondary schools.

545. Curriculum in Health and Physical Education for
Junior High Schools (3)
Principles and procedures applicable to health and physical education
programs at the junior high school level.

546. Evaluation in Health and Physical Education (3)
Uses and limitations of evaluating devices, construction and administration
of tools for evaluations, and interpretation of results. Prerequisite: PE-W 445 or consent of instructor.

549. School and Community Recreation (3)
Administrative problems, personnel standards, finance, facilities, and
programs. Analysis of organizational plans for cooperative development
of school community programs.

550. Camp Administration (3)
Administrative problems, selection of personnel, organization of
programs, selection, maintenance, and supervision of facilities.

551. Analysis and Procedures in the Control of
Postural Deviations (3)
Analysis of body alignment and remedial measures used in the
control of postural deviations. Prerequisite: Human Anatomy.

555. Seminar in Teaching Skills (3)
Practical and theoretical study of methods of teaching physical
activities. Scientific foundations of education. Prerequisite: Consent of instructor.

556. Workshop in Physical Education (1-3)
Workshops designed for teachers, supervisors, counselors, and
administrators to study selected contemporary issues and problems.
May be repeated to a total of 12 semester hours. Prerequisite: Acceptance by the director of the workshop.

560. Seminar in Rhythms and Dance (3)
Rhythms and dance as a basic educational technique. Designed to
assist in planning, teaching, and supervising the rhythmic program.
Experiences in group process. Prerequisite: Consent of instructor.
565. Seminar in Motor Development in Childhood (2-3)
Survey of research on acquisition of motor skills with emphasis on findings pertaining to growth patterns, modifiability, and specificity. Application to methods and principles of teaching physical education in pre-school and elementary school. Development of special study topic for third hour of credit. Prerequisite: PE-W 512 or equivalent.

566. Seminar in Movement Education (2-3)
The approach to movement education as the core of physical education. Designed for teachers of kindergarten through college, including classroom teachers and specialists in physical education. Development of an individual problem and special conferences. Prerequisite: PE-W 302 or 343 or equivalent.

569. Independent Study in Physical Education (1-3)
Open to candidates who wish to do advanced study in the area of physical education or recreation. Study planned in consultation with adviser. Special conferences and development of report. May be repeated to a maximum of 6 semester hours. Prerequisites: Consent of adviser following approval of written proposal.

570. Methods of Research in Physical Education (3)
Introduction to methods and techniques, research design and development, resources, and the research report. Required of Departmental majors prior to registration in PE-W 599 A or 599 B. Prerequisite: Consent of adviser.

572. Current Trends in Physical Education (3)
Contemporary trends in the field of physical education and related areas.

575. Philosophical Bases of Physical Education and Recreation (3)
To develop a better understanding and appreciation of the purposes, values, nature, scope, and significance of physical education and recreation in America.

599A. Master's Thesis (3-6)
Open only to students writing the master's thesis. Topic should be approved prior to enrollment in course. May be repeated to a maximum of 6 semester hours. Prerequisite: PE-W 570 or equivalent and approval of research by advisory committee.

599B. Research and Thesis for C.A.S. (1-6)
Must be taken by a student doing research for the thesis. Approval of the research study must be granted prior to registration. Prerequisites: PE-W 570 or equivalent and approval of research problem by advisory committee.

612. Physiological Aspects of Motor Activity (3)
The physiological effects of physical activity on the various systems of the human organism. Selected problems for experimentation and research. Prerequisites: Anatomy and physiology.

620. Teaching Physical Education at the College Level (3)
Discussion and evaluation of problems of instruction in physical education on the college level. Development of an individual problem. Prerequisites: Teaching experience and PE-W 396 or equivalent.

632. Advanced Supervision of Physical Education (3)
Principles and practices in supervision. Open only to supervisors of elementary and secondary school programs, cooperating teachers, and school administrators.

636. Program and Facilities for Physical Education (3)
The special facility requirements for physical education programs for girls and women. Principles, standards, functional lay-out, design and construction features for indoor and outdoor facilities, maintenance, use, scheduling, and supervision of facilities in terms of functional needs. Individual projects. Prerequisite: PE-W 440 or 543 or equivalent.

643. Seminar in Administration of Physical Education, Health Education, and Recreation Programs (3)
Analysis of problems specifically related to departmental organization in high schools, colleges, and universities. Consideration of individual problems. Prerequisite: Consent of instructor.
The Department of Special Education offers a program leading to the degree Master of Science in Education with a major in Special Education.

MASTER OF SCIENCE IN EDUCATION

Admission to the program will be by consent of the Graduate Advisory Committee of the Department of Special Education. A candidate for this degree will be required to select an area of emphasis in Special Education. These areas are:

Administration and Supervision
Deaf and Hard of Hearing
Learning Disabilities
Maladjusted
Mentally Handicapped
Multiply Handicapped
Physically Handicapped
Visually Handicapped

A graduate student must plan a program of study in consultation with an assigned departmental adviser. The program will be submitted for approval to the Graduate Advisory Committee of the Department of Special Education prior to recommendation for candidacy. A minimum of 30 semester hours of graduate credit is required for the degree.

A student who selects a major in Special Education leading to the Master of Science in Education may follow either of two options.

Option 1
a. Education 503, Introduction to Educational Research;
b. Special Education 509, Educational Diagnostics for Exceptional Children;
c. Special Education 599, The Master’s Thesis;
d. 18 semester hours approved by the adviser with an emphasis in one of the areas listed above.

Option 2
Same basic requirements as Option 1 except that the master’s thesis (Special Education 599) is not required. Instead, 6 semester hours in Special Education are selected with approval of the adviser.

Provisions are made to assist non-certified persons who hold baccalaureate degrees in fields other than Special Education to acquire certification and a Master of Science degree in Education with a specialization in Special Education. In some cases more than 30 semester hours will be necessary to meet the requirements for both certification and the master’s degree.

Course Offerings

409. Psycho-educational Measurements of Exceptional Children (3)
Special diagnostic procedures with exceptional children. Emphasis on the identification and the problems of measurement of exceptional children. Prerequisites: Sp. Ed. 300, and Educ. 375 or consent of instructor.

410. Characteristics of Mental Retardation (3)
The classification, diagnosis, characteristics, and education of mentally retarded children. Prerequisites: Sp. Ed. 301 and Educ. 303.

411. Curriculum, Methods, and Materials for the Educable Mentally Handicapped—Elementary (3)
The curriculum, instructional methods, and materials appropriate for the teaching of educable mentally handicapped children from age five through fifteen. Course work is related to practice through laboratory experience in special education classrooms. Prerequisites: Sp. Ed. 410, Educ. 375, or consent of instructor.

412. Curriculum, Methods, and Materials for the Educable Mentally Handicapped—Secondary (3)
The curriculum, instructional methods, and materials appropriate for the teaching of educable mentally handicapped children from age fifteen through twenty-one. Course work is related to practice through laboratory experience in special education classrooms. Prerequisite: Sp. Ed. 410, Educ. 302.

413. Curriculum, Methods, and Materials for the Trainable Mentally Handicapped (3)
The curriculum, instructional methods, and materials appropriate for teaching trainable mentally handicapped children, including objectives and class organization. Prerequisite: Sp. Ed. 410.

420. Learning Disabilities in Children I (3)
Designed to help the student gain an initial understanding of learning difficulties in children. Current research and publications by recognized authorities in the area of learning difficulties will be considered. Prerequisites: Sp. Ed. 300 and 409 or consent of instructor.
430. Introduction to Problems of the Physically Handicapped and Health Impaired (3)
Introduction to the educational programs for children with physical handicaps and/or health problems. Approached through medical understanding of the differences in physiological adaptation of the handicapped child. Consideration given to planning for both the child and his environment to meet his special needs. Prerequisites: Sp. Ed. 301 and Educ. 303.

431. Medical Aspects of Crippling Conditions (3)
Etiology, care, and treatment of crippling conditions and other types of special health problems. Prerequisite: Sp. Ed. 430 or consent of instructor.

432. Methods and Materials in the Education of Physically Handicapped Children (3)
For students who intend to qualify as special teachers of physically handicapped children. Curricula, methods, materials of instruction, and evaluation. Prerequisite: Sp. Ed. 430.

440. Introduction to the Education of the Visually Handicapped Child (3)
Introduction to educational programs, services, and resources for blind and partially sighted children; exploration of historical background, literature, philosophy, sociological and psychological aspects of blindness. Prerequisites: Sp.Ed. 300 and Educ. 303.

445. Advanced Braille (3)
Intensive study of the Nemeth Code, advanced mathematics, the music code, and chemical notations. Transcription and adaptation of print material for blind children. Prerequisite: Sp.Ed. 442 or proficiency in braille.

446. Orientation and Mobility for Blind Children (3)
Philosophy and history of cane instruction, guide dogs, and other methods of travel. Practicum parallels the concentration on the development of orientation skills and pre-cane mobility techniques. Prerequisite: Consent of instructor.

461. Introduction to the Education of the Deaf (2)
An overview of education of the deaf and hard of hearing. Causes and effects of different types of hearing loss. The role of the teacher, speech and hearing therapist, audiologist, and others dealing with the problems of the acoustically handicapped. Prerequisite: Sp.Ed. 300.

462A. The Teaching of Speech to the Deaf (3)
Principles and techniques used in developing the formation of English sounds. Introduction of speech by the whole-word method. The development of speech in the pre-school and school-age deaf child. Demonstrations and practice with deaf children under supervision. Prerequisite: Sp.Ed. 461.

462B. The Teaching of Speech to the Deaf (3)
Continuation of Sp.Ed. 462A. Prerequisite: Sp.Ed. 462A.

463A. The Teaching of Language to the Deaf (3)

463B. The Teaching of Language to the Deaf (3)
Continuation of Sp.Ed. 463A. Prerequisite: Sp.Ed. 463A.

464. Methods of Teaching School Subjects to the Deaf (4)
Principles and methods of teaching reading, arithmetic, social studies, and science to deaf children. Use of visual aids. Prerequisite: Sp. Ed. 463B.

465. History, Education, and Guidance of the Deaf (3)
History of education of the deaf. Evaluation of educational methods for the deaf. Personal, educational, and vocational guidance for the deaf. The role of the parent. Research studies dealing with psychology, social adjustment, and learning problems of the deaf.
466. Sign Language and Fingerspelling for the Deaf (3)
Development of receptive and expressive skills in sign language and fingerspelling. Practice in the simultaneous use of speech and sign language or fingerspelling. Other aids to visual communication by the deaf.

470. The Gifted Student (3)
Characteristics of gifted children. Emphasis given to identification, growth and development, creativity, motivation, guidance, and evaluation of gifted children.

496. Guidance for the Exceptional Child (3)
Social and vocational guidance for exceptional children using local, state, and national resources. Basic guidance techniques as they relate to a particular type of exceptionality. Prerequisites: Sp. Ed. 300 and Educ. 375 or consent of instructor.

498. Workshop in Special Education (1-3)
The investigation and application of special education principles to the particular needs and interests of the workshop participant. May be repeated to a maximum of 6 semester hours of credit.

500. Foundations of Special Education (3)
The education of exceptional children including contemporary changes in philosophy, objectives, curriculum, methods, materials and evaluation. Prerequisite: Consent of instructor.

505. Vocational Programming for the Handicapped (3)
The vocational training, evaluation, and placement of senior high school age special education pupils; the role of work-study and sheltered workshop personnel. Prerequisite: Consent of instructor.

509. Educational Diagnostics for Exceptional Children (3)
Diagnosis of learning problems. Special attention is given to the identification of specific problems and recommendations for corrective procedures. Prerequisite: Sp.Ed. 409.

510. Medical Aspects of Mental Retardation (3)
An advanced course in mental retardation covering the biological and medical problems and causes of mental retardation. Prerequisite: Sp.Ed. 410.

511. Educational and Sociological Aspects of Mental Retardation (3)
A study of the educational and sociological characteristics of retarded children with emphasis on research. Prerequisite: Sp.Ed. 410.

512. Psychological Aspects of Mental Retardation (3)
An advanced course in mental retardation covering the psychological problems and characteristics of mentally retarded children. Prerequisite: Sp.Ed. 410.

515. Advanced Curriculum Development for the Mentally Handicapped (3)
Principles in the construction and administration of curricula for mentally handicapped children. Prerequisite: Sp.Ed. 411 or 412 or 413 and/or consent of instructor.

520. Learning Disabilities in Children II (3)
Perceptual dysfunctions and concomitant disorders interfering with the development of communication and learning processes in children. Visual, auditory, and kinesthetic perception, spatial orientation, and figure-background discrimination: the training of perceptual functions. Prerequisites: Sp.Ed. 420 and consent of instructor.

522. Educational Procedures for Children with Learning Disabilities (3)
Techniques for specific identification and educational treatment of learning disabilities. Organization and planning of instructional activities, materials and equipment, use of resources, records and reports, and classroom management. Prerequisites: Sp.Ed. 520 and consent of instructor.

532. Educational Problems of Cerebral Palsy (3)
Problems in development, learning, and adjustment; multiple handicaps: study and development of materials to meet special educational needs: parent counseling: integration of services necessary to meet the child’s individual needs. Prerequisite: Consent of instructor.

543. Educational Procedures for the Blind Retarded (3)
Characteristics, learning problems, curriculum adaptations, and special methods and materials for blind children who are mentally retarded. Prerequisite: Sp.Ed. 443.

546. Advanced Orientation and Mobility (3)
Re-enforcement of earlier skills and techniques, concentration on the long cane as a travel aid, and observation of certified instructors working with children. Teaching materials, procedures, and program planning are reviewed and evaluated. Students will learn to travel independently with a cane while under a blindfold. Prerequisite: Sp.Ed. 446.

547. Internship in Orientation and Mobility (3-6)
Orientation and mobility instruction of the pre-cane skills and techniques and of cane travel. Observation and participation in residential school, day school, and agency programs for blind children. Specific experiences will include working with children and development of programs which will be presented to school, family, and community. Prerequisites: Sp.Ed. 446 and 546.
Basic understanding of emotional disturbances including causes, characteristics, and implications for educational planning. Prerequisite: Consent of instructor.

552. Methods and Materials in the Education of Emotionally Disturbed Children (3)
Programs, methods, and materials in the education of the child who is emotionally disturbed, the role of the teacher in relation to other members of the team; use of resources; records and reports. Prerequisites: Sp.Ed. 550 and consent of instructor.

560. Educational Problems of the Hard of Hearing (3)
The educational deficit produced by impaired hearing. Theories and research in teaching the hard of hearing. Prerequisite: Consent of instructor.

561. Educational Procedures in Teaching the Hard of Hearing (3)

563. Problems in the Education of the Deaf-Retarded (3)
An orientation to the special problems involved in the care and education or training of persons who are both retarded and deaf and who may have other handicaps.

564. The Education of Preschool Deaf Children (3)
The rationale of preschool education of deaf children. Intensive training in the methods and procedures of teaching language, speech, and basic reading readiness skills to preschool aged deaf children.

572. Procedures for Educating the Gifted (3)
Current practices, trends, and issues in curriculum development and instructional methods for gifted children: procedures as they relate to cognitive functions, factors of intellect, and creative expression. Prerequisite: Sp.Ed. 470 or consent of instructor.

580. Administration and Supervision of Special Education (3)
Overview of the functions, responsibilities, and problems in the organization, administration, and supervision of special education programs and classes. Prerequisite: Consent of instructor.

594. Independent Study (1-3)
Opportunity and challenge for self-directed, independent study in special education. May be repeated to a maximum of 3 semester hours of credit. Prerequisite: Consent of adviser.

595. Seminar in Special Education (3)
To review and analyze current research in Special Education in terms of the special interests of the student. Prerequisite: Open to Special Education majors.

597. Practicum in Special Education (3-5)
Supervised field experience in Special Education programs in schools, institutions, and other facilities for exceptional children. May be repeated to a maximum of 10 semester hours of credit. Prerequisite: Consent of Head of Department.

598. Institute in Special Education (1-3)
A series of lectures, consultations, and discussion sessions on a relatively limited area of research or education.

599. Master’s Thesis (2-6)
Enrollment by special arrangement with the graduate’s major adviser. May be taken for 2 semester hours and repeated to a maximum of 6 semester hours, or once for 6 semester hours. Prerequisite: Admission to candidacy.
FRESH FROZEN PACKAGED SMOKED

PRODUCTS
FISH STEAKS FISH ROLLS PATTIES

PRODUCTS
SUPPLEMENTS

MARKET PRODUCTION ACRES (DNO)


207 267 315 335 340

180 150 130 120 110

300 350 400 450 500

2,400 2,600 2,800 3,000 3,200

1,800 1,200 1,600 2,000 2,400

50 80 110 140 170

500 560 620 680 740

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FRESCO FROZEN PACKAGED SMOKED PRODUCTS
FISH STEAKS FISH ROLLS PATTIES

SUPPLEMENTS

MARKET PRODUCTION ACRES (DNO)


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200 300 400 500 600
Robert L. Thistlethwaite, Ph.D., Dean
Don W. Arnold, Ph.D., Assistant to the Dean
William J. Masson, Ph.D. Assistant to the Dean
William J. Brown, Ph.D., Coordinator of Business Research
Donald D. Scriven, Ph.D., Coordinator of Computer Systems in Business

Admission Requirements—College of Business

ADMISSION TO PROGRAMS IN BUSINESS

Admission to the graduate programs in business is limited to those students who can demonstrate high promise of success in a graduate business degree program. Applicants must first satisfy the admission requirements of the Graduate School of the University. If these requirements are satisfied, the applicant’s credentials are reviewed for the purpose of applying the admission standards of the College of Business.

The minimum standards that the College of Business will apply to admission to all graduate programs in business at the masters level are: (1) graduation from a regionally accredited college with a grade point average of 2.5 or above attained during the junior and senior year in college, or rank in the upper quartile of the college graduating class, or a score of 450 or above on the ATGSB test; (2) demonstration of growth, maturity, and motivation as evidenced from trends and patterns in college, employment and civic experiences.

ADMISSION TEST FOR GRADUATE STUDY IN BUSINESS

The scores on the Admission Test for Graduate Study in Business as well as the scores on the Aptitude Test of the Graduate Record Examinations are required.

Graduate Study in Business Administration

At the master’s level, the College of Business offers two professional degrees, the Master of Business Administration (M.B.A.) and the Master of Science degree in Business Administration (M.S.).

MASTER OF BUSINESS ADMINISTRATION (M.B.A.)

The aim of the M.B.A. program is to prepare students for careers in business enterprises and other organizations such as public institutions, educational systems, and non-profit organizations. It is believed that this objective can be best accomplished through a broad, integrated program designed to foster an understanding of many of the basic functions of the business firm and the interrelationships among these functional areas. An additional purpose of the program is to develop an understanding of research as it relates to business decision making as an instrument through which additions are made to society's rapidly expanding fund of knowledge.

Nature of Program. A large number of students desiring graduate study in business do not have undergraduate training in business administration. One of the aims of the M.B.A. is to meet the needs of these students. Thus, the M.B.A. is primarily a two-year program of approximately 60 semester hours for these students, the length depending upon the previous business and economic education of the student.

Minimum Requirements: For the M.B.A. degree, the total program for most students will require a minimum of 24 semester hours (or equivalent) work beyond the core and the baccalaureate degree in classes reserved exclusively for graduate students.

For other master's degrees, the total program for most students will require a minimum of 16 semester hours (or equivalent) work beyond the core and the baccalaureate degree in classes reserved exclusively for graduate students.

The M.B.A. program is divided into two distinct phases:

Phase One. The first phase of the program, consisting of 30 semester hours of course work, is required of all students who have little or no previous formal education in business administration. Students pursuing the M.B.A. degree are required to include the following courses in their program unless they have earned acceptable credit in these areas. Such credit will be evaluated in the office of the Dean of the College of Business at the time of admission to the M.B.A. program.

<table>
<thead>
<tr>
<th>Phase One</th>
<th>Semester Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fin. 500</td>
<td>Survey of Business Economics</td>
</tr>
<tr>
<td>Accy. 505</td>
<td>Accounting Theory and Practice for Non-Accounting Majors</td>
</tr>
<tr>
<td>Fin. 505</td>
<td>Financing the Business Enterprise</td>
</tr>
<tr>
<td>Mgt. 505</td>
<td>Principles of Business Organization</td>
</tr>
<tr>
<td>Mktg. 505</td>
<td>Survey of Marketing</td>
</tr>
<tr>
<td>Mktg. 511</td>
<td>Legal Aspects of Business</td>
</tr>
<tr>
<td>Fin. 524</td>
<td>Business Statistics for Research</td>
</tr>
<tr>
<td>Fin. 571</td>
<td>Business and Economic Forecasting</td>
</tr>
</tbody>
</table>
Mrktg. 665 Market Structures and Price Policies  3
          Electives in Business or Economics  3

Total for Phase One  30

Phase Two. Phase two consists of an advanced core and electives. A core of six courses totaling 18 semester hours is required of all M.B.A. students. The remaining 12 semester hours needed to meet the course requirements for the degree will be selected in consultation with the student’s adviser and should be consistent with the student’s personal objectives. These 12 semester hours of elective courses may be used to achieve a degree of specialization or greater breadth.

Phase Two

<table>
<thead>
<tr>
<th>Course</th>
<th>Semester Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accy. 503</td>
<td>3</td>
</tr>
<tr>
<td>Mgt. 533</td>
<td>3</td>
</tr>
<tr>
<td>or</td>
<td></td>
</tr>
<tr>
<td>Mgt. 534</td>
<td>(3)</td>
</tr>
<tr>
<td>Mrktg. 554</td>
<td>3</td>
</tr>
<tr>
<td>Accy. 563</td>
<td>3</td>
</tr>
<tr>
<td>or</td>
<td></td>
</tr>
<tr>
<td>Fin. 581</td>
<td>(3)</td>
</tr>
<tr>
<td>Mgt. 572</td>
<td>3</td>
</tr>
<tr>
<td>Fin. 662</td>
<td>3</td>
</tr>
<tr>
<td>Electives</td>
<td>12</td>
</tr>
</tbody>
</table>

Total for Phase Two  30

Thesis Option. A thesis is not required. A candidate, with the approval of his advisory committee, may, however, elect to write a thesis for a maximum of 6 semester hours of credit.

Final Examination Requirements. The final examination of each candidate is administered by the Chairman of the Candidate’s Advisory Committee. Comprehensive in nature, it may be a written or an oral examination, or both. The candidate must notify the Chairman of his Advisory Committee of his intent to take the examination. (See calendar.)

MASTER OF SCIENCE IN BUSINESS ADMINISTRATION WITH SPECIALIZATION IN ACCOUNTANCY

Phase One

Students pursuing the degree M.S. are required to include the following courses in Phase One in their programs unless they have earned acceptable credit in the undergraduate equivalent. Credits earned in the Phase One graduate courses will not count toward the 30 semester hour degree requirement in Phase Two.

<table>
<thead>
<tr>
<th>Course</th>
<th>Semester Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fin. 500 Survey of Business Economics</td>
<td>3</td>
</tr>
<tr>
<td>Fin. 505 Financing the Business Enterprise</td>
<td>3</td>
</tr>
<tr>
<td>Mgt. 505 Principles of Business Organization</td>
<td>3</td>
</tr>
<tr>
<td>Mrktg. 505 Graduate Survey of Marketing</td>
<td>3</td>
</tr>
<tr>
<td>Mgt. 511 Legal Aspects of Business</td>
<td>3</td>
</tr>
<tr>
<td>Fin. 524 Business-Statistics and Research</td>
<td>3</td>
</tr>
</tbody>
</table>

In addition to the above, the student must show proficiency in the following Accountancy courses. This requirement may be satisfied by 1) previous credit with a grade of “C” or better, 2) a proficiency examination, 3) satisfactory completion of the course.

<table>
<thead>
<tr>
<th>Course</th>
<th>Semester Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accy. 121 Elementary Accounting I</td>
<td>3</td>
</tr>
<tr>
<td>Accy. 122 Elementary Accounting II</td>
<td>3</td>
</tr>
<tr>
<td>Accy. 224 Intermediate Accounting I</td>
<td>3</td>
</tr>
<tr>
<td>Accy. 225 Intermediate Accounting II</td>
<td>3</td>
</tr>
<tr>
<td>Accy. 330 Cost Accounting I</td>
<td>3</td>
</tr>
<tr>
<td>Accy. 440 Auditing Theory</td>
<td>3</td>
</tr>
</tbody>
</table>

*These courses may be taken for graduate credit (with the approval of the academic adviser) as one or more of the Accountancy electives noted in Phase Two.
**BUSINESS**

Accy. 455* Individual and Business Taxation 3
Accy. 459** Introduction to Data Processing Systems 3
Accy. 471* Advanced Accounting 3

**Phase Two**

Students pursuing the degree Master of Science with specialization in Accountancy will meet the following additional requirements:

Accy. 503 Introduction to Research 3
Accy. 575 Income Theory 3
Accy. 599A Master’s Thesis 3
Accy. 663 Seminar in Accounting 3
Electives in Accountancy as approved by adviser 6-9

Related area electives (at least 9 semester hours) must be earned outside the department and approved by the adviser.

Total—30 semester hours.

**MASTER OF SCIENCE IN BUSINESS ADMINISTRATION WITH SPECIALIZATION IN FINANCE**

**Phase One**

Students pursuing the degree M.S. are required to include the following courses in Phase One in their programs unless they have earned acceptable credit in these areas of study. Credits earned in these Phase One graduate courses will not count toward the 30 semester hour degree requirement in Phase Two.

Fin. 500 Survey of Business Economics 3
Accy. 505 Accounting Theory and Practice for Non-Accounting Majors 3
Fin. 505 Financing the Business Enterprise 3
Mgt. 505 Principles of Business Organization 3
Mktg. 505 Graduate Survey of Marketing 3
Mgt. 511 Legal Aspects of Business 3
Fin. 524 Business Statistics for Research 3
Electives in Business and/or Economics 9

Total for Phase One 30

**Phase Two**

Students pursuing the degree Master of Science with specialization in Finance will meet the following additional requirements:

Fin. 503 Introduction to Research 3
Fin. 599 Master’s Thesis 1-6
Fin. 662 Seminar in Business Finance 3
Electives in Finance as approved by adviser 12

Related area electives (at least 6 semester hours) must be earned outside the department and approved by the adviser.

Total—30 semester hours.

**MASTER OF SCIENCE IN BUSINESS ADMINISTRATION WITH SPECIALIZATION IN MANAGEMENT**

**Phase One**

Students pursuing the degree M.S. are required to include the following courses in Phase One in their programs unless they have earned acceptable credit in these areas of study. Credits earned in these Phase One graduate courses will not count toward the 30 semester hours degree requirements in Phase Two.

Fin. 500 Survey of Business Economics 3
Accy. 505 Accounting Theory and Practice for Non-Accounting Majors 3
Fin. 505 Financing the Business Enterprise 3
Mgt. 505 Principles of Business Organization 3
Mktg. 505 Graduate Survey of Marketing 3
Mgt. 511 Legal Aspects of Business 3
Fin. 524 Business Statistics for Research 3
Electives in Business and/or Economics 9

Total for Phase One 30

**Phase Two**

Students pursuing the degree Master of Science with specialization in Management will meet the following additional requirements:

Mgt. 503 Introduction to Research 3
Mgt. 533 Organization and Management Development 3
Mgt. 534 Administrative Theory and Practice 3
Mgt. 535 Human Relations in Business 3
Mgt. 572 Business Policies 3

**Accountancy 459 is considered a part of Phase One and cannot be taken as a part of the requirements for Phase Two.**
Mgt. 599 Master's Thesis 1-6
Electives as approved by adviser 6
Students must choose at least one seminar course from among the following: Mgt. 661, 620, and 638.
Related area electives (at least 6 semester hours) must be earned outside the department and approved by the adviser.
Total -- 30 semester hours.

MASTER OF SCIENCE IN BUSINESS ADMINISTRATION WITH SPECIALIZATION IN MARKETING

Phase One

Students pursuing the degree M.S. are required to include the following courses in Phase One in their programs unless they have earned acceptable credit in these areas of study. Credit earned in these Phase One graduate courses will not count toward the 30 semester hour degree requirement in Phase Two.
Mktg. 443 Marketing Research 3
Mktg. 463 Marketing Problems 3
Fin. 500 Survey of Business Economics 3
Accy. 505 Accounting Theory and Practice for Non-Accounting Majors 3
Fin. 505 Financing the Business Enterprise 3
Mgt. 505 Principles of Business Management 3
Mktg. 505 Graduate Survey of Marketing 3
Mgt. 511 Legal Aspects of Business 3
Fin. 524 Business Statistics for Research 3
Electives in Business and/or Economics 3

Total for Phase One 30

Phase Two

Students pursuing the degree Master of Science with specialization in Marketing will meet the following additional requirements:
Mktg. 503 Introduction to Research 3
Mktg. 554 Marketing Management 3
Mktg. 599 Master's Thesis 1-6
Electives in Marketing as approved by adviser 9

Related area electives (at least 6 semester hours) must be earned outside the department and approved by the adviser.
Total -- 30 semester hours.

GRADUATE STUDY IN BUSINESS EDUCATION

The Department of Business Education offers the following graduate programs: a major in Business Education leading to the degree Master of Science in Education, a sixth-year program leading to the Certificate of Advanced Study in Business Education, and a doctoral program leading to the degree Doctor of Education.

MASTER OF SCIENCE IN EDUCATION WITH SPECIALIZATION IN BUSINESS EDUCATION

Students pursuing the degree Master of Science in Education with a specialization in Business Education are required to complete each of the following courses, or its equivalent, or to remove this deficiency by taking the course defined as its graduate equivalent. Credits earned in the Phase One graduate courses will not count toward the 30 semester hours degree requirement in Phase Two. A minimum of 30 semester hours in business or economics is required in Phase One.

The Master of Science in Education degree is conferred only on those students who meet certification requirements for the Illinois Secondary certificate, except for those completing approved programs in the Community College area and who have the approval of this institution.

<table>
<thead>
<tr>
<th>Undergraduate Course</th>
<th>Graduate Equivalent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accy. 121-122 Elementary Accounting</td>
<td>Accy. 505 Accounting Theory &amp; Practice for Non-Majors (6)</td>
</tr>
<tr>
<td>1, II (6)</td>
<td></td>
</tr>
<tr>
<td>Econ. 260-261 Principles &amp; Problems of Economics</td>
<td>Fin. 500 Survey of Business Economics (6)</td>
</tr>
<tr>
<td>1, II (6)</td>
<td></td>
</tr>
<tr>
<td>Fin. 320 Principles of Finance (3)</td>
<td>Fin. 505 Financing the Business Enterprise (3)</td>
</tr>
<tr>
<td>Fin. 223 Business Statistics I (3)</td>
<td>Fin. 524 Business Statistics for Research (3)</td>
</tr>
<tr>
<td>Mgt. 311 Business Law I (3)</td>
<td>Mgt. 511 Legal Aspects of Business (3)</td>
</tr>
<tr>
<td>Mgt. 333 Principles of Management (3)</td>
<td>Mgt. 505 Principles of Business (3)</td>
</tr>
<tr>
<td>Mktg. 249 Principles of Marketing (3)</td>
<td>Mktg. 505 Graduate Survey of Marketing (3)</td>
</tr>
</tbody>
</table>
BUSINESS

Business or Economics electives (9) Business or Economics electives (3)

Phase Two

Students pursuing the degree Master of Science in Education with a specialization in Business Education will meet the following additional requirements:
Bus.E. 500 Principles and Problems of Business Education (3)
Bus.E. 501 Introduction to Research in Business Education (3)
Bus. E. 599A Master's Thesis or Directed Research in Business Education (3-6)

Students must elect one of the following options:
A. Under this option, the student must write a thesis for 3 to 6 semester hours of credit.
B. Under this option, the student must complete in approved form one or more major papers or projects for 3 semester hours of credit.

Electives (19-22)
Related areas electives (at least 6 semester hours) must be earned outside the department and approved by the adviser.
Total—30 semester hours.

CERTIFICATE OF ADVANCED STUDY

Major in Business Education

The Certificate of Advanced Study has been established to provide educational programs beyond the master’s degree suited to the needs, interests, abilities, and experiences of qualified candidates for advanced study.

Programs of study are offered leading to the Certificate of Advanced Study in Business Education in conformity with the requirements of the Graduate School.

DOCTOR OF EDUCATION

Students desiring to arrange graduate programs at the doctoral level in Business Education are permitted considerable flexibility in the selection of graduate Business Education courses. The type of program arranged will depend upon the student’s undergraduate preparation, his present position, and his plans for the future. The following general requirements for doctoral study apply to all applicants:

1. General Requirements
   a. All doctoral candidates in Business Education must meet the undergraduate requirements of this university. If deficiencies exist in either the Business Education or Business Administration areas, such requirements must be fulfilled without graduate credit.

b. Full-time teaching experience for three years, or equivalent, is required for admission to candidacy for a doctor’s degree.

c. For admission to the doctoral program, see Graduate School Policy on pages 28-29. The master’s degree must have been received prior to admission to candidacy for the doctoral program.

d. Residence. Two consecutive semesters of residence are required, not including summer session. (See pages 29-30 regarding Graduate School requirement.) The total program requires the equivalent of three academic years beyond the bachelor’s degree. The minimum number of semester hours, including the dissertation, is 96.

e. Statistics Requirement. Candidates are required to take two courses in statistics.

f. Dissertation. A research project must be prepared which is based on special investigation of a subject of importance to the candidate’s professional work. The dissertation may be concerned with a significant phase of educational theory or practice, or it may be a scholarly interpretative study in some important area in the subject matter field. The dissertation subject must be approved by the candidate’s dissertation committee. A satisfactory oral defense of the dissertation is required before final acceptance.

g. Examinations. Business Education Department doctoral students will be required to take the Cooperative English Test at the beginning of the first summer or semester of enrollment. For new students with a master’s degree, an achievement test in business education may be administered by the Business Education Department.

A written candidacy examination will be given and read by the student’s committee after completion of at least 64 semester hours of graduate course work. This examination will cover the major and related fields in which the candidate has planned his program. A follow-up oral examination will then be administered by the student’s committee.
2. Specific Requirements

DOCTOR OF EDUCATION with a Major in Business Education (at least three years of teaching experience required). The student’s advisory committee will be composed of three people from the Department of Business Education. Graduate faculty members from other departments in the University may also be appointed to this committee. The chairman of the committee will be a graduate faculty member from the Department of Business Education.

a. AREA OF CONCENTRATION . . . 60 semester hours
   Major in Business Education 20-40*
   Required: Bus.E. 600 and Bus.E. 645
   Business Administration (Accountancy, General Business, Finance, Marketing, Management) 12-36
   A year of statistics 2 courses
   Dissertation 10-25

b. EDUCATION . . . . . . . . . . . . . . . . . . 12-28 semester hours
   Graduate Background Courses in Education
   Recommended Courses
      Educ. 500 Social Foundations of Education 3

*Electives from Business Administration may be substituted for Business Education, as determined by student’s background and needs.

Educ. 501 Psychological Foundations of Education 3
Educ. 504 Philosophical Foundations of Education 3

c. Related Fields . . . . . . . . . . . . . . . . 9-18 semester hours

d. Minimum Requirements for the degree . . . . . . . . . . . . . . . . 96 semester hours

International Business

The College of Business through its courses dealing with international marketing, international finance, international accounting, travel seminars, and others, is prepared to meet the needs of students who have interest and aptitude in the broad area of international business. It is possible for a student to obtain a concentration of work devoted to international business by working closely with an adviser in one of the fields mentioned above.

Teaching in the Junior Colleges

The College of Business has programs leading to teaching careers in the junior colleges. By following programs combining business education and business administration, graduate students are in a position to qualify for teaching at the junior college level.
Course Offerings

Department of Accountancy

Faculty: Avery, Department Head, Barbour, Cheng, Iliff, Kieso, McClary, McCormick, Perritt, Scriven.

421. Consolidations—Theory and Practice (3)
Accounting principles as applied to corporate consolidations, business combinations, home office and branch relationships, foreign operations, and other topics in advanced accounting theory and practice. Prerequisite: Accy. 225.

440. Auditing Theory (3)
The principles, practices, and procedures followed in the audit of corporate accounts, preparation of related working papers, and the final audit report. Prerequisite: Accy. 225 or concurrent registration.

441A. Auditing Practice (2)
The student is required to prepare a complete set of auditing working papers, write formal audit reports, and study the official auditing bulletins and case studies, and discuss current topics. Prerequisite: Accy. 440.

441B. Auditing Practice (1)
Succeeding the internship, the student writes an extended research paper and works case problems. Prerequisite: Accy. 458 or concurrent registration.

454. Accounting Systems (3)
The problems involved in the design and installation of accounting systems, including systemizing the clerical department of a business. Classification of accounts, account codes, ledgers, financial reports, flow charts, and function charts. Prerequisites: Accy. 225, 330, or concurrent registration.

455. Individual and Business Taxation (3)
Federal taxes as they apply to the individual and to business. Considerable emphasis upon the individual return, including pay-as-you-go, social security, declarations, and payments. Prerequisite: Accy. 122 or consent of instructor.

456. Advanced Federal Taxes (3)
Advanced phases of income taxation with particular attention to corporations, partnerships, estates and trusts, and other special areas of current interest including governmental accounting and the application of actuarial science to problems of accounting measurement and cost allocation. Prerequisite: Accy. 455.

457. Governmental Accounting (2)
Budgets, general funds, bond funds, sinking funds, trust and agency funds, working capital funds, and special assessment funds. Prerequisite: Accy. 122.

459. Introduction to Data Processing Systems (2-3)
(Also listed as Fin. 459)
Characteristics of unit-record equipment and electronic data processing. A study of the theoretical and procedural applications to specific fields in business, industry, and education. Laboratory assignments in the use of data processing equipment, supplemented by field trips. Prerequisite: Consent of instructor.

470. Budgetary Control (2)
Budgeting as a principal tool of accounting and management control, covering techniques of general application to most business situations. A practice set provides the transition from the text material to practical applications. Prerequisite: Accy. 122 or equivalent.

471. Advanced Accounting (3)
Contemporary accounting theory and practice pertaining to partnerships, receiverships, estates and trusts, and other special areas of current interest including governmental accounting and the application of actuarial science to problems of accounting measurement and cost allocation. Prerequisite: Accy. 225.

475. CPA Problems (3-5)
The analysis and review of accounting principles and practices as developed and illustrated in complex selected problems. Discussions of selected problems and theory. Laboratory practice in the solution of typical problems encountered in the CPA examination. Prerequisite: Consent of instructor.

480. International Accounting (3)
An introduction to the international dimensions of accounting. An examination of accounting theory and practice from an international perspective related to the current influence of multinational business and investment activities. Prerequisite: Accy. 122 or equivalent.

491. Workshop in Accounting Records for Small Business (2-3)
Development of adequate record systems to conform with tax laws and managerial decisions. Short cuts in cases where data processing is impractical. A research project in determining how other businesses in similar situations operate. Prerequisite: Open to business employees, managers, and owners; or by consent of Head of Department.

503. Introduction to Research (3)
To acquaint the student with research which has been completed in departmental area during recent years. The student will become familiar with the methods, techniques, and procedures of research. The prospectus for the thesis may be developed in cooperation with the director of the paper. Prerequisite: At least 6 semester hours of graduate work, or consent of instructor.
505. Accounting Theory and Practice for Non-Accounting Majors (3)
A comprehensive survey of accounting theory for non-accounting majors which touches on all areas of general and specialized accounting, such as financial accounting, cost accounting, fund accounting, tax accounting, budgeting, and auditing. Special emphasis is placed upon the contribution accounting makes to business management, planning, and control. Open to students with no background or less than 6 semester hours in accounting.

532. Cost Accounting Theory (3)
The history and development of cost accounting theory with emphasis upon the current theoretical developments with an examination of controversial issues. Prerequisite: Consent of instructor.

539. Seminar in Teaching College Business Subjects (3)
(Also listed as Bus.E. 539)
The teaching of business administration at the college level. The problems, principles, and techniques of effective instruction in teaching college business subjects. Problems and cases covering objectives, instructional procedures, measurement and evaluation.

540. Financial Statement Analysis (2-3)
Analysis and interpretation of financial reports with particular reference to the construction of statements, the meaning of accounts, ratios, and other evaluating indices.

543. Advanced Theory of Auditing (3)
An examination of the theoretical framework of auditing with emphasis upon the development and analysis of the philosophy, methodology, and concepts of auditing. Prerequisite: Accy. 440.

561. Computer Theory and Programming (2-3)
(also listed as Fin. 561)
Flow charting, block diagramming, coding and programming techniques. Development of an electronic data processing system for business, industry, or schools. Implementation of computer tasks through laboratory exercises in programming and field trips. Prerequisite: Accy. or Fin. 459, or equivalent.

563. Advanced Managerial Accounting (3)
Training in managerial accounting and budget control. The use of technical information in interpretation, coordination, and implementation of policy. Functions, principles, procedures, and techniques in meeting objectives of the manager. Not open to students with credit in Accy. 225 and 330 or equivalents. Prerequisite: Accy. 505 or equivalent.

575. Income Theory (3)
Examination of income theories and their impact on accounting principles and techniques. Review of current literature and pronouncements of the two major accounting associations with considerable emphasis on controversial areas. Prerequisite: Consent of instructor.

599A. Master's Thesis (1-6)
Open to students writing a thesis under the M.S. or M.B.A. programs. The student enrolls with the faculty member directing the thesis. Prerequisite: Accy. 503 or equivalent.

603. Seminar in Business Research (3)
A review and evaluation of current research in business giving consideration to the implication of findings for the improvement of business practices. Not for credit on the thesis. Prerequisite: Accy. 503 or consent of instructor.

604. Independent Study in Business (1-3)
Open to students qualified to do individual study in business. Not for credit on the thesis. May be repeated to a maximum of 6 semester hours. Prerequisite: Consent of instructor.

663. Seminar in Accounting (3)
The various theories, principles, practices, and procedures in all phases of accounting. Students will investigate independently, and as a group, problems of special interest in the field of accounting.
Department of Business Education

Faculty: Maxwell, Department Head. Cambridge, D. Crank, F. Crank, Dye, Eckert, Garman, Geigle, Harris, Pender, Stehr, Woolschlager.

405. Methods of Teaching Distributive Subjects (2)
    Development of distributive education, nature and purpose of instruction, curriculum and course planning, learning process, types of learning activities, sources and storing of instructional materials, measurement of learning, managing individual instruction.

406. Organization and Administration of Office and Distributive Education Cooperative Programs (3)
    Overview of office and distributive education programs, changing philosophy and environment of office and distributive education, planning and organizing a new cooperative program, role of the coordinator in the program, recruitment, selection of training stations and student placement, operation of the cooperative plan, coordination procedures, evaluative program techniques.

407. Directed Occupational Experience (1-4)
    Provides office and distributive education teachers and coordinators practical on-the-job experience. Training sponsor development, job analysis, job descriptions, human relations problems, job study guides, job training techniques, occupational experience (reports), job problems, coordination case problems. May be repeated to a maximum of 4 semester hours.

408. Coordination Techniques in Cooperative Office and Distributive Education Programs (2-3)
    Background and development of effective coordination techniques, need for high school and post-high school programs, school and community relations, selection and placement of trainees, selection and development of training stations, occupational analysis, instructional analysis, instructional materials and facilities, coordinating trainee-career programs, advisory committees, reports and records, adult education, follow-up activities, potential opportunities for program growth.

409. Individual Instruction Techniques in Office and Distributive Education (2-3)
    The nature of individual instruction, learning process, individual instruction methods developing individual instruction study materials, programmed learning, evaluating instructional techniques, building an individualized instruction program, sources of materials, special problems in training store and office workers.

500. Principles and Problems of Business Education (3)
    The characteristics of present-day business education in terms of its basic principles and typical practices, problems, and trends.

501. Introduction to Research in Business Education (3)
    Designed to acquaint students with significant research in business education and to develop competencies in research methodology through an intensive study of the methods, techniques, and procedures used in research in business education.

510. Administration and Supervision of Business Education (3)
    General managerial problems of business education in the secondary school, designed for in-service business teachers. Curriculum construction and material, student measurement and evaluation, classroom supervision and rating, physical layout, and administration of supplies, textbooks, and equipment.

515. Guidance in Business Education (2)
    Principles and practices in guidance applied to secondary business education students. Educational and vocational counseling and occupational information pertaining to business.

516. Problems in Distributive Education (2-3)
    Problems and research in technical subjects, facilities and equipment, selection and placement of students, organization and administration of high school programs, counseling for distributive occupations, coordination characteristics, evaluation of distributive education, coordination techniques, instructional techniques.

518. Improvement of Instruction in Distributive Education (3)
    Improvement of techniques and materials of teaching distributive subjects in secondary and post-secondary school. An evaluation of classroom materials, methods, research and current trends through a mutual exchange of ideas and experience.

519. Problems in Business Communications (3)
    Objectives, subject matter selection, presentation, achievement standards, and evaluation related to various business communications forms.

520. Improvement of Instruction in Stenography (3)
    Teaching techniques and an evaluation of research in methodology for the purpose of improving the instruction in shorthand and transcription. Remedial practices, methods of motivation, and the use of classroom materials will be discussed through an exchange of ideas and experiences.

521. Improvement of Instruction in Typewriting (3)
    Methods of improving the techniques of teaching typewriting
through an examination of current research and the discussion of such problems as typewriting in the curriculum: objectives; testing and grading for beginning, advance, and personal-use classes: remedial practices: motivation: and the use of materials and supplies.

522. Teaching Procedures in Bookkeeping and Accounting (3)
The problems and techniques in the teaching of bookkeeping. The place of bookkeeping in the curriculum: methods: motivation: the use of visual aids and practice sets: testing and grading: and problems of individual teachers.

523. Methods and Materials in Teaching Basic Business (3)
Improvement of the techniques of teaching the general and social-business subjects generally found in the secondary school business curriculum. An evaluation of classroom materials: methods: research: and current trends through mutual exchange of ideas and experiences.

525. Evaluation and Measurement in Business Education (2)
The kinds and uses of tests in both skill subjects and general business subjects: evaluation of available tests in the various business education subjects: construction of tests in the various business subjects.

530. Seminar in Consumer Problems (3)

535. Adult Education Programs in Office and Distributive Education (3)
Problems in curriculum: selection and training of instructors: and the promotion of evening school courses for adults. Analysis of content of course work offered and the methods of developing a coordinated program.

539. Seminar in Teaching College Business Subjects (3)
(Also listed as Accy. 539)
The teaching of business administration at the college level. The problems: principles and techniques of effective instruction in teaching college business subjects: Problems and cases covering objectives: instructional procedures: measurement and evaluation.

540. Supervision of Student Teachers in Business Education (3)
For persons who plan to supervise student teachers. Principles and techniques for secondary: and college teachers in supervising student teaching and other professional laboratory experiences with emphasis on special problem areas in the business subjects: in both the skill and nonskill courses. Prerequisites: 12 semester hours in Education and teaching experience.

550. Practicum in Office Machines (3)

590. Workshop in Business Education (2-3)

591. Workshop in Methods of Teaching Business Subjects (2-3)
For experienced teachers of business subjects in secondary and collegiate institutions. New developments in the teaching of various business subjects are studied through discussion: demonstration: and practice supplemented by presentations from specialists in the field. May be repeated once.

592. Seminar in Distributive Education (2-3)
For experienced teachers in secondary schools and junior colleges. Current practices: administration: legislation: problems in program development: development of instructional materials: selected problems as determined by class enrollees. Prerequisite: Consent of instructor.

593. Seminar in Office Education (2-3)

594. Distributive Education in the Post-Secondary School (2-3)

599A. Master’s Thesis or Directed Research in Business Education (1-6)
Designed to utilize research skills and techniques through writing and developing papers and projects. A student must select: complete: and present in approved written form one or more projects or papers based on significant problems. May be repeated to a maximum of 6 semester hours. Prerequisites: Bus.E. 500: 501: or equivalent.
BUSINESS EDUCATION

599B. C.A.S. Thesis in Business Education (1-6)
Required for student writing a thesis for the Certificate of Advanced Study. Prerequisite: Bus.E. 501 or equivalent.

599C. Independent Study in Business Education (1-6)
For students who wish to pursue individual study and analysis of problems in business education of particular interest and value to the students. May be repeated to a maximum of 6 semester hours.

600. Seminar in Business Education (3)
The principal theories, practices, and procedures of establishing and maintaining relationships between business education and the total school administrative program. Students are expected to investigate problems of special interest within the field of business education. Required of all doctoral candidates in business education.

610. Curriculum Construction in Business Education (3)
Problems and methods in business education curriculum construction in secondary schools, together with underlying philosophies of curriculum making. Study and evaluation of existing city and state business education programs.

612. Preparation of Teachers in Business Education (3)
Issues and problems in business teaching education, curriculum, certification, professional standards, recruiting and selection, experimental programs and research.

631. Seminar in Personal and Family Finance (3)
A concentrated study in the area of personal economic education. Financial planning, consumer buying, housing, taxes, insurance, social security, consumer credit, money and banking, and investments. Lectures by experts in each of these areas. Attention to both personal and professional application.

640. Business Education in the Post-Secondary School (3)
Organizational plans, curriculum construction, and staffing problems of business colleges, junior colleges, 4-year colleges, and universities.

645. Research in Business Education (3)
Advanced methods and techniques of research involving statistical analysis and data processing methods employed in the investigation of business education problems. Includes study and analysis of significant research in business education. Required of all doctoral candidates in business education.

699. Doctoral Research and Dissertation (1-25)
Department of Finance

Faculty: Bishop, Department Head; Alwan, Basti, Bozivich, Brown, Carey, Craig, Eaton, Komarynsky, Kreidle, Kuhn, Masson, Miller, Olive, Simon, Thistlethwaite, Tseng, Wilbur.

416. Life, Accident, and Sickness Insurance (3)
Growth and functions of life insurance; kinds of policies and their uses; surrender values and policy loans; accident and sickness coverages; assessment insurance; group insurance.

417. Property and Casualty Insurance (3)
Principles underlying the underwriting of property and casualty lines of insurance; functions of the various types of insurance; types of hazards and their significance; analysis of the standard fire policy.

418. Real Estate Principles (3)
Real estate ownership and interest, contracts, title transfer, deeds, mortgage instruments, and leases. Brokerage, real estate development, property management, and appraising.

419. Real Estate Evaluation (3)
Theories of value applied to real estate; appraising residential, industrial, and other income properties. Value analysis and valuation principles as decision guides. Designed for those interested in the property value problem, particularly with respect to valuation for accounting purposes and assessing for tax purposes. Prerequisite: Fin. 418.

420. Investment Principles (3)
Classification and analysis of the contractual features of securities; the mechanics of investment; tests to be applied in the selection of securities for personal and business portfolios; significant financial institutions; and the determination of the qualities of securities based on an analysis of financial statements. Prerequisite: Accy. 122.

421. Portfolio Analysis and Management (3)
Principles and practices used in the management of individual and institutional portfolios. Attention is given to a critical analysis of current portfolio problems. Prerequisite: Fin. 420 or equivalent.

424. Business Statistics II (3)
Inferences in regression, analysis of variance, inferences with discrete data. Prerequisite: Fin. 223.

430. Financial History of the United States (3)
An historical survey in the areas of banking, taxation, tariffs, public expenditures and debt, from colonial days to the present time, including a study of financial panics and a review of the financial policies of leading statesmen. The course is designed to give a perspective for an understanding of current problems in these fields. Prerequisite: Econ. 261.

450. Money and Banking (3)
A short historical survey of money and the evolution of banking. The organization and the operation of banks, monetary theory and markets, and the functions of the Federal Reserve System.

451. Commercial Bank Management (3)
An extension of Money and Banking, Fin. 450. Particular emphasis upon the problems of formulating appropriate lending and investment policies. Relationships of the composition and movement of bank deposits to investment and loan policies stressed. Commercial banking problems covered primarily from the standpoint of the management of an individual commercial bank. Prerequisite: Fin. 450, or Fin. 484, or consent of instructor.

459. Introduction to Data Processing Systems (2-3)
(Also listed as Accy. 459)
Characteristics of unit-record equipment and electronic data processing. A study of the theoretical and procedural applications to specific fields in business, industry, and education. Laboratory assignments in the use of data processing equipment, supplemented by field trips. Prerequisite: Consent of instructor.

462. Problems in Business Finance (3)
A critical study of selected problems dealing with promotion and organization, permanent capital, working capital, capital budgeting, dividend policies, and special financial problems. Prerequisite: Fin. 320 or consent of instructor.

480. Corporation Finance I (3)
The nature of corporation finance and its relation to economics, accounting, and law; financial analysis and interpretation; capitalization of earnings; corporate securities; corporate financing and refinancing. Prerequisite: Fin. 320 or consent of instructor.

481. Corporation Finance II (2)
Corporation finance dealing with expansion, consolidation, concentration, and intercorporate relations; the corporate institution and the problem of monopoly and competition; corporate failure and reorganization; and the problems of economic stability. Prerequisite: Fin. 480 or consent of instructor.

483. Cyclical Financial Problems (3)
Business fluctuations with special reference to financial problems, thereby giving the student a practical application of economic theory to financial problems. Prerequisites: Fin. 223 and 450, or consent of instructor.

484. Financial Institutions (3)
The whole structure of financial institutions in the American
economy is reviewed. Financial institutions as recipients and as suppliers of funds in financial markets. The role and characteristics of many kinds of financial institutions and the administration of their loan and investment portfolios. Prerequisite: Fin. 320 or consent of instructor.

498. International Business Problems (3)
(Also listed as Mrktg. 498)
Case study analysis is used with particular emphasis upon foreign financial and marketing problems including product introduction, distribution and promotion patterns, and the procedures of overseas business development. Prerequisite: Consent of instructor.

500. Survey of Business Economics (3)
Business economic concepts relevant to an analysis of the environment within which the business firm operates and those economic concepts basic to an analysis of a broad scope of business problems.

503. Introduction to Research (3)
To acquaint the student with research which has been completed in departmental area during recent years. The student will become familiar with the methods, techniques, and procedures of research. The prospectus for the thesis may be developed in cooperation with the director of the paper. Prerequisite: At least 6 semester hours of graduate work or consent of instructor.

505. Financing the Business Enterprise (1-3)
For graduate students with little formal background in finance. Financial theory and activities connected with the organization and operation of a business enterprise. The relationship of these financial activities to other aspects of business administration. Financial planning and control, working capital considerations, capital budgeting, sources and use of funds, valuation of enterprise, and the financial environment in which the firm operates. Prerequisite: Accy. 399 or consent of instructor.

524. Business Statistics for Research I (3)
Descriptive statistics, probability and sampling distributions; statistical inference, simple linear regression and correlation. Prerequisite: Math. 210 or equivalent.

525. Business Statistics for Research II (3)
Inferences in regression and correlation: analysis of variance and experimental designs; inferences with discrete data. Prerequisite: Fin. 524 or equivalent.

527. Operations Research in Business (3)
(Also listed as Mgt. 527)
The objectives of operations research and the quantitative method used in the solution of problems of business. Optimum decision models are developed under conditions of certainty and uncertainty. Prerequisites: Math. 210 and a minimum of one course in business statistics or equivalent.

561. Computer Theory and Programming (2-3)
(Also listed as Accy. 561)
Flow charting, block diagramming, coding and programming techniques. Development of an electronic data processing system for business, industry, or schools. Implementation of computer tasks through laboratory exercises in programming and field trips. Prerequisite: Accy. or Fin. 459, or equivalent.

571. Business and Economic Forecasting (3)
Principles, techniques, and applications of forecasting for the economy as a whole, for industries, and for individual business firms. Prerequisites: Econ. 261 or Fin. 500; Fin. 223 or Fin. 524 or equivalent.

581. Quantitative Analysis in Business Research (3)
Basic principles of classical statistical inference as applied to analyzing and reporting business research and in choosing the best action in business decision problems: completion of this theory by recent developments in personal probability. Prerequisites: Fin. 223, Math. 210 or equivalent courses.

582. Investment Management (3)
Principles underlying the selection and management of portfolios of individual and institutional investors. Formulation of suitable portfolio policies and their revision to meet changing conditions. Prerequisite: Fin. 420 or equivalent.

583. Security Analysis (3)
A detailed study of the methods utilized in analyzing the major types of securities. The greatest emphasis is given to equities. Economic, corporate, financial, and management factors are given due consideration. Prerequisite: Fin. 420 or equivalent.

585. International Business Finance (3)
The methods, practices, and institutions for financing international and foreign business firms including direct and indirect investments. Current developments relating to specific finance and monetary problems. Prerequisite: Fin. 320 or 450 or equivalent.

588. Mortgage Banking (3)
The nature of real estate credit, general and special methods of real estate finance, the mortgage market, principles of mortgage risk analysis, policies and practices of major lending institutions, and the operations of governmental lending and underwriting agencies. Prerequisite: Fin. 418 or consent of instructor.

589. Regional Financial Resources (1-3)
A regional study and analysis, through readings, research data, and sampling of the flow of income, savings, and investment funds. Special emphasis will be placed on financial institutions in the area such as
banks, insurance companies, savings and loan associations, finance companies, credit unions, and agricultural credit associations to determine the sources as well as the uses of financial resources.

599. Master's Thesis (1-6)
Open to students writing a thesis under the M.S. or M.B.A. programs. The student enrolls with the faculty member directing the thesis. Prerequisite: Fin. 503 or equivalent.

600. Managerial Economics (3)
Those phases of business economics that are particularly useful to the management of large industrial corporations. Profit objectives and the measurement and forecasting of demand and costs. The decision-making processes in business. Prerequisite: Fin. 500.

603. Seminar in Business Research (3)
A review and evaluation of current research in business giving consideration to the implication of findings for the improvement of business practices. Not for credit on the thesis. Prerequisite: Fin. 503, or consent of instructor.

604. Independent Study in Business (1-3)
Open to students qualified to do individual study in business. Not for credit on the thesis. May be repeated to a maximum of 6 semester hours. Prerequisite: Consent of instructor.

606. Seminar in Federal, State, and Local Finance (3)
Current problems in federal, state, and local taxation, budgetary procedures, debt management and expenditure programs, with emphasis on the effect on public institutions and the national economy.

613. Readings in Finance (1-3)
Special readings useful to a student's individual program and objectives, but not available in regular course offerings. May be repeated to a maximum of 3 semester hours. Prerequisite: Consent of instructor.

615. Graduate Seminar in Quantitative Analysis (3)
Advanced topics in quantitative analysis and the more complex problems arising in the application of statistical theory in business decision making. Applications of the computer in problem solving. Prerequisites: One semester of statistics and Math. 210 or equivalent of these courses.

650. Seminar in Managerial Economics (3)
Selected topics in managerial economics, emphasizing current literature on the theory and analysis of business. Prerequisite: Fin. 600 or consent of instructor.

662. Seminar in Business Finance (1-3)
A general seminar which includes financial problems peculiar to business finance, investment management, and bank management. The content depends on current developments in finance. In general, financial problems examined both from the viewpoint of business management and that of the economic system. Prerequisite: Fin. 320 or equivalent.

670. Seminar in Insurance Problems (3)
Intensive investigation of significant topics and problems in insurance. Prerequisite: Fin. 416 or 417 or equivalent.

681. Advanced Quantitative Methods for Business Research (3)
This course provides the advanced graduate student with the quantitative tools necessary for conducting empirical research for advanced study and for the type of research currently undertaken in the scholarly literature of business. Emphasis is on business research applications, not on developing theory. Prerequisite: Fin. 424 or equivalent.
**Department of Management**

**Faculty:** Hackamack, Department Head. Andreasen, Chung, Dirksen, Giese, Green, Kennedy, Lane, Novak, Pecenka, Sims, Swanish.

428. Advanced Production Management (3)
   Issues and problems in production management at the corporation level; emphasis on specific cases and supporting investigations. Prerequisite: Mgt. 327 or consent of instructor.

429. Manufacturing Applications and Controls (3)
   Integration of the characteristics and requirements of process, product, and operation into a total production system. Prerequisite: Mgt. 327 or consent of instructor.

434. Industrial Management (3)
   An introductory and survey course in industrial management. Backgrounds of modern industrial management, industrial records, industrial administration, location and equipment, efficiency techniques, and production and stock control. Prerequisite: Mgt. 333 or consent of instructor.

436. Wage and Salary Administration (3)
   Managerial problems in the determination of a wage structure that will enable the business firm to procure and maintain an efficient work force. Structure and operations of labor markets, determination of the wage level of the firm, job evaluation, wage surveys, and federal and state legislation affecting wages.

437. Small Business Management (3)
   The problems of small business relative to personnel, control, finance, marketing, management, and administration in manufacturing, distributive, and service firms.

487. Multinational Business Management (3)
   Organizational differences, the varying attitudes toward cartelization, concentration and government ownership of traditionally private-sector business endeavors: the special personnel problems arising in foreign business ventures with particular emphasis on the causes of xenophobia; the management objectives, strategies, and policies of multinational corporations. Companies producing abroad. Prerequisite: Mgt. 333 or consent of instructor.

503. Introduction to Research (3)
   To acquaint the student with research which has been completed in departmental area during recent years. The student will become familiar with the methods, techniques, and procedures of research. The prospectus for the thesis may be developed in cooperation with the director of the paper.

505. Principles of Business Organization (3)
   For graduate students with no previous courses in management principles. An introduction to the role of administrator in interaction with his superiors, associates, and staff; theories of leadership organization, planning and controlling, and administrative skill in communications, coordination, and directing.

511. Legal Aspects of Business (3)
   A general seminar in legal problems affecting business in the areas of contracts, personnel, taxation, property, and government regulation of business.

527. Operations Research in Business (3)
   (Also listed as Fin. 527)
   The objectives of operations research and the quantitative methods used in the solution of problems of business. Optimum decision models are developed under conditions of certainty and uncertainty. Prerequisites: Math. 210 and a minimum of one course in business statistics, or equivalent.

533. Organization and Management Development (3)
   Methods of strengthening an organization, development of management programs and management training, review of performance, determination of management reserves and replacements. Prerequisite: Mgt. 505 or equivalent.

534. Administrative Theory and Practice (3)
   Analysis of cases dealing with administrative problems and simulation studies with a thorough review of the literature dealing with managerial problems. Prerequisite: Mgt. 505.

535. Human Relations in Business (3)
   A critical review of the theory, research, and practice related to the human factor of production, including concepts influencing communication, decision-making, group cohesiveness, and productivity. Prerequisite: Mgt. 505 or equivalent.

538. Management of Industrial Relations (3)
   Analysis of issues and techniques involved in manpower procurement and development. Analysis of the industrial relations function in management. Use of cases, role playing, research reports, and theoretical analyses involved in negotiations of collective-bargaining agreement: procedures and methods of settling grievances. Prerequisite: Mgt. 438 or consent of instructor.

540. Seminar in Office Management (3)
   Problems, practices, and policies involved in office administration. Methods of directing, planning, and organizing office systems. A critical survey of current trends and problems in the field of office management through case studies of systems in business firms. reports of
research on office management problems and field investigations in business firms.

572. Business Policies (3)
An analysis of the problems of business and the functions of management in the determination of business policy in the areas of internal organization, financial policies, operating methods; and the nature, objectives, and elements of business policy determination. Prerequisites: Mgt. 505 and Mgt. 533 or 534.

597. Seminar for Executives (I)
The purpose of the seminar is to offer executives the opportunity to broaden their interest in general problems of management as well as to enrich the background of participants. Lectures and discussions on economics, literature, philosophy, art, music, science, history, and world affairs. May be repeated to a maximum of 3 semester hours.

598. Seminar in Leadership Training (3)
Problems in the application of scientific knowledge and study of executive leadership. Comparative analysis of the research findings, theories, and practices of different applications to leadership training. Critical analysis of the role of the coordinator of management development. Prerequisites: Mgt. 435 or 535 and consent of instructor.

599. Master's Thesis (I-6)
Open to students writing a thesis under the M.S. or M.B.A. programs. The student enrolls with the faculty member directing the thesis. Prerequisite: Mgt. 503 or equivalent.

603. Seminar in Business Research (3)
A review and evaluation of current research in business giving consideration to the implication of findings for the improvement of business practices. Not for credit on the thesis. Prerequisite: Mgt. 503 or consent of instructor.

604. Independent Study in Business (1-3)
Open to students qualified to do individual study in business. Not for credit on the thesis. May be repeated to a maximum of 6 semester hours. Prerequisite: Consent of instructor.

611. Readings in Management (1-3)
Special readings useful to a student's individual program and objective, but not available in regular course offerings. May be repeated to a maximum of 3 semester hours. Prerequisite: Mgt. 533.

612. Readings in Industrial Relations (1-3)
Special readings useful to a student's individual program and objective, but not available in regular course offerings. May be repeated to a maximum of 3 semester hours. Prerequisite: Mgt. 433.

620. Seminar in Personnel Administration and Industrial Relations (3)
Management's problem, opportunities, and policy alternative in personnel management and labor relations. The ramifications that labor organizations have on management decision-making. Prerequisite: Mgt. 433.

638. Seminar in Industrial Relations (3)
Advanced analysis of policies and techniques in industrial relations. The employee-employer relationship is analyzed with special attention devoted to the changing elements related to manpower management. Research and current literature emphasized. Prerequisites: Mgt. 438 or 538 and consent of instructor.

650. Seminar in Current Business Problems (3)
Contemporary business conditions and problems facing businessmen in the United States. An analysis and evaluation of current literature pertaining to general business activity and the implications of changing business conditions. Prerequisite: Mgt. 533.

661. Seminar in Management (3-6)
Management problems at the various levels of business organization and the role of management in the determination of business policies and procedures. Prerequisite: Mgt. 533.
Department of Marketing


410. Agribusiness Systems and Public Policy
An analysis of agribusiness systems in an urban society. Focus is on principles of marketing and economics as applied to private and public decision-making in the production and marketing of food and fiber in the United States and the world economy.

443. Marketing Research (3)
Research methods as applied to the field of marketing, including methods of gathering and interpreting data; presentation of results, market analyses, consumer surveys, and sales forecasting. Prerequisites: Mrktg. 249; Fin. 223.

444. Quantitative Methods in Marketing (3)
Decision-making based on quantitative factors existing in marketing. The managerial use of quantitative tools in market measurement and control. An interdisciplinary approach is used to integrate market cost analysis into the total marketing system. Prerequisites: Mrktg. 249 and Business Statistics; Fin. 223.

446. Sales Management (3)
The application of principles of sales and marketing management to the solution of problem situations, and a study of the work of sales managers and their role in the marketing process. Prerequisites: Mrktg. 249, 339, or consent of instructor.

447. Public Relations in Business (3)
Public relations as a marketing tool to supplement the advertising efforts of management; business-community relations, customer-company relations, and business-media relations as these are integrated with business management policies. Prerequisite: Mrktg. 249.

458. Internship in Business (3-7)
The student will work full-time for a nine-week period, a summer or a semester, as an intern in a business firm under the supervision of the staff of the College of Business. Prerequisite: Consent of the Head of the Department.

463. Marketing Problems (3)
Cases are discussed with emphasis on decision-making. The areas of product planning, channels of distribution, promotion, and pricing are analyzed and integrated into a complete marketing program. Prerequisites: Marketing 249, 342, 368.

465. Retail Management (3)
Retail distribution and the problems of retail management under current conditions. Problems and cases involving decision-making in general retail policies, pricing, merchandise management, budgeting, control, personnel, and store operation. Prerequisite: Mrktg. 342 or equivalent.

466. Advertising Management (3)
The uses of advertising and advertising campaigns by business which give emphasis to the patterns of marketing strategy and its various functions, problems in developing and evaluating advertising programs, budgeting and scheduling, and client-advertising agency relationship. Prerequisite: Mrktg. 348 or equivalent.

467. International Marketing (3)
Principles and methods of international marketing as related to its promotional aspects, international marketing organization, and technical and financial features of marketing products abroad. Prerequisite: Mrktg. 249, 367.

475. Industrial Marketing (3)

477. Physical Distribution Management (3)
A systems approach to physical distribution is presented, integrating all of the component activities: transportation, inventory, warehousing, unitization, and communications. A quantitative emphasis which utilizes various transportation costing, unit control, and location techniques, is stressed as an aid to the design and administration of an effective system. Prerequisite: Mrktg. 249.

490. Seminar in Current Marketing (3)
Intensive study of currently important issues or developments in marketing. Prerequisite: Mrktg. 249 or equivalent and consent of instructor.

498. International Business Problems (3)
(Also listed as Finance 498)
Case study analysis is used with particular emphasis upon foreign financial and marketing problems including product introduction, distribution and promotion patterns, and the procedures of overseas business development. Prerequisite: Mrktg. 367 or consent of Instructor.

499. Product Planning and Policies (3)
Management of the product mix, including the development of new products and the continuous evaluation of existing products and product lines. Prerequisite: Mrktg. 249.
503. Introduction to Research (3)
To acquaint the student with research which has been completed in departmental area during recent years. The student will become familiar with the methods, techniques, and procedures of research. The prospectus for the thesis may be developed in cooperation with the director of the paper.

505. Graduate Survey of Marketing (3)
A comprehensive survey analysis of marketing functions, institutions, policies, and problems designed specifically to serve the needs of graduate students with no previous formal marketing education.

554. Marketing Management (3)
An analysis of the problems facing marketing managers in the formulation of marketing policies with particular reference to these areas of decision making in sales management, promotion, product development, and marketing channels. Prerequisite: Mrktg. 249 or 505 or equivalent.

555. Promotion Policies and Planning (3)
An intensive analysis of problems associated with formulating promotion policies and with planning and integration of personal selling, advertising, and publicity into an effective promotional program. Prerequisite: Mrktg. 505 or equivalent.

556. Seminar in International Business (3)
Provides research training in the administrative relationships of international business operations. Particular emphasis is given to research organizational procedure, product introduction, personnel and financial problems, promotional aspects and overseas business development. Prerequisite: Mrktg. 467 or consent of instructor.

566. Seminar in Marketing Research (3)
A critical analysis of marketing research programs including a study of projective and quantitative marketing research methods. Prerequisite: Mrktg. 505 or equivalent.

577. Marketing Institutions and Channels (3)
An intensive analysis of the various institutions comprising the total marketing structure with emphasis on the rationale underlying the channels of distribution through which goods are marketed. Prerequisite: Mrktg. 505 or equivalent.

599. Master's Thesis (1-6)
Open to students writing a thesis under the M.S. or M.B.A. programs. The student enrolls with the faculty member directing the thesis. Prerequisite: Mrktg. 503 or equivalent.

603. Seminar in Business Research (3)
A review and evaluation of current research in business, giving consideration to the implication of findings for the improvement of business practices. Not for credit on the thesis. Prerequisite: Mrktg. 503 or consent of instructor.

604. Independent Study in Business (1-3)
Open to students qualified to do individual study in business. Not for credit on the thesis. May be repeated to a maximum of 6 semester hours. Prerequisite: Consent of instructor.

612. Readings in Marketing (1)
Special readings useful to a student's individual program and objective, but not available in regular course offerings. May be repeated to a maximum of 3 semester hours. Prerequisite: Consent of instructor.

660. Seminar in Marketing (3-6)
The problems involved in the performance of the marketing functions at the various levels of distribution and the problems of policy determination by the manufacturer, the wholesaler, and the retailer. Prerequisite: Mrktg. 249 or 505 or equivalent.

665. Marketing Structures and Price Policies (3)
An analysis of the role of prices in various market structures; the price making mechanism under conditions of imperfect competition with special emphasis on administered pricing. Prerequisites: Mrktg. 505 or its equivalent and Fin. 500 or its equivalent.

675. Marketing Strategies and Programming (3)
The marketing program and the decisions underlying integration into an effective strategy. Quantitative approaches in developing a total marketing program for the firm. Prerequisite: Mrktg. 505 or equivalent.

695. Marketing Theory (3)
Students are encouraged to use the present body of marketing knowledge as a springboard from which to think creatively toward the objective of advancing and refining marketing theory. Prerequisite: Mrktg. 505 or equivalent.
School Business Management

Accy. 541 Accounting, Statement Analysis, and Budgeting (2-3)

Principles of accounting, including a study of budgeting, payroll administration, bonded indebtedness, accounting for receipts and expenditures. Special attention to accounting for extracurricular funds and analysis of statements. Accounting for auxiliary enterprises such as cafeteria, store, etc.

Accy. 641. Advanced School Fund Accounting and Budgeting (2-3)

Problems in designing systems and procedures in school fund accounting. The application of data processing systems to payroll, inventories, curriculum, personnel, registration procedures, budget, textbook accounting, and other business office functions. Prerequisite: Accy. 541 or equivalent.

Bus.E. 551. School Office and Personnel Management (2)

Work simplification in office management; administration of non-certified school personnel; legal and insurance problems of the school business office.

Mgt. 552. Management of Auxiliary Enterprises (2)

Budgeting, cost analysis, accounting, and other problems related to food service management, transportation, and school store operation. Prerequisite: Consent of instructor.

Mrktg. 542. Purchasing and Supply Administration (2)

Principles and procedures of purchasing supplies, equipment, and services. Specifications, quality analysis, sources of information, testing materials and services, determination of standards, inventory control, store management, property accounting, etc.
401. Foreign Study Programs (1-9)

Northern Illinois University has been offering foreign study programs regularly since 1956, especially in the fields of art, foreign language, literature, history, business, and social sciences. The basic purpose is to enrich the scope of campus offerings and to meet the needs of persons interested in continuing education. The programs are initiated by the various campus academic departments and are directed in the field by one or more faculty members who possess special qualifications for this type of instruction. Programs are sometimes sponsored in cooperation with a foreign university. The courses carry undergraduate or graduate credit for persons already enrolled in the University and for others who qualify for admission to the University. Specific details regarding cost, dates, itinerary, and academic credit are published in special announcements of each program. For details, write Coordinator, Foreign Study Programs, Northern Illinois University, DeKalb, Illinois 60115, or consult with appropriate academic adviser.

500. Interdisciplinary Seminar: The Human Enterprise (3)

For adults and professional people who wish to reinforce their backgrounds in the arts and sciences. Lectures, readings, discussions, and critiques, based on concepts and insights from the natural sciences, psychology, social sciences, philosophy, literature, art, and music, concerning the nature of man and the human enterprise. Various phases of the course conducted by specialists from the disciplines represented. Prerequisite: A college degree.
STUDENT HOUSING

UNIVERSITY RESIDENCE HALLS

Northern Illinois University has no residence halls or floors
of residence halls occupied exclusively by graduate students.
Upon acceptance by the Graduate School, a student may
apply for an assignment to a University residence hall. All
applications must be accompanied by a twenty-five dollar
($25.00) deposit which serves as a room deposit and damage
fee. All University residence hall contracts are for the full
academic year (September-June), and the fee includes both
room and board. Graduate students wishing to apply for an
assignment to a University residence hall should contact the
Office of Student Housing Services. Application should be
made as soon as the notification of acceptance from
the Graduate School has been received. Because of the changing
conditions in the cost of food and labor, the University
reserves the right to adjust charges for room and board each
semester.

THE UNIVERSITY APARTMENTS

The University has eighty units of modern permanent-type
two-story apartments for married students. These units are
completely furnished and rentals cover all utilities including
electric heat but not telephones. Current rental fees, which are
subject to change, are $67.50 per month for the efficiency
apartments and $77.50 for the one-bedroom apartments.
There are forty units of each type. Applications for the
waiting list for the apartments and further information may be
obtained from the Office of Student Housing Services.

OFF-CAMPUS HOUSING FOR GRADUATE
STUDENTS

The Office of Student Housing Services keeps listings of
rooms, apartments, and houses which are available in the
DeKalb area for occupancy by graduate students. Since listings
are maintained in card form and change rapidly, they are not
mailed but may be used in the Office of Student Housing
Services. This office is located in Room 113, Altgeld Hall and
is open from 8:00 a.m. to noon and 1:00 to 5:00 p.m.,
Monday through Friday.
HEALTH SERVICE

The University Health Service is located at Wirtz Drive West. The regular clinic hours are from 8:00 a.m. to 4:45 p.m., Monday through Friday, and Saturday morning from 8:00 to 11:30. At all other times, nurses are on duty, and a doctor is on call, for the care of emergency cases. A 52 bed hospital occupies the upper two floors of the new building and is used for the short term care of ill students. The Health Service is open 24 hours a day, seven days a week. All students who are taking 6 1/2 semester hours or more during the fall and spring semesters or at least 5 semester hours during the summer session and who have paid the Student Activity Fee for the semester are entitled to receive medical care at the University Health Service.

MAJOR MEDICAL COVERAGE

All students, undergraduate or graduate, who are assessed the Major Medical Fee (full-time students except those students enrolled in extra-mural, evening, and Saturday classes only) are provided the Major Medical Coverage which includes benefits for medical treatment for accidents or illnesses.

All eligible students are required to pay the fee for the period for which they register unless evidence of equal or better coverage and a Petition for Refund is presented to the Coordinator of Insurance within the first 10 days of each semester or session.

Eligible dependents of insured students, including spouse and unmarried children over 14 days old, who are not self-supporting and reside with the insured student, may also be insured by the application of the student at the Office of the Coordinator of Insurance within the first 10 days of each semester or session.

Students who are insured for the second semester and who desire summer coverage but do not intend to enroll in the summer session may obtain coverage by making application and paying the requested premium prior to the last day of the second semester.

Information concerning the Major Medical Coverage may be obtained from the Office of the Coordinator of Insurance.

UNIVERSITY COUNSELING CENTER

The University Counseling Center has been established as a regular part of the University's program. The major function of the University Counseling Center is to help graduate and undergraduate students in selecting educational and vocational objectives and in meeting problems of personal adjustment.

A staff of counselors is available to discuss with students problems of an educational, vocational, or personal nature. Through the use of measuring devices and counseling sessions, students may receive assistance in determining their strengths and limitations, assessing their interests, identifying their problems, and planning a systematic program of social and personal development. Counseling is normally made available through regularly scheduled appointments, but should a student feel the need to see a counselor immediately, the counselor could at most times be seen without an appointment. In addition, a library of materials on occupations is available in the Counseling Center for students who wish to inform themselves with respect to vocational opportunities.

The University Counseling Center has contracted with the Veterans Administration to give educational and vocational counseling, as provided by the Veterans Benefits Act of 1966, to veterans and children of veterans whose deaths or permanent total disabilities were service-connected. To initiate this benefit, the applicant must make formal application to the Veterans Administration for counseling.

A reading improvement and study-skills program is conducted within the University Counseling Center for both graduate and undergraduate students. The program is conducted individually, in small groups, and in classes to meet the needs of students at various levels of competency and proficiency.

All graduate students enrolled in the University are invited to utilize any of the services provided by the Center.

STUDENT TEACHING

Since student teaching is required for certification in Illinois, facilities for student teaching will be made available to graduate students who have been admitted to the teacher education program under the conditions described on pages 16-17 and page 135. For complete descriptions of student teaching see the current Undergraduate Catalog.

SPEECH REHABILITATION CENTER

The Division of Speech Pathology and Audiology of the Department of Speech operates a speech and hearing clinic as an integral part of its training program. Services in speech and/or hearing rehabilitation are available without cost to graduate students, undergraduate students, faculty, and members of the immediate families of the three groups. A nominal fee is charged for other clients. The Division also operates a
vocational evaluation and training program for young adults with hearing and speech handicaps under the sponsorship of the Illinois Division of Vocational Rehabilitation. All programs provide practicum and observational opportunities in addition to their primary goals.

PLACEMENT BUREAU

The University maintains a Placement Bureau to aid students in securing positions. Systematically organized records and credentials are available for reference to superintendents, principals, and other prospective employers. The credentials are submitted to these officials as confidential information and supply the following data: 1. Academic record and scholastic standing; 2. Student teaching record; 3. Inventory of special interests and abilities; 4. Record of University activities; 5. Actual teaching or other experience; 6. Personal evaluation by instructors, critic teachers, and former employers. When the number of candidates seeking positions exceeds the number of requests for employment interviews, it is the policy of the Placement Bureau to consider the above factors in bringing the merits of candidates to the attention of employers.

The services of the Placement Bureau are available to all current graduates, and the bureau also promotes the candidacy of alumni who have had several years of successful employment experience. The Northern Illinois University Placement Bureau offers service to all graduates, to all school administrators, and to personnel representatives in business and industry.

RECREATIONAL FACILITIES

The University sponsors an extensive recreation and intramural athletic program each semester. Regular tournaments are held in touch football, basketball, volleyball, and softball. Individual and dual sports tournaments include tennis, gymnastics, swimming, handball, wrestling, badminton, track, golf, and paddleball. Graduate students who pay activity fees are eligible to compete in the above tournaments.

Part of a fifty acre area has been improved for intramural recreation, physical education classes, and athletic practice. In addition to the new Anderson Hall and the Field House, recreation facilities are available in the new football stadium. These include three gymnasiums and four handball courts. Outdoor facilities include grass-tex tennis courts, softball and touch football fields, indoor and outdoor volleyball courts, and ice skating on the campus lagoon.

Swimming is available to male students at the University School pool and to female students at the new pool in Anderson Hall. Co-rec swimming is open on Friday nights at Anderson Hall. The University Center has bowling, billiards, and table tennis facilities.

In general, graduate students are invited to participate in undergraduate activities, including band, orchestra, and chorus, which do not involve intercollegiate competition. Information regarding specific organizations may be obtained at the Office of the Dean of the Graduate School.

STUDENT OPERATION OF MOTOR VEHICLES

Any graduate student operating a motor vehicle must register it with the University Security and Safety Office, which will issue the student a registration decal. Graduate students planning to bring a vehicle to the campus should write to the Security and Safety Office for additional information concerning registration of the vehicle and parking facilities. A copy of University Motor Vehicle and Parking Regulations is available on request.

EMPLOYMENT FOR WIVES OF STUDENTS

The University encourages wives of students interested in full-time or part-time employment to contact the Personnel Office, 615 Lincoln Terrace. The University employs approximately 1500 non-teaching employees in a variety of over 400 different professional, clerical-secretarial, and service jobs.

VETERANS AFFAIRS OFFICE

The Veterans Affairs Office, which operates in conjunction with the office of the Dean of Men, serves as liaison between student veterans and governmental agencies concerned with educational benefits for veterans. Assistance is given to both undergraduate and graduate students in making necessary reports to the Veterans Administration and in obtaining educational benefits under the various public laws providing for the education and training of veterans. Inquiries concerning educational benefits for veterans should be directed to the Office of the Dean of Men.

SELECTIVE SERVICE INFORMATION

Information and assistance on Selective Service matters are available in the Office of the Registrar.
OFFICES OF THE GRADUATE SCHOOL

ADMINISTRATIVE STAFF

President
Rhoten A. Smith, Ph.D. (California, Berkeley)

Executive Vice President
F. R. Geigle, Ed.D. (New York University)

Vice President
Richard C. Bowers, Ph.D. (Minnesota)

Vice President and Provost
Ernest E. Hanson, Ed.D. (Michigan State)

Dean of the Graduate School
Wayne J. Mellrath, Ph.D. (Iowa)

Associate Dean of the Graduate School
Joseph A. Martellaro, Ph.D. (Notre Dame)

Coordinator of Research Grants
Kenneth Beasley, Ph.D. (Northwestern)

Director of Libraries
Clyde C. Walton, A.M. (Chicago)

Registrar
Robert A. Karabinus, Ph.D. (Illinois)

Director of the University Press
Richard T. Congdon, B.A. (St. Johns, Annapolis)

Secretary to the Dean of the Graduate School
Eleanor F. Robison

Secretary to the Associate Dean of the Graduate School
Bonita R. Thompson

Recorder
Lois A. Harding, M.S.Ed. (Northern Illinois)

GRADUATE COUNCIL

Jack Arends, Ed.D. (Columbia)

Richard C. Bowers, Ph.D. (Minnesota) ex officio

Robert W. Buggert, Ph.D. (Michigan)

Floyd L. Crank, Ph.D. (Northwestern)

Martin D. Dubin, Ph.D. (Indiana)

Joseph R. Ellis, Ed.D. (Texas)

Gerald G. Green, Ed.D. (Indiana)

Lester S. Levy, Ph.D. (Cornell)

Leo J. Loughlin, Ph. D. (Wisconsin)

Wayne J. Mellrath, Ph.D. (Iowa) Chairman of the Council

William J. Masson, Ph.D. (Iowa)

J. Carroll Moody, Jr., Ph.D. (Oklahoma)

E. Milo Pritchett, Ed.D. (Colorado State College)

Rhoten A. Smith, Ph.D. (California, Berkeley) ex officio

James C. Warner, Ed.D. (Missouri)
Mohammed Fathi Abdel-Hameed, Ph.D., University of California (1967), Assistant Professor of Biological Sciences.

Peter D. Abrams, Ph.D., Illinois Institute of Technology (1966), Professor of Education; Director, Bureau of University Research.

Robert Agranoff, Ph.D., University of Pittsburgh (1966), Assistant Professor of Political Science.

Harold E. Aikins, Ph.D., University of Colorado (1949), Professor of History.

Robert J. Albers, Ph.D., University of Connecticut (1966), Assistant Professor of Chemistry.

Carl H. Albright, Ph.D., Princeton University (1968), Associate Professor of Physics.

H. Dorothy Allen, Ph.D., University of Wisconsin (1966), Associate Professor of Foreign Languages; Acting Head, Department of Foreign Languages.

Hadi H. Alwan, Ph.D., University of Wisconsin (1966), Associate Professor of Finance.

Wesley F. Amar, Ed.D., Loyola University (1969), Associate Professor of Education.

Haakon L. Andreasen, Ph.D., University of Iowa (1967), Associate Professor of Management.

Rodney Angotti, Ph.D., University of Pittsburgh (1967), Associate Professor of Mathematics.

Jack Arends, Ed.D., Teachers College, Columbia University (1962), Professor of Art; Head, Department of Art.

Carmen Armstrong, Ed.D., Indiana University (1968), Assistant Professor of Art.

Don W. Arnold, Ph.D., State University of Iowa (1957), Professor of Marketing; Assistant to the Dean of the College of Business.

Richard L. Arnold, Ph.D., Northwestern University (1965), Professor of Speech; Acting Director, University Theatre.

Donald E. Ary, Ph.D., University of Iowa (1969), Associate Professor of Education.

Johnson W. Ashley, Jr., Ph.D., University of North Carolina (1966), Assistant Professor of Chemistry.

Clarence G. Avery, C.P.A., Ph.D., University of Illinois (1962), Professor of Accountancy; Head, Department of Accountancy.

John A. Axelson, Ph.D., University of Michigan (1965), Associate Professor of Education.

Michael J. Bakalis, Ph.D., Northwestern University (1965), Assistant Professor of History; Assistant Dean, College of Liberal Arts and Sciences.

Charles E. Baker, Ph.D., Indiana University (1947), Professor of Music.
Merlyn J. Behr, Ph.D., Florida State University (1968), Assistant Professor of Mathematics.
William H. Beik, Ph.D., Harvard University (1968), Assistant Professor of History.
James E. Bell, Jr., D.B.A., Michigan State University (1968), Assistant Professor of Marketing.
Mary M. Bell, Ph.D., State University of Iowa (1957), Professor of Physical Education for Women.
Robert W. Bell, Ph.D., Purdue University (1963), Associate Professor of Psychology.
C. Jackson Bennett, Ph.D., University of Wisconsin (1957), Associate Professor of Biological Sciences.
Michael J. Biallas, Ph.D., Northwestern University (1967), Assistant Professor of Chemistry.
Alfred Binter, Ed.D., University of Kansas (1961), Professor of Education.
Tadolf M. Bisanz, Ph.D., Syracuse University (1967), Associate Professor of Art.
Ledford J. Bischof, Ed.D., Indiana University (1954), Professor of Psychology.
Robert W. Bischoff, Ed.D., University of Oregon (1968), Associate Professor of Special Education.
George W. Bishop, Jr., Ph.D., New York University (1965), Professor of Finance; Head, Department of Finance.
Inez Bishop, Ed.D., University of Illinois (1967), Associate Professor of Education.
Lloyd D. Black, Ph.D., University of Michigan (1966), Professor of Geography; Chairman, Department of Geography.
Martha E. Blankenship, Ed.D., University of Houston (1969), Assistant Professor of Special Education.
Harvey I. Blau, Ph.D., Yale University (1969), Assistant Professor of Mathematics.
Thomas W. Blomquist, Ph.D., University of Minnesota (1965), Assistant Professor of History.
Donald F. Bond, Ph.D., University of Chicago (1969), Visiting Professor of English.
Rodney M. Bostad, Ed.D., Colorado State College (1964), Associate Professor of Education.
Betty J. Bosdell, Ph.D., University of Illinois (1966), Professor of Education.
GRADUATE FACULTY

(The date indicates beginning of service to the University.)

Robert W. Buggert, Ph.D., University of Michigan (1964), Professor of Music; Assistant to the Dean of the College of Fine and Applied Arts.

Robert A. Bullington, Ph.D., Northwestern University (1950), Professor of Biological Sciences.

Waldo W. Burchard, Ph.D., University of California (1958), Professor of Sociology (Sociology and Anthropology).

Joseph D. Burchfield, Ph.D., Johns Hopkins University (1967), Assistant Professor of History.

Roy O. Burke, Ed.D., Florida State University (1953), Associate Professor of Art.

Arthur W. Burrrichter, Ed.D., University of Wyoming (1968), Assistant Professor of Education; Director of Adult Education.

Paul S. Burtness, Ph.D., University of Chicago (1953), Professor of English; Acting Dean of the College of Liberal Arts and Sciences.

David L. Bushnell, Ph.D., Virginia Polytechnic Institute (1961), Associate Professor of Physics.

Eleanor Caldwell, Ed.D., Teachers College, Columbia University (1967), Professor of Art.

Loren T. Caldwell, Ed.D., Indiana University (1929), Professor of Earth Sciences.

Richard W. Cambridge, Ph.D., State University of Iowa (1964), Associate Professor of Business Education.

Charles Canon, Ed.D., Indiana University (1948), Professor of Art.

Edwin L. Carey, D.B.A., Indiana University (1962), Associate Professor of Finance.

Milton E. Carlson, Ph.D., University of Wisconsin (1959), Professor; Associate Director, Bureau of University Research.

George C. Carrington, Jr., Ph.D., Ohio State University (1967), Associate Professor of English.

Margaret L. Carroll, Ph.D., University of Wisconsin (1953), Professor of Education.

Paul A. Carter, Ph.D., Columbia University (1966), Professor of History.

Clifford Caruthers, Ph.D., University of Missouri (1968), Assistant Professor of English.

Clarence J. Casella, Ph.D., Columbia University (1965), Associate Professor of Geology.

Ruth S. Cavan, Ph.D., University of Chicago (1967), Professor of Sociology (Sociology and Anthropology).

C. Shelton Chastain, Ed.D., Colorado State College (1964), Associate Professor of Education.

Philip C. Cheng, Ph.D., Louisiana State University (1968), Associate Professor of Accountancy.

Francis L. Christensen, Ph.D., Harvard University (1969), Professor of English.

John G. Christiano, Ph.D., University of Pittsburgh (1959), Professor of Mathematics.

Kae H. Chung, Ph.D., Louisiana State University (1967), Associate Professor of Management.

Kenneth L. Cleland, Ed.D., University of Tennessee (1954), Associate Professor of Education.

Joseph E. Clettenberg, Ph.D., University of Chicago (1950), Professor of Education; Director of Extension.

Silas W. Clifton, Ed.D., Colorado State College (1958), Professor of Education; Director, University Counseling Center.

Robert B. Cluff, Ed.D., Brigham Young University (1960), Associate Professor of Education; Associate Director of Testing.

William J. Coe, Ph.D., Pennsylvania State University (1967), Assistant Professor of Philosophy.

Curtis W. Coffee, D.M.A., Boston University (1964), Assistant Professor of Music.

Alan L. Cole, Ph.D., University of Michigan (1969), Associate Professor of Geography.

Boy N. Collier, Jr., Ph.D., University of Minnesota (1967), Associate Professor; Acting Dean of Men.

Harold W. Collins, Ph.D., Purdue University (1965), Associate Professor of Education.

John H. Collins, Ph.D., University of Frankfurt, Germany (1961), Professor of History.

Raymond L. Cornwell, Ph.D., University of Minnesota (1969), Associate Professor of Industry and Technology.

George D. Craig, Ph.D., University of Illinois (1969), Associate Professor of Finance.

Doris L. Crank, Ed.D., Northwestern University (1965), Professor of Business Education.

Floyd L. Crank, Ph.D., Northwestern University (1965), Professor of Business Education.

Paul Crawford, Ph.D., Northwestern University (1940), Professor of Speech.

Robert Cunico, Ph.D., Purdue University (1968), Assistant Professor of Chemistry.

Carl A. Dallinger, Ph.D., State University of Iowa (1965), Professor of Speech.

Man Singh Das, Ph.D., University of Illinois (1969), Associate Professor of Sociology (Sociology and Anthropology).
Peter H. Daum, Ph.D., Michigan State University (1969), Assistant Professor of Chemistry.

Murray S. Davis, Ph.D., Brandeis University (1969), Assistant Professor of Sociology (Sociology and Anthropology).

Mark Dean, P.E.D., Indiana University (1957), Associate Professor of Physical Education for Men.

Sanford J. Dean, Ph.D., Ohio State University (1969), Professor of Psychology; Chairman, Department of Psychology.

E. Roderick Deihl, Ph.D., Ohio State University (1967), Associate Professor of Speech.

Louis D. Deprin, Ed.D., University of Arizona (1968), Associate Professor of Education.

David H. DeQueljoe, Ph.D., Teachers College, Columbia University (1967), Assistant Professor of Foreign Languages.

John A. Dewar, Ed.D., University of Kansas (1961), Professor of Education.

Walter Dewey, Ph.D., State University of Iowa (1966), Professor of Speech.

Howard R. Dill, M.Mus., Northwestern University (1958), Associate Professor of Music.

Charles D. Dillman, Ph.D., University of Michigan (1966), Assistant Professor of Geography.

P. Allan Dionisopoulos, Ph.D., University of California (1962), Professor of Political Science.

Alvin J. Dirksen, Ph.D., University of Wisconsin (1969), Associate Professor of Management.

Raymond Ditrichs, Ph.D., State University of Iowa (1963), Associate Professor of Psychology.

John J. Dlabal, Jr., Ed.D., Kansas University (1965), Associate Professor of Education.

George W. Donaldson, Ed.D., Teachers College, Columbia University (1964), Professor of Outdoor Teacher Education.

Larry A. Doty, Ph.D., Purdue University (1961), Professor of Psychology.

Florence E. Doyle, Ed.D., Colorado State College (1962), Associate Professor of Education: Counselor, University Counseling Center.

John E. Doyle, Ph.D., Northwestern University (1969), Assistant Professor of Sociology (Sociology and Anthropology).

William M. Drake, Ed.D., Indiana University (1965), Associate Professor of Education; University Counseling Center.

David F. Driesbach, M.F.A., State University of Iowa (1964), Associate Professor of Art.

Walter H. Drost, Ph.D., University of Wisconsin (1968), Associate Professor of Education.

Martin D. Dubin, Ph.D., Indiana University (1965), Associate Professor of Political Science.

Margaret M. Duncan, Ed.D., Teachers College, Columbia University (1958), Professor of Physical Education for Women; Head, Department of Physical Education for Women.

J. Hubert Dunn, Ph.D., University of Illinois (1962), Professor of Physical Education for Men.

Elizabeth Durham, Ph.D., Pennsylvania State University (1968), Associate Professor of Home Economics.

Franklin H. Dye, Ph.D., Ohio State University (1968), Associate Professor of Business Education.

James W. Dye, Ph.D., Tulane University (1966), Associate Professor of Philosophy.

Paul W. Eaton, Ph.D., University of Minnesota (1969), Associate Professor of Finance.

Sidney W. Eckert, Ph.D., University of Minnesota (1969), Assistant Professor of Business Education.

Abdo A. Elkholy, Ph.D., Princeton University (1965), Associate Professor of Sociology (Sociology and Anthropology).

Joseph R. Ellis, Ed.D., University of Texas (1964), Professor of Education.

Roland T. Ely, Ph.D., Harvard University (1966), Associate Professor of History.

Russell S. Ende, Ph.D., University of Ottawa, Canada (1964), Associate Professor of Education.

Hugo O. Engelmann, Ph.D., University of Wisconsin (1969), Professor of Sociology (Sociology and Anthropology).

John D. Esseks, Ph.D., Harvard University (1968), Assistant Professor of Political Science.

Robert A. Esterlund, Ph.D., Washington University (1966), Assistant Professor of Chemistry.

Jerald F. Etienne, Ed.D., Colorado State College (1968), Assistant Professor of Special Education.

Emory G. Evans, Ph.D., University of Virginia (1964), Professor of History; Head, Department of History; Co-Director, Southeast Asian Studies.

Robert L. Even, Ph.D., University of Minnesota (1963), Professor of Art.

Gaylord H. Farwell, Ed.D., University of Buffalo (1962), Professor of Education.

R. Vernon Fay, Ph.D., Eastman School of Music, University of Rochester (1955), Professor of Music.
GRADUATE FACULTY

(The date indicates beginning of service to the University.)

Arthur J. Fedro, Ph.D., Northwestern University (1965), Associate Professor of Physics.

Harold F. Feeny, D.Sc., Laval University, Quebec (1961), Professor of Physics.

Solomon E. Feldman, Ph.D., Indiana University (1965), Associate Professor of Psychology.

Arthur Ferguson, Ph.D., Illinois State University (1968), Assistant Professor of Education.

Harvey A. Feyerherm, Ph.D., Iowa State University (1950), Professor of Biological Sciences.

Stuart D. Fink, Ph.D., University of Minnesota (1936), Coordinator of Space and Facilities.

Cletus G. Fisher, Ph.D., Ohio State University (1968), Associate Professor of Speech.

Ronald C. Flemal, Ph.D., Princeton University (1967), Assistant Professor of Geology.


Stephen Foster, Ph.D., Yale University (1966), Assistant Professor of History.

Walter S. Foster, Ed.D., University of Oregon (1964), Associate Professor of Education.

Donald E. Fouts, Ph.D., University of Minnesota (1966), Assistant Professor of Political Science.

Arnold B. Fox, Ph.D., New York University (1955), Professor of English.

Harold W. Fox, Ph.D., Rutgers University (1968), Associate Professor of Marketing.

Raymond B. Fox, Ed.D., University of California, Berkeley (1959), Professor of Education.

Elon W. Frampton, Ph.D., University of Illinois (1969), Associate Professor of Biological Sciences.

Nevin R. Frantz, Ed.D., University of Maryland (1967), Associate Professor of Industry and Technology.

Bernhart G. Fred, Ph.D., Northwestern University (1959), Professor of Music.

Allen H. Frenichs, Ed.D., University of Illinois (1963), Professor of Education.

Sherman H. Frey, Ph.D., State University of Iowa (1962), Professor of Education.

Morton J. Frisch, Ph.D., Pennsylvania State University (1964), Professor of Political Science.

William P. Froom, Ed.D., Indiana University (1947), Professor; Director of University Relations.

Stanley H. Frost, Ph.D., University of Illinois (1965), Associate Professor of Geology.

Gilbert Fullington, Ed.D., Teachers College, Columbia University (1967), Associate Professor of Art.

Haldon D. Funk, Ed.D., Illinois State University (1962), Assistant Professor of Education.

Anthony Fusaro, Ph.D., Pennsylvania State University (1966), Assistant Professor of Political Science.

Arra M. Garab, Ph.D., Columbia University (1966), Associate Professor of English.

John B. Gardner, Ph.D., University of Pennsylvania (1968), Associate Professor of English; Assistant to the President.

Eric T. Garman, Ed.D., Texas Technological College (1969), Assistant Professor of Business Education.

William A. Garthe, Ph.D., Cornell University (1964), Assistant Professor of Biological Sciences.

F. R. Geigle, Ed.D., New York University (1951), Professor of Business Education; Executive Vice President.

Charles Gelven, Ph.D., Washington University (1966), Assistant Professor of Philosophy.

Charles H. George, Ph.D., Princeton University (1961), Professor of History.

Helmut Gerber, Ph.D., University of Pennsylvania (1968), Professor of English.

Keith R. Getschman, Ed.D., Northern Illinois University (1965), Associate Professor of Education; Assistant Coordinator, School Business Management.

James A. Gherity, Ph.D., University of Illinois (1964), Professor of Economics.

Willis E. Giese, Ph.D., University of Wisconsin (1968), Associate Professor of Management.

Harold G. Gilbert, Ph.D., Ohio State University (1956), Professor of Industry and Technology.

Norman S. Gilbert, Ed.D., University of Illinois (1969), Associate Professor; Director of University Testing Services.

Ira A. Glazier, Ph.D., Harvard University (1968), Associate Professor of History.

Gary D. Glenn, Ph.D., University of Chicago (1966), Assistant Professor of Political Science.

Oswald H. Goering, Re.D., Indiana University (1958), Professor of Outdoor Teacher Education, Lorado Taft Field Campus.

Dean J. Goff, Ed.D., University of South Dakota (1968), Assistant Professor; Counselor, University Counseling Center.
Samuel S. Goldich, Ph.D., University of Minnesota (1968), Professor of Geology.

Thomas Gorry, Ph.D., Purdue University (1967), Assistant Professor of Psychology.

Rubin Gotesky, Ph.D., New York University (1960), Professor of Philosophy.

Robert H. Gourley, Ed.D., Colorado State College (1960), Professor of Education; Associate Director of Placement.

Paul Graeser, Ph.D., Columbia University (1967), Assistant Professor of Economics.

John D. Graham, Ph.D., Michigan State University (1965), Associate Professor of Chemistry.

Laurine L. Graham, Ph.D., Michigan State University (1965), Assistant Professor of Chemistry.

Eugene B. Grant, Ed.D., University of Missouri (1950), Professor of Education; Director of Reading Services.

Pierre B. Gravel, Ph.D., University of Michigan (1965), Associate Professor of Anthropology (Sociology and Anthropology).

Lynn B. Graves, Jr. Ph.D., Ohio State University (1965), Associate Professor of Biological Sciences.

Philip A. Gray, Ph.D., Ohio State University (1966), Assistant Professor of Speech.

Gerald G. Green, Ed.D., Indiana University (1965), Associate Professor of Management.

Anne Greene, Ph.D., University of Wisconsin (1955), Professor of Psychology.

Gwynn A. Greene, Ed.D., Teachers College, Columbia University (1954), Professor of Education; Coordinator of Student Teaching.

Kenneth L. Greene, Ph.D., Ohio University (1967), Assistant Professor of Education.

J. Brown Grier, Ph.D., University of Louisville (1965), Associate Professor of Political Science.

Paul O. Groke, Ph.D., Interamerican University (1962), Professor of Marketing; Coordinator of International Business.

James H. Grosklags, Ph.D., University of Wisconsin (1958), Associate Professor of Biological Sciences.

Sue E. Gross, Ph.D., Tulane University (1968), Assistant Professor of History.

Roderick T. Groves, Ph.D., University of Wisconsin (1965), Assistant Professor of Political Science.

Donald R. Grubb, Ed.D., University of Utah (1959), Professor of Journalism; Head, Department of Journalism.

B. Ross Guest, Ph.D., University of Chicago (1958), Professor of Geography.

James H. Gunnerson, Ph.D., Harvard University (1963), Professor of Anthropology (Sociology and Anthropology).

Chaitan P. Gupta, Ph.D., University of Rochester (1969), Assistant Professor of Mathematics.

John A. Gustafson, Ph.D., Iowa State University (1968), Assistant Professor; Counselor, Counseling Center.

Lawrence C. Hackamack, Ph.D., State University of Iowa (1961), Professor of Management; Head, Department of Management.

Helen J. Hadden, Ed.D., Colorado State College (1967), Assistant Professor of Special Education.

Ruth Haddock, Ph.D., Syracuse University (1954), Professor of Education; Dean of Women.

William G. Haendel, M.S., University of Wisconsin (1955), Associate Professor of Art.

Charles W. Hagelman, Ph.D., University of Texas (1968), Professor of English; Head, Department of English.

Stephen Haliczker, Ph.D., St. Andrews University, Scotland (1968), Assistant Professor of History.

Hallie J. Hamilton, Ed.D., Indiana University (1958), Associate Professor of Journalism.

Erwin C. Hamm, Ed.D., Cornell University (1966), Associate Professor of Industry and Technology.

Donald R. Hammerman, Ed.D., Pennsylvania State University (1954), Professor of Outdoor Teacher Education; Head, Department of Outdoor Teacher Education; Director, Lorado Taft Field Campus.

William Hancock, Ph.D., Purdue University (1968), Assistant Professor of Marketing.

M. Jamil Hanifi, Ph.D., Southern Illinois University (1969), Assistant Professor of Anthropology (Sociology and Anthropology).

J. William Hanlon, Ph.D., University of Minnesota (1968), Assistant Professor of Marketing.

Ernest E. Hanson, Ed.D., Michigan State University (1941), Professor of Education; Vice President, Student Personnel Services.

Clarence Ethel Hardgrove, Ph.D., Ohio State University (1950), Professor of Mathematics.

Charles A. Harkness, Ed.D., University of Kansas (1967), Associate Professor; Assistant Director of Placement.

E. Edward Harris, Ed.D., Northern Illinois University (1965), Professor of Business Education.

Alton Harrison, Ph.D., University of Oklahoma (1967), Assistant Professor of Education.

Ann M. Hart, Ed.D., Indiana University (1959), Professor of Nursing.
GRADUATE FACULTY

(The date indicates beginning of service to the University.)

Jazhar Hasan, Ph.D., Illinois Institute of Technology (1961), Professor of Physics.

Earl S. Haugen, Ed.D., Colorado State College (1965), Associate Professor of Education.

A. Oscar Haugland, D.M.A., Eastman School of Music, University of Rochester (1960), Professor of Music.

William A. Healey, P.E.D., Indiana University (1954), Professor of Physical Education for Men.

Jane H. Heidorn, Ph.D., Ohio State University (1968), Associate Professor of Physical Education for Women.

Donald E. Heilman, Ed.D., University of Washington (1964), Associate Professor of Education: Adviser, Student Activities.

Eugene W. Hellmich, Ph.D., Columbia University (1935), Professor of Mathematics.

Mary E. Heltsley, Ph.D., Pennsylvania State University (1969), Assistant Professor of Home Economics.


William J. Hendrickson, Ed.D., Teachers College, Columbia University (1957), Professor of Marketing.

Edward T. Herbert, Ph.D., University of Wisconsin (1957), Associate Professor of English.

William A. Herrmann, Ph.D., Michigan State University (1960), Assistant Coordinator, Student Financial Aids.

Wayne Hershberger, Ph.D., University of Colorado (1964), Associate Professor of Psychology.

James E. Hertilng, Ed.D., Indiana University (1969), Assistant Professor of Education.

Hendrik G. Hoeve, Ph.D., University of Amsterdam (1964), Associate Professor of Physics.

Earl E. Hoffman, Ph.D., University of Wisconsin (1968), Assistant Professor of Education.

Thomas F. Hogarty, Ph.D., New York State University (1969), Associate Professor of Economics.

George S. Holden, Ed.D., State University of New York (1966), Associate Professor of Education.

Kenneth H. Honea, Ph.D., University of Vienna (1969), Associate Professor of Anthropology (Sociology and Anthropology).

Arthur Hoppe, Ed.D., Columbia University (1967), Associate Professor of Education.

Jacob B. Hoptner, Ph.D., Columbia University (1966), Professor of History.

Lucie T. Horner, Ph.D., University of Chicago (1967), Professor of Foreign Languages.

Pawel Horoszowski, Ph.D., Warsaw University (1969), Professor of Sociology (Sociology and Anthropology).

Donald C. Horton, Ph.D., University of Michigan (1968), Professor of Economics.

Lowell W. Horton, Ph.D., Ohio State University (1969), Associate Professor of Education.

David H. Howard, Ph.D., Indiana University (1958), Associate Professor of Sociology (Sociology and Anthropology).

Richard H. Howland, Ph.D., University of Michigan (1964), Professor of Marketing; Head, Department of Marketing.

Max S. Huebner, Ph.D., George Peabody College for Teachers (1947), Professor of Education: Director of Student Teaching.

J. Frances Huey, Ed.D., New York University (1952), Professor of Education.

Marion A. Hull, Ph.D., Northwestern University (1957), Associate Professor of Education.

Robert J. Hunyard, Ed.D., Indiana University (1959), Professor of Education; Head, Research and Development, Communication Services.

Hazel F. Huston, Ed.D., University of Southern California (1968), Assistant Professor of Special Education.

Kathryn Iliff, C.P.A., Ed.D., University of Denver (1956), Professor of Accountancy.

Bruce E. Irvin, M.S., University of Oregon (1968), Assistant Professor of Speech.

Mozelle V. Jackson, Ed.D., University of Tennessee (1969), Assistant Professor of Education.

Norman C. Jacobs, Ph.D., Ohio State University (1965), Associate Professor of Education.

Eckhart A. Jacobsen, Ph.D., University of Connecticut (1961), Professor of Industry and Technology; Head, Department of Industry and Technology.

E. Nelson James, Ph.D., State University of Iowa (1948), Professor of English; Director, Professional Publications.

Betty Jeffrey, Ph.D., Pennsylvania State University (1967), Associate Professor of Home Economics.

Clinton J. Jesser, Ph.D., Michigan State University (1964), Associate Professor of Sociology (Sociology and Anthropology).

John H. Johansen, Ph.D., Northwestern University (1969), Associate Professor of Education.

Duane R. Johnson, Ed.D., Michigan State University (1963), Associate Professor of Industry and Technology.
James A. Johnson, Ed.D., University of North Dakota (1965), Professor of Education; Associate Director of Student Teaching.

Warren E. Johnson, Ed.D., Oklahoma State University (1967), Associate Professor; Counselor, University Counseling Center.

Malcolm T. Jollie, Ph.D., Stanford University (1965), Professor of Biological Sciences.

Orville E. Jones, Ed.D., University of Oklahoma (1960), Professor of Outdoor Teacher Education; Administrative Assistant to the Director, Lorado Taft Field Campus.

Thomas B. Jones, Ph.D., Cornell University (1968), Assistant Professor of History.

Robert Kabak, M.F.A., Yale University (1968), Associate Professor of Art.

Robert W. Kahler, Ed.D., Colorado State College (1962), Professor of Physical Education for Men.

Martin I. Kallich, Ph.D., Johns Hopkins University (1958), Professor of English.

Tatsuji Kambayashi, Ph.D., Northwestern University (1967), Associate Professor of Mathematics.

Martin F. Kaplan, Ph.D., State University of Iowa (1965), Associate Professor of Psychology.

Robert Karabinus, Ph.D., University of Illinois (1968), Associate Professor of Education; Registrar.

Walter Katkovsky, Ph.D., Ohio State University (1968), Professor of Psychology.

Benjamin Keen, Ph.D., Yale University (1965), Professor of History.

Charles W. Keighin, Ph.D., University of Colorado (1966), Assistant Professor of Geology.

T. Kennedy, Ph.D., Ohio State University (1969), Associate Professor of Management.

Frederick G. Kent, J.D., Charles University, Prague (1950), Associate Professor of Political Science.

Dennis N. Kevill, Ph.D., University of London (1963), Associate Professor of Chemistry.

Donald E. Kieso, C.P.A., Ph.D., University of Illinois (1963), Professor of Accountancy; Coordinator, Accountancy Internships.

Clyde W. Kimball, Ph.D., St. Louis University (1964), Professor of Physics.

Joshua Kind, Ph.D., Columbia University (1969), Associate Professor of Art.

James H. King, Ed.D., University of Colorado (1958), Associate Professor of Education.

James T. King, Jr., Ph.D., University of Notre Dame (1967), Assistant Professor of Philosophy.
GRADUATE FACULTY

(The date indicates beginning of service to the University.)

Joan H. Kuipers, Ed.D., Wayne State University (1968), Assistant Professor of Education.

Robert G. Kuller, Ph.D., University of Michigan (1968), Associate Professor of Mathematics.

William E. Kuschman, Ed.D., Indiana University (1965), Professor; Coordinator of Research, The University School.

Jene K. Kwon, Ph.D., University of Iowa (1968), Assistant Professor of Economics.

Nye L. LaBaw, Ed.D., Michigan State University (1960), Associate Professor of Physical Education for Men.

Elizabeth C. Lane, Ph.D., New York University (1954), Professor of Physical Education for Women; Coordinator of Physical Therapy Program.

Robert E. Lane, Ph.D., University of Iowa (1964), Associate Professor of Management.

James E. Lankford, Ph.D., University of Oklahoma (1969), Assistant Professor of Speech.

Frank W. Lanning, Ed.D., North Texas University (1961), Professor of Education.

Charles U. Larson, Ph.D., University of Minnesota (1968), Assistant Professor of Speech.

Robert J. Lauda, Ph.D., Iowa State University (1968), Assistant Professor of Industry and Technology.

Robert Jordan Lazar, Ph.D., University of Minnesota (1969), Assistant Professor of Sociology (Sociology and Anthropology).

Annette S. Lefkowitz, Ed.D., Teachers College, Columbia University (1958), Professor of Nursing; Director, School of Nursing.

Henry S. Leonard, Ph.D., Harvard University (1968), Professor of Mathematics.

Lloyd L. Leonard, Ed.D., Colorado State College (1963), Professor of Education; Head, Department of Elementary Education.

Louis Lerea, Ph.D., University of Pittsburgh (1954), Professor of Speech.

Charles W. Leslie, Ph.D., Harvard University (1961), Professor of Philosophy.

Lester S. Levy, Ph.D., Cornell University (1964), Professor of Economics.

W. Bruce Lincoln, Ph.D., University of Chicago (1967), Assistant Professor of History.

Wendell A. Lindbeck, Ph.D., University of Wisconsin (1949), Professor of Chemistry.

John H. Lindsey, Ph.D., Harvard University (1969), Assistant Professor of Mathematics.

Carlton E. Lints, Ph.D., University of Chicago (1968), Associate Professor of Psychology.

Edra E. Lipscomb, Ed.D., Indiana University (1956), Professor of Education.

D. Richard Little, Jr., Ph.D., University of California (1963), Associate Professor of Political Science.

Donald W. Livingston, Ph.D., Washington University (1967), Assistant Professor of Philosophy.

John W. Lloyd, Ed.D., Teachers College, Columbia University (1947), Professor of Economics.

Cornelius J. Loeser, Ph.D., University of California (1965), Assistant Professor of Geography.

Earl O. Loessel, Ed.D., University of Michigan (1965), Associate Professor of Music.

William H. Logue, Ph.D., University of Chicago (1966), Assistant Professor of History.

Erwin J. Lotsof, Ph.D., Ohio State University (1961), Professor of Psychology.

Leo J. Loughlin, Ph.D., University of Wisconsin (1960), Professor of Education; Head, Department of Educational Administration and Services.

Darrell L. Lynch, Ph.D., University of Illinois (1962), Professor of Biological Sciences.

Wallace R. McAllister, Ph.D., State University of Iowa (1969), Professor of Psychology.

Raymond H. McClary, D.B.A., Indiana University (1968), Associate Professor of Accountancy.

James A. McCleary, Ph.D., University of Michigan (1969), Professor of Biological Sciences; Chairman, Department of Biological Sciences.

Gary L. McConkey, Ed.D., Wayne State University (1968), Assistant Professor of Education.

Harold L. McConnell, Ph.D., State University of Iowa (1967), Professor of Geography.

Frank L. McCormick, C.P.A., Ph.D., University of Iowa (1967), Associate Professor of Accountancy.

Keith H. McDonal, Ph.D., Michigan State University (1962), Associate Professor of Education; Administrative Student Dean.

V. Dale McDowell, Ph.D., Northwestern University (1959), Associate Professor of Education.

Robert McFadden, Ph.D., Queen's University, Belfast (1968), Professor of Mathematics.

Lyle D. McGinnis, Ph.D., University of Illinois (1967), Associate Professor of Geology.
Wayne J. McIlrath, Ph.D., State University of Iowa (1964), Professor of Biological Sciences; Dean, Graduate School.

David L. McKay, Ed.D., Wayne State University (1967), Associate Professor of Art.

Kevin McKeough, Ph.D., University of Michigan (1969), Assistant Professor of Political Science.

Bruce A. Magidsohn, Ph.D., Ohio University (1969), Assistant Professor of Art.

Benjamin L. Mahmoud, M.F.A., Ohio University (1965), Associate Professor of Art.

Parvine Mahmoud, Ph.D., Indiana University (1965), Associate Professor of Foreign Languages.

Wesley A. Many, Ph.D., State University of Iowa (1963), Professor of Education.

Robert Maple, Ed.D., Northern Illinois University (1967), Assistant Professor of Education.

Hannah L. Marshall, M.A., Northwestern University (1969), Assistant Professor of Sociology (Sociology and Anthropology).

Thomas H. Marshall, Ph.D., Northwestern University (1968), Assistant Professor of Chemistry.

Joseph A. Martellaro, Ph.D., University of Notre Dame (1967), Professor of Economics; Associate Dean, Graduate School.

Randall B. Martin, Ph.D., Syracuse University (1963), Professor of Psychology.

Gerald Maryanov, Ph.D., Indiana University (1967), Associate Professor of Political Science.

W. Roy Mason III, Ph.D., Emory University (1967), Assistant Professor of Chemistry.

William John Masson, Ph.D., State University of Iowa (1968), Professor of Finance; Assistant to the Dean of the College of Business.

Carol K. Mathers, Ph.D., State University of Iowa (1956), Associate Professor of Biological Sciences.

Lillian Mathews, Ph.D., Ohio State University (1968), Associate Professor of Home Economics.

Laurence B. Mauer, Ph.D., University of Tennessee (1967), Assistant Professor of Economics.

Lyle Maxwell, Ed.D., University of Colorado (1959), Professor of Business Education; Head, Department of Business Education.

James Mellard, Ph.D., University of Texas (1967), Associate Professor of English.

James W. Merritt, Ed.D., Harvard University (1948), Professor of Education.

Aubrey Messenger, Ph.D., Michigan State University (1963), Assistant Professor of Geography.

Axel Meyer, Ph.D., Illinois Institute of Technology (1967), Professor of Physics.

Carroll H. Miller, Ed.D., Colorado State College (1962), Professor of Education.

Elwyn R. Miller, Ph.D., State University of Iowa (1956), Professor of Education; Associate Director of Student Teaching.

Ethel Miller, Ed.D., Peabody College (1967), Associate Professor of Education.

Francis M. Miller, Ph.D., Northwestern University (1968), Professor of Chemistry; Head, Department of Chemistry.

George I. Miller, Ph.D., Claremont Graduate School (1966), Associate Professor of Finance.

John C. Mitchem, Ph.D., State University of Iowa (1962), Professor of Physical Education for Women; Special Assistant to President.

Sidney Mittler, Ph.D., University of Michigan (1960), Professor of Biological Sciences.

Esther P. Mocega, Doctora en Filosofia y Letras, Universidad de la Habana (1962), Assistant Professor of Foreign Languages.

Khan A. Mohabbat, Ph.D., State University of New York (1968), Associate Professor of Economics.

William R. Monat, Ph.D., University of Minnesota (1969), Professor of Political Science; Chairman, Department of Political Science.

J. Carroll Moody Jr., Ph.D., University of Oklahoma (1968), Associate Professor of History.

Douglas M. More, Ph.D., University of Chicago (1968), Professor of Sociology (Sociology and Anthropology).

Robert L. Morgenroth, Ph.D., University of Colorado (1963), Professor of Foreign Languages.

Robert C. Morris, Ph.D., University of Wisconsin (1964), Associate Professor of Geology.

Harriet Morrison, Ed.D., Boston University (1967), Assistant Professor of Education.

Lou J. Moyer, Ph.D., University of Iowa (1962), Associate Professor of Physical Education for Women.

Clyde L. Moyers, Ed.D., Indiana University (1966), Associate Professor of Education.

Richard J. Mueller, Ph.D., State University of Iowa (1963), Professor of Education.

Arthur C. Muns, Ed.D., Northwestern University (1963), Associate Professor of Education.

Richard E. Munson, Ph.D., Rutgers University (1968), Assistant Professor of Mathematics.
GRADUATE FACULTY

(The date indicates beginning of service to the University.)

Donald M. Murray, Ph.D., New York University (1956), Professor of English.
Frederic W. Murray, Ph.D., University of New Mexico (1969), Associate Professor of Foreign Languages.
C. Mason Myers, Ph.D., University of Michigan (1959), Professor of Philosophy.
 Helmer R. Myklebust, Ed.D., Rutgers University (1969), Professor of Special Education.
William Nachtman, Ed.D., Colorado State College (1967), Assistant Professor of Special Education.
Walter Neath, Ph.D., Illinois Institute of Technology (1967), Assistant Professor of Mathematics.
Clark D. Neher, Ph.D., University of California at Los Angeles (1969), Assistant Professor of Political Science.
Robert J. Nejedlo, Ph.D., University of Wisconsin (1967), Assistant Professor of Education.
J. Howard Nelson, Ph.D., New York University (1955), Professor of Marketing.
Robert H. Nelson, Ed.D., Colorado State College (1962), Professor of Education; Head, Department of Secondary Professional Education.
Marcella H. Nerbovig, Ph.D., University of Wisconsin (1957), Professor of Education.
Darrell Newell, Ph.D., University of Iowa (1968), Associate Professor of Industry and Technology.
Theodore E. Newman, Ph.D., University of Iowa (1968), Assistant Professor of Economics.
Norman K. Nicholson, Ph.D., Cornell University (1965), Assistant Professor of Political Science.
Knut J. Norstog, Ph.D., University of Michigan (1966), Professor of Biological Sciences.
Ralph S. Novak, Ph.D., State University of Iowa (1960), Professor of Management; Coordinator of Executive Development Program.
Henry A. O'Connor, Ed.D., University of Missouri (1956), Professor of Education.
Marguerite O'Connor, Ed.D., Loyola University (1934), Professor of Education.
Ira E. Odom, Ph.D., University of Illinois (1964), Associate Professor of Geology.
William K. Ogilvie, Ed.D., Indiana University (1955), Professor of Education; Director, Community College Services.
Robert T. Olberg, Ed.D., Wayne State University (1968), Associate Professor of Education.

Garnet D. Olive, Ph.D., State University of Iowa (1964), Professor of Finance; Coordinator of M.B.A. Programs.
Otto H. Olsen, Ph.D., Johns Hopkins University (1967), Associate Professor of History.
J. Mark O' Dow, Ph.D., Western Reserve University (1968), Professor of Psychology.
Velva J. Osborn, Ph.D., University of Illinois (1967), Associate Professor of Library Science.
Donald Ostberg, Ph.D., University of California (1967), Professor of Mathematics; Head, Department of Mathematics.
Charlotte M. Otten, Ph.D., University of Michigan (1967), Professor of Anthropology (Sociology and Anthropology).
Blanche E. Owens, Ph.D., State University of Iowa (1960), Professor of Education; Coordinator of Educational Services, Communication Services.
Soae Paek, Ph.D., Texas Woman's University (1967), Assistant Professor of Home Economics.
Catherine D. Papastathopoulos, Ph.D., University of Iowa (1968), Assistant Professor of Political Science.
Ellen S. Parham, Ph.D., University of Tennessee (1966), Assistant Professor of Home Economics.
Carl P. Parrini, Ph.D., University of Wisconsin (1965), Associate Professor of History.
Charles I. Patterson, Jr., Ph.D., University of Illinois (1965), Professor of English.
Dale D. Patterson, Ed.D., Northern Illinois University (1965), Associate Professor of Education; Associate Registrar.
Anne Payne, Ph.D., State University of Iowa (1965), Associate Professor of Physical Education for Women.
Joseph O. Pecenka, Ph.D., University of Illinois (1967), Associate Professor of Management.
Leonard P. Pecilunas, Ph.D., Florida State University (1968), Associate Professor of Home Economics; Coordinator, Mental Health Program.
Albert R. Pender, Ph.D., University of North Dakota (1967), Assistant Professor of Business Education.
Nola J. Pender, Ph.D., Northwestern University (1969), Assistant Professor of Nursing.
Roscoe D. Perritt, Ph.D., Ohio State University (1969), Associate Professor of Accounting.
Joan L. Peterson, Ph.D., University of Nebraska (1964), Assistant Professor of Education.
Beatrice Petrich, Ph.D., Iowa State University (1966), Associate Professor of Home Economics.
David M. Piatak, Ph.D., University of Maine (1966), Assistant Professor of Chemistry.

N. L. Pielstick, Ph.D., University of Illinois (1959), Associate Professor of Psychology.

Donald E. Polzin, Ph.D., State University of Iowa (1962), Associate Professor of Speech.

M. Joan Popp, Ph.D., State University of Iowa (1959), Associate Professor of Physical Education for Women.

Lorena R. Porter, Ph.D., State University of Iowa (1961), Professor of Physical Education for Women.

Norman B. Potts, M.A., Colorado State College (1969), Assistant Professor of Speech.

Leonard L. Pourchot, Ed.D., Colorado State College (1962), Professor of Education.

M. Joan Powell, Ph.D., University of Oregon (1969), Associate Professor of Speech.

Marvin Powell, Ph.D., Syracuse University (1961), Professor of Education.

Michael J. Powers, Ph.D., Indiana University (1968), Assistant Professor of Mathematics.

Kadaba V. Prahlad, Ph.D., University of Missouri (1966), Associate Professor of Biological Sciences.

Granville Price, Ph.D., University of Missouri (1962), Professor of Journalism.

Richard N. Price, D.Phil., University of Sussex (1968), Assistant Professor of History.

Wilmoth C. Price, Ph.D., University of Minnesota (1965), Associate Professor of Education; Associate Registrar.

Robert Prince, Ph.D., University of Pittsburgh (1967), Assistant Professor of Special Education.

George S. Pritchard, Ed.D., Michigan State University (1957), Professor of Education; Coordinator of Evening Programs, Business.

E. Milo Pritchett, Ed.D., Colorado State College (1966), Professor of Special Education; Head, Department of Special Education.

Wilbur F. Pursley, Ph.D., Eastman School of Music, University of Rochester (1964), Associate Professor of Music.

Otho J. Quick, Ph.D., University of Minnesota (1956), Professor of Industry and Technology.

William G. Quirk, Ph.D., New Mexico State University (1969), Assistant Professor of Mathematics.

Byron F. Radebaugh, Ed.D., University of Toledo (1966), Associate Professor of Education.

Damon D. Reach, Ed.D., George Peabody College for Teachers (1956), Professor of Education; Director of the Summer Session.
GRADUATE FACULTY

(The date indicates beginning of service to the University.)

• Marvin S. Rosen, Ph.D., University of California (1964), Assistant Professor of History.

• Harry K. Rosenthal, Ph.D., Columbia University (1967), Assistant Professor of History.

• Daniel N. Rubel, Ph.D., University of Michigan (1964), Associate Professor of Geology.

• Morley E. Russell, Ph.D., University of Michigan (1965), Associate Professor of Chemistry.

• Anthony E. Scaperlanda, Ph.D., University of Texas (1964), Associate Professor of Economics; Acting Head, Department of Economics.

• Byron S. Schaffer, Jr., Ph.D., Ohio State University (1964), Associate Professor of Speech.

• Alfred A. Schilt, Ph.D., University of Illinois (1962), Professor of Chemistry.

• Ole A. Schjeide, Ph.D., University of California (1969), Professor of Biological Sciences.

• Wesley L. Schmidt, Ed.D., Michigan State University (1961), Professor of Education.

• Robert W. Schneider, Ph.D., University of Minnesota (1961), Associate Professor of History; Acting Head, Department of History.

• Gertrude Schoenbohm, Ph.D., State University of Iowa (1961), Associate Professor of Foreign Languages.

• Marguerite T. Schormann, Ed.D., Indiana University (1966), Associate Professor of Library Science.

• Martha E. Schreiner, Docteur de l’Universite de Paris (1946), Professor of Foreign Languages.

• Mary S. Schriber, Ph.D., Michigan State University (1967), Assistant Professor of English.

• Jordan A. Schwarz, Ph.D., Columbia University (1965), Assistant Professor of History.

• David W. Scott, Ph.D., Northwestern University (1968), Assistant Professor of Political Science.

• Donald D. Scriven, Ph.D., State University of Iowa (1969), Professor of Accountancy; Coordinator of Computer Systems in Business.

• Eldon G. Scriven, Ed.D., Cornell University (1958), Associate Professor of Education.

• Georgia Scriven, Ed.D., Northern Illinois University (1969), Assistant Professor of Education.

• Dorothy I. Seaberg, Ed.D., Wayne State University (1964), Professor of Education.

• William R. Seat III, Ph.D., Indiana University (1954), Professor of English.

• Mary L. Seguel, Ed.D., Teachers College, Columbia University (1957), Associate Professor of Education.

• George W. Senteney, Ed.D., University of Missouri (1955), Professor of Industry and Technology.

• S. Frederick Seymour, Ph.D., University of Chicago (1969), Professor of Sociology (Sociology and Anthropology); Chairman, Department of Sociology and Anthropology.

• John C. Shaffer, Ph.D., University of Delaware (1966), Associate Professor of Physics.

• Mahboob Shahzaman, Ed.D., Teachers College, Columbia University (1965), Professor of Art.

• Harvey L. Shapiro, Ph.D., Purdue University (1969), Associate Professor of Mathematics.

• James R. Shawl, Ph.D., University of Washington (1967), Assistant Professor of Foreign Languages.

• William M. Shearer, Ph.D., University of Denver (1958), Professor of Speech.

• Edgar L. Sherbenou, Ph.D., University of Kansas (1959), Associate Professor of Political Science.

• Marion Sheriff, Ed.D., Teachers College, Columbia University (1964), Assistant Professor of Education.

• Homer C. Sherman, Ph.D., State University of Iowa (1966), Professor of Education.

• Jacqueline Shick, Ph.D., University of Minnesota (1969), Assistant Professor of Physical Education for Women.

• James R. Shirley, Ph.D., University of California (1962), Associate Professor of History.

• John Shybut, Ph.D., University of Colorado (1965), Assistant Professor of Psychology.

• Georgiana W. Sie, Ph.D., State University of Iowa (1964), Professor of Home Economics.

• Larry R. Sill, Ph.D., Iowa State University (1964), Associate Professor of Physics; Acting Associate Dean, College of Liberal Arts and Sciences.

• Seymore Simon, Ph.D., University of California (1961), Associate Professor of Psychology.

• Simon M. Simon, Ph.D., New York University (1969), Associate Professor of Finance.

• Clifford H. Simonson, Ph.D., University of Maryland (1968), Associate Professor of Geography.

• Edwin L. Simpson, Ed.D., Indiana University (1968), Associate Professor of Education.

• Victor G. Simpson, Ed.D., Indiana University (1967), Associate Professor of Industry and Technology.

• Clarence A. Sims, Ph.D., University of Illinois (1961), Associate Professor of Management.
Jack W. Skeels, Ph.D., University of Wisconsin (1963), Professor of Economics.

John Skok, Ph.D., University of Chicago (1962), Professor of Biological Sciences.

Elwood L. Smith, D.M., Indiana University (1965), Associate Professor of Music.

Harold E. Smith, Ph.D., Cornell University (1957), Professor of Sociology (Sociology and Anthropology).

Lois A. Smith, Ed.D., Michigan State University (1967), Assistant Professor of Education.

Miriam L. Smith, D.Ed., Pennsylvania State University (1968), Assistant Professor of Home Economics.

Gladys R. Spargo, Ph.D., Northwestern University (1966), Assistant Professor of Library Science.

William R. Speer, Ed.D., Colorado State College (1963), Assistant Professor of Education.

George W. Spencer, Ph.D., University of California (1967), Assistant Professor of History.

Sherman M. Stanage, Ph.D., University of Colorado (1968), Associate Professor of Philosophy; Chairman, Department of Philosophy.

William D. Stark, Ed.D., Pennsylvania State University (1968), Assistant Professor of Outdoor Teacher Education.

John D. Starkey, Ed.D., Colorado State College (1967), Associate Professor of Education.

Robert Starkey, Ed.D., Texas Technological College (1967), Associate Professor of Education.

Marvin J. Starzyk, Ph.D., University of Wisconsin (1966), Assistant Professor of Biological Sciences.

Allen E. Staver, Ph.D., University of Wisconsin (1969), Assistant Professor of Geography.

Paul O. Steg, D.M.A., Boston University (1961), Professor of Music.

Rennie W. Stehr, Ed.D., Colorado State College (1964), Professor of Business Education.

George P. Stevens, Ph.D., University of Wisconsin (1950), Professor of Geography.

Cecil G. Strawn, Jr., M.F.A., Southern Illinois University (1953), Associate Professor of Art.

Francis E. Stroup, Ed.D., University of Southern California (1959), Professor of Physical Education for Men.

Lucien H. Stryk, M.F.A., State University of Iowa (1958), Associate Professor of English.

Joseph Suhadole, Dottore in Lingue e Letterature Straniere, University of Venice (1959), Professor of Foreign Languages.

Virtus W. Suhr, Ph.D., Iowa State University (1962), Professor; Acting Dean, College of Continuing Education.

Theodor Suranyi-Unger, Ph.D., Pazmany University, Budapest (1966), Professor of Economics.

Howard A. Swan, Jr., Ph.D., State University of Iowa (1966), Associate Professor of Education; Educational Media Coordinator.

Malcolm D. Swan, Jr., Ed.D., University of Montana (1965), Associate Professor of Outdoor Teacher Education.

Mary B. Swynehardt, Ed.D., University of Colorado (1947), Professor of Education; Supervising Teacher of Art, The University School.

Genevieve B. Syverson, Ph.D., University of Michigan (1960), Professor of Education.

Clayton Taylor, Ph.D., University of Notre Dame (1967), Assistant Professor of Economics.

Clair R. Tettener, Ph.D., Ohio State University (1967), Professor of Education; Director, Communication Services.

Robert L. Thistlethwaite, Ph.D., State University of Iowa (1954), Professor of Finance; Dean, College of Business.

M. Ladd Thomas, Ph.D., Fletcher School of Law and Diplomacy (1963), Professor of Political Science; Coordinator, Center for Southeast Asian Studies.

Michael L. Thompson, Ed.D., University of Arkansas (1960), Professor of Education; Acting Associate Dean, College of Education.

Albert K. Tink, Ph.D., Northwestern University (1957), Professor of Education.

Eleanor L. Tipton, Ed.D., Teachers College, Columbia University (1975), Associate Professor of Music.
GRADUATE FACULTY

(The date indicates beginning of service to the University.)

Stanley Trail, Ph.D., Oklahoma State University (1967), Assistant Professor of Mathematics.

Dwayne R. Triplett, Ed.D., University of Nebraska (1965), Associate Professor of Education.

Carol M. Troescher, Ed.D., Indiana University (1953), Assistant Professor, Conference Bureau.

Chipei P. Tseng, Ph.D., State University of Iowa (1967), Associate Professor of Finance.

Charles O. Tucker, Ph.D., Ohio State University (1965), Associate Professor of Speech; Acting Head, Department of Speech.

Andrew Turek, Ph.D., Australian National University (1969), Associate Professor of Geology.

John H. Ulrich, Ph.D., State University of Iowa (1963), Professor of Speech; Director of the Honors Program.

Harley M. Upchurch, Ph.D., Louisiana State University (1969), Assistant Professor of Sociology (Sociology and Anthropology).

Jack L. Uretsky, Ph.D., Massachusetts Institute of Technology (1968), Professor of Physics.

Franklin D. Van Buer, Ph.D., University of Illinois (1966), Assistant Professor of Economics.

Gustaf Van Cromphout, Ph.D., University of Minnesota (1968), Assistant Professor of English.

H. John Van Duyne, Ed.D., University of Rochester (1969), Assistant Professor of Education.

Elston W. Van Steenburgh, Ph.D., University of Michigan (1969), Associate Professor of Philosophy.

Joe W. Vaughn, Ph.D., University of Kentucky (1961), Associate Professor of Chemistry.

Reesa Vaughter, Ph.D., Texas Technological College (1967), Assistant Professor of Psychology.

Clyde B. Vedder, Ph.D., University of Southern California (1959), Professor of Sociology (Sociology and Anthropology).

Nancy M. Vedral, Ed.D., Indiana University (1969), Assistant Professor of Education.

Ludmilla A. Velinsky, Ph.D., Masaryk University, Brno, Czechoslovakia (1964), Associate Professor of Foreign Languages.

Donald P. Verene, Ph.D., Washington University, St. Louis (1964), Associate Professor of Philosophy.

Jack R. Villmow, Ph.D., University of Wisconsin (1968), Professor of Geography.

Dieter Von Ehrenstein, Ph.D., University of Heidelberg (1969), Associate Professor of Physics.
GRADUATE FACULTY

Jerome E. Winn, P.E.D., Indiana University (1948), Associate Professor; Supervising Teacher of Health and Physical Education, The University School.

Daniel Wit, Ph.D., Princeton University (1961), Professor of Political Science; Director of International Programs; Co-Director, Center for Southeast Asian Studies.

Charles Wood, Ph.D., London University (1967), Professor of Physics; Head, Department of Physics.

Glenn L. Wood, Ed.D., Indiana University (1967), Assistant Professor; Counselor, University Counseling Center.

Margaret L. Wood, Ph.D., State University of Iowa (1949), Professor of Speech.

A. Bond Woodruff, Ph.D., Ohio State University (1959), Professor of Psychology.

Ruth B. Woolschlager, Ed.D., Northwestern University (1960), Professor of Business Education.

Joseph Sen Wu, Ph.D., Southern Illinois University (1967), Assistant Professor of Philosophy.

Marvin Wunderlich, Ph.D., University of Colorado (1967), Associate Professor of Mathematics.

Henry G. Yankow, Ph.D., Northwestern University (1958), Professor of Education; Coordinator, School Business Management.

David Yaseen, Ph.D., London School of Economics and Political Science (1968), Associate Professor of Geography.

Wilbur A. Yauch, Ed.D., Teachers College, Columbia University (1952), Professor of Education.

Alfred F. Young, Ph.D., Northwestern University (1964), Professor of History.

Thomas Zachman, Ph.D., University of Oklahoma (1968), Assistant Professor of Speech.

Jerrold H. Zar, Ph.D., University of Illinois (1968), Assistant Professor of Biological Sciences.

Anton Zettl, Ph.D., University of Tennessee (1969), Associate Professor of Mathematics.
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UNIVERSITY OFFICE HOURS

The administrative offices are open Monday through Friday from 8:00 a.m. to 12:00 noon and 1:00 p.m. to 5:00 p.m.

The University maintains an information service available to visitors to the campus during the hours at the locations as follows:

Monday through Friday—8:00 a.m. to 12:00 noon and 1:00 p.m. to 5:00 p.m.—first floor Lowden Hall (administration building), Saturday and Sunday—8:00 a.m. to 5:00 p.m.—University Center.

All offices are closed on legal holidays.

UNIVERSITY PUBLICATIONS

The Undergraduate Catalog contains a detailed statement of faculty, equipment, courses, curricula, requirements, expenses, and objectives. It is a comprehensive guide to those who expect to enter Northern Illinois University.

The Graduate Catalog contains a detailed statement of equipment, courses, curricula, requirements, expenses, and objectives of the Graduate School. It contains information relative to requirements for earning degrees Master of Arts, Master of Science, Master of Science in Business Administration, Master of Science in Community Mental Health, Master of Science in Education, Master of Music, Master of Business Administration, Master of Fine Arts, Certificate of Advanced Study, Doctor of Education, and Doctor of Philosophy.

The Preliminary Announcement to the Summer Session gives lists of courses offered during the summer terms at DeKalb and Lorado Taft Field Campuses. It lists workshops, institutes, clinics, and programs for youth and describes special programs in detail. It supplies information about admission, registration, fees, and housing.

Evening-Extension-Adult Classes lists the schedule of evening, Saturday, extension, and adult education classes and gives information concerning purposes, admission, credit, registration, and fees. It is published for each semester and summer.

You and Northern Illinois University is an illustrated booklet that gives general information on admission, program, fees and financial aids, housing and student organizations.

Any of the above publications may be obtained by writing to the Director of Admissions.

Northern Illinois News Items is published monthly and sent to parents of Northern’s students and a selected list of others interested in the University. It contains general news items and pictures about the University.
DIRECTIONS FOR CORRESPONDENCE

To expedite the answering of inquiries concerning graduate work in specific fields, the names of department heads, departmental graduate advisers, or division chairmen are listed below.

Prospective students seeking information relative to the availability of assistantships, fellowships, and traineeships should also address their inquiries to these individuals.

Accountancy
Art
Biological Sciences
Business Administration (MBA)
Business Education
Center for Southeast Asian Studies and Training
Chemistry
Economics
Educational Administration and Services
Elementary Education
English
Finance
Foreign Languages
Geography
Geology
History
Home Economics
Industry and Technology
Journalism
Library Science
Management
Marketing
Mathematics
Music
Nursing
Outdoor Teacher Education
Philosophy
Physical Education for Men
Physical Education for Women
Physics
Political Science
Psychology
Secondary Professional Education
Social Sciences
Sociology and Anthropology
Special Education
Speech

Clarence G. Avery, Ph.D.
Jack Arends, Ed.D.
James A. McCleary, Ph.D.
Garnet D. Olive, Ph.D.
Lyle Maxwell, Ed.D.
M. Ladd Thomas, Ph.D.
Francis M. Miller, Ph.D.
Anthony E. Scaperlanda, Ph.D.
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Malcolm P. Weiss, Ph.D.
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Donald R. Grubb, Ed.D.
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Lawrence C. Hackamack, Ph.D.
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Donald R. Ostberg, Ph.D.
James S. Ballinger, D.M.A.
Annette S. Lefkowitz, Ed.D.
Donald R. Hammerman, Ed.D.
Sherman Stanage, Ph.D.
Robert J. Brigham, P.E.D.
Margaret M. Duncan, Ed.D.
Charles Wood, Ph.D.
William R. Monat, Ph.D.
Sanford J. Dean, Ph.D.

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**NUMERICAL INDEX**

1. Stadium
2. Football Field
3. Stevenson Towers Res. Halls
4. Grant Towers Res. Halls
5. Douglas Res. Halls
6. Lincoln Res. Halls
7. West Heating Plant
8. University Apartments
9. Field House
10. Graham Hall
11. University School
12. Reavis West
13. Reavis Hall
14. Watson Hall
15. Watson East
16. Reavis-Watson Lecture Halls
17. Fine Arts Building
18. Neptune West Res. Halls
19. Neptune Central
20. Neptune North Res. Halls
22. Postal Station
23. University Center & Tower
24. Home Management House
25. Educational Administration Center
26. Nursing Education Annex
27. Nursing Education Offices
28. Library, Swen Parson
29. Davis Science Building
30. Faraday Science Building
31. Nursing School
32. Montgomery Hall
33. Lowden Hall
34. Altgeld Hall
35. East Heating Plant
36. Williston Hall
37. Adams Hall
38. Security & Communications Building
39. Health Center
40. Speech & Hearing Clinic
41. Speech & Hearing Annex
42. Psychology Clinic
43. Skorberg-Gillen #2
44. Skorberg-Gillen #3
45. Music Annex
46. Anderson Hall
47. Psychology Lab
48. Art Building (under construction)
49. Gilbert Res. Hall
50. Wirtz Hall
51. McMurry Hall
52. Still Gym
53. Industry & Technology Building
54. Kishwaukee Hall
55. Physical Plant
56. Transportation
57. Central Storage
58. Buildings & Grounds
The Northern Illinois University Foundation is a non-profit corporation formed to assist in developing and increasing the facilities and programs of the University and to encourage gifts of money, property, works of art, or other material having educational and historical value. It receives, holds, and administers such gifts with the primary object of serving purposes other than those for which the State of Illinois ordinarily makes sufficient appropriations.

The Foundation is managed by a Board of Directors consisting of the President of the University, a member of the Board of Regents, the Executive Vice President, the Vice President for Business Affairs, eighteen elected representatives of Alumni, of the business, professional and industrial community, and of faculty and staff members. This Board is empowered to transfer to the University any property assigned or conveyed to it. The Director for Alumni Relations and Development serves as the Executive Director of the Foundation.

The Foundation serves as the educational fund raising agency for the University.

One of the Foundation's functions is the operation of a loan service for students. This service, which is located in the office of the secretary-treasurer, enables deserving students to borrow, at a low rate of interest, on personal notes.

Additional information may be secured through the Office for Alumni Relations and Development or from Roy E. France, Secretary-Treasurer, University Controller.