

Board of Regents

Northern Illinois, Illinois State and Sangamon State Universities are governed by the Board of Regents, established July 1, 1967, by an act of the Illinois General Assembly. Nine members and three student representatives are appointed by the Governor. The tenth, the State Superintendent of Public Instruction, serves by virtue of the office he holds.

Appointed Members

J. Robert Barr, Chairman, Evanston
Michael J. Brady, Springfield
Dr. A. L. Knoblauch, Roseville
David E. Murray, Sterling
James M. Patterson, Olympia Fields
Charles B. Shuman, Sullivan
Mrs. Warren F. Spencer, Evanston
Mrs. Eleanor R. Suggs, Phoenix
Ms. Edith R. Terwilliger, Champaign

Student Representatives

Bruce P. Edenson, Northern Illinois University, DeKalb
Mike McConnell, Illinois State University, Normal

 , Sangamon State University,
Springfield

Ex Officio Member

Dr. Michael J. Bakalis, Superintendent of Public Instruction,
Springfield

Board Staff

Dr. Franklin G. Matsler, Executive Director, Springfield
William J. Keating, Treasurer and Financial Officer, Springfield

The Graduate School

Academic Officers

Richard J. Nelson, J.D. (Northwestern), President
Richard C. Bowers, Ph.D. (Minnesota), Vice President and
Provost
Wendell V. Harris, Ph.D. (Wisconsin), Associate Provost
James A. Rutledge, Ph.D. (Ohio State), Dean of the Graduate
School
Michael L. Thompson, Ed.D. (Arkansas), Acting Associate
Dean of the Graduate School

Graduate Council

Doratheia K. Beard, Ph.D. (Ohio State)
Richard C. Bowers, Ph.D. (Minnesota), ex officio
Pat Breed, College of Education student representative
Doris H. Crank, Ed.D. (Northwestern)
Richard C. Erickson, Ph.D. (Purdue)
Thomas Finnessy, College of Business student representative
Keith R. Getschman, Ed.D. (Northern Illinois)
William C. Kirkpatrick, Jr., Ed.D. (Southern California)
Raymond H. McClary, D.B.A. (Indiana)
Wesley A. Many, Ph.D. (Iowa)
Robert J. Maple, Ed.D. (Northern Illinois)
William J. Masson, Ph.D. (Iowa)
J. Carroll Moody, Jr., Ph.D. (Oklahoma)
Richard J. Nelson, J.D. (Northwestern), ex officio
James A. Rutledge, Ph.D. (Ohio State), Chairman
Joe W. Vaughn, Ph.D. (Kentucky)
M. Phillip Ward, College of Fine and Applied Arts student
representative
William P. Williams, Ph.D. (Kansas State)

 , College of Liberal Arts and
Sciences student representative

1974-1975

**Graduate
Catalog**

**Northern
Illinois
University**

The Graduate
School

Liberal Arts
and Sciences

Fine and
Applied Arts

Education

Business

Special Programs

Northern Illinois University Bulletin
Volume 5: Number 1, January 1974

Published quarterly by
Northern Illinois University
DeKalb, Illinois
Second class postage paid at
DeKalb, Illinois 60115

Effective August 20, 1974

GRADUATE SCHOOL CALENDAR--1974-75

NOTE: The current Class Schedule should be consulted for dates for the following procedures: general registration, re-entry, late registration, course add/drop, refunds, and withdrawals.

FALL SEMESTER, 1974

AUGUST 20, TUESDAY

Departmental, college, and University faculty meetings.

AUGUST 26, MONDAY

Classes begin, 8:00 a.m.

SEPTEMBER 2, MONDAY

Holiday (University offices closed).

SEPTEMBER 13, FRIDAY

Last day to file, with Graduate School office, application for December graduation.

OCTOBER 4, FRIDAY

Last day to notify department chairman *in writing* of intent to take comprehensive examinations. Students should obtain from the department the date on which the examinations are to be given.

NOVEMBER 8, FRIDAY

Last day (December graduation) to submit to Graduate School office approved copies of master's or C.A.S. thesis, if not defending.

Last day (December graduation) to submit to Graduate School office one copy of thesis, if defending, or one copy of doctoral dissertation.

NOVEMBER 15, FRIDAY

Last day (December graduation) for comprehensive examination for master's degree or C.A.S., or oral defense of thesis or dissertation.

NOVEMBER 22, FRIDAY

Last day (December graduation) to file, with Graduate School office, report on final examination for degree (comprehensive examination or oral defense).

Last day (December graduation) to submit approved copies of thesis (if defended) or doctoral dissertation to Graduate School office.

Thanksgiving recess begins after regularly scheduled classes.

DECEMBER 2, MONDAY

Classes resume, 8:00 a.m.

Deadline for filing application form, paying application fee, and providing all supporting credentials in order to be considered for admission to the Graduate School for the spring semester.

DECEMBER 16-21, MONDAY-SATURDAY

Final examinations.

DECEMBER 28, SATURDAY

Fall semester end.

Fall semester degree date.

AUGUST 1974

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

SEPTEMBER 1974

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

OCTOBER 1974

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

NOVEMBER 1974

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

DECEMBER 1974

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

JANUARY 1975

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

FEBRUARY 1975

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	

MARCH 1975

S	M	T	W	T	F	S
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

APRIL 1975

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

MAY 1975

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

SPRING SEMESTER, 1975

JANUARY 7, TUESDAY

Departmental and college faculty meetings.

JANUARY 13, MONDAY

Classes begin, 8:00 a.m.

JANUARY 24, FRIDAY

Last day to file, with Graduate School office, application for May graduation.

FEBRUARY 14, FRIDAY

Last day to notify department chairman *in writing* of intent to take comprehensive examination. Students should obtain from the department the date on which the examinations are to be given.

MARCH 7, FRIDAY

Spring recess begins after regularly scheduled classes.

MARCH 17, MONDAY

Classes resume, 8:00 a.m.

MARCH 28, FRIDAY

Last day (May graduation) to submit to Graduate School office approved copies of master's or C.A.S. thesis, if not defending.

Last day (May graduation) to submit to Graduate School office one copy of thesis, if defending, or one copy of doctoral dissertation.

APRIL 4, FRIDAY

Last day (May graduation) for comprehensive examination for master's degree or C.A.S., or oral defense of thesis or dissertation.

APRIL 11, FRIDAY

Last day to file, with Graduate School office, report on final examination for degree (comprehensive examination or oral defense).

Last day (May graduation) to submit approved copies of thesis (if defended) or doctoral dissertation to Graduate School office.

MAY 1, THURSDAY

Deadline for filing application form, paying application fee, and providing all supporting credentials in order to be considered for admission to the Graduate School for the summer session.

MAY 3, 5-9, SATURDAY, MONDAY-FRIDAY

Final examinations.

MAY 10, SATURDAY

Spring semester ends.

Seventy-sixth Annual Commencement.

INTERSESSION, 1975

MAY 19, MONDAY

Classes begin, 8:00 a.m.

MAY 26, MONDAY

Holiday (University offices closed).

JUNE 6, FRIDAY

Last class day.

Intercession ends.

SUMMER SESSION, 1975

JUNE 23, MONDAY

Classes begin, 8:00 a.m.

JUNE 27, FRIDAY

Last day to file with Graduate School an application for August graduation.

Last day to notify department chairman *in writing* of intent to take comprehensive examinations. Students should obtain from the department the date on which the examinations are to be given.

JULY 1, TUESDAY

Deadline for filing application form, paying application fee, and providing all supporting credentials in order to be considered for admission to the Graduate School for the fall semester.

JULY 3, THURSDAY

Last day (August graduation) to submit to Graduate School office approved copies of master's or C.A.S. thesis, if not defending.

Last day (August graduation) to submit to Graduate School office one copy of thesis, if defending, or one copy of doctoral dissertation.

JULY 4, FRIDAY

Holiday (University offices closed).

JULY 11, FRIDAY

Last day (August graduation) for comprehensive examination for master's degree or C.A.S., or oral defense of thesis or dissertation.

JULY 18, FRIDAY

Last day to file, with Graduate School office, report on final examination for degree (comprehensive examination or oral defense).

Last day (August graduation) to submit approved copies of thesis (if defended) or doctoral dissertation to Graduate School office.

AUGUST 15, FRIDAY

Last class day.

Summer session ends.

AUGUST 16, SATURDAY

Summer degree date.

JUNE 1975

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

JULY 1975

S	M	T	W	T	F	S
	1	2	3	4	5	
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

AUGUST 1975

S	M	T	W	T	F	S
						1 2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						



The Graduate School offices are housed on the main floor of Adams Hall, which is located on Normal Road east of the University Center. Originally a residence hall for women, the building was completed in 1949; it was remodeled as an office building during the summer of 1967. The distinctive stone structure is named for Karl L. Adams, fourth President of the University.

Important Notice

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.

Northern Illinois University admits students and awards financial aid to qualified individuals without regard to race, creed, sex, color, or national origin.

Contents

Northern Illinois University	College of Fine and Applied Arts 119
History 6	Art 120
Accreditation and Affiliation 6	Home Economics 125
University Libraries 6	Industry and Technology 130
The Graduate School	Music 135
Purpose 7	College of Education 142
Graduate Programs 7	Educational Administration and Services 142
Graduate School Publications 8	Elementary Education 142
Admission, Matriculation, and Retention 9	Secondary Professional Education 142
Requirements for Graduate Degrees 14	School of Nursing 158
Tuition and Fees 24	Outdoor Teacher Education 160
Assistantships, Fellowships, and Loans 27	Physical Education for Men 162
Services and Facilities 29	Physical Education for Women 164
College of Liberal Arts and Sciences 33	Special Education 167
Anthropology 34	College of Business 174
Biological Sciences 37	Accountancy 181
Chemistry 42	Business Education 183
Economics 47	Finance 186
English 53	Management 189
Foreign Languages and Literatures 57	Marketing 191
Geography 60	Special Programs 195
Geology 64	Business 196
History 67	Center for Governmental Studies 197
Journalism 76	Center for Southeast Asian Studies 198
Library Science 78	International and Foreign Study Programs 199
Mathematical Sciences 81	Military Science 200
Philosophy 87	School of Allied Health 201
Physics 90	University Seminars 201
Political Science 93	Graduate Faculty 202
Psychology 102	NIU Foundation and Alumni Association 225
Sociology 107	Campus Map 226
Speech Communication 110	Index 228
Theatre Arts 115	Directory for Correspondence Inside back cover

Northern Illinois University

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. At this time only a two-year curriculum in teacher education was offered.

Legislative enactment, in July 1921, gave the institution the name Northern Illinois State Teachers College and empowered it to award the four-year 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 College to grant the degree Master of Science in Education.

On July 1, 1955, as a result of action by the state legislature, the College was renamed Northern Illinois State College. Moreover, the legislature authorized the College to broaden its educational services by offering academic work in areas other than teacher education. The Teachers College Board then 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 and master's degrees, the Certificate of Advanced Study, and doctoral degrees.

In 1965, the Illinois State Teachers College Board became the Board of Governors of State Colleges and Universities; in 1967, Northern Illinois University and Illinois State University were placed under the control of the newly created Board of Regents.

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 Music and Master of Science. In 1958 sixth-year programs leading to the Certificate of Advanced Study and 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. The Master of Arts in Public Affairs degree was added in 1972.

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 (C.A.S.), 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, Davis Hall Map Library and the Instructional Materials Center at the Lorado Taft Field Campus.

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 since 1963 has been enlarged by three additions. There are two main service floors and a partial third floor. The building is well lighted, fireproof, and air-conditioned. The seating capacity is 2,000 and there are 331 carrels for individual study use. A 300,000-square-foot central library is presently under construction.

In the library there are six large reading rooms, Reference North, Reference South, Documents, Periodicals, Educational Materials Center, Reserve; a typing room; a microprint reading room; Fouser Music Room, with record players and a choice selection of records; rooms for the Archives, the Southeast Asia collection, and the Special Collections including Rare Books; and an auditorium. The Department of Library Science is housed in the main library.

Available for use are approximately 610,619 catalogued volumes, which include 93,385 bound periodicals; there are 333,082 government documents, 31,830 pamphlets, 6,599 current periodical titles, 167 current newspaper titles, and 115,698 maps. While the direct needs of the various departments are given first consideration, recreational reading has not been neglected.

The Graduate School

Purpose

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

The University strives to provide the graduate student with a body of knowledge in his own and related disciplines, to offer the student opportunities to acquire and apply techniques which will aid him in his pursuit of knowledge, and to encourage the student and the faculty to engage in research for the purpose of discovering truths and to establish previously unknown relationships.

Graduate Programs

Master of Arts

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

Anthropology	Philosophy
Art	Political Science
Economics	Psychology
English	Sociology
History	Speech
Journalism	Communication
Library Science	Theatre Arts

Master of Arts in Public Affairs

A program leading to this degree is offered by the Department of Political Science.

Master of Music

A program leading to this degree is offered by the Department of Music, with majors 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:

Biological Sciences	Industry and Technology
Chemistry	Mathematical Sciences
Geography	Nursing
Geology	Physics
Home Economics	

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 areas:

Accountancy	Management
Finance	Marketing

Master of Science with a Major in Community Mental Health

This degree is multidisciplinary and normally includes courses in the Departments of Anthropology, Education, Home Economics, Psychology, and Sociology. 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	Home Economics
Business Education	Industry and Technology
Chemistry	Library Science
Educational Administration and Services	Outdoor Teacher Education
Elementary Education	Physical Education for Men
Secondary Professional Education	Physical Education for Women
	Physics
	Special Education

Master of Business Administration

For those without prior preparation in the business area, the Master of Business Administration may be a two-year program

requiring 60 semester hours. However, individual programs may require fewer hours depending upon the student's previous education in business and economics.

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:

Anthropology	Geology
Biological Sciences	History
Business Education	Industry and Technology
Chemistry	Mathematical Sciences
Economics	Music
Educational Administration and Services	Physical Education for Men
Elementary Education	Physical Education for Women
Secondary Professional Education	Physics
English	Political Science
Geography	Sociology
	Speech Communication

Doctor of Education

The Ed.D. degree is offered by the following departments:

Business Education	Secondary
Elementary Education	Professional Education
Educational Administration and Services	

Doctor of Philosophy

The Ph.D. degree is offered by the following departments:

Chemistry	History
Economics	Political Science
English	Psychology

Graduate School Publications

The following publications are available from the Graduate School:

- Graduate School Calendar
- Graduate School Catalog
- Handbook for Graduate Students
- Information for Prospective Graduate Students
from Other Countries

The Graduate School also publishes a manual entitled *Theses and Dissertations: Some Basic Requirements*, which may be obtained at the University Center Bookstore.

Admission, Matriculation, and Retention

Application for Admission

To obtain an "Application for Admission to the Graduate School," applicants should write to the Dean of the Graduate School. This application, transcripts, required test scores, and letters of recommendation must be received by the Graduate School no later than July 1 for admission to the fall semester, December 1 for the spring semester, and May 1 for the summer session. (Foreign students see deadlines indicated below.)

Assistantships are normally awarded to begin in the fall semester. A prospective student wishing to be considered for an assistantship is urged to apply for admission and submit the "Application for Graduate Assistantship" form well in advance of the July 1 deadline, preferably prior to February 15. An applicant for admission to the Graduate School 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 (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 made payable to Northern Illinois University.

An applicant who holds a baccalaureate degree from a college or university other than Northern Illinois University, or who has pursued graduate study elsewhere, is to request each institution which he has attended to send one copy of his transcript directly to the Dean of the Graduate School.

A student who wishes to take course work but not pursue a degree program should refer to the section "Student-at-Large" in this catalog.

Normally undergraduate students are not permitted to register for 400-level courses for graduate credit, or for 500-level or 600-level courses for either undergraduate or graduate credit. In exceptional cases, however, permission may be granted by the Graduate School. For particulars, students should inquire at the Graduate School Office.

Foreign Students

The application for admission, application fee (international bank draft or postal money order for \$15 U.S. currency), letters of recommendation, diplomas, mark sheets, test scores, and proof of adequate financial support must be received by the Graduate School no later than May 1 for admission to the fall semester and October 1 for the spring semester. Normally,

foreign students will not be admitted to begin a degree program in the summer session.

All applicants from foreign countries where English is not the native language must submit their scores from the *Test of English as a Foreign Language* (TOEFL) as part of their application for admission to graduate study. A student whose command of English appears deficient or marginal for purposes of graduate study will be required to take special instruction in English until this deficiency is removed.

The *TOEFL Bulletin of Information* and Registration Form can be obtained in a number of cities outside the United States. They often are available at American embassies and consulates, or at offices of the United States Information Service (USIS). Students who cannot obtain a TOEFL bulletin and registration form locally should write well in advance for them to: Test of English as a Foreign Language, Box 899, Princeton, New Jersey 08540, U.S.A.

A foreign student must register for a minimum of 9 hours of credit each semester, including any undergraduate deficiencies in his discipline and special instruction in English.

General Requirements for Admission to the Graduate School

To be admitted as a graduate student, an applicant must have obtained a bachelor's degree from a four-year accredited college or university, must have the approval of the department in which he plans to major, and must have a minimum 2.50 grade-point average (based on a 4.00-point system) for the last two years of his undergraduate work. To be admitted to a program beyond the master's degree, a student must have at least a 3.20 average in his graduate work at the master's level. An applicant whose grade-point average is below the required level may, at the discretion of the major department, be admitted if he satisfies one of the following criteria:

1. Demonstrated ability to carry graduate work at an accredited institution, or
2. Evidence of exceptional performance on required graduate-level admission tests (GRE, ATGSB, or others) or other evidence acceptable to the department, including portfolio in art and audition in music.

The departmental sections of this catalog should be consulted for any special admission requirements.

Physical Examination

All entering students enrolled for more than 6 semester hours or those enrolling for more than 6 semester hours for the first time must have a physical examination. This should be given by the family physician and reported on a health chart furnished by the University. A chest X-ray taken during the past six months is also required; the 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 before the beginning of the semester in which the student plans to enroll. Registration is not complete until the completed health chart is on file at the University Health Service.

Students returning to the University after an absence of one or more semesters (excluding summer sessions) must update their medical records. These students should check requirements with the University Health Service. Some individuals will need to submit a report of a new physical examination and chest X-ray.

Examinations Required for Admission

Required examinations may be taken at Northern Illinois University, Office of Testing Services, or at other testing locations. For testing dates at this University and other locations, write to Educational Testing Service, Princeton, New Jersey 08540.

GRE and other entrance examination scores more than five years old will not be accepted by the Graduate School unless such scores are accepted by departmental waiver in specific cases.

Graduate Record Examinations (GRE)

Prior to admission to the Graduate School, all applicants, other than those to the College of Business, must have filed their scores on the Aptitude Test of the Graduate Record Examinations with the Graduate School.

In addition, the scores on the appropriate Advanced Test of the Graduate Record Examinations are required as an admission credential for applicants to the major areas listed below:

DEPARTMENT	ADVANCED TEST
Biological Sciences	Biology
English	Literature in English
Geology	Geology

Admission Test for Graduate Study in Business (ATGSB)

Prior to admission, applicants for graduate study in business must have filed scores on the Admission Test for Graduate Study in Business with the Graduate School. Applicants to the College of Business are not required to take the aptitude test of the GRE.

Student-at-Large

A student who has not been admitted, who has not applied for admission, or who has been denied admission to the Graduate School may be permitted to register as a student-at-large providing:

1. He holds a baccalaureate or higher degree from a college or university whose requirements for the highest degree he holds are essentially equivalent to those of this University.
2. He has been admitted and granted permission to register as a student-at-large by the College of Continuing Education.

A student-at-large may register for undergraduate or graduate courses; however, registration for graduate courses *in no way implies admission to the Graduate School*. Should such a student apply to and be admitted to the Graduate School at a later date, the hours accumulated as a student-at-large will not necessarily be counted toward an advanced degree at this University. If a student-at-large intends to apply for admission to the Graduate School, he should not accumulate more than 15 graduate credit hours; *under no circumstances will more than 15 graduate credits earned as a student-at-large be counted toward an advanced degree*. Further, *the hours earned as a student-at-large 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.

Planning a Program

Upon receiving word of admission to the Graduate School, the student should plan his course selections for his first term at Northern. Care should be taken that such selections conform with the requirements of the specific program he wishes to pursue in his major department.

The student is urged to meet early in his first term with his appointed academic adviser (named in the letter of acceptance for admission) to plan an official program of courses. Prior to registering each semester, the student is expected to consult

with his adviser for the purpose of review and approval of all course selections.

Specific courses or their equivalents which are prerequisites to advanced courses are looked upon as deficiencies to be made up before the student takes such advanced courses. By consulting with his adviser prior to registering for advanced courses, the student may determine the nature of such deficiencies, if any. It is highly advisable that the student remove such deficiencies as early as possible during the course of his graduate studies.

Matriculation

A graduate student must register for course work in the semester or summer session for which he is accepted. At the discretion of the Graduate Dean, matriculation may be deferred up to but not beyond the same term in the succeeding year. If a student does not request a deferment in matriculation, his admission to the Graduate School is canceled.

Graduate students are expected to register during the regular registration period at the beginning of each semester. Those who register within the dates specified for late registration are required to pay an additional fee of \$10.

Social Security numbers are required for registration purposes. A student who does not have a number should obtain one from a Social Security office in advance of registration.

Prior to registration every graduate student should consult with the faculty member designated as his adviser by the Dean of the Graduate School. (The adviser is named in the letter of admission.) Before registration each semester the student's schedule of courses must be approved and signed by his adviser.

Continuous Registration

Most students, full and part time, prefer to pursue an advanced degree without interruption in time. Those students who interrupt their studies should especially note the maximum time period allowed to fulfill all requirements for the degree sought. (See the section entitled "Limitation of Time" elsewhere in this catalog.) Students who interrupt their graduate studies should make it a point to determine the deadline dates for informing the Graduate School in writing of their intention to resume graduate studies.

Any student availing himself of the services of the academic staff or the facilities of the University in any way which directly or indirectly relates to fulfilling degree requirements must be registered. This registration is waived by the Graduate School in a case where the only remaining requirement in a student's program is the final examination.

Maximum Loads for Graduate Students

A graduate student may enroll for a maximum of 18 semester hours, including audit hours, during a regular semester and for 9 semester hours in the summer session or 4 semester hours in the intersession.

Graduate students holding a full-time or three-quarter-time assistantship during a regular semester are limited to 9 semester hours and those holding a half-time assistantship to 12 semester hours. Full-time and three-quarter-time assistants during the summer session may enroll for 6 semester hours; half-time assistants may enroll for 8 semester hours. An assistant is expected to carry the maximum academic load permitted unless permission for a reduction is granted by the chairman of the department in which the student is majoring.

Registration for course loads in excess of those prescribed above must have prior written approval of the student's academic adviser and the Dean of the Graduate School.

It is recommended that a graduate student who is employed full time not enroll for more than 6 hours each semester.

Credit by Proficiency Examination

Some departments provide the opportunity for students to receive credit hours in graduate courses through proficiency examinations. Students should check with the departmental chairman for information on the availability and administration of such examinations.

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 per semester hour, with the provision that the total amount of fees paid will not exceed the amount specified for full-time tuition and fees.

Grading System

Grades and their honor-point values are as follows:

<i>Grade</i>	<i>Honor Points Per Semester Hour</i>
A	4.00
B	3.00
C	2.00
N (no credit)	—
I (Incomplete; no credit)	—
W (Passing at time of withdrawal from a course)	—
S (Satisfactory)	—
O (Audit; no credit)	—

The Graduate School grading system generally applies to every student admitted to the Graduate School. In addition, it applies to an individual registered for graduate courses as a student-at-large through the College of Continuing Education.

If eligible, an undergraduate student may, *with Graduate School approval*, register for graduate course work for either graduate or undergraduate credit. An undergraduate taking a course for graduate credit will be graded according to the Graduate School grading system; an undergraduate taking a graduate course for undergraduate credit will be graded according to the undergraduate grading system; a graduate student taking an undergraduate course will be graded according to the undergraduate grading system.

With departmental approval, a student may repeat course work (excluding thesis work) on a non-penalty basis to a maximum of 6 semester hours; however, no course can be repeated more than once. In such instances, only the higher of the two grades earned for a single course is computed in the grade-point average. If the grades are identical, either (not both) is computed in the honor grade-point average. The non-penalty repeat option is restricted to a student seeking the master's degree.

A student doing less than satisfactory work will be assigned an "N." The "N" replaces work formerly graded "D," "F," or

"U." Certain graduate courses may be graded as "S" and "N"; such grading, however, is restricted to workshops, internships, and thesis and dissertation courses. In those courses where "S" and "N" are to be used for grading, the use of "S" and "N" will universally apply to all students registered for such courses. If in doubt, a graduate student should inquire from his major department as to which courses are graded according to "S" and "N."

Incompletes. With the exception of thesis and dissertation courses (599 and 699), the grade "I" alone will no longer be used. For a course in which a student has incomplete work, the instructor will issue a dual grade: IB, IC, or IN. (IW may not be given.) The letter "I" denotes incomplete work; the suffix (B, C, N) indicates the final grade to be recorded should the student fail to submit the uncompleted work. The suffix should reflect the extent to which the student has met the requirements of the instructor for the entire course. If an instructor fails to submit the suffix grade, the Graduate School will assign the suffix "N."

Incompletes recorded for regular course work, directed research, and independent study must be removed within the first month of the next academic session, *whether or not the student is enrolled*. An Incomplete not removed within the time allotted will be changed to the alternate grade assigned by the instructor at the time the Incomplete was reported. An Incomplete cannot be changed to a withdrawal.

Should an extension in time be required to remove an Incomplete, such extension may be granted if recommended by the grade-issuing instructor and if approved by the Dean of the Graduate School. However, only one extension (not to exceed 60 days) may be granted and such extension must be arranged well in advance of the expiration of the one-month time limit for removing an Incomplete.

Incompletes in thesis and dissertation courses, which will continue to be recorded as simply "I," must be removed in accordance with the "Limitation of Time" specified for each degree program.

A student may not graduate with an Incomplete on his record, even if the course involved is not a part of his official program of courses.

Withdrawal from a Course or from the University

Withdrawal from a course or from the University must be accomplished before the deadline date indicated in the Graduate School Calendar.

To drop a course the appropriately completed "Petition to Drop a Course" form must be filed with the Graduate School Office. To withdraw from the University (dropping all course work for a particular session) a letter of notification to this effect should be sent to the Dean of the Graduate School.

For all courses (graduate or undergraduate) 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 "N." A student who fails to notify the Dean of the Graduate School in writing of his intent to withdraw from the University, or who drops a course or withdraws from the University after the deadline has expired, will receive "N."

Academic Standing

To remain in good academic standing a student must maintain a 3.00 grade-point average in all graduate course work in the major field as well as in the total program. At the end of any session, after admission to the Graduate School, in which the grade-point average drops below this level the student will be placed on academic probation. (This average will include any graduate work the student completed as a student-at-large.) A student on academic probation who fails to bring his grade-point average to the required level upon the completion of an additional 9 semester hours of graduate work will be academically dismissed from the University.

The grade-point 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. Courses in which a student has received "N," "I," "W," "S," or "O" will not be included in this computation. Graduate work transferred to Northern Illinois University from other institutions will not be included in the computation of the grade-point average.

A student in a master's degree program who receives 6 semester hours of "N" will be academically dismissed from the University. Similarly, a student who accumulates 6 semester hours of "N" in post-master's work will be dismissed.

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 ignorance of, or contends that he was not informed of, the regulations or procedures. A student planning to graduate should familiarize himself 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, with the consent of his adviser, graduate under a subsequent catalog provided he complies with all requirements of the later catalog.

Procedure for Petition

A student who wishes to request any exceptions to the admission, matriculation, and retention regulations and practices must submit a written petition to the Dean of the Graduate School.

Policy for Student Records

The University has an established policy regarding the release of student information. A graduate student wishing to familiarize himself with this policy may make inquiry at the Office of Registration and Records.

Requirements for Graduate Degrees

Requirements for Master's Degree Programs

MASTER OF ARTS

MASTER OF ARTS IN PUBLIC AFFAIRS

MASTER OF MUSIC

MASTER OF SCIENCE

MASTER OF SCIENCE IN EDUCATION

The following regulations apply to candidates for the degrees Master of Arts, Master of Arts in Public Affairs, Master of Music, Master of Science, and Master of Science in Education. Detailed requirements for specific degrees appear in the departmental sections of this catalog.

Admission

The Graduate School admission requirements for all of the above-listed master's degrees except for those in the College of Business are indicated in the section on "General Requirements for Admission to the Graduate School." For admission to a master's program in the College of Business, a student must have graduated from a four-year accredited college or university with a grade-point average of 2.50 or above for all undergraduate work or have attained a score of 450 or above on the Admission Test for Graduate Study in Business.* The departmental section of this catalog should be consulted for special admission requirements for a master's program in a particular major.

Credit and Residence Requirements

A candidate for a master's degree must earn a minimum of 30 semester hours of graduate credit with a minimum grade-point average of 3.00. This average must be earned in the major field as well as in the total program. Area majors must earn a 3.00 average in each field. The minimum number of required semester hours in residence is determined by the student's major department.

A candidate for the Master of Science in Education is normally expected to earn not less than 9 semester hours in

courses outside his major field. In an exceptional case and with the approval of the academic adviser, this requirement may be waived by the Dean of the Graduate School.

Credits Transferable

With the approval of the student's major department and the Dean of the Graduate School, a maximum of 15 semester hours of transfer graduate credit may be accepted from other accredited colleges or universities to meet the hours requirements for a master's degree. Normally none of these transfer hours may be in extension or correspondence courses. (In the Department of Elementary Education, only 6 hours of transfer graduate credit may be accepted.)

In meeting the hour requirements for the degree the total credit transferred from accredited institutions plus that earned at Northern as a student-at-large may not exceed 15 semester hours. Attention is directed to the regulations limiting the student-at-large hours which may be included in a degree program.

To receive consideration for work done elsewhere, the student must submit to the Graduate School an official transcript of the work to be considered for transfer.

Students in the College of Business should refer to the section of the Graduate Catalog dealing specifically with that college, in order to determine the transfer credit acceptable toward a degree program in the College of Business.

Credit for Extension Work

Extension work taken at Northern Illinois University may be included in a master's degree program; however, the student must receive *prior* approval from his major department as to the number of semester hours taken in extension which can be applied toward a degree program.

Extension work done at other institutions is not normally transferable to Northern Illinois University.

Advisory System

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

The program of courses must be formulated by the student in conference with his adviser or advisory committee during the first semester of graduate work. This program must be filed with the Graduate School no later than the end of the

* Applicants for admission to the Department of Accountancy must have graduated from a four-year accredited college or university with a grade-point average of 2.50 or above for all undergraduate work and have attained a minimum score of 450 on the ATGSB.

first semester of enrollment after admission to the Graduate School. Forms for submitting a program of courses may be obtained from the Graduate School.

If any changes are made in the 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.

Removal of Deficiencies

Courses which are listed as deficiencies on the program of courses should be completed according to the schedule established by the adviser or advisory committee. All deficiencies must be removed no later than the completion of the 15th semester hour of course work included in the degree program.

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 50 percent of the minimum credit hours required for 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 registering for 400-level courses are responsible for ascertaining whether these courses have been approved for graduate credit.

Student-at-Large and Transfer Credit

Upon acceptance of a departmentally approved program of courses by the Graduate School, student-at-large hours and appropriately validated transfer credit may be used in meeting degree requirements. To validate transfer credit an official transcript from the institution where the work was completed must be filed in the Office of the Graduate School.

The number of student-at-large hours that may be counted to meet the minimum hour requirement for the degree may not exceed 15 semester hours and the total transfer hours may not exceed 15 semester hours; the combined hours earned in these two ways also may not exceed 15 semester hours.

Limitation of Time

The student must fulfill all requirements toward the degree within a period of six consecutive years. The date of entry into the first course of a student's graduate program, including

work for which transfer credit is allowed, is viewed as the starting point of the six-year period.

If a course taken to complete the requirements for the master's degree does not fall within the six-year period allowed for the degree, the course, with departmental approval, may be retaken for credit; otherwise another course of equivalent credit hours must be substituted in the program.

Thesis

A candidate following a thesis program shall submit three copies of his thesis and five abstracts thereof, after approval by his appointed departmental committee. The thesis must be submitted according to the instructions in *Theses and Dissertations: Some Basic Requirements*, available at the University Center Bookstore.

A student on academic probation is not eligible to submit a thesis or equivalent for acceptance by the Graduate School.

Any student availing himself of the services of the academic staff or the facilities of the University must be registered for the period during which the services are rendered or the facilities are used.

Once a student has formally begun the thesis or its equivalent, he is expected to continue to register in course number 599 or its equivalent in each subsequent semester (summer sessions excluded), until the thesis is submitted to and accepted by the Graduate School. Registration for this purpose may be in absentia. If circumstances prohibit continuing registration, a graduate student may 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.

The Graduate School policy is that published manuscripts are not accepted to fulfill the thesis requirement for the master's degree. An exception may be made if the manuscript was prepared under the supervision of an approved thesis adviser on a subject approved by the department as appropriate for the degree program and permission was obtained from the Graduate School for its publication.

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. The number of hours of course work beyond a minimum of 12 which a student must complete before taking

this examination shall be determined by the department. Any student planning to take a comprehensive examination must file a letter of intent with the appropriate department chairman. (See Calendar.)

A student on academic probation is not eligible to take this comprehensive examination.

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

MASTER OF BUSINESS ADMINISTRATION

The Master of Business Administration program is intended to prepare students for responsible careers in business enterprises, governmental organizations, and nonprofit institutions. The program is designed for those with undergraduate preparation in areas such as liberal arts, science, or engineering. It also serves the needs of individuals whose undergraduate preparation is in one of the business areas.

Admission

For admission to the Master of Business Administration program, a student must have graduated from a four-year accredited college or university with a minimum grade-point average of 2.50 for all undergraduate work (based on a 4.00 system) or have attained a score of 450 or above on the Admission Test for Graduate Study in Business. Further, he must have demonstrated growth, maturity, and motivation as evidenced by trends and patterns in college, employment, and civic experiences.

Credit Requirements

For those without prior preparation in the business area, the Master of Business Administration may be a two-year program requiring a maximum of 60 semester hours. However, individual programs may require fewer hours depending upon the student's previous education in business and economics.

The Master of Business Administration program is divided into two distinct phases. Phase One of the program, consisting of not more than 30 semester hours of course work, is required of students who have little or no previous formal education in business administration. Phase Two consists of a core of seven required courses totaling 21 semester hours plus 9 semester hours of electives. A minimum grade-point average of 3.00 must be maintained in all course work completed at Northern Illinois University.

For detailed information concerning this program see the College of Business section of this catalog.

Credits Transferable

A student may be allowed to transfer a maximum of 15 semester hours of graduate credit from any other regionally accredited institution to apply to Phase Two of the Master of Business Administration. Normally, no transfer credit from another institution may be in extension or correspondence work. Refer to the College of Business section of this catalog regarding transfer credit acceptable toward Phase One of the M.B.A.

Credit for Extension Work

With the approval of the College of Business and the student's adviser, all graduate credit in extension work taken from this institution may be applied to Phase Two. A list of centers approved for graduate extension work may be obtained from the Director of Extension, College of Continuing Education.

Refer to the College of Business section of this catalog regarding NIU extension work applicable toward Phase One of the M.B.A.

Advisory System

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

The program of courses must be formulated by the student in conference with his adviser or advisory committee during the first semester of graduate work. This program must be filed with the Graduate School no later than the end of the first semester of enrollment after admission to the Graduate School. Forms for submitting a program of courses may be obtained from the Graduate School.

If any changes are made in the 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.

Removal of Deficiencies

Courses which are listed as deficiencies on the program of courses should be completed according to the schedule

established by the adviser or advisory committee. All deficiencies must be removed no later than the completion of the 15th semester hour of course work included in the degree program.

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. No more than 6 semester hours of credit earned in courses numbered 400-499 may be applied to Phase Two of the Master of Business Administration. Some courses numbered in the 400's carry only undergraduate credit. Graduate students registering for 400-level courses are responsible for ascertaining whether these courses have been approved for graduate credit.

Residence Requirement

In Phase One there is no specific requirement for the number of graduate credits to be earned in residence. However, in Phase Two, the number of semester hours to be earned in residence at Northern Illinois University will be determined by the College of Business.

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, including that for which transfer credit is allowed, within a period of seven 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, including that for which transfer credit is allowed, within a period of six consecutive years.

If a course taken to complete the requirements for a Master of Business Administration degree does not fall within the time limitation indicated in the preceding paragraph, the course, with departmental approval, may be retaken for credit; otherwise another course of equivalent credit hours must be substituted.

Thesis

The writing of a thesis is optional. However, a candidate following a thesis program shall submit three copies of his thesis and five abstracts thereof, after approval by his

appointed departmental committee. The thesis must be submitted according to the instructions in *Theses and Dissertations: Some Basic Requirements*, available at the University Center Bookstore.

A student on academic probation is not eligible to submit a thesis for acceptance by the Graduate School.

Once a student has formally begun the thesis or its equivalent, he is expected to continue to register in course number 599 or its equivalent in each subsequent semester (summer sessions excluded), until the thesis is submitted to and accepted by the Graduate School. Registration for this purpose may be in absentia. If circumstances prohibit continuing registration, a graduate student may 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.

The Graduate School policy is that published manuscripts are not accepted to fulfill the thesis requirement for the master's degree. An exception may be made if the manuscript was prepared under the supervision of an approved thesis adviser on a subject approved by the department as appropriate for the degree program and permission was obtained from the Graduate School for its publication.

Examinations

Final comprehensive examinations are required of all candidates for the Master of Business Administration. A student on academic probation is not eligible to take this final examination.

MASTER OF FINE ARTS

The Master of Fine Arts 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 field of fine or commercial arts.

Admission

The basic requirements for admission after the completion of the bachelor's degree are those indicated in the section "General Requirements for Admission to the Graduate School." Students having the degree Master of Arts and wishing to continue in a Master of Fine Arts program must have a minimum grade-point average of 3.20 in graduate work to be admitted.

Students of Northern Illinois University who have completed admission files in the Graduate School Office for another master's program must reapply (without additional fee) to pursue work leading to the degree Master of Fine Arts. New students must apply for admission as specified in the section "Application for Admission."

General Requirements and Procedures

Requirements and procedures in general are the same as for the Certificate of Advanced Study, as detailed under the following headings: "Credit Transferable," "Credit for Extension Work," "Advisory System," "Removal of Deficiencies," "Courses for Which Credit Is Allowed," "Student-at-Large and Transfer Credit," "Qualifying Examination," and "Final Examination."

Credit Requirements

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

For detailed information concerning this program see the section of this catalog concerned specifically with the Department of Art.

One-Man Show

The student's work must culminate in a one-man show. Three copies of a pictorial documentation of the one-man show must be submitted to the Graduate School as the equivalent of a thesis according to the instructions in *Theses and Dissertations: Some Basic Requirements*, available at the University Center Bookstore. Additional instructions for documentation of the one-man show are available from the Department of Art.

A student on academic probation is not eligible to submit this documentation for acceptance by the Graduate School.

Because the pictorial documentation of a one-man show is considered equivalent to a thesis, a student must register for course number 599B. Once registered for 599B the student is expected to continue to register in course number 599B up to and including the semester in which the documentation is submitted to and accepted by the Graduate School (summer sessions excluded). Registration for this purpose may be in absentia. If circumstances prohibit continuing registration the student may 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.

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.

If a course taken to complete the requirements for a Master of Fine Arts degree 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; otherwise another course of equivalent credit hours must be substituted.

Requirements for Certificate of Advanced Study Programs

The purpose of the sixth-year programs leading to the Certificate of Advanced Study is to permit students to attain greater mastery of their chosen fields than they can attain in five years of formal study.

Admission

For admission to a Certificate of Advanced Study program (as distinct from admission to the Graduate School) an applicant must: (1) 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 (2) be in the last semester of work leading to the master's degree at Northern Illinois University. To be admitted the student must have a minimum average of 3.20 in his graduate work at the master's level.

Students of Northern Illinois University who have completed admission files in the Graduate School office must reapply (without additional application fee) to pursue work leading to the completion of the sixth-year program. New students must apply for admission as specified in the section "Application for Admission."

Credit Requirements

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 so that a maximum of 10 semester hours is earned in fields related to the major area. At least 21 semester hours of credit must be earned in courses given on the campus of Northern Illinois University. Departmental sections of this catalog should be consulted for other requirements.

Credits Transferable

A student may be allowed to transfer a maximum of 9 semester hours of graduate credit from another institution, none of which may normally be in extension or correspondence work. The combined total of transfer credit and Northern Illinois University extension credit may not exceed 9 semester hours. To receive consideration for work done elsewhere, the student must have on file in the Graduate School an official transcript of the work to be considered for transfer.

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. The combined total of credit hours in extension and transfer work may not exceed the limits stipulated in the previous section. A list of centers approved for graduate extension work may be obtained from the Director of Extension, College of Continuing Education.

Advisory System

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

The program of courses must be formulated by the student in conference with his adviser or advisory committee during his first semester in the program. This program must be filed with the Graduate School no later than the end of the first semester of enrollment after admission to the Graduate School. Forms for submitting a program of courses may be obtained from the Graduate School; the student is urged to file his program of courses early in the term in which he begins his course work.

If any changes are made in the 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.

Removal of Deficiencies

Courses which are listed as deficiencies on the program of courses should be completed according to the schedule established by the adviser or advisory committee. All deficiencies must be removed no later than the completion of the 15th semester hour of course work included in the degree program.

Courses for Which Credit Is Allowed

Only courses which are numbered 400-499, 500-599, and 600-699 carry graduate credit. Some courses numbered in the 400's carry only undergraduate credit. Graduate students registering for 400-level courses are responsible for ascertaining whether these courses have been approved for 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.

Student-at-Large and Transfer Credit

Upon acceptance of a departmentally approved program of courses by the Graduate School, student-at-large hours and appropriately validated transfer credit may be used in meeting degree requirements. To validate transfer credit an official transcript from the institution where the work was completed must be filed in the Office of the Graduate School.

Limitation of Time

The student must fulfill all requirements toward the certificate within a period of six consecutive years. The date of entry into the first course of a student's sixth-year graduate program, including work for which transfer credit is allowed, is viewed as the starting point of the six-year period.

If a course taken to complete the requirements for the Certificate of Advanced Study does not fall within the six-year period allowed for the certificate, the course, with departmental approval, may be retaken for credit; otherwise another course of equivalent credit hours must be substituted.

Qualifying Examination

During the first term of his work in the sixth-year program, a student shall take, at the option of the major department, a qualifying examination. Unsatisfactory performance on the examination will result in dismissal from the program.

Thesis

The writing of a thesis is optional in some departments; the departmental section of this catalog should be consulted for details. A candidate following a thesis program shall submit three copies of a significant research study, field study, or thesis, together with five abstracts thereof, after approval by his appointed departmental committee. The thesis must be submitted according to the instructions in *Theses and Dissertations: Some Basic Requirements*, which is available at the University Center Bookstore.

A student on academic probation is not eligible to submit a thesis for acceptance by the Graduate School.

Any student availing himself of the services of the academic staff or the facilities of the University must be registered for the period during which the services are rendered or the facilities are used.

Once a student has formally begun the thesis or its equivalent he is expected to continue to register in course number 599B or its equivalent in each subsequent semester (summer sessions excluded), until the thesis is submitted to and accepted by the Graduate School. Registration for this purpose may be in absentia. If circumstances prohibit continuing registration, a graduate student may 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 program.

The Graduate School policy is that published manuscripts are not accepted to fulfill the thesis requirement for the Certificate of Advanced Study. An exception may be made if the manuscript was prepared under the supervision of an approved thesis adviser on a subject approved by the department as appropriate for the degree program and permission was obtained from the Graduate School for its publication.

Final Examination

The final examination of each candidate is administered by the candidate's major department. Comprehensive in nature, the examination may be written or oral, or both, at the option of

the department. Any student planning to take a comprehensive examination must file a letter of intent with the appropriate department chairman. (See Calendar.)

A student on academic probation is not eligible to take this final examination.

Requirements for Doctoral Programs

DOCTOR OF EDUCATION

DOCTOR OF PHILOSOPHY

The doctorate is the highest degree granted by the University and is conferred only for work of distinction in which the student displays powers of original scholarship.

Admission

Normally a student will be expected to have bachelor's and master's degrees from accredited institutions whose requirements are substantially equivalent to those of Northern. A student with a baccalaureate degree may, with the approval of the department, be admitted to doctoral work by passing a doctoral qualifying examination. 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 a doctoral program, a student must have at least a 3.20 grade-point average in graduate work at the master's level and approval of the department in which he plans to major.

As in the case of other graduate degree programs, the student must submit a completed "Application for Admission" form to the Graduate School.

Official transcripts of all undergraduate and graduate work should be sent directly to the Dean of the Graduate School by the institution at which the work was completed. At least four letters of recommendation are required from persons who can write analytically about the applicant's academic qualifications and 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.

Credit Requirements

Graduate students working for a doctoral 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 the dissertation. When translated into credits, this will be approximately 90 semester hours. Retention in doctoral work will depend upon a student's maintaining the minimum (3.00) honor-point average required by the Graduate School. Transfer credit will be allowed at the discretion of the department concerned and the Dean of the Graduate School. Not more than 24 semester hours subsequent to the bachelor's degree shall be in graduate courses numbered 400-499. Although 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. The departmental sections of this catalog should be consulted for other requirements.

Language and Research-Tool Requirements

For specific language and/or research-tool requirements the student should refer to the regulations governing the doctoral program in his major department.

The Graduate School requirement for proficiency in foreign language(s) and/or another research tool for the doctoral degrees may be met by one of the following options:

1. Two foreign languages, average reading proficiency;
2. One foreign language, high level of proficiency;
3. One foreign language with average reading proficiency and one research tool with average proficiency;
4. Two research tools, average proficiency;
5. One research tool, high level of proficiency.

Students taking language examinations in French, German, Spanish, or Russian will be required to take the Graduate School Foreign Language Tests of the Educational Testing Service. Examinations in other foreign languages will be arranged by the Graduate School.

Residence Requirement

The residence requirement for the doctorate may be fulfilled as follows:

1. Generally a graduate student must take a minimum of 12 semester hours in each of two consecutive semesters or a summer session and a preceding or subsequent semester.*

2. Graduate assistants (half-time, three-quarter-time, and full-time), half-time faculty assistants, or half-time instructors may fulfill the residence requirement by taking a minimum of 6 semester hours in each of two consecutive semesters or a summer session and a preceding or subsequent semester.* This provision in no way nullifies or modifies the academic load customarily expected of a graduate assistant during a given term, unless permission for a reduction is granted by the chairman of the department in which the student is majoring. However, should the reduction result in less than a 6-semester-hour load, no residence credit will be allowed for that term.
3. Individuals employed full-time by Northern Illinois University as instructors, faculty assistants, administrative assistants, operating staff, or the like may fulfill the residence requirement by taking a minimum of 3 semester hours in each of four terms during a 24-month period.*

Any individual who is not identified in the preceding categories and who believes he merits special consideration may petition the Graduate Student Retention Committee. Should the committee agree that the appellant's case is exceptional, the committee will determine the residence requirement in that particular case.

Credits Transferable

The applicant's major department will assess all work done at other institutions and will grant transfer credit for any graduate work deemed acceptable by the chairman of his committee and subsequently approved by the Dean of the Graduate School.

Credit for Extension Work

A maximum of 9 semester hours of NIU extension work is allowed toward the Ph.D. or Ed.D. However, any NIU extension credits applied toward a master's degree or a Certificate of Advanced Study will reduce the maximum allowed toward the doctorate by an equal number of hours.

Limitation of Time

A student pursuing a doctoral program must be admitted to candidacy within the following time limits based on the

*The summer session is excluded by the College of Education and the Department of Business Education.

highest degree held at the time of admission to the program:

1. Baccalaureate degree—within seven consecutive years from the time of the first enrollment in course work applicable to the doctorate.
2. Master's degree—within six consecutive years from the time of the first enrollment in course work applicable to the doctorate.
3. Certificate of Advanced Study—within five consecutive years from the time of the first enrollment in course work applicable to the doctorate.

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

Qualifying Examination

The student may be required, at the discretion of his major department, to take a qualifying examination. This may be written or oral, or both, testing the competence of the student in his major and related fields. 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.

Candidacy Examination and Oral Defense of Dissertation

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

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.

Committees to conduct the candidacy examination and the oral defense of the dissertation will be nominated by the chairman of the student's major department and appointed by the Dean of the Graduate School. Membership of candidacy and dissertation examining committees will be composed of

professional representatives of major and minor fields. The number of members 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 from a related department will be nominated to the committee to conduct the final oral defense of the doctoral dissertation.

Admission to Candidacy

The student is admitted to candidacy by the Graduate School upon the recommendation of his advisory committee when he has satisfactorily completed most or all of the course work prescribed in the program, the language and/or research-tool requirements, the candidacy examination, and the filing of an approved dissertation topic.

Dissertation Requirement

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. Credit-hour requirements for the dissertation and research are determined by the major department. The dissertation is to be submitted in accordance with the Graduate School regulations found in *Theses and Dissertations: Some Basic Requirements*; the dissertation will be microfilmed following the student's graduation.

The Graduate School policy is that published manuscripts are not accepted to fulfill the dissertation requirement for the doctoral degree. An exception may be made if the manuscript was prepared under the supervision of an approved dissertation adviser on a subject approved by the department as appropriate for the degree program and permission was obtained from the Graduate School for its publication.

Any student availing himself of the services of the academic staff or the facilities of the University must be registered for the period during which the services are rendered or the facilities are used.

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. Official approval of a dissertation adviser must be effected by the conclusion of the semester in which a student first registers for 699. A student who fails to complete this procedure will have all accumulated hours in the dissertation course converted to audit (no credit).

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 must direct such a request in writing to the Dean of the Graduate School.

Tuition and Fees*

The average total expenses for room, board, books, and supplies are approximately \$2,000 to \$2,100 for the academic year. Tuition and fees for graduate students are as follows:

Fall or Spring Semester—Full-Time Students (12 or more semester hours)

In-State

Tuition	\$202.00
Activity fee	13.50
Student bus fee	10.00
Athletic fee	15.25
Bond revenue fee	33.00
Health service fee	15.00
Hospital-surgical-medical insurance	13.00**
	<hr/>
	\$301.75

Out-of-State

Tuition	\$532.50
Activity fee	13.50
Student bus fee	10.00
Athletic fee	15.25
Bond revenue fee	33.00
Health service fee	15.00
Hospital-surgical-medical insurance	13.00**
	<hr/>
	\$632.25

Fall or Spring Semester—Part-Time Students (Less than 12 semester hours)

In-State

Tuition per semester hour	\$ 18.00
Bond revenue fee	16.50
Colloquia (graduate students only)	5.00

Out-of-State

Tuition per semester hour	\$ 45.00
Bond revenue fee	16.50
Colloquia (graduate students only)	5.00

Intersession—All Students

Tuition for one semester hour	\$ 18.00
Out-of-state tuition	45.00
Health service fee	3.00
Hospital-surgical-medical insurance	3.50

Summer Session—Full-Time Students (6 or more semester hours)

In-State

Tuition	\$101.00
Activity fee	6.75
Bond revenue fee	16.50
Health service fee	7.50
Hospital-surgical-medical insurance	6.25***
	<hr/>
	\$138.00

Out-of-State

Tuition	\$266.25
Activity fee	6.75
Bond revenue fee	16.50
Health service fee	7.50
Hospital-surgical-medical insurance	6.25***
	<hr/>
	\$303.25

*Tuition and 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 calendar days following the first day of scheduled classes that he already has equal or better medical coverage.

+Includes coverage from beginning of summer until the first official registration day of the fall semester.

Summer Session—Part-Time Students (Less than 6 semester hours)

In-State

Tuition per semester hour	\$ 18.00
Bond revenue fee	8.25
Colloquia (graduate students only)	2.50

Out-of-State

Tuition per semester hour	\$ 45.00
Bond revenue fee	8.25
Colloquia (graduate students only)	2.50

All Sessions—Extension Students

Per semester hour for residents and nonresidents of Illinois	\$ 18.00
---	----------

Special Fees

Graduation fee (nonrefundable)	\$ 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
Transcript fee	1.00
Duplicate identification card (after the first is issued)	3.00
Doctoral dissertation fee	25.00
Examination fees (nonrefundable)	
Aptitude Test of the Graduate Record Examinations	10.00
Advanced Test of the Graduate Record Examinations	10.00
Admission Test for Graduate Study in Business	12.00
Graduate School Foreign Language Tests (French, German, Spanish, Russian)	10.00
Special Foreign Language Tests	15.00
Proficiency examination for course credit	15.00

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.

Class material fees where applicable will be billed as part of the total billing.

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 \$215.50; for part-time students (less than 12 semester hours) it will pay the entire tuition.

Upon written request, the Office of Registration and Records will issue transcripts of a student's record; a fee of \$1.00 is charged for each copy. Transcripts are not issued to persons who are under financial obligation to the University or the University Loan Fund.

Out-of-State Tuition

The higher tuition fee for out-of-state students is charged according to the definitions of residency below. Intention of residence may be verified by such documents or transactions as a driver's license, motor vehicle registration, filing of Illinois tax returns, or voter registration. Length of University attendance or continued presence in DeKalb during vacation periods is not considered proof of Illinois residence.

- 1. Adult students.** Students eighteen years of age and over are considered residents for tuition purposes if they have been bona fide residents of the state for six consecutive months preceding registration and continue to maintain that residency. An adult student whose parents are Illinois residents and who lives with them or elsewhere in the state also will be regarded as a resident.
- 2. Minor students.** The residency of a student under eighteen years of age is considered to be and follow that of his parents. The parents (or legal guardians) must have lived in Illinois for at least six consecutive months before the term for which the student registers as a resident.
- 3. Exceptions:**
 - a. Marriage.** If a nonresident student marries a resident, the nonresident can request reclassification as a resident. If a resident student marries a nonresident, the resident will continue to be classified as a resident.
 - b. Armed forces personnel.** The nonresident portion of the tuition will be waived for a person on active duty who is stationed and present in the state in connection with

that service and who submits evidence of his service and station.

- c. **University staff members.** Staff members employed by the University at least one-quarter time and their spouses and dependent children are considered residents.
- d. **Teachers.** Teachers in the public and private elementary and secondary schools of Illinois are considered residents if they are employed at least one-quarter time.

Procedure for Review of Residency Status

A student who takes exception to the residency status assigned shall pay the tuition assessed, but may file a petition in writing to the Office of Registration and Records for a reconsideration of residency status.

The written claim must be filed within 30 calendar days from the date of assessment of tuition, or the first class day of the term for which tuition is payable, whichever is later, or the student loses all right to a change of status and adjustment of the tuition assessed for that term.

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. This fee is due at the time of submission of the application and is nonrefundable.

Fee Payment Deadlines

The following policies govern deadlines for the payment of fees:

1. An individual who registers for either the fall or spring semester and who does not pay his or her University tuition and fees by the due date on the Bursar's Office statement of fees may have his or her registration canceled at that time for that term.
2. The same policy applies to the regular summer session.
3. Fees for any other instructional time periods (e.g., several-day workshops) are to be paid by 5 p.m. on the first day of instruction.

Refund Policies

Registration fees, due at the time of registration, include tuition and activity, athletic, bond revenue, student bus, health service and hospital-surgical-medical insurance fees. Refunds can be applied for at the Bursar's Office, unless otherwise noted. The following provisions govern refunds of those fees.

1. A student may receive a refund of all fees if he withdraws from the University before the first day of regularly scheduled classes.
2. A student may receive a refund of all fees except the hospital-surgical-medical insurance fee if he withdraws from the University before the 10th calendar day after the first day of regularly scheduled classes of a semester or before the 5th calendar day after the first day of summer session classes.
3. A student who drops a workshop or short course before the second class meeting may receive a refund, if applicable.
4. A student who has paid registration fees may receive a refund if he later receives a scholarship which covers those fees. The application for refund must be made no later than 60 days after the close of the term.
5. A student may receive a refund of registration fees if the University declares him ineligible for registration before the first day of classes.
6. A student who changes from full-time to part-time status before the 10th calendar day after the first day of classes (or the 5th calendar day for summer session) will receive a refund of all fees not applicable to part-time students.
7. The hospital-surgical-medical insurance fee may be refunded to any student who can submit satisfactory proof that he already has equal or better coverage within 10 calendar days after the first day of classes (5 calendar days for the summer session). Students may apply for a refund at the University Insurance Office.

Holds and Encumbrances

A student must clear any obligations to the University before beginning registration.

Assistantships, Fellowships, and Loans

Assistantships

Graduate teaching assistantships, graduate research assistantships, and graduate staff assistantships with stipends up to \$3,420 for the academic year are available to qualified students. For those with unusually high qualifications a higher stipend may be awarded. Assistantships may be extended through the summer session with additional remuneration. Application forms may be obtained from the Graduate School Office.

Assistantships are normally awarded to begin in the fall semester. A prospective student wishing to be considered for an assistantship is urged to apply for admission and submit the "Application for Graduate Assistantship" form well in advance of the July 1 deadline, preferably prior to February 15. Further information should be sought from the department in which the student wishes to major.

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

Fellowships and Traineeships

There are no application blanks for fellowships and traineeships. A student seeking nomination for one of these appointments should contact the chairman of his major department.

Graduate School Fellowships are available to a limited number of outstanding students. They pay stipends up to \$3,000 for the academic year. Tuition 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 students (12 semester hours each semester). Students at any level of graduate work may be appointed.

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

The Leslie A. Holmes Graduate Fellowship was established in 1967 and named in honor of Northern's fifth president. The fellowship is granted each year to an outstanding student enrolled in the Graduate School. The stipend is \$2,500. Application is made through the Graduate School. The recipient is chosen by the Scholarship Selection Committee of the NIU Alumni Association, on the basis of recommendations from the Dean of the Graduate School.

The **Earl W. Hayter Graduate Fellowship** is sponsored by the NIU Parents' Association, and originated in 1969 in honor of the retired history professor for his many years of service to NIU. The fellowship, in the amount of \$2,900, is awarded annually to an outstanding graduate student, usually in history, who is selected by the Graduate Fellowship Committee.

Loans

The National Direct 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 commence or continue their college education may be able to borrow through this loan program up to \$10,000 aggregate for all undergraduate and graduate years.

The law requires that each borrower at the graduate level 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.

The borrower must sign a note for the loan. Repayment of the loan begins nine months after the borrower ceases to be at least a half-time student, with payment being completed in no more than 10 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 3 percent a year.

On National Direct Student Loans made after June, 1972, the loan, and interest thereon, of any borrower who is a full-time teacher shall be canceled under the following conditions:

1. Teaching of economically, mentally, emotionally, and physically handicapped:
 - 15 percent—years 1 and 2 of teaching
 - 20 percent—years 3 and 4 of teaching
 - 30 percent—year 5
2. Teaching of Headstart—under certain conditions:
 - 15 percent a year to 100 percent
3. Armed services cancellation only to those having served in combat areas as prescribed by U.S. Code:
 - 12½ percent a year to 50 percent

All students applying for a National Direct Student Loan

must submit a Parents' Confidential Statement before March 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 the American College Testing Program, Box 767, Iowa City, Iowa, is also acceptable. If a student believes he qualifies as a self-supporting student, he should contact the Student Financial Aids Office to secure the appropriate financial statements. He will be required to complete a Student Confidential Statement (SCS), which is to be submitted to the College Scholarship Service, Box 1501, Berkeley, California, before March 1 prior to the academic year financial aid is needed.

In addition to submitting the Parents' Confidential Statement or Student Confidential Statement, applicants must submit the Application for Financial Aid to Northern Illinois University.

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 \$150 to \$2,500 per year. A student applicant must be:

1. A citizen of the United States,
2. A bona fide resident 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 the loan is to be made as follows:

Principal—Payments at a minimum of \$30 monthly will begin nine months after graduation or cessation of full-time study. Repayment is generally completed within five years.

Interest—The maximum interest rate permitted by law is 7 percent simple interest, which begins on the date of the loan. If the applicant qualifies for federal interest benefits on the basis of a family financial analysis, 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 semiannual basis while he is in school.

Other Loan Funds

The Student Financial Aids Office makes available short-term loan funds to students in good academic standing who encounter unforeseen or emergency expenses during the course of the academic year. Generally such loans are made on a thirty-day repayment basis. The amount of a short-term loan may range from \$50 to \$350, depending on the student's need and the amount of loan funds available. Applications may be obtained from the Student Financial Aids Office.

Typical sources of loan funds are:

Northern Illinois University Foundation
 Northern Illinois Men's Loan Fund
 John S. Clark Memorial Loan Fund
 Robert A. Gardiner Memorial Loan Fund
 Associated Women Student's Loan Fund

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 grounds of the race, creed, color, or national origin of any applicant for an assistantship or fellowship or for financial aid.

Services and Facilities

Student Housing

University Residence Halls

Although Northern Illinois University has no residence halls or floors of residence halls occupied exclusively by graduate students, graduate students may wish to consider applying for a single or double room on a Special Study Floor in a University residence hall. (A Special Study Floor is characterized by an exceptionally quiet atmosphere at all times.) Upon acceptance by the Graduate School, a student may apply for an assignment to a University residence hall. All University residence hall contracts are for the full academic year (August-May), 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.

The University Apartments

The University has 80 units (40 efficiency units and 40 one-bedroom units) of permanent two-story apartments for married students. These units are completely furnished and rentals cover all utilities including electric heat but not telephones. 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 100, Williston Hall, and is open from 8 a.m. to noon and 1 to 5 p.m., Monday through Friday.

Health Service

The University Health Service is located on Wirtz Drive West. The regular clinic hours are from 8 to 11:45 a.m. and from 1

to 4:45 p.m., Monday through Friday, and Saturday morning from 8:30 to 11:30. At all other times, nurses are on duty, and a doctor is on call, for the care of emergency cases. An infirmary is maintained for short-term in-patient care of ill students. All full-time students who have paid the health service 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 extramural, evening, and Saturday classes only) are provided 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 are presented to the Insurance Office 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 Insurance Office 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 major medical coverage may be obtained from the Insurance Office.

University Counseling Center

The University Counseling Center has been established as an integral part of the University's total program. The major function of the Counseling Center is to assist graduate and undergraduate students in their selection and progress toward appropriate educational and vocational objectives and in considering matters of personal development.

Counselors are available to discuss with students any matter of concern to them, be it educational, personal, or vocational. Through use of individual and group counseling sessions, tests, and other materials students may clarify their interests, strengths, and weaknesses; identify their potentials and pos-

sibilities; and plan and implement a program aimed at resolving their concern.

Counseling is normally made available through regularly scheduled appointments, but should a student feel the need to see a counselor immediately, a counselor may at most times be seen without an appointment. A library of materials on occupations is available in the Counseling Center for students who wish to inform themselves about vocational opportunities.

A reading improvement and study skills program is conducted by counseling center personnel. The program is conducted individually, in small groups, and in classes to meet the needs of students at various levels of competence and proficiency.

All graduate students enrolled in the University, either full- or part-time, are invited to utilize any of the services provided by the center.

Student Teaching

Since student teaching is required for teacher certification, facilities for student teaching will be made available to qualified graduate students. Student teaching is offered for undergraduate credit only. The following regulations control all assignments in student teaching:

1. An applicant must have been admitted to the Graduate School.
2. An applicant must have earned a minimum of 12 semester hours of credit at NIU, of which not all need be on the graduate level.
3. A student must have been admitted to teacher education and must maintain these admission requirements including an overall grade-point average of 3.00 for graduate students.
4. A student must have met the specific requirements in the Departments of Education and in his subject matter department. He must have maintained the required departmental grade-point average.
5. Applications for student teaching should be made during January of the year prior to the requested assignment to allow sufficient time for placement. However, in any event, no applications will be accepted by the Student Teaching Office later than 12 weeks prior to the beginning of the semester in which student teaching is to be done.
6. A student must be recommended for an assignment by the chairman of his department or the designated departmental representative. A graduate applicant must be

approved by the department in which he is receiving his graduate degree and by the department in which he will be doing his student teaching. Formal application for admission to teacher education is made to the Dean of the Graduate School.

7. The amount of credit given is determined by the type of assignment.
8. A student must have received health clearance from the University Health Service.
9. All assignments are limited by the programs and facilities available in the cooperating schools.
10. No changes in assignment will be made once an assignment is confirmed by the cooperating school.

Application forms for student teaching may be obtained from the major department. For a complete description of student teaching, see the current Undergraduate Catalog.

Speech and Hearing Clinic

The Division of Speech Pathology and Audiology of the Department of Speech Communication operates a speech and hearing clinic as an integral part of its training program. Services in speech and/or hearing evaluation and 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. All programs provide practicum and observational opportunities in addition to their primary goals.

Placement Bureau

The University seeks to help its alumni secure permanent employment through its Placement Bureau, a unified service that provides placement assistance to all departments of the University.

Services to the candidate and the employer include dissemination of confidential credentials which deal primarily with (1) personal information, (2) educational background, (3) experience, and (4) evaluation of the candidate.

Other services include: (1) counseling with candidates and employers; (2) staffing seminars, orientation sessions, and classroom groups to discuss placement procedures and purposes; (3) maintenance of files of credentials and vacancies; (4) dissemination of related information in terms of the annual

report and occasional special reports.

The Placement Bureau offers assistance to candidates during their professional lifetime. The Placement Bureau conceives its primary task as communication *about* placement matters to employers, candidates, and any other concerned individuals. Final decisions and ultimate responsibility for placement are vested in the employer and the potential employee.

Recreational Facilities

The University sponsors an extensive recreation and intramural athletic program each semester. Regular tournaments are held in touch football, basketball, volleyball, water polo, and softball. Individual and dual sports tournaments include tennis, gymnastics, swimming, handball, wrestling, badminton, track, golf, weight lifting, basketball free throw, cross country, and paddleball. Graduate students who pay activity fees are eligible to compete in the above tournaments.

Part of a 50-acre area has been improved for intramural recreation, physical education classes, and athletic practice. In addition to Anderson Hall and the Field House, recreation facilities are available in the 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 Gurler School pool and to female students at the pool in Anderson Hall. Corecreational swimming is open on Friday nights at Anderson Hall, and on Tuesday nights at the Gurler School pool. The University Center has bowling and billiards 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 Graduate School Office.

Student Operation of Motor Vehicles

Campus parking facilities are limited and controlled. Full-time and part-time students who are permitted to use University parking facilities are required to register their vehicles with the Office of Security and Safety. The publication entitled *University Motor Vehicle and Parking Regulations*, available in the Office of Security and Safety, defines eligibility for the use

of campus parking facilities and provides other information necessary for the proper use of these facilities.

Employment for Spouses of Students

The University encourages spouses of students interested in full-time or part-time employment to contact the Personnel Office, 615 Lincoln Terrace. The University employs approximately 2,000 nonteaching employees in a variety of over 400 different professional, clerical-secretarial and service jobs. Northern Illinois University is an equal opportunity employer.

Veterans' Educational Benefits

The Office of Student Financial Aids provides the liaison between student veterans, the dependents of deceased veterans, and the Veterans Administration regarding their educational benefits. The office assists the veteran in the processing of his application, subsequent eligibility, and certification of his enrollment. Assistance is also provided when difficulties arise concerning receipt of the benefits for which the student is eligible. The Office of Student Financial Aids is also the authorizing agent for certifying a veteran's eligibility for receipt of the Illinois Veterans State Scholarship. Widows and minor dependents of deceased veterans may also process some educational benefits through this office. Inquiries concerning educational benefits for veterans should be directed to the Office of Student Financial Aids.



Paul S. Burtness, Ph.D., Dean

Larry R. Sill, Ph.D., Associate Dean

Rodney Angotti, Ph.D.,

Assistant Dean

Anthropology

Biological Sciences

Chemistry

Economics

English

Foreign Languages and Literatures

Geography

Geology

History

Journalism

Library Science

Mathematical Sciences

Philosophy

Physics

Political Science

Psychology

Sociology

Speech Communication

Theatre Arts

College of Liberal Arts and Sciences

Department of Anthropology

GRADUATE FACULTY: Lange, department chairman. Andrews, Bartell, Brown, Gravel, D. Gunnerson, J. Gunnerson, Hanifi, Hart, Holtzman, Honea, Otten, Salovesh, Trager

The Department of Anthropology offers graduate courses and research opportunities leading to the degree Master of Arts and to the Certificate of Advanced Study.

Graduate work in this field is designed to prepare students for teaching or research in anthropology, and for further advanced study.

An applicant to the Graduate School desiring to pursue the graduate curriculum in anthropology is urged to consult with the departmental graduate adviser prior to admission. A student who is admitted to the graduate curriculum in anthropology is urged to consult with his appointed departmental graduate adviser in order to insure that the requirements of the department will be met by the program of courses he elects.

Master of Arts

A student who elects the master's program in anthropology must have had at least 15 undergraduate semester hours in anthropology and a course in statistics. A student lacking these prerequisites will be required to take compensatory work during his graduate program.

Candidates for the master's degree with a major in anthropology are required to complete one course in anthropological theory (Anth. 430 or 520), two graduate seminars (Anth. 620A or B, and C or D), and a thesis (Anth. 599A). The remaining work for the degree (a minimum of 15 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 elected from related fields (e.g., Eng. 514; Phil. 422, 462; B.Sci. 408, 418, 442; Soc. 461, 553; Hist. 420). A written preliminary thesis proposal must be approved prior to registration for the thesis course (Anth. 599A). Minimum total for the degree: 30 semester hours.

Candidates for the master's degree in anthropology are required to take a final written evaluation examination covering the various fields within the discipline (archaeology, cultural/social anthropology, linguistic anthropology, and physical anthropology). An oral examination may be required at the option of the department.

Certificate of Advanced Study

Prerequisite: Master's degree. Candidates working toward the Certificate of Advanced Study in anthropology, in consultation with an adviser from the department, plan a course of study designed especially to meet their needs. The course of study is presented to the student's advisory committee for its approval. The program may be concentrated entirely in anthropology, although a minor of 9 semester hours in a closely related field may be included. A comprehensive examination, either written or oral, or both, and a thesis (Anth. 599B) are required. Total for the certificate: 30 semester hours.

Course Offerings

401. PEOPLES AND CULTURES OF SOUTHEAST ASIA (3). An introduction to Southeast Asian societies and culture dealing with the prehistory of the region, racial differences, and contributions of India, China, and Europe. Also covered are language, ecology, social organization, religion, urbanization, and culture change. Prerequisite: Anth. 220 or consent of department.

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: Anth. 220.

404. PEOPLES OF THE CARIBBEAN (3). Description, analysis, historical development, and change of several Caribbean cultures: emphasis on social, economic, religious, and aesthetic elements. Prerequisite: Anth. 220.

405. PEOPLES OF MESO-AMERICA (3). Cultural background of Meso-American ethnic groups; historical and contemporary sociocultural 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: Anth. 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: Anth. 220.

408. PEOPLES AND CULTURES OF CENTRAL AND SOUTHWEST ASIA (3). Survey of the cultures and societies of Central and Southwest Asia. Examination of the cultural-historical factors which distinguish

the various cultural groups in this region. Prerequisite: Anth. 220 or consent of department.

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: Anth. 210.

412. ARCHAEOLOGY OF NORTH AMERICA (3). A detailed analysis of culture sequences in various archaeological areas of North America. Interrelationships between areas will be stressed. Prerequisite: Anth. 210.

414. ARCHAEOLOGY OF MESO-AMERICA (3). A descriptive and analytical examination of pre-Columbian cultures of Mexico and Central America. Prerequisite: Anth. 210.

416. SYNCHRONIC LINGUISTICS (3). Study and application of major contemporary linguistics models as related to anthropological studies of unwritten languages and the cultures associated with them. Prerequisite: Eng. 432 or Anth. 230.

417. DIACHRONIC LINGUISTICS (3). Theory and practice of reconstruction in the history of unwritten languages and establishing time depth, by employing the special techniques and interpretations developed by anthropologists. Prerequisite: Eng. 432 or Anth. 230.

419. FIELD LINGUISTICS (3). Approaches to field work in linguistics; methods and techniques for collecting and analyzing data. Prerequisite: Anth. 416.

420. CULTURE PROCESS (3). A 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 processes will be considered. Prerequisites: Anth. 210 and 220.

421. SOCIAL ORGANIZATION (3). Description of primitive social systems, and exploration of the regularities and variations in the several facets of social structure emphasizing the interrelatedness of the parts of culture and culture as a functioning entity. Prerequisite: Anth. 220 or consent of department.

422. HISTORY OF ANTHROPOLOGY (3). An overview of the history of anthropological institutions and the historical development of anthropological concepts. Attention is focused upon schools of thought and associated figures in all of anthropology, archaeology, cultural anthropology, ethnology, linguistics, physical anthropology, and social anthropology. Prerequisites: Anth. 120 or 220 or consent of department.

423. CURRENT TOPICS 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.

424. INDEPENDENT STUDY IN ANTHROPOLOGY (1-6). Special readings, topics and research projects in anthropology. Prerequisite: 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.

426. PRIMITIVE POLITICAL AND ECONOMIC SYSTEMS (3). Political and economic activities and how they articulate with other institutions. Presentation of the various interpretations and theories that have been applied to the data. Prerequisite: Anth. 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: Anth. 220 or consent of instructor.

430. FUNDAMENTALS OF ANTHROPOLOGICAL THEORY (3). A course in the prerequisites of systematic analysis and synthesis of anthropological data. Prerequisite: Anth. 220.

433. MATERIAL CULTURE OF PRIMITIVE PEOPLES (3). A cross-cultural study of the manufacture and use of utilitarian objects and the production and processing of food and raw material. The relationship of material culture to other aspects of culture and to physical environment will be examined. Prerequisites: Anth. 210 and 220.

434. MUSEUM METHODS (3). Lectures and practical experience in various aspects of museum work: acquiring, accessioning, cataloging, preservation, and storage of collections; designing and constructing exhibits; museum administration. Prerequisite: Anth. 433.

435. ETHNOHISTORY (3). Approaches to locating, evaluating, and utilizing ethnographic information contained in such sources as native oral traditions and the recorded observations of travelers, explorers, missionaries, and government officials. Prerequisite: Anth. 220.

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.

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: Anth. 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: Anth. 240 or consent of instructor.

443. HUMAN ADAPTATION AND VARIATION (3). History of the concept of race and changing racial criteria. Race as speciation, adaptation, and evolutionary process. Prerequisite: Anth. 240 or consent of instructor.

444. PRIMATE SOCIAL BEHAVIOR (3). Comparative studies of living nonhuman primates with application to understanding origins and present-day behavior of man. Prerequisite: Anth. 240 or consent of department.

449. ANTHROPOLOGICAL RESEARCH TRAINING (1-6).

- | | |
|--------------------------|--------------------------|
| A. Cultural Anthropology | D. Physical Anthropology |
| B. Ethnology | E. Ethnohistory |
| C. Archaeology | J. Linguistics |

Training and experience in field and/or laboratory research. Students will participate, under supervision, in basic research projects. May be repeated to a maximum of 6 semester hours of credit in each section. Prerequisite: Consent of department.

520. CULTURE THEORY (3). Organizing principles and theories currently used in anthropology: culture areas, culture patterns; themes and models. Prerequisites: Anth. 220 and 420 or 422 or 430 or consent of instructor.

530. INDEPENDENT STUDY IN ANTHROPOLOGY (1-3).

- | | |
|--------------------------|--------------------------|
| A. Cultural Anthropology | D. Physical Anthropology |
| B. Ethnology | E. Ethnohistory |
| C. Archaeology | J. Linguistics |

Supervised readings or research in specialized areas, topics, or problems in anthropology. Any one course may be repeated to a maximum of 6 semester hours with a combined maximum of 12 semester hours. Prerequisite: Written permission of the 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. Prerequisites: Anth. 210 and 420 or 430 and one archaeology area course or consent of instructor.

551. COMMUNICATION ACROSS CULTURE(S) (3). An extensive and intensive consideration of the difficulties and problems of communication in today's world between members of different societies, and within nation-states between the various subcultural groups constituting the interacting population. Prerequisite: Anth. 349 or equivalent.

552. COGNITIVE ANTHROPOLOGY (3). The study of cognition through the formal semantic analysis of kinship systems, folk taxonomies, and other terminological networks with emphasis upon how

such analyses relate to non-linguistic aspects of the cultures in which they are embedded.

599. THESIS (1-6).

- A. Master's Degree
- B. Certificate of Advanced Study

May be repeated to a maximum of 6 semester hours at each level.

620. SEMINAR IN ANTHROPOLOGY (3).

- | | |
|--------------------------|--------------------------|
| A. Cultural Anthropology | D. Physical Anthropology |
| B. Ethnology | E. Ethnohistory |
| C. Archaeology | J. Linguistics |

Intensive study of some specific area, topic, or problem of the indicated subdiscipline. Any one course may be repeated to a maximum of 9 hours. Prerequisite: Consent of instructor.

Department of Biological Sciences

GRADUATE FACULTY: McCleary, department chairman, Abdel-Hameed, Bennett, Briles, Brower, Frampton, Fry, Garthe, Grahn, Gray, Greenfield, Grosklags, Hall Hampel, Hanzely, Hardman, Harnet, Jaroslow, Jollie, Kubitschek, Lynch, McIlrath, Mathers, Mitchell, Mittler, Norstog, Peraino, Prahlad, Rahman, Rohde, Schjeide, Schlenk, Sinclair, Skok, Sorensen, Southern, Starzyk, Thomson, Tsotsis, Von Zellen, Voth, Webb, Zar

The Department of Biological Sciences offers graduate programs leading to the degree Master of Science and, at the sixth-year level, to the Certificate of Advanced Study. Prior to being considered for admission to the Graduate School an applicant must have filed with the Graduate School his test scores for both the Aptitude Test and the Advanced Test in Biology of the Graduate Record Examinations.

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

The minimal requirements for admission to the M.S. degree program consist of a baccalaureate degree with a major in some area of the biological sciences or in some closely related field such as biochemistry or biophysics. This degree should include courses in biological sciences, chemistry, mathematics, and physics equivalent to those required for the B.S. degree in biological sciences at Northern Illinois University. Such courses not completed before admission to the Graduate School, as well as other undergraduate courses deemed appropriate for the pursuit of the master's degree in a particular specialty in biological sciences, will be recorded as deficiencies and must be taken early in the student's program.

Master of Science

Each student pursuing a Master of Science degree with a major in biological sciences is required to complete successfully the following courses or their equivalents:

- B.Sci. 470X, Biological Chemistry
- B.Sci. 570, Biostatistical Analysis
- B.Sci. 661, Seminar (to be taken each semester in residence, at least once for credit)

Each student will elect one of the following options:

Thesis option. Each student must enroll in B.Sci. 599A, Thesis Research. A maximum of 12 semester hours of combined credit in B.Sci. 599A and B.Sci. 670 may be applied toward the degree

Non-thesis option. The non-thesis option is intended primarily for those students pursuing teaching careers.

Students electing a non-thesis option are required to complete successfully a program of courses established with a graduate committee. This committee will consist of three graduate faculty members, appointed by the department chairman, who will normally ensure that the student develops a broad background in biology.

Students will be expected to pass an extensive written comprehensive examination covering three of the following areas of study:

Development	Genetics	Molecular biology
Ecology	Microbiology	Physiology
Evolution		Systematics

Certificate of Advanced Study

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

Course Offerings

NOTE: A "T" after a course number indicates that an old number is being reused for a new course; an "X" designates a course which is offered primarily by another department but which may be taken for credit in this department.

400. TEACHING METHODS IN BIOLOGY (3). Emphasis on methods and materials for teaching modern biology in the secondary school. Field trips and practice teaching experience. **Prerequisite:** Major or concentration in biological sciences with a minimum of two biology courses at NIU.

405. AMERICAN ECOSYSTEMS (1-8). A laboratory and field analysis of environments. Lectures and laboratories on campus plus extensive field experience. Students pay part of field expenses. **Prerequisite:** B.Sci. 316.

406. **BIOLOGICAL CONSERVATION (3)**. Ecological bases for conservation of biological resources and relationship of conservation practices to human welfare. Field trips required. Prerequisite: Two courses in biology.
408. **GENETICS AND CYTOGENETICS (3)**. Principles of heredity. Primarily for the biological sciences major or minor. Prerequisite: B.Sci. 300.
409. **CYTOGENETICS LABORATORY (2)**. Cell nuclei and the behavior of chromosomes in plants and animals. Prerequisites: B.Sci. 300 and credit or registration in B.Sci. 408.
410. **PLANT ANATOMY (3)**. Structure of vascular plants, primarily flowering plants. Prerequisite: B.Sci. 211.
412. **MYCOLOGY (4)**. Culture, morphology, and economic significance of the fungi. Prerequisite: B.Sci. 211.
413. **MICROBIAL PHYSIOLOGY (3)**. Physical and chemical aspects of the functions of bacteria and other microorganisms. Prerequisites: B.Sci. 300 and 313.
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.
418. **HUMAN HEREDITY (3)**. Human heredity in individuals and populations. Does not carry graduate credit for biological sciences majors. Prerequisite: A course in biology.
420. **PLANT PATHOLOGY (3)**. Specific causal agents of plant diseases, their identification, and control measures. Parasitism and the economy of crop disease. Prerequisite: B.Sci. 412 or equivalent.
- 422X. **EDAPHOLOGY (4)**. *Geography 422*. Chemical and physical interactions of soils affecting the distribution and development of higher plants. Field trips required involving additional fees. Prerequisites: Geog. 400, Chem. 110 or 210.
430. **PLANT TAXONOMY (3)**. Identification and classification of higher plants with emphasis on the local flora. Prerequisite: B.Sci. 211.
- 431TX. **NEURAL MECHANISMS OF LEARNING AND MEMORY (3)**. *Psychology 431T*. Physiological correlates of learning, memory, motivation and attention. Emphasis will be placed on current research in cellular mechanisms of behavioral plasticity. Prerequisites: Psych. 331 and a course in learning or consent of the department.
440. **IMMUNOBIOLOGY (3)**. The biological and development significance of antigens, antibodies, and their interactions. Lecture and laboratory. Prerequisite: B.Sci. 300.
442. **EVOLUTION (3)**. Theories of evolution; development of concepts of evolution; factors in organic evolution. Prerequisite: B.Sci. 408.
- 443X. **PRINCIPLES OF PHYSICAL CHEMISTRY (4)**. *Chemistry 442*. Topics covered are thermodynamics, chemical kinetics and atomic and molecular structure. Four lectures a week. Prerequisites: Chem. 321 or 325 or 330, Phys. 251 and Math. 230 or consent of department.
445. **HISTOLOGY (3)**. Animal cells and tissues including their ultrastructure. Cellular structure in relationship to tissue and organ systems. Prerequisite: B.Sci. 300.
449. **VERTEBRATE BIOLOGY (4)**. Systematics, life history, behavior, distribution and ecology of the vertebrates, with special emphasis on the Illinois fauna. Laboratory and field emphasis on identification and behavior. Corequisite: B.Sci. 316.
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 (4)**. Avian taxonomy, anatomy, and behavior. Several field trips taken to appropriate areas. Prerequisite: B.Sci. 449.
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.
- 453X. **RADIOISOTOPE TECHNIQUES (2)**. *Chemistry 453*. Principles of radioactive decay. Properties and uses of radioactive isotopes. Detection methods. Application in chemistry and related sciences. One lecture and one 4-hour laboratory period a week. Prerequisites: Chem. 321 or 325 or 331; Math. 210 or 229.
454. **EMBRYOLOGY (4)**. Principles and processes in the development of animals. Prerequisites: B.Sci. 251 and 300.
455. **COMPARATIVE PHYSIOLOGY (3)**. Mechanisms responsible for maintaining the functional integrity of invertebrates and lower vertebrates. Prerequisite: B.Sci. 251. Corequisite: Chem. 330.
456. **ICHTHYOLOGY (4)**. Taxonomy, ecology, and general biology of fish. Prerequisite: B.Sci. 449.

457. MAMMALOGY (3). Evolution, ecology, and adaptations of mammals of the world. Taxonomic emphasis on North American forms. Prerequisite: B.Sci. 449.

458. OPTICAL AND INSTRUMENTAL METHODS IN BIOLOGY (2). (1) Optical equipment, especially the microscope; (2) measuring instruments; (3) homeostasis devices (incubators, water baths, etc.). Prerequisite: A course in college physics.

459. COMPARATIVE VERTEBRATE ETHOLOGY (4). Determination of the function, biological significance, causation, and evolution of species' typical behavior. Prerequisite: 12 semester hours of zoology.

460. WILDLIFE ECOLOGY (3). Fundamental mechanisms of wildlife populations as related to management of game species. Prerequisite: B.Sci. 316.

461. ENDOCRINOLOGY (3). Ductless glands and their functions. Prerequisite: B.Sci. 355.

462. INSECT PHYSIOLOGY (3). Physical and chemical aspects of the functions of insects and other arthropods. Prerequisites: B.Sci. 251 and 300.

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. 257, 355, 356, or 455.

465. CELLULAR PHYSIOLOGY (3). Principles underlying cellular activity. Topics include the biochemistry of cells, cell organelles, cell environment, membranes, and energy conversions. Prerequisite: B.Sci. 300.

469X. INVERTEBRATE PALEONTOLOGY (3). *Geology 470*. The principal invertebrate fossil forms of the geologic record, treated from the standpoint of their evolution, and the identification of fossil specimens. Two lectures, one 2-hour laboratory. Several field trips required. Prerequisite: Geol. 121.

470X. BIOLOGICAL CHEMISTRY (3). *Chemistry 470*. Structure and properties of biologically important compounds. Properties of enzymes. Metabolism of carbohydrates, lipids, and some nitrogenous compounds. Prerequisite: Chem. 331.

471. INTRODUCTION TO SCIENTIFIC LITERATURE (2). Use of the biological literature.

471X. BIOLOGICAL CHEMISTRY LABORATORY (2). *Chemistry 471*. Experiments in isolation and separation using chromatographic

and electrophoretic techniques. Enzyme properties and purification. Metabolism experiments. Two 3-hour laboratory periods a week. Prerequisite: Chem. 332. Corequisite: B.Sci. 470X.

473X. ADVANCED BIOLOGICAL CHEMISTRY (3). *Chemistry 473*. Detailed study of the intermediary metabolism of certain classes of biologically important compounds including bioenergetics and metabolic regulation. Three lecture periods a week. Prerequisite: B.Sci. 470X.

474X. ADVANCED BIOCHEMICAL TECHNIQUES (3). *Chemistry 474*. Theory and practice in the use of current biochemical techniques, such as microbiological assays, chromatographic techniques, use of radioisotopes in biological systems. One lecture and two 3-hour laboratory periods a week. Prerequisite: B.Sci. 471X.

475X. PALEONTOLOGY I (3). *Geology 475*. 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 2-hour laboratory. Several field trips. Prerequisites: Geol. 211 and one year of biology.

476X. PALEONTOLOGY II (3). *Geology 476*. Continuation of B.Sci. 475X, 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 2-hour laboratory. Several field trips. Prerequisite: B.Sci. 475X or consent of department.

480. GENETICS LABORATORY (2). Laboratory demonstration of the principles of heredity. Prerequisite: Credit or registration in B.Sci. 408.

480X. COMPARATIVE PSYCHOLOGY (3). *Psychology 480*. 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.

491. HISTORY OF BIOLOGY (2). Origin and development of major ideas and syntheses in biology. Relation between conditions 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 biological sciences majors. Prerequisite: B.Sci. 305 or consent of department.

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 count toward the master's degree.

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.

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.

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

516. PLANT ECOLOGY (3). Influences of environmental factors upon plant associations evaluated. Representative communities analyzed in detail. Research techniques used in field and laboratory. Prerequisites: B.Sci. 316 and 430.

518. SOIL MICROBIOLOGY (3). The major groups of soil microorganisms; their significance and reactions. Prerequisites: B.Sci. 313, one semester of chemistry.

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 department.

525. ELECTRON MICROSCOPY (2). Preparative techniques for electron microscopy of biological specimens. Basic theory and operation of electron microscopes, including electron-micrography. Interpretation of the ultrastructure of cells and cell constituents. Prerequisite: Consent of department.

527X. NEUROANATOMICAL BASES OF BEHAVIOR (3). *Psychology 527*. Gross, microscopic, and ultramicroscopic anatomy of the nervous system; basic subdivisions of the central, peripheral, and autonomic components of the nervous system; histology and ultrastructure of nervous tissue; neuroanatomical mechanisms in the regulation of behavior. Prerequisites: Graduate standing in psychology or Psych. 503 or consent of department.

528TX. NEUROANATOMICAL BASES OF BEHAVIOR: LABORATORY (2). *Psychology 528T*. Gross, microscopic and ultramicroscopic examination of tissues from the nervous systems of selected species. Prerequisite: Psych. 527 or concurrent enrollment.

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

530X. NEUROCHEMICAL BASES OF BEHAVIOR (3). *Psychology 530*. Biochemistry of the nervous system; chemical composition, metabolism, and chemistry of neurons and glia; chemical bases of learning, motivation, and other categories of behavior. Prerequisites: Graduate standing, Psych. 529, or consent of instructor.

547X. OCEANOGRAPHY (3). *Geology 547*. The chemical and physical nature of the world's oceans. Prerequisite: One year of laboratory science.

550X. PLANT GEOGRAPHY (3). *Geography 550*. Plant formations and plant associations. Relations to the environment. Effects of disturbances and pollution. Field trips required involving additional fees. Prerequisite: Consent of instructor; B.Sci. 422X recommended

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.

565. PHYSIOLOGICAL ECOLOGY (3). Physiological adaptations of animals to terrestrial and aquatic habitats: temperature responses, energy requirements, water balance, respiratory adaptations, and physiological rhythms. Prerequisites: B.Sci. 316 and one of the following courses in physiology: B.Sci. 355, 455, 462, or 465.

570. BIostatistical ANALYSIS (3). Principles and procedures of statistical analysis of biological data. Prerequisite: Consent of department.

575. POPULATION ECOLOGY (3). The structure and dynamics of animal populations and communities. Prerequisites: B.Sci. 316 and Math. 229.

586. BIOSYSTEMATICS (3). An introduction to principles and techniques of biosystematics, including evolutionary and ecological mechanisms as they relate to the species concept, taxonomic procedures, and nomenclature. Prerequisite: B.Sci. 442 or permission of instructor.

599. THESIS RESEARCH (1-9).

A. Master's Degree

B. Certificate of Advanced Study

Research leading to writing of a thesis. Students are eligible to register only after their research problems have been approved. A maximum of 12 semester hours of combined credit in 599 and 670 may be applied toward one degree. Prerequisite: Consent of research supervisor.

600. SPECIAL TOPICS IN BIOLOGY (1-9).

- A. Physiology
- B. Development and Morphogenesis
- C. Genetics
- D. Microbiology
- E. Environmental Biology
- J. Systematics and Evolution
- K. Research Methods

Lectures, discussions, and reports on topics of special interest in a particular field of biology. One to 9 semester hours as scheduled; courses may be repeated in one or more fields of biology. Prerequisite: Consent of department.

661. SEMINAR (0-1). Special topics in biology. May be repeated to a maximum of 4 semester hours.

670. INDEPENDENT STUDY (1-6). Independent study of problems under the supervision of an adviser. May be repeated to a maximum of 6 semester hours toward one degree. Prerequisite: Consent of a graduate adviser.

689. SEMINAR IN COLLEGE TEACHING IN BIOLOGY (3). Discussion and conferences on problems, techniques, and actual practice in college teaching. Prerequisite: Permission of department.

Department of Chemistry

GRADUATE FACULTY: Miller, department chairman. Bower, Bowers, Cunico, Daum, Erman, J. Graham, L. Graham, Hampel, Johnson, Kevill, Kresheck, Lindbeck, Mason, Pesek, Piatak, Reynolds, Rolf, Russell, Schilt, Spangler, Vaughn, Wilson

The Department of Chemistry offers programs leading to the Master of Science and the Master of Science in Education degrees, the Certificate of Advanced Study, and the Doctor of Philosophy degree. Bulletins describing graduate programs in chemistry are available from the department chairman.

Admission to graduate programs in chemistry requires a baccalaureate degree in chemistry including mathematics through differential equations. Consideration may also be given to applicants with degrees in related areas.

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 take necessary courses after admission to meet the chemistry, physics, and mathematics requirements for the B.S. degree in chemistry at Northern Illinois University if equivalent courses have not been taken.
2. The student is required to take background examinations in the fields of analytical, inorganic, organic, and physical 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 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 minimum of 15 semester hours may be in research.
4. The student must successfully complete Chem. 446, 541, or 542, and three of the following courses: Chem. 463, 522, 532, and 575. 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

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.

Certificate of Advanced Study

The Certificate of Advanced Study may be awarded to students pursuing programs in chemistry 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 chairman or by the assigned adviser. The program of courses to be taken will be constructed with consideration given to the individual 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. Following are departmental requirements for the degree Doctor of Philosophy.

Course requirements. Every candidate for the Ph.D. is required to:

- a. Successfully complete Chem. 446, 541, or 542, and any three of the following four courses: Chem. 463, 522, 532, and 575.
- b. Participate in Chem. 515, Chemistry Seminar, 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 (Chem. 699) as soon as possible after passing the two qualifying examinations, and continue such enrollment each semester until graduate work terminates.

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 are given each semester in the following five areas: analytical, biological, inorganic, organic, and physical chemistry. A doctoral student is required to pass two qualifying examinations, one in the area of his major interest and one in any one of the other four. To be eligible to take the examinations, a student must have successfully completed Chem. 446, 541, or 542, and three of the following four courses: Chem. 463, 522, 532, and 575. 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 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 must be passed in one of the following combinations:
 1. Two foreign languages, average reading proficiency (German and either French or Russian).
 2. One foreign language with average reading proficiency (German) and one research tool with average proficiency (computer language).
 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.

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 chairman 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 6 hours of laboratory a week. Prerequisite: Chem. 440. Corequisite: Math. 234.

409. SCIENCE INSTITUTE FOR IN-SERVICE ELEMENTARY TEACHERS (1-8). *Crosslisted as Phys. 409X*. 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. Three lectures a week. Prerequisites: Chem. 325 and 440 or 442.

425. INSTRUMENTAL METHODS OF ANALYSIS (4). Fundamentals of physico-chemical techniques of chemical analysis. Interpretations and application of electrical, optical, thermal, and magnetic measurements in chemical analysis. Three lectures and one 4-hour laboratory period a week. Not offered for graduate credit for the M.S. in chemistry. Prerequisite: Chem. 441 or 442 or consent of department.

432. QUALITATIVE ORGANIC ANALYSIS (4). Identification of organic compounds and mixtures (after separation) by characteristic organic group reactions and instrumental means. One lecture and three 3-hour laboratory periods a week. Prerequisite: Chem. 333 or equivalent.

510. THEORETICAL INORGANIC CHEMISTRY (3). Lectures on ligand field theory and molecular orbital theory as applied to electronic spectra. Three lectures a week. Prerequisite: Chem. 463 or equivalent.

511. ADVANCED INORGANIC CHEMISTRY (3). Continuation of Chem. 510 with emphasis on periodic properties, acids and bases, and nonaqueous solvents. Prerequisite: Chem. 510.

515. CHEMISTRY SEMINAR (2). Required of graduate students each semester in residence except summer session. May be repeated to a maximum of 4 semester hours. Prerequisite: Consent of department.

522. ADVANCED ANALYTICAL CHEMISTRY (3). Fundamental principles of chemical separations and measurements with emphasis on noninstrumental 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 Schrodinger equation and its applications. Operator techniques are emphasized. Prerequisites: Chem. 446 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 electrochemical methods emphasized. Prerequisite: Chem. 425 or consent of instructor.

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 lectures a week. Prerequisite: Chem. 441.

599. RESEARCH (1-15).

A. Master's Thesis

B. Certificate of Advanced Study

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 nonlaboratory investigation. An additional 15 semester hours may be earned towards the Certificate of Advanced Study. Prerequisite: Consent of instructor.

600. SPECIAL TOPICS IN CHEMISTRY (1-9).

A. Inorganic

B. Analytical

C. Organic

D. Physical

E. Biological

Lectures, discussions, and reports on topics of special interest in a particular field of chemistry. One 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.

440. PHYSICAL CHEMISTRY I (3). Study of the gaseous, liquid, and solid states; thermodynamics; chemical equilibrium; kinetic theory. Four lectures a week. Not offered for graduate credit for the M.S. in chemistry. Prerequisites: Chem. 325 and Phys. 251A. Prerequisite or corequisite: Math. 233.
441. PHYSICAL CHEMISTRY II (3). Atomic and molecular structure, spectroscopy, kinetics, chemical statistics. Four lectures a week. Not offered for graduate credit for the M.S. in chemistry. Prerequisites: Chem. 440, and Math. 234 or concurrent registration.
442. PRINCIPLES OF PHYSICAL CHEMISTRY (4). *Crosslisted as B.Sci. 443X*. Topics covered are thermodynamics, chemical kinetics and atomic and molecular structure. Four lectures a week. Not offered for graduate credit for chemistry majors. Prerequisites: Chem. 321 or 325 or 330, Phys. 251 and Math. 230 or consent of department.
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 (2). One lecture and one 4-hour laboratory a week. Prerequisite: Chem. 441 or concurrent registration.
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 (2). *Crosslisted as B.Sci. 453X*. Principles of radioactive decay. Properties and uses of radioactive isotopes. Detection methods. Application in chemistry and related sciences. One lecture and one 4-hour laboratory period a week. Not offered for graduate credit for M.S. in chemistry. Prerequisites: Chem. 321 or 325 or 331; Math. 210 or 229.
455. ADVANCED LABORATORY TECHNIQUES (3). Synthesis of representative compounds by methods not found in the standard laboratory sequence. Emphasis on modern preparatives. Prerequisites: Chem. 325 and 333.
460. INORGANIC CHEMISTRY I (3). Introduction to atomic structure, ionic and covalent bonding theories essential to modern inorganic chemistry. Correlation of structure and properties of inorganic compounds. Brief introduction to symmetry elements and point groups. Topics of coordination chemistry including structure, stereochemistry, and reaction mechanism as well as study of selected nontransition elements. Three lectures a week. Prerequisite: Chem. 441 or 442 or consent of department.
463. INORGANIC CHEMISTRY II (3). Chemical applications of symmetry. Bonding and structure of metal complexes involving pi acceptor ligands and organometallic complexes. Descriptive chemistry of the first row transition elements including structures, spectra, and magnetic properties. Selected topics from the chemistry of the heavy transition elements, the lanthanides, and actinides. Three lectures a week. Prerequisite: Chem. 460 or equivalent.
470. BIOLOGICAL CHEMISTRY (3). *Crosslisted as B.Sci. 470X*. 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). *Crosslisted as B.Sci. 471X*. Experiments in isolation and separation using chromatographic and electrophoretic techniques. Enzyme properties and purification. Metabolism experiments. Two 3-hour laboratory periods a week. Prerequisite: Chem. 332. Corequisite: Chem. 470.
473. ADVANCED BIOLOGICAL CHEMISTRY (3). *Crosslisted as B.Sci. 473X*. Detailed study of the intermediary metabolism of certain classes of biologically important compounds including bioenergetics and metabolic regulation. Three lectures a week. Prerequisite: Chem. 470.
474. ADVANCED BIOCHEMICAL TECHNIQUES (3). *Crosslisted as B.Sci. 474X*. Theory and practice in the use of current biochemical techniques, such as microbiological assays, chromatographic techniques, use of radioisotopes in biological systems. One lecture and two 3-hour laboratory periods a week. Prerequisite: Chem. 471.
495. TEACHING OF PHYSICAL SCIENCES (2). *Crosslisted as Phys. 495X*. 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 a half semester. Prerequisite: Physics or chemistry 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 offered for graduate credit for the M.S. in chemistry. 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, demonstration, 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.

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 (credit arranged).

471. BIOLOGICAL CHEMISTRY LABORATORY (2). *Crosslisted as B. Sci. 471X.* Experiments in isolation and separation using chromatographic and electrophoretic techniques. Enzyme properties and purification. Metabolism experiments. Two 3-hour laboratory periods a week. Prerequisite: Chem. 332. Corequisite: Chem. 470.

Department of Economics

GRADUATE FACULTY: Mauer, department chairman. Bechdolt. Gherity, Graeser, Kim, Kittrell, Kwon, Laumas, Levy, Martellaro, Michas, Mohabbat, Newman, Rausser, Reiling, Renshaw, Scaperlanda, J. W. Skeels, J. G. Skeels, Soper, Taylor, Van Buer, Weeks

The Department of Economics offers graduate programs leading to the Master of Arts degree, the Certificate of Advanced Study, and the Doctor of Philosophy degree. A procedures manual describing graduate programs in economics in greater detail is available from the department chairman or the departmental Director of Graduate Studies.

Students who plan to pursue the graduate curriculum in economics should consult the departmental Director of Graduate Studies before enrolling in course work. A student whose background in economics is deficient (in the judgment of the department's Graduate Committee) may be required to take additional course work at the undergraduate level.

Master of Arts

A student pursuing the Master of Arts program in economics may choose, with the consent of the Director of Graduate Studies, 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 is expected to submit a research paper to the departmental Graduate Committee. An outgrowth of research completed in any graduate course (at the 500 or 600 level), the paper must be approved by the instructor of the course prior to its submission to the Graduate Committee.

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 departmental Graduate Committee will consider a petition to accept 3 additional semester hours of credit in another discipline closely related to economics.

Each student will be required to complete a course in statistical methods (Econ. 490) and a one-year sequence in economic theory (Econ. 560 and 561). If the departmental Graduate Committee finds justification in the student's previous background, one or more of these requirements may be waived.

Comprehensive examination. Comprehensive examinations will be taken by each candidate for the master's degree within one semester from the expected completion of his course work. The Department of Economics will offer these examinations each semester and during the summer, at dates announced in advance.

Certificate of Advanced Study

Students who wish to pursue the sixth-year program leading to the Certificate of Advanced Study with a major in economics should consult with the chairman of the Department of Economics.

Departmental and Interdisciplinary Concentrations

The Department of Economics, in cooperation with other departments, offers a number of areas of concentration. Candidates for either the Master of Arts or the Certificate of Advanced Study are eligible to participate. These concentrations are Southeast Asian studies, comparative economics, economics of development, government and industry, international economics, and metropolitan problems.

Industrial relations and manpower studies, an additional area of concentration, can be pursued by the selection of an interdisciplinary group of courses from certain departments including economics, history, management, and sociology. Students desiring additional information on industrial relations and manpower studies should contact one of the departments listed above.

Students whose primary interest is teaching in the primary or secondary schools can consider the Master of Science in Education with 12-15 hours in economics. A flexible program of courses accommodates students with backgrounds varying from no previous economics courses to a bachelor's degree in economics. For additional information on the program, contact the coordinator of the Office for Economic Education or the Departments of Elementary and Secondary Professional Education.

Doctor of Philosophy

Perhaps the single most outstanding characteristic of persons holding the doctorate in economics is their ready adaptability to different employment situations: in college and university teaching, in private industry, and with governmental agencies. 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 Econ. 490, Economic Statistics and Econometrics, and Econ. 560-561, in micro- and macroeconomic analysis theory, or the equivalents will be required of all students working for the doctorate. Although the Department of Economics requires that each student working for the doctorate in economics prepare himself in five fields, he will be examined in four fields, two of which will be micro- and macroeconomic theory. One minor field may, with the permission of the graduate adviser, be taken outside of the department. Fields offered within the department are:

- Comparative economic systems
- Economic growth and development
- Economic theory (micro and macro)
- Government and business
- History of economic thought
- International economics
- Labor and manpower economics
- Mathematical economics and econometrics
- Monetary economics
- Public finance
- Spatial, urban, and regional economics

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 requirement.

Language and research-tool requirements. Before being admitted to candidacy for the Ph.D. in economics, a student must demonstrate:

- a. Average proficiency in reading one foreign language and in using one research tool;
- b. Average proficiency in two research tools; or
- c. High proficiency in one research tool.

(See the "Requirements for Doctoral Programs" section of the catalog for information regarding foreign language examinations.) The research tools (including 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 requirement.

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 doctoral degree, he will take a written comprehensive examination covering each of his fields. 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, and after the lapse of at least one semester, repeat those failed. 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 requirement.

Course Offerings

NOTE: A "T" after a course number indicates that an old number is being reused for a new course; an "X" designates a course which is offered primarily by another department but which may be taken for credit in this department.

402. **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. 300.
403. **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.
420. **ANTITRUST ECONOMICS (3)**. Detailed analysis of monopoly, near monopoly, and various business practices. Examines legal and economic foundations of current and past public policies toward monopoly. Prerequisite: Econ. 261.
423. **PUBLIC UTILITIES (3)**. General economic characteristics of and governmental policy toward public utilities. Such problems as pricing; finance; private, cooperative, and public ownership. Prerequisite: Econ. 261.
425. **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.
443. **ECONOMIC DEVELOPMENT (3)**. Treatment of major problems and issues of a theoretical and a policy nature concerning the conversion from undeveloped to developed economies. Prerequisite: Econ. 260.
444. **ECONOMICS OF TECHNOLOGY (3)**. Analysis of development, accumulation, and dissemination of technology within and between economies.
450. **PUBLIC FINANCE (3)**. Analysis of the structure and effects of the national, state, and local revenue and outlay systems. Prerequisite: Econ. 261 or consent of instructor.
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. **FISCAL POLICY (3)**. An examination of the role of the federal budget in fiscal policy. Public expenditures, taxes, and debt management are evaluated as tools of economic stabilization, since World War II. Prerequisite: Econ. 261 or consent of instructor.
453. **ECONOMICS OF PLANNING (3)**. An analysis of planning concepts in the public and private sectors and the functional relationships between them. Prerequisite: Econ. 261.
454. **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.
462. **BUSINESS CYCLES (3)**. The history of business fluctuations, techniques and theories of analysis, and countercyclical monetary and fiscal policies.
470. **HISTORY OF ECONOMIC THOUGHT (3)**. The ideas of economies 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 early Marxist thought. Prerequisite: Econ. 261.
471. **MODERN ECONOMIC THOUGHT (3)**. The evolution of neoclassical and modern theories of value, distribution, money, and income. Prerequisite: Econ. 470 or consent of instructor.
474. **ECONOMIC HISTORY OF THE UNITED STATES (3)**. The evolution and expansion of American economic institutions and processes from colonial times to the 20th century. Both traditional historical method and the contemporary economic approach to these topics will be developed and applied in the study of this subject.
483. **THE COOPERATIVE MOVEMENT (3)**. Theory of cooperative enterprise; the practice of cooperative techniques in the United States and abroad. Prerequisite: Econ. 360.
485. **TOPICS IN URBAN ECONOMICS (3)**. Study of economic aspects of selected urban problems and issues using theoretical concepts and models in urban economics and a reading familiarity with various quantitative methods. Prerequisites: Econ. 385 and Math. 301, or consent of instructor.
490. **ECONOMIC STATISTICS AND ECONOMETRICS (3)**. Topics include descriptive statistics, probability, estimation, hypothesis testing, correlation, and regression analysis, as applied to economic models. Prerequisites: Econ. 261 and Math. 301.
- 490X. **MATERIALS AND PROBLEMS OF HIGH SCHOOL INSTRUCTION IN THE SOCIAL SCIENCES (3)**. *Political Science 490*. Offered by the Department of Political Science in conjunction with the Departments of Anthropology, Economics, and Sociology.
491. **INTRODUCTION TO MATHEMATICAL ECONOMICS (3)**. Applications of elements of calculus, matrices, determinants, and systems of equations to economics. Areas of application include static and dynamic economic models. Prerequisites: Econ. 261 and either Econ. 360 or Math. 211 or equivalent.

493. SEMINAR IN POLITICAL ECONOMY (3). *Crosslisted as Pol.S. 493X.*

- A. Decision Making in the Public Sector
- B. International Relations
- C. Metropolitan Studies
- D. Manpower Policy

Selected topics in political economy, offered jointly by the Departments of Political Science and Economics. Topics will be listed by semester. May be repeated once as topics change. Prerequisite: Consent of instructors.

495. SEMINAR IN CURRENT PROBLEMS (2-4). Issues and policies in government, politics, and economics in their historical and sociological perspectives.

496. AGRICULTURAL ECONOMIC POLICY (3). Alternative methods of solving farm problems and analysis of consequences for farmer, consumer, and taxpayer. Prerequisite: Econ. 261.

497. INDEPENDENT STUDY IN ECONOMICS (3). Individually arranged study within the various fields of economics. Not open to economics graduate students. Prerequisites: Econ. 360 and 361.

498. RESEARCH METHODS IN ECONOMICS (3). An introduction to research techniques applicable to economics.

500. LABOR MARKET ANALYSIS (3). Employment and human resources theory. A study of occupational choice, employment, unemployment, labor market operation, and related public and private programs. Prerequisite: Consent of instructor.

501. ECONOMICS OF COLLECTIVE BARGAINING (3). Collective bargaining and wage theory. The economic impact of unions. Prerequisite: Consent of instructor.

502. 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.

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.

511. THE THEORY AND ORGANIZATION OF FINANCIAL INSTITUTIONS (3). Financial system of the United States; its effects upon resource allocation and levels of resource use. Prerequisite: Consent of instructor.

512. MONETARY THEORY (3). Theoretical and empirical analysis of supply of and demand for money, the interrelationships between money and interest, prices, and output, with particular attention on monetary aspects of macroeconomic theory. Prerequisite: Consent of instructor.

513. MONETARY POLICY (3). Objectives and instruments of monetary policy and the supply of money, alternative monetary models, and the effectiveness and incidence of monetary policy. Prerequisite: Consent of instructor.

520. INDUSTRIAL ORGANIZATION I (3). Analysis and measurement of monopoly and near monopoly. Stresses the causes of monopoly and the relative performance of monopolized industries in terms of profits, research and development, and income distribution. Prerequisites: Econ. 490 and 560 or consent of instructor.

521. INDUSTRIAL ORGANIZATION II (3). Current issues and problems in the public control of monopoly. Prerequisites: Econ. 520 and consent of instructor.

523. TRANSPORTATION ECONOMICS (3). Discussion of economic and social issues in transportation. Prerequisite: Consent of instructor.

524. ECONOMICS OF PUBLIC UTILITIES (3). Deals with economic problems and policies connected with public utilities including urban mass transit. Prerequisite: Consent of instructor.

530. INTERNATIONAL ECONOMIC THEORY I (3). Prerequisite: Consent of instructor.

531. INTERNATIONAL ECONOMIC THEORY II (3). Prerequisites: Econ. 530 or equivalent and consent of instructor.

532. INTERNATIONAL MONETARY SYSTEMS (3). The contemporary international monetary system and its development.

540. THEORIES OF ECONOMIC DEVELOPMENT (3). Analytical approach to problems and obstacles to economic development in emerging societies: population problems, capital formation, investment criteria, structural and technical change, sectoral analysis, foreign trade, and others. Prerequisite: Econ. 443 or consent of instructor.

550. ECONOMICS OF THE PUBLIC SECTOR (3). The economic nature of government services, public sector decision making, welfare and efficiency criteria in financing these services, and interrelationships of the public and private sectors. Prerequisite: Econ. 450 or 452 or equivalent.

551. FINANCING GOVERNMENT ACTIVITIES (3). Budgetary policy, evaluation of different forms of taxation, pricing of government services, public borrowing and debt management, and programs of tax reform. Prerequisite: Econ. 450 or 452 or equivalent.

554. 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.

560. MICROECONOMIC ANALYSIS I (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. Prerequisite: Econ. 360 or equivalent.
561. MACROECONOMIC ANALYSIS I (3). Factors determining levels of aggregate income, employment, and prices. Prerequisite: Econ. 361 or equivalent.
564. 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 graduate students who have not taken more than 6 semester hours of economics.
565. 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. Open only to graduate students who have not taken more than 6 semester hours of economics.
566. BUSINESS CYCLES (3). The cyclical behavior of economic magnitudes and economic forecasting. Prerequisite: Consent of instructor.
570. HISTORY OF ECONOMIC ANALYSIS I (3). A detailed treatment of the development of tools and concepts of theoretical economics up to the decline of the classical school. Prerequisite: Consent of instructor.
571. HISTORY OF ECONOMIC ANALYSIS II (3). A continuation of Econ. 570 beyond the classical school to the analytics of the late 19th and early 20th centuries. Prerequisites: Econ. 570 and consent of instructor.
574. HISTORY OF ECONOMIC GROWTH AND DEVELOPMENT (3). An extensive study of the historical record of the growth and development of various societies with the use of tools of economic analysis. Prerequisite: Consent of instructor.
580. 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. 380.
581. ECONOMICS OF SOCIALISM (3). Analysis of Marxian and socialist economic theory of planning, pricing, and welfare. Prerequisites: Econ. 580 and consent of instructor.
585. SPATIAL ECONOMIC THEORY (3). Spatial economic theories of the location and spatial organization of economic activities and land-use patterns. Prerequisite: Econ. 360.
586. URBAN AND REGIONAL ECONOMICS (3). Urban and regional spatial structure, income analysis, economic stability, factor mobility, economic growth and development, problems, and policies. Prerequisite: Econ. 585 or consent of instructor.
590. ECONOMETRICS I (3). Specification and estimation of economic models with emphasis on single equation models. Prerequisites: Econ. 360, 361, and 490 or its equivalent.
591. MATHEMATICAL ECONOMICS I (3). Application of mathematical techniques to static and comparative-static economic behavior: the theory of the firm, consumer behavior, factor market, commodity market, and macroeconomic concepts. Prerequisite: Econ. 560, Math. 211, or consent of instructor.
592. 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. 560.
595. SPECIAL TOPICS IN ECONOMICS (1-9).
 A. Current Issues in Economic Theory
 B. Current Issues in Economic Policy
 C. Regional Economics
 D. Alternative Economic Systems
 E. Labor and Manpower Studies
 One 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. Prerequisites: Graduate standing and consent of instructor.
598. INDEPENDENT STUDY IN ECONOMICS (3). Individually arranged readings within the various fields of economics. May be repeated at the post-master's level of study to a maximum of 12 semester hours. Prerequisites: Econ. 560 and Econ. 561.
599. THESIS (1-6).
 A. Master's Degree
 B. Certificate of Advanced Study
600. SEMINAR IN LABOR ECONOMICS AND LABOR RELATIONS (3). The economics of labor and of labor-management relations. Emphasis upon individual research. With consent of instructor, may be repeated once for credit. Prerequisite: Consent of instructor.
611. ECONOMICS OF MONEY-FLOWS (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 subsections thereof.
612. MONEY AND VALUE THEORY (3). The monetary mechanism and its interaction with real economic activity; the integration of monetary and value theory. Prerequisite: Consent of instructor.

613. SEMINAR IN MONETARY ECONOMICS (3). Selected topics in monetary economics. May be repeated once for additional credit at the post-master's level of study. Prerequisite: Consent of instructor.

630. SEMINAR IN INTERNATIONAL ECONOMIC PROBLEMS (3). Selected contemporary problems of the international economy. With the consent of the instructor, may be repeated once for credit. Prerequisite: Consent of instructor.

642. SEMINAR IN ECONOMIC GROWTH AND DEVELOPMENT (3). May be repeated once for credit with consent of instructor. Prerequisite: Econ. 540 or consent of instructor.

650. SEMINAR IN PUBLIC FINANCE (3). Theory and institutional aspects of public finance. Emphasis is on microeconomic problems as they relate to public finance. With consent of instructor, may be repeated once for credit. Prerequisite: Consent of instructor.

651. SEMINAR IN FISCAL POLICY (3). The theory of fiscal policy and current problems and issues in the use of fiscal policy to promote stabilization and economic growth. With consent of instructor, may be repeated once for credit. Prerequisite: Consent of instructor.

660T. MICROECONOMIC ANALYSIS II (3). A continuation of Econ. 560 including new and advanced topics. Prerequisites: Econ. 560 and consent of instructor.

661T. MACROECONOMIC ANALYSIS II (3). A continuation of Econ. 561 including new and advanced topics. Prerequisites: Econ. 561 and consent of instructor.

662. SEMINAR IN ECONOMIC THEORY (3). Individual research in those areas of economic theory that meet the needs of the students. With consent of instructor, may be repeated once for credit. Prerequisite: Consent of instructor.

663. TOPICS AND ISSUES IN POST-KEYNESIAN ECONOMICS (3). Development in economic thought since the time of John Maynard Keynes. 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. Prerequisite: Consent of instructor.

674. AMERICAN ECONOMIC THOUGHT (3). The history of American economic thought from colonial times to the 20th century. Prerequisite: Consent of instructor.

680. 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. With consent of instructor, may be repeated once for credit. Prerequisite: Econ. 380.

685. SEMINAR IN SPATIAL, URBAN, AND REGIONAL ECONOMICS (3). Theoretical and empirical topics in spatial, urban, and regional economics with emphasis on individual research that meets the needs of students. Prerequisite: Econ. 586 or consent of instructor.

690. ECONOMETRICS II (3). Specification and estimation of simultaneous economic models. Prerequisites: Econ. 590 and consent of instructor.

691. MATHEMATICAL ECONOMICS II (3). Application of mathematical techniques to economic dynamics. Economic models of growth and fluctuation, dynamics of market price, inventory models, and dynamic input-output models. Linear programming, activity analysis, and the theory of games are also covered. Prerequisite: Econ. 591.

693. 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.

695. INTERNSHIP IN ECONOMICS (2-15). May be repeated to a maximum of 15 semester hours. Prerequisite: Written consent of departmental Graduate Committee.

698. CURRENT RESEARCH COLLOQUIUM (3-6). Discussion by faculty and graduate students of problems in their current research. May be repeated once with consent of adviser. Prerequisite: 42 semester hours of graduate credit.

699. DOCTORAL RESEARCH AND DISSERTATION (1-15). May be repeated to a maximum of 32 semester hours.

Department of English

GRADUATE FACULTY: Hagelman, department chairman. Baker, Burtness, Cantrall, Carrington, Caruthers, Durning, Fox, Garab, Gardner, Giles, Grady, Harris, Herbert, James, Kallich, Mellard, Miller, Milosh, Mosher, Murray, Pennel, Roscelli, Schriber, Seat, Shesgreen, Soudek, Stryk, Van Cromphout, Williams

The Department of English offers graduate programs leading to degrees at both the master's and doctoral levels. The scores on the Aptitude Test of the Graduate Record Examinations and those on the Advanced Test of the Graduate Record Examinations are required as admission credentials. Well-prepared students with baccalaureate degrees may begin work immediately to fulfill the requirements for the doctorate. Eng. 501, Bibliography and Methods of Research, is required of all graduate students in English, and should be taken early in a student's program of studies.

Master of Arts

The Department of English offers two programs leading to the Master of Arts degree.

Option A is designed to prepare students for graduate work at the Ph.D. level and concentrates upon research in the criticism of English and American language and literature. A candidate for an M.A. under this option must earn a minimum of 30 semester hours of graduate credit with a grade-point average of 3.00, pass a proficiency examination in one foreign language (French, German, Greek, Italian, Latin, Russian, or Spanish), and pass a comprehensive examination. The student's graduate adviser may permit limited study in fields closely related to English and approve substitution of a thesis for up to 6 semester hours of the required course work.

Option B is designed for students who are currently teaching in high schools or junior colleges or who plan to teach at one of these levels. The aim of this option is to provide the literary and linguistic background required for effective teaching in secondary schools and two-year colleges. A candidate for an M.A. under this option must earn a minimum of 30 semester hours of graduate credit with a grade-point average of 3.00 and pass an appropriate examination. The student's graduate adviser may permit limited study in fields closely related to English and approve substitution of a thesis for up to 6 semester hours of the required course work. Proficiency in a foreign language is not required.

Students who desire a linguistic concentration under either Option A or Option B will be permitted to take 15 hours in language courses supplemented by 15 hours of literature courses.

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 chairman of the Department of English.

Doctor of Philosophy

The Doctor of Philosophy degree 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 flexible. It is designed for the scholar-teacher who wishes to devote himself to work at the advanced undergraduate level or at the graduate level; optionally, by the inclusion of an additional linguistics requirement and a teaching internship or its equivalent, the program can be adapted to meet the needs of the prospective junior college or undergraduate teacher. Details of this option may be obtained from the Director of Graduate Studies of the Department of English. 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 member 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 for the doctorate are as follows.

Admission to the program. For admission to the program leading to the degree Doctor of Philosophy in English, the student must:

- a. Show evidence of his ability to pursue doctoral work.
- b. Secure departmental approval of a program of study. All students seeking the Ph.D. shall have in either their undergraduate or their graduate records individual author courses in Chaucer, Shakespeare, and Milton. Students in the Ph.D. program must have Eng. 511 (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	Drama	Philosophy
Anthropology	Foreign languages	Political science
Comparative literature	and literatures	Psychology
	History	Sociology
	Linguistics	

Admission to candidacy. For admission to candidacy for the Ph.D. in English, the student must:

- a. Demonstrate a knowledge of:
 1. Two foreign languages, average reading proficiency;
 2. One foreign language, high level of reading proficiency; or
 3. One foreign language, average reading proficiency, and one research tool, average proficiency.

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 20 hours of course work after qualifying for the Ph.D. program.

Dissertation requirements. 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: Seminars may be repeated for credit when the subject varies.

GENERAL

500. 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 Eng. 500 may be applied toward a master's or doctoral degree in English.

501. BIBLIOGRAPHY AND METHODS OF RESEARCH (3). Introduction to the philosophy and methods of literary research. Required of all graduate students.

502. 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).

506. LITERARY CRITICISM SINCE 1800 (3).

507. TOPICS IN LITERATURE (3). Course devoted to the study of special topics and periods of literature. May be repeated up to 9 semester hours.

508. INDEPENDENT READING (1-3). Open only to students who have completed 30 hours in an M.A. program. May not be repeated. Prerequisite: Permission of Director of Graduate Studies in English.

509. MASTER'S THESIS (1-6).

600. THE COLLEGE TEACHING OF LITERATURE (3-6). For doctoral teaching interns only. May be repeated for a maximum of 6 semester hours. Prerequisite: Consent of department.

602. SEMINAR: TEXTUAL STUDIES (3). Advanced study of analytical bibliography, either descriptive or textual. Prerequisite: Eng. 501.

607. SEMINAR: TOPICS IN LITERATURE (3). Seminar devoted to advanced study of special topics and periods of literature.

699. DOCTORAL DISSERTATION (credit arranged). May be repeated to 30 semester hours.

LANGUAGE

510. THE RHETORIC OF PROSE COMPOSITION (3).

511. HISTORY OF THE ENGLISH LANGUAGE (3).

512. OLD ENGLISH (3).

513. MIDDLE ENGLISH (3).

514. PRINCIPLES OF LINGUISTICS (3). Recommended as a preliminary course for students with little linguistic background.

515. DESCRIPTIVE ENGLISH LINGUISTICS (3).

516. GRAMMARS OF MODERN ENGLISH (3).

517. PHONOLOGY (3).

518. ADVANCED MORPHOLOGY AND SYNTAX (3).

519. DIALECTOLOGY (3).

520. SEMANTIC SYSTEMS (3).

521. TOPICS IN LINGUISTICS (3).

614. SEMINAR: ENGLISH LINGUISTICS (3).

ENGLISH LITERATURE BEFORE 1600

535. MIDDLE ENGLISH LITERATURE (3).

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 AFTER 1660

556. RESTORATION AND EARLY 18TH CENTURY LITERATURE (3).

557. LATER 18TH CENTURY ENGLISH LITERATURE (3).

558. ENGLISH DRAMA: 1660-1880 (3).

559. 18TH CENTURY ENGLISH NOVEL (3).

560. ENGLISH ROMANTIC PERIOD (3).

561. VICTORIAN POETRY: 1830-1880 (3).

562. 19TH CENTURY ENGLISH PROSE (3).

563. 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 after 1660.

576. AMERICAN LITERATURE TO 1830 (3).

577. AMERICAN LITERATURE: 1830-1865 (3).

578. AMERICAN LITERATURE: 1865-1900 (3).

579. 19TH CENTURY AMERICAN NOVEL (3).

583. AMERICAN LITERATURE SINCE 1900 (3).

584. 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. SEMINAR: 20TH CENTURY AMERICAN LITERATURE (3).

Department of Foreign Languages and Literatures

GRADUATE FACULTY: Schindler, department chairman. Allen, de Queljoe, Ferrer, Harrison, Heilbronn, Horner, Jegers, Kerr, Leighton, Mahmoud, Murray, Osterle, Reissner, Rolfe, Schoenbohm, Schreiner, Shawl, Suhadolc, Van Lente, Valette, Weiner, Young, Zoldester

Though a graduate major in foreign languages and literatures 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 (FLFR)

421. *EXPLICATION DE TEXTE* (3). Formal and systematic introduction to the French technique of textual analysis. Prerequisite: FLFR 411.

431. 17TH CENTURY FRENCH LITERATURE (3). Prerequisite: FLFR 321 and 322.

433. 18TH CENTURY FRENCH LITERATURE (3). Prerequisite: FLFR 321 and 322.

435. 19TH CENTURY FRENCH LITERATURE: ROMANTICISM (3). Prerequisite: FLFR 321 and 322.

436. 19TH CENTURY FRENCH LITERATURE: REALISM AND NATURALISM (3). Prerequisite: FLFR 321 and 322.

437. 19TH CENTURY FRENCH LITERATURE: SYMBOLISM AND THE MODERN MOVEMENT (3). Prerequisite: FLFR 321 and 322.

438. 20TH CENTURY FRENCH LITERATURE (3). Prerequisite: FLFR 321 and 322.

441. MEDIEVAL FRENCH LITERATURE (3). A general treatment of literary expression in France, from the beginnings to the end of the 15th century, with emphasis on the 12th and 13th centuries. Prerequisite: FLFR 321 and 322.

443. FRENCH LITERATURE OF THE RENAISSANCE (3). Prerequisite: FLFR 321 and 322.

451. MOLIÈRE (3). Prerequisite: FLFR 321 and 322.

461. FRENCH CIVILIZATION (3). Art, architecture, music, thought from the 17th to the 20th century. Prerequisite: FLFR 311.

463. *LA FRANCE CONTEMPORAINE* (3). Political, social, and cultural development of France since 1945. Prerequisite: FLFR 301.

481. FRENCH PHONETICS AND PHONEMICS (3). Prerequisite: FLFR 411 or equivalent.

483. *THEME ET VERSION* (3). Literary translation of selected passages, alternating between French and English. Prerequisite: FLFR 411.

ITALIAN (FLIT)

411. ADVANCED COMPOSITION IN ITALIAN (3). Prerequisite: FLIT 202 or consent of department.

415. 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 or FLIT 202. This course is open to specially qualified undergraduates with consent of department.

438. CONTEMPORARY ITALIAN LITERATURE (3). Introduction to contemporary works representing the principal genres. Prerequisite: FLIT 321.

441. MEDIEVAL ITALIAN LITERATURE (3). Survey of Italian literature from the 13th and 14th centuries with special emphasis on Dante. Prerequisite: FLIT 321.

443. ITALIAN LITERATURE OF THE RENAISSANCE (3). Literary currents in Italy from the 15th to the 16th century. Prerequisite: FLIT 321.

SPANISH (FLSP)

431. OLD SPANISH LITERATURE (3). From the beginnings through the 13th century. Prerequisite: FLSP 421.

432. LATER MEDIEVAL SPANISH LITERATURE (3). The 14th and 15th centuries, including *La Celestina*. Prerequisite: FLSP 421.

433. CLASSICAL SPANISH DRAMA (3). Prerequisite: FLSP 421.

434. CERVANTES: THE QUIXOTE (3). Prerequisite: FLSP 421.

435. SPANISH ROMANTICISM (3). Prerequisite: FLSP 422.

436. 19TH CENTURY SPANISH REALISM (3). Prerequisite: FLSP 422.

437. THE GENERATION OF 1898 (3). Prerequisite: FLSP 422.

438. CONTEMPORARY SPANISH LITERATURE (3). Prerequisite: FLSP 422.

451. LITERATURE OF THE ANDEAN REPUBLICS (3). A general treatment of the literature of Peru, Ecuador, and Bolivia with emphasis upon the 20th century. Prerequisite: FLSP 441.

452. LITERATURE OF THE CARIBBEAN (3). A general treatment of the literature of Colombia, Venezuela, Central America, and the Spanish-speaking West Indies with emphasis upon the 19th and 20th centuries. Prerequisite: FLSP 441.

453. 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: FLSP 441.

454. MEXICAN LITERATURE (3). A general treatment of Mexican literature, with emphasis on the 20th century. Prerequisite: FLSP 441.

461. HISPANIC CIVILIZATIONS (3). The development of the Spanish pattern of civilization from pre-Roman times to the present. Prerequisite: FLSP 321.

462. SPANISH-AMERICAN CIVILIZATION (3). The evolution of the Spanish-American pattern of civilization from the pre-Hispanic period to the present. Prerequisite: FLSP 321.

481. SPANISH PHONETICS AND PHONEMICS (3). Prerequisite: FLSP 411.

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: FLSP 421.

565. CLASSICAL SPANISH PROSE (3). Intensive study of Golden Age prose, with special emphasis on the picaresque novel. Prerequisite: FLSP 421.

578. SPANISH-AMERICAN LITERATURE II (3). A survey of the colonial and independence periods in all genres. Prerequisite: FLSP 441.

PORTUGUESE (FLPO)

421. MASTERPIECES OF PORTUGUESE AND BRAZILIAN LITERATURE (3). Prerequisite: FLPO 312.

461. BRAZILIAN CIVILIZATION (3). *Crosslisted as Hist. 461X.* A course which stresses the contributions of the African and Indian to the history and literature of Brazil. Classes will be conducted in English with English and Portuguese bibliography. Prerequisite for foreign language majors: FLPO 312 or equivalent.

GERMAN (FLGE)

431. *AUFKLARUNG* AND *STURM UND DRANG* (3). A study of the unique literary, philosophical and political experience of Germany in the 18th century as reflected in the theoretical and literary works of such authors as Klopstock, Lessing, Herder, Wieland, early Goethe, and Schiller. Prerequisite: FLGE 321-322.

432. WEIMAR CLASSICISM (3). The works of Goethe, Schiller, and other writers of the classical period. Prerequisite: FLGE 321-322.

433. GERMAN ROMANTICISM (3). Background to the literature and theory of 18th and 19th century German romanticism. Prerequisite: FLGE 321-322.

434. 19TH CENTURY GERMAN REALISM (3). Prerequisite: FLGE 321-322.

435. MODERN GERMAN LITERATURE I: 1890-1910 (3). Reading and critical analysis of works representing the major literary movements, including naturalism, impressionism and neoromanticism and such authors as Hauptmann, Wedekind, Schnitzler, Hofmannsthal, Rilke, Thomas and Heinrich Mann, and Hesse. Prerequisite: FLGE 321-322.

436. MODERN GERMAN LITERATURE II: 1910-1945 (3). A critical survey of literary trends, writers and ideas from 1910 to 1945, including World War I, revolution and the expressionist movement, the new realism of the Weimar Republic, the Third Reich, "inner emigration," the Other Germany in exile. Emphasis on major authors such as Brecht, Hesse, Kafka and Thomas Mann are included. Prerequisite: FLGE 321-322.

437. MODERN GERMAN LITERATURE III: POSTWAR LITERATURE, EAST AND WEST (3). The period of reawakening after 1945 and the literature of a country divided between two ideologies. The political-moral dilemma, the search for identity and meaning within the European community as reflected in the prose, drama and poetry of Boll, Grass, Frisch, Durrenmatt, Weiss, Johnson, and others. Prerequisite: FLGE 321-322.

441. EARLY GERMAN LITERATURE (3). Prerequisite: FLGE 321-322.

442. THE AGE OF BAROQUE (3). Poetics and literary theory, poetry, drama, and novel from the end of the 16th century to the beginning of the 18th century. Prerequisite: FLGE 321-322.

461. GERMAN CIVILIZATION (3). Prerequisite: FLGE 321.

481. HISTORY AND STRUCTURE OF THE GERMAN LANGUAGE (3). The development of the sounds, forms, and vocabulary of German from ancient times to the present with a consideration of the political, social and literary forces influencing the language. Emphasis on structural differences between German and English. Prerequisite: FLGE 311 or consent of department.

LATIN (FLCL)

421. TACITUS (3). Several books of the Histories or the Annals in their entirety. Prerequisite: FLCL 202 or equivalent.

422. ROMAN POETS I (3). Catullus, Propertius, Tibullus. Prerequisite: FLCL 202 or equivalent.

423. ROMAN POETS II (3). Selections from the works of Vergil and Horace. Prerequisite: FLCL 202 or equivalent.

424. ROMAN PLAYWRIGHTS (3). Plautus and Terence. Readings of individual plays. Prerequisite: FLCL 202 or equivalent.

425. READINGS IN POSTCLASSICAL LATIN (3). Selections from a wide variety of medieval and modern texts dating from the 4th to the 17th century A.D. Prerequisite: FLCL 202 or equivalent.

RUSSIAN (FLRU)

431. RUSSIAN ROMANTICISM (3). Readings, lectures, discussion; works by Pushkin, Lermontov, Gogol, and their contemporaries. Prerequisites: FLRU 312 and 322.

432. RUSSIAN REALISM (3). Readings, lectures, discussion; works by Turgenev, Dostoevsky, Tolstoy, and their contemporaries. Prerequisites: FLRU 312 and 322.

433. RUSSIAN LITERATURE: 1881-1920 (3). Readings, lectures, discussion; works by Chekhov, Gorky, Bunin, Bely, Mayakovsky, Blok, and their contemporaries; poetry of the modernist period. Prerequisites: FLRU 312 and 322.

434. SOVIET LITERATURE (3). Readings, lectures, discussion; works by Zamyatin, Babel, Leonov, Sholokhov, Pasternak, Solzhenitsyn, and their contemporaries. Prerequisites: FLRU 312 and 322.

435. RUSSIAN POETRY (3). Prerequisites: FLRU 312 and 322.

436. RUSSIAN DRAMA (3). Prerequisites: FLRU 312 and 322.

461. SLAVIC CIVILIZATIONS (3). Prerequisite: FLRU 312 and 322.

480. PRINCIPLES OF RUSSIAN TRANSLATION (2). Work in translation of literary works, methods and analysis of translation, criticisms of translation. Prerequisite: FLRU 312 and 322.

ASIAN LANGUAGES (FLIN)

FLIN 421. INTRODUCTION TO INDONESIAN LITERATURE (3). A survey of the development of Indonesian literature. Selected contemporary readings. Prerequisite: FLIN 204.

GENERAL

FLST 481. SPECIAL TOPICS IN LITERATURE I (3). The study of a major author, genre, theme, period or literary movement. The topics for each section will be announced in the Class Schedule. May be repeated for credit to a maximum of 6 semester hours as topic changes. Prerequisite: Consent of department.

FLIS 481. INDEPENDENT STUDY IN A FOREIGN LANGUAGE (1-3). Individually arranged programs designed to meet special needs. May be repeated to a maximum of 6 semester hours. Prerequisite: Consent of department.

FLST 482. SPECIAL TOPICS IN LITERATURE II (3). The study of a major author, genre, theme, period, or literary movement. The topics for each section will be announced in the Class Schedule. Prerequisite: Consent of department.

FLRS 590. READING SKILLS IN A FOREIGN LANGUAGE (0). Preparation for the graduate reading examination in a foreign language.

Department of Geography

GRADUATE FACULTY: Dahlberg, department chairman. Black, Bowden, Cole, Dillman, Guest, Kouba, Loeser, Maxfield, Messenger, Moultrie, Reinemann, Reitan, Staver, Stevens, Villmow

The Department of Geography offers graduate programs leading to the Master of Science degree and (at the sixth-year level) the Certificate of Advanced Study.

Master of Science

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 include 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, Research in Geography. A program will normally include at least 20 semester hours in geography courses.

Additional requirements:

1. Satisfactory performance on a reading-knowledge examination in an appropriate modern foreign language or satisfactory completion of the course in advanced quantitative methods for geographic research, Geog. 561.
2. Successful completion of the course in history of geographic thought, Geog. 568.
3. Satisfactory performance on a comprehensive written examination.

Certificate of Advanced Study

Candidates for the Certificate of Advanced Study in geography should consult with the chairman of the department.

Course Offerings

NOTE: An "X" after a course number indicates that the course is offered primarily by another department but may be taken for credit in this department.

400. FUNDAMENTALS OF SOIL SCIENCE (4). Fundamental properties, classification, origin, and use of soils. Prerequisite: Geog. 201 or equivalent.

402. PEDOLOGY (4). Soil genesis and distribution. Emphasis on soils of the U.S. Additional fees will be charged for required field trips. Prerequisite: Geog. 400 or consent of instructor.

413. FOREST ECOLOGY AND MANAGEMENT (3). Forest ecosystems, problems of management, and assessment of conflicting social or economic demands. Field trips involving extra fees are required. Prerequisites: Geog. 353 and B.Sci. 200.

422. EDAPHOLOGY (4). *Crosslisted as B.Sci. 422X.* Chemical and physical interactions of soils affecting the distribution and development of higher plants. Field trips required involving additional fees. Prerequisites: Geog. 400, Chem. 110 or 210.

430. GEOGRAPHY OF THE U.S. AND CANADA (3). Analysis of natural resources and patterns of settlement, population, and economic activity. Prerequisite: 3 hours in geography or consent of instructor.

431. GEOGRAPHY OF EUROPE (3). Spatial analysis of the physical features, resources, people, land utilization, and economic development of Europe excluding the Soviet Union. Prerequisite: 3 hours in geography or consent of instructor.

432. GEOGRAPHY OF SOUTH AMERICA (3). Spatial analysis of the cultural landscapes of South America emphasizing Brazil. Prerequisite: 3 hours in geography or consent of instructor.

433. GEOGRAPHY OF AFRICA (3). Spatial analysis of the human and physical patterns of Africa. Prerequisite: 3 hours in geography or consent of instructor.

434. AGRICULTURAL GEOGRAPHY (3). Characteristics, spatial relationships, and patterns of commercial forestry, fishing, and crop and livestock farming systems. Prerequisite: Geog. 204 or Econ. 260 or consent of instructor.

435. GEOGRAPHY OF THE FAR EAST (3). Spatial analysis of the physical features, resources, peoples, land utilization, and economic development of East Asia with emphasis on Japan and China. Prerequisite: 3 hours in geography or consent of instructor.

436. GEOGRAPHY OF MIDDLE AMERICA (3). Spatial analysis of the cultural landscapes of Mexico, Central America, and the West Indies. Prerequisite: 3 hours in geography or consent of instructor.

437. INDUSTRIAL AND COMMERCIAL GEOGRAPHY (3). Characteristics, spatial relationships, and patterns of commercial mining, manufacturing, and trade. Prerequisite: Geog. 204 or Econ. 260 or consent of instructor.
438. GEOGRAPHY OF TRANSPORTATION (3). Development of transportation systems; their spatial structure and commodity flows; interregional relationships. Prerequisite: Geog. 204 or consent of instructor.
- 442X. GEOMORPHOLOGY (3) *Geology 442*. The origin and development of landforms. Prerequisite: Geog. 201 or Geol. 120 or consent of instructor.
443. REGIONAL GEOMORPHOLOGY OF THE U.S. (3). Regional analysis of landforms of the U.S.; emphasis on geomorphic process. Field trips involving extra fees are required. Prerequisite: Geol. 120 or Geog. 201; Geog. 442X recommended.
448. WEATHER AND CLIMATE FOR TEACHERS (3). Basic principles of meteorology and climatology; procedures for presentation of concepts; the use of the local environment as a laboratory to illustrate principles. Prerequisite: Phys. 251.
450. GEOGRAPHY OF ILLINOIS (3). Spatial analysis of the natural environment, population, urban systems, and economic activities. Prerequisite: 3 hours in geography or consent of instructor.
451. POLITICAL GEOGRAPHY (3). Patterns of power and conflict among nation-states, regional blocs, strategic areas, disputed zones, impact of technology. Prerequisite: 3 hours in geography or consent of instructor.
452. GEOGRAPHY OF SOUTHEAST ASIA (3). Spatial analysis of the physical features, resources, peoples, land utilization, and economic development of peninsular and insular Southeast Asia. Prerequisite: 3 hours in geography or consent of instructor.
453. PROBLEMS AND ALTERNATIVE STRATEGIES IN ENVIRONMENTAL MANAGEMENT (3). Prerequisite: Geog. 353 or consent of instructor.
454. SETTLEMENT GEOGRAPHY (3). Spatial analysis of rural settlement types, forms, and processes throughout the world. Prerequisite: Geog. 204 or consent of instructor.
456. THEMATIC CARTOGRAPHY (3). Nature and function of thematic maps. Emphasis on design for effective communication; mapping numerical data. Prerequisite: Geog. 356 or consent of instructor.
457. POPULATION GEOGRAPHY (3). Geographic and demographic analysis of the population explosion; population and food supply; population policy and family planning. Case studies of selected countries and areas.
458. GEOGRAPHY OF THE SOVIET UNION (3). Introduction to the physical, economic, and political geography of the Soviet Union. Analysis of the industrial and agricultural resource base in relation to regional economic development. Prerequisite: 3 hours in geography or consent of instructor.
461. QUANTITATIVE METHODS FOR GEOGRAPHIC RESEARCH (3). Levels of measurement, analysis of variance, multiple regression techniques and computer use in geographic research. Emphasis on literature review and problem solving. Prerequisite: Math. 301.
466. ADVANCED REMOTE SENSING OF THE ENVIRONMENT (3). Comparative merits of a variety of imagery as informative sources for environmental problem solving. Field trips involving extra fees are required. Prerequisite: Geog. 365 or consent of instructor.
468. PHYSICAL CLIMATOLOGY (3). Comparison of the mean values and variance of the meteorological parameters at various latitudes; spatial distribution of solar and terrestrial radiation, albedo, emissivity, and heat budget elements; water balance. Prerequisite: Geog. 200 or 275.
469. EDUCATION METHODS AND MATERIALS IN GEOGRAPHY (3). Strategies of presenting geographic concepts in secondary schools. Evaluation of techniques and materials. Prerequisites: Graduate standing and Educ. 302. Recommended: Concurrent registration in Educ. 486.
470. REGIONAL CLIMATOLOGY (3). Principles of climatic classification; types and groups derived from a synthesis of the climatic elements; major anomalies. Prerequisite: Geog. 275 or 468.
473. APPLIED METEOROLOGY (3). Micro- and mesoscale meteorology, applications to air pollution, waves and water movement, aviation, forest fires, urban environment, and agriculture. Prerequisites and corequisite: Geog. 376 and 480, or 468 and 470.
474. MICRO-CLIMATOLOGY (3). The climate of the atmosphere-earth interface; small scale spatial and temporal variations. Prerequisite: Geog. 200 or 275 or 468.
475. NUMERICAL ANALYSIS AND FORECASTING (3). Techniques of synoptic and mesoscale numerical analysis and forecasting; review of local forecast studies; student preparation of computer-based local forecast studies. Prerequisites: Geog. 376 and 493 and concurrent registration in Geog. 481.
480. INTRODUCTION TO DYNAMIC METEOROLOGY (3). Meteorological thermodynamics, equations of motion, vorticity equations, continuity equation, etc. Prerequisite: Math. 230, Phys. 250 and 251.
481. DYNAMIC METEOROLOGY (3). Continuation of Geog. 480. Prerequisite: Geog. 480.

485. PHYSICAL METEOROLOGY (3). Atmospheric refraction, optical scattering, and diffraction by suspensoids; atmospheric thermodynamics with application to the physics of clouds and hydrometeors. Prerequisites: Math. 230. Phys. 251.

492. HYDROLOGY (3). Quantitative examination of interaction of precipitation, stream discharge, and ground water flow. Utilization of water resources. Prerequisites: Geol. 120 or Geog. 201; Math. 210; Geog. 442X or 275 recommended.

493. COMPUTER METHODS AND MODELLING (3). Advanced FORTRAN IV programming techniques; algorithms for programming of geographic research problems; introduction to computer graphics; simulation techniques. Prerequisites: Math. 305A or 305B; Geog. 461.

498. SEMINAR IN CURRENT PROBLEMS (1-3). Selected topics in the various subfields of geography. May be repeated to a maximum of 6 semester hours. Prerequisite: Consent of instructor.

502. GEOGRAPHY OF UNDERDEVELOPED AREAS (3). A geographic appraisal of resource problems and development potentials of the developing nations. Analysis of foreign aid programs of the industrial nations and international agencies.

503. GEOGRAPHY OF WATER RESOURCES (3). Structure and spatial variations of the world's water budget; problem of water use and allocation; evaluation of policy alternatives. Prerequisites: Geog. 103, 200, 201, or equivalent.

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 GEOGRAPHY (3). Major soil regions of the world: problems of utilization and management. Prerequisites: Geog. 402 and 422 or consent of instructor.

534. LANDFORM ANALYSIS (3). Proseminar: models of landscape development and general systems theory, survey of modern literature and research design, measures of morphometry, quantitative methods. Prerequisite: Geog. 442X; Geog. 492 recommended.

537. LOCATION ANALYSIS IN GEOGRAPHY (3). Spatial properties of economic and social systems; emphasis on location theory of economic activity. Prerequisite: Geog. 434 or 437 or 438 or consent of instructor.

541. FLUVIAL MORPHOLOGY AND LANDSCAPE SYSTEMS (3). Survey of research in quantitative fluvial geomorphology: application of computer techniques to fluvially dissected landscapes: methodological bases of current research. Prerequisites: Geog. 442X, Math. 305A or equivalent, and Geog. 461.

543. ADVANCED SYNOPTIC CLIMATOLOGY (3). Intensive synoptic study of the climates of selected regions. Prerequisite: Geog. 470 or consent of instructor.

550. PLANT GEOGRAPHY (3) *Crosslisted as B.Sci. 550X*. Plant formations and plant associations. Relations to the environment. Effects of disturbances and pollution. Field trips required involving additional fees. Prerequisite: Consent of instructor; Geog. 422 recommended.

551. ADVANCED POLITICAL GEOGRAPHY (3). Origins and present viability of selected nation-states; degrees of internal coherence: regional blocs and spheres of influence; sensitive frontiers; comparative evaluation of national power. Prerequisite: Geog. 451 or equivalent.

555. ADVANCED CARTOGRAPHY (3). Conceptual structure of cartography. Emphasis on the map-model cycle, encoding models, and computer applications. Prerequisite: Geog. 361, 456, or consent of instructor.

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 METHODS FOR GEOGRAPHIC RESEARCH (3). Analysis of covariance, polynomial and curvilinear regression, discriminant functions, principal components analysis, spatial statistics, Markov chains, linear programming, and other topics in geographic research. Prerequisite: Geog. 461 or equivalent.

562. PROBLEMS IN LAND UTILIZATION (3). Types and patterns of land use; problems, goals, and alternatives. Prerequisite: Geog. 434 or 437 or 462 or consent of instructor.

563. GEOGRAPHIC RESEARCH PROCEDURES (3). Geography in the sciences; logical inquiry; paradigms and models; geographic research strategies.

565. ADVANCED FIELD METHODS (3-6). Field investigation of spatial processes and patterns. Research design, sampling methods, and mapping techniques. Choice of area and topics dependent upon needs

and interests of the student. May be repeated to a total of 6 semester hours. Prerequisite: Consent of instructor.

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. RESEARCH IN GEOGRAPHY (1-3).

- A. Natural Environmental Systems
- B. Methodology and Techniques
- C. Human Spatial Systems
- D. Area Studies

Independent research under the supervision of adviser. May be repeated to a maximum of 9 semester hours.

599. THESIS (1-6).

- A. Master's Degree
- B. Certificate of Advanced Study

May be repeated to a maximum of 6 semester hours at each level.

600. SEMINAR IN SYSTEMATIC GEOGRAPHY (1-9).

- A. Landforms
- B. Climatology
- C. Natural Resources
- D. Economic Geography
- E. Cultural Geography
- J. Urban Geography
- K. Political Geography

Lectures, discussions, and reports on topics of special interest in a particular field of systematic geography. One to 9 semester hours as scheduled; course may be repeated in one or more fields of geography. The maximum number of semester hours is to be 9 in any field of systematic geography. Prerequisite: Consent of instructor.

601. SEMINAR IN REGIONAL GEOGRAPHY (1-9).

- A. Africa
- B. Anglo-America
- C. Asia
- D. Europe
- E. Latin America

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

602. SEMINAR IN GEOGRAPHIC METHODOLOGY AND TECHNIQUES (1-9).

- A. Cartography
- B. Remote Sensing
- C. Quantitative Methods

May be repeated to a total of 9 semester hours.

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

GRADUATE FACULTY: Webb, department chairman. Buscombe, Casella, Flemal, Frost, Goldich, Kempton, McGinnis, Morris, Odum, Perry, Rubel, Stuckless, Weiss, Wong

The Department of Geology offers graduate programs leading to the Master of Science degree and, at the sixth-year level, the Certificate of Advanced Study.

Master of Science

The M.S. degree prepares one for professional work in geology, or for further work leading to a doctorate. It may also be valuable to teachers of earth science in secondary schools and community colleges. Teachers and prospective teachers, if not already certified, will be expected to obtain the necessary requisites for certification in Illinois.

A student who elects a program leading to the degree 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 credit is required; this will normally include at least 24 semester hours in geology.

Thesis option—At least 24 semester hours plus a thesis.

Non-thesis option—At least 30 semester hours plus two research papers in the department, only one of which may be under the direction of the student's adviser.

3. The student must pass a final examination. Practicing or prospective teachers should include some breadth of subject-matter work in their course plan—astronomy, biology, chemistry, mathematics, meteorology, or physics—in consultation with their adviser.

Certificate of Advanced Study

Students who wish to pursue the Certificate of Advanced Study should consult with the chairman of the department.

Course Offerings

401. **SEDIMENTATION AND STRATIGRAPHY (3).** The origin, transportation, deposition, description, and classification of sedimentary rocks and principles and methods used in interpreting the stratigraphic record. One 2-hour laboratory, one field trip. Prerequisite: Geol. 310.

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. 210.

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

421. **ENVIRONMENTAL GEOCHEMISTRY (3).** Material covered includes geochemical cycles, earth resources, natural and man-influenced distribution of critical trace elements. Emphasis is placed on the relationship of geology to current environmental problems. Prerequisites: Geol. 120 and Chem. 211 or consent of department.

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.

430. **ADVANCED GEOLOGY FOR TEACHERS I (4).** Composition, structure, and history of the earth. Geologic processes. Larger earth problems such as origin of the solar system, evolution of the crust, hydrosphere, and atmosphere. Lectures, laboratory, field trips, and term paper. Prerequisite: Geol. 211 or equivalent by examination. Not open to geology majors in nonteaching programs.

431. **ADVANCED GEOLOGY FOR TEACHERS II (4).** Continuation of Geol. 430. Lectures, laboratory, field trips, and term paper. Prerequisite: Geol. 430. Not open to geology majors in nonteaching programs.

442. **GEOMORPHOLOGY (3).** *Crosslisted as Geog. 442X.* 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 2-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.

470. INVERTEBRATE PALEONTOLOGY (3). *Crosslisted as B.Sci. 469X.* The principal invertebrate fossil forms of the geologic record, treated from the standpoint of their evolution, and the identification of fossil specimens. Two lectures, one 2-hour laboratory. Several field trips required. Prerequisite: Geol. 121.

475. PALEONTOLOGY I (3). *Crosslisted as B.Sci. 475X.* 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 2-hour laboratory. Several field trips. Prerequisites: Geol. 211 and one year of biology.

476. PALEONTOLOGY II (3). *Crosslisted as B.Sci. 476X.* 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 2-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 paleosynecology of marine and terrestrial organisms. Prerequisite: Geol. 470 or Geol. 476.

480. IGNEOUS AND METAMORPHIC PETROLOGY (3). Origin of igneous and metamorphic rocks with emphasis on silicate melt equilibria, mineralogical phase rule, rock associations, petrography, and field relations. Two lectures, one recitation, two labs. Prerequisite: Geol. 411.

481. SEDIMENTARY PETROLOGY (3). The sources of sedimentary rocks; the important textures, structures, and compositions; diagenesis; a comparison of rocks with modern sediments; petrography and classification of sedimentary rocks. Two lectures and one lab. Prerequisite: Geol. 411.

488. THEORY OF GEOPHYSICS I (3). Investigations of the earth's interior utilizing gravitational, magnetic, and thermal fields. Methods of partial differential equations, vector calculus, spectral analysis, and digital filtering applied to geophysical theory and data. Prerequisites: Phys. 251; Math. 233 or consent of instructor.

489. THEORY OF GEOPHYSICS II (3). Natural and synthetic electrical, electromagnetic, stress and strain fields in the earth.

Earthquake and exploration seismology, origin of the geomagnetic field; structure of the crust, mantle, and core; and interpretation of gross-earth data. Prerequisite: Geol. 488.

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 survey of the geophysical sciences intended for geology majors. Not open to students who have prior credit for Geol. 488. Prerequisites: Phys. 251; Math. 230 or equivalent.

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.

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 (3). 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. GALACTIC AND EXTRAGALACTIC ASTRONOMY (4). A descriptive introduction to stellar systems, interstellar matter, the structure of our galaxy and the wider universe, based on the evidence of cosmic radio, infrared, visible, ultra-violet and X-ray radiation, which make possible the interpretations of cosmology. Three lectures plus a weekly 2-hour laboratory of telescopic observations and numerical exercises. Prerequisite: Geol. 344 or equivalent.

547. OCEANOGRAPHY (3). *Crosslisted as B.Sci. 547X.* 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. 470, 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 (3). The origin of terrigenous clastic sediments, and their occurrence in modern environments. Texture, composition, and sedimentary structures 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 (3). 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). A field application of basic geophysical methods to geological problems. Prerequisite: Geol. 496 or equivalent.
555. ADVANCED GEOPHYSICS (3). Regional geophysical measurements and properties of earth's interior; their implications for geodynamics. Prerequisite: Geol. 489 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.
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. MICROPALAEONTOLOGY (3). Microscopic fossils useful in solving stratigraphic problems. Prerequisite: Consent of instructor.
599. THESIS (1-6).
 A. Master's Degree
 B. Certificate of Advanced Study
 May be repeated to a maximum of 6 semester hours at each level.
620. DEPARTMENTAL SEMINAR (0). Weekly reports by graduate students, staff, and guests. Required of all graduate students.
630. ADVANCED GEOCHEMISTRY (3). Current readings in nucleosynthesis, evolution of the earth, composition of the earth's interior, development of the atmosphere and ocean. Prerequisite: Geol. 420 or consent of department.
646. GEOLOGY SEMINAR (1-9).
 A. Mineralogy
 B. Petrology
 C. Stratigraphy and Sedimentation
 D. Geomorphology and Quaternary Geology
 E. Geophysics
 J. Geochemistry and Isotope Geology
 K. Paleobiology
 M. Structural Geology
 N. Hydrology
 R. Mineral Deposits
 One to 9 semester hours may be earned in each subdivision.
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

GRADUATE FACULTY: Evans, department chairman; White, assistant chairman. Aikins, Beik, Blomquist, Bowen, Burchfield, Ely, Foster, Furner, C. George, M. George, Gross, Haliczzer, Higginson, Hoptner, Israel, Jones, Keen, Kern, Kinsler, Kleppner, Lincoln, Logue, Moody, Olsen, Parrini, Powell, Price, Reed, Resis, Rockwell, Rosen, Schneider, Schwarz, Shirley, Sklar, Smith, E. Spencer, G. Spencer, Wagner, Wilson, Young

The Department of History offers two degrees and a certificate at the graduate level: the Master of Arts degree, the Certificate of Advanced Study, and the Doctor of Philosophy degree. 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 careers in teaching or educational administration, branches of state and federal government, the arts, literature, journalism, or law.

In considering admission to the Master of Arts program in history, the department takes account of an applicant's general undergraduate grade-point average, preparation in undergraduate history courses and grade-point average in such courses, scores on the Graduate Record Examination (especially on the verbal aptitude examination), letters of recommendation, special requirements of the applicant's proposed field of study, foreign language proficiency, and preparation in quantitative methods, if appropriate.

The department endeavors to review the application data in a comprehensive manner and to avoid mechanical judgments. The department recommends, however, that applicants have a general grade-point average of 3.00 or better in the last two years of undergraduate work, a grade-point average of 3.25 or better in all undergraduate history courses, and a GRE verbal score in the 60th percentile or higher. The Advanced History Test of the GRE is not required of applicants, but a good performance on this test may enhance an applicant's admission status. Applicants should normally have completed a minimum of 18 semester hours of history courses at the undergraduate level to be considered for regular admission. The student who has not had adequate preparation for graduate study in history but who is otherwise considered eligible for admission may be required to enroll in one or more undergraduate courses on a deficiency basis.

Applicants for admission to the Ph.D. program are expected to have established an outstanding record at the M.A. level and

to have demonstrated a capacity for effective research and writing.

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 doctoral candidacy.

Master of Arts

The department offers two programs leading to the Master of Arts degree. Option A 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. Option B 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.

Option 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 shall 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 average reading proficiency as determined by the Graduate School in one foreign language, usually French, German, Spanish, or Russian. Another language may be substituted, if appropriate to thesis research and if approved by the department.

Option 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. Option B is considered a terminal degree program.

Certificate of Advanced Study

The Certificate of Advanced Study in history is designed primarily for secondary and community college teachers who wish to broaden their historical perspective. Students who hold the master's degree and who have a graduate grade-point average of 3.20 or better may apply for admission. Applicants must be recommended for admission by appropriate references.

Of the 30 semester hours required for the certificate, not less than 20 hours must be in history courses, divided approximately equally between any two of the following fields of history: ancient, medieval, early modern European, modern European, Russian, Asian, British, United States, and Latin American. If the student has the master's degree in history, at least one of the fields pursued for the certificate must be different from those studied for the master's degree.

A thesis is required and must be submitted in the manner prescribed by the department and the Graduate School. The thesis will be written in one of the two fields of concentration. Three semester hours of credit are allowed for the thesis, through enrollment in Hist. 599B. A comprehensive oral examination must be successfully completed. This is normally taken as the student nears completion of the 30 semester hours required for the certificate.

No foreign language proficiency is required for the C.A.S. in history, but lack of such proficiency will likely limit the fields in which the student elects to do his thesis.

Students enrolled in the C.A.S. program are responsible for meeting various Graduate School regulations pertaining to this certificate. These regulations are outlined elsewhere in the Graduate Catalog and should be followed carefully by the student pursuing the C.A.S. program.

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 both a research and teaching 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 teaching. Following are the departmental requirements for the Ph.D.

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 Department of History, hours earned in completing the master's degree may be counted in computing the semester-hour requirement for the Ph.D. In meeting the semester-hour requirement, Ph.D. students must present a minimum of 12 semester hours of credit in history research seminars. 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*, available from the departmental graduate adviser.

Major and minor fields are:

Ancient history	Russian history
Medieval history	Asian history
Early modern European history	British history
Modern European history	United States history
	Latin American history

Special proficiencies. The student must pass examinations in:

- Two foreign languages, with average reading proficiency in each, or
- One foreign language with average reading proficiency and one research tool with average proficiency. (The latter may be attained through successful completion of a specified quantitative methods course in history and Math. 208 or 301; substitution for Math. 301 is permitted under certain circumstances.)

In meeting this requirement the student will ordinarily choose languages from among French, German, Spanish, and 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*.

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.

Examinations

- a. Qualifying examination: No later than the second 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 (Option A) 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 chairman of the department.
- b. Candidacy examination of subjects: Subsequent to taking the qualifying examination but prior to submitting the dissertation, every Ph.D. student must pass a candidacy examination designed to test his knowledge of subject matter in major and minor fields. The candidacy examination will be conducted by a board of no fewer

than four faculty members 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 Department of History 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 chairman or the Office of International Programs for relevant details of forthcoming programs.

Course Offerings

NOTE: A "T" after a course number indicates that an old number is being reused for a new course; an "X" designates a course which is offered primarily by another department but which may be taken for credit in this department.

GENERAL

420. HISTORIOGRAPHY (2-3).

444. HISTORY OF MARXIST THOUGHT AND WRITING (3). An analytically oriented course elucidating the historical corpus of Marx and the historiography which has developed from it.

498. SPECIAL TOPICS IN HISTORY (3).

- A. Ancient History
- B. Medieval History
- C. Early Modern European History
- D. Modern European History
- E. Russian History
- J. Asian History
- K. British History

- M. United States History
- N. Latin American History
- O. General/Comparative History

Selected themes or problems. Topics will be announced in advance. Course may be repeated to a maximum of 6 semester hours when subject varies. Prerequisite: Consult Class Schedule.

501. QUANTITATIVE METHODS FOR HISTORICAL SOCIAL ANALYSIS (3). An introduction to the concepts, methods, and techniques involved in the quantitative-behavioral analysis of societal development, including the potentialities and the limitations of data processing and computerized statistical analysis for historians. Prerequisite: Math. 208 or 301 or equivalent and consent of graduate adviser in history.

519. READING SEMINAR (3).

- A. Ancient History
- B. Medieval History
- C. Early Modern European History
- D. Modern European History
- E. Russian History
- J. Asian History
- K. British History
- M. United States History
- N. 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 (1-3).

- A. Master's Degree

Open only to students engaged in writing a thesis under the Master of Arts "Option A" program. Prerequisite: Consent of graduate adviser in history.

- B. Certificate of Advanced Study

Open only to students engaged in writing a thesis under the Certificate of Advanced Study program. Prerequisite: Consent of graduate adviser in history.

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. Prerequisite: 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. Prerequisite: Consent of graduate adviser 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. Prerequisite: Consent of graduate adviser in history.

636. INDEPENDENT STUDY (3).

- A. Ancient History
- B. Medieval History
- C. Early Modern European History
- D. Modern European History
- E. Russian History
- J. Asian History
- K. British History
- M. United States History
- N. 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. Any one course may be repeated to a maximum of 12 semester hours. Prerequisite: Consent of graduate adviser in history.

699. DOCTORAL RESEARCH AND DISSERTATION (1-15). May be repeated for additional credit. Prerequisite: Consent of graduate adviser in history.

ASIAN HISTORY

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.

448. HISTORY OF BURMA AND THAILAND (3). The history and culture of Burma and Thailand from the 10th century to the present with appropriate emphasis also on the relations of these countries with Laos and Cambodia.

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-20th century. Emphasis is placed on the indigenous values and institutions and the ways in which these have been modified or displaced by experience with imperialism and modernization.

452. FEUDALISM IN JAPAN (3). Japan from the 12th to the 17th century. Emphasis on the transformation of political and social institutions under three military governments; problems of unification and creation of a political ideology. Prerequisite: One survey course in Asian or Japanese history, or consent of instructor.

453. MODERNIZATION OF JAPAN (3). A detailed examination of the elements of Japan's modernization; the development of Japanese

intellectual elites; the formation of the civil and military bureaucracies; the origin and growth of political parties. Prerequisite: One survey course in Asian or Japanese history or consent of instructor.

495. **AMERICA AND ASIA (3)**. A history of trans-Pacific contacts from the search for a passage to India to the Indo-China War. Special attention given to symbol and myth in history, special interest groups and the development of America's relations with industrially modernizing and traditional agrarian societies.

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 upon 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. Prerequisite: Consent of graduate adviser in history.

543. **SEMINAR IN JAPANESE HISTORY (3)**. Selected problems in the history of Japan. May be repeated to a maximum of 6 semester hours. Prerequisite: Consent of graduate adviser in history.

BRITISH HISTORY

414. **THE ENGLISH REVOLUTION: 1640-1660 (3)**. The focus will be more on the battleground of ideas and ideologies than on Cromwell's military exploits. Attention will be given to "the peculiarities of English" as well as to the classic interpretations of traditional economic historians and Marxists.

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.

468. **TUDOR AND STUART ENGLAND (3)**. The constitutional and legal foundations of bourgeois England; Elizabethan and Jacobean culture; the origins of capitalism.

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 18th 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. Prerequisite: Hist. 336 or consent of instructor.

477. **BRITAIN: 1914 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 of the Welfare State. Prerequisite: Hist. 336.

492. **BRITISH LABOR MOVEMENT: 18TH CENTURY 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 history of early 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

402T. **THE ANCIENT NEAR EAST TO 1150 B.C. (3)**. A broadly based study of the political and cultural achievements of the Sumerians, Semites, Egyptians, Hittites, and other peoples from the invention of agriculture to the end of the Bronze Age. The rediscovery of the Ancient Near East in modern times; the role of archaeology and decipherment; the significance of the rediscovery for understanding human history.

403T. **THE ANCIENT NEAR EAST: 1150-323 B.C. (3)**. A continuation of Hist. 402T. The small states of the early Iron Age; the rise and fall of Assyria; the Chaldean and Persian empires. From the end of the Bronze Age to the death of Alexander the Great.

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 6th century.

408. **ECONOMIC AND SOCIAL HISTORY OF MEDIEVAL EUROPE (3)**. Examines the economic and social changes underlying the formation of medieval civilization. Special attention will be given to demographic change, urbanization, and social movements. Prerequisite: Hist. 348 or 349 or consent of instructor.

409. **ECONOMIC AND SOCIAL HISTORY OF EARLY MODERN EUROPE (3).** An analysis of European society between the Renaissance and the French Revolution with reference to social stratification and mobility, urban development, the nature and implications of an agrarian economy, the problems of economic growth, and the applicability of social theories to historical data.

410. **ECONOMIC HISTORY OF MODERN EUROPE (3).** An analysis of European economic growth and development since the Industrial Revolution, including a comparison of agrarian and industrial economies.

411. **SOCIAL HISTORY OF MODERN EUROPE (3).** An analysis of European society since the Industrial Revolution with reference to the social impact of industrialization and urbanization and changing patterns of social stratification, mobility, and class conflict in the 19th and 20th centuries.

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 revolutions and counterrevolutions 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. **THE FRENCH REVOLUTION (3).** The emergence of democratic and socialist ideas from the 18th-century Enlightenment; the radical social reorganization brought about by the revolution between 1789 and 1794; the continuing conflict between popular and conservative forces; the consolidation and diffusion of the revolution under Napoleon; the growth of a revolutionary tradition.

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. **REVOLUTIONARY MOVEMENTS IN THE WEST TO 1789 (3).** An analysis of the origins of revolutionary politics and thought in the West from Hus to Paine.

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 17TH 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.

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 THOUGHT IN THE 17TH CENTURY (3).** European and British thought of the 17th century; the rise of modern science; baroque and classical art and literature.

463. **THE AGE OF ENLIGHTENMENT (3).** The Intellectual Revolution that preceded the American and French Revolutions is considered in its various main aspects, including the growth of secularism and rationalism; the rise of scientific thought; the formulation of political liberalism and radicalism; and the enrichment of the humanist tradition.

465. **EUROPEAN THOUGHT IN THE ROMANTIC AGE (3).** The romantic revolt against the 18th century; theories of revolution and counterrevolution; "utopian" and "scientific" socialism; Hegel and the rise of historical thought; liberal nationalism; the religious revival.

469. **EUROPEAN INTELLECTUAL HISTORY: 1850-PRESENT (3).** The rise of realism and positivism; Darwinism and scientism; theories of race; imperialism; the new science; Freud; the antirationalist revolt; existentialism.

473. **THE SCIENTIFIC REVOLUTION (3).** The development of scientific ideas from Copernicus to Lavoisier. Emphasis is placed on the spread of the new world view from Copernicus to Newton, but also included are Newtonianism in the Enlightenment, the organization of science, and the development of anatomy, physiology, geology, and chemistry in the 17th and 18th centuries.

480. **EARLY MODERN FRANCE (3).** A history of French society from the medieval background to the Age of Enlightenment. Emphasis

is placed on the interaction of culture, institutions, and social structure as a case study in the development of an early modern state.

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 20th 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.

487. **REVOLUTIONARY MOVEMENTS SINCE 1789 (3).** A comparative and sociological analysis of the revolutions of the modern era with emphasis on the continuities of politics and thought, from France in the 1790's to contemporary European and non-European socialist movements.

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 from the Renaissance to the French Revolution. May be repeated to a maximum of 12 semester hours. Prerequisite: Consent of graduate adviser in history.

534. **SEMINAR IN MODERN EUROPEAN HISTORY (3).** Selected problems of European history from the late 18th century to the present. 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. Prerequisite: Consent of graduate adviser in history.

UNITED STATES HISTORY

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-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.

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.

442. ILLINOIS AND THE OLD NORTHWEST (3). Settlement of the Northwest Territory and its regional history, with primary attention to the history of Illinois.

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.

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: 1865-PRESENT (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.

493. THE STRUCTURE OF TRADITIONAL AMERICAN SOCIETY (3). The course makes use of sociological concepts, especially those derived from studies of developing nations, to describe and analyze the beginnings of the transitions from a local, agrarian society to the cosmopolitan, urban society. Particular attention is paid to the social, economic, political, demographic, and religious relationships among social groups, to the changes in these sets of relationships, and to the progressive breakdown of a sense of community.

494. THE STRUCTURE OF URBAN AMERICAN SOCIETY (3). The course focuses on the processes of urbanization and modernization, and their impact on human relationships and life styles. Included among the subjects treated are: the increasing levels of geographic and psychological mobility, changes in the spatial and structural organization of the city, the emergence of large-scale bureaucratic organizations, changes in political and religious relationships, and the social bases of alienation in an increasingly complex society.

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 EARLY AMERICAN HISTORY (3). Selected problems in the colonial, revolutionary, or early national periods of American history. The emphasis will vary with the instructor. May be repeated to a maximum of 9 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.

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.

LATIN AMERICAN HISTORY

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.

461X. BRAZILIAN CIVILIZATION (3). *Foreign Languages and Literatures, Portuguese 461*. A course which stresses the contributions of the African and Indian to the history and literature of Brazil. Classes will be conducted in English with English and Portuguese bibliography. Prerequisite for history majors: FLPO 312 or any Latin American history course at the college level. (History majors are not required to read Portuguese.)

482. COLONIAL BRAZIL: 1500-1822 (3). The social, political, and cultural development of Portugal's New World colony from discovery to independence.

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.

523. SEMINAR IN LATIN AMERICAN HISTORY (3). Selected problems in Latin American history. May be repeated to a maximum of 12 semester hours. Prerequisite: Consent of graduate adviser in history.

RUSSIAN HISTORY

443. RUSSIAN THOUGHT AND CULTURE TO 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 ongoing 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: 1917-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

GRADUATE FACULTY: Grubb, department chairman. Bass, Brod, DeMott, Hamilton, Price, Schreiber, Walker, Wilson

The Department of Journalism offers graduate programs leading to the Master of Arts degree.

Master of Arts

A student pursuing a Master of Arts degree with a major in journalism should have had at least 9 to 12 undergraduate semester hours in journalism or professional experience equivalent to these semester hours. A student may be required to make up deficiencies by passing courses or passing proficiency examinations in reporting, editing, photography, press history, or other areas as prescribed by departmental advisers; no graduate credit will be received for courses taken to satisfy deficiency requirements.

The student must plan a degree program of at least 30 semester hours of graduate credit, with at least 21 semester hours in journalism at the graduate level, including Journ. 581, Mass Communications Research Methods. The department will authorize a maximum of 30 hours in approved Northern Illinois University extension courses to apply to the Master of Arts degree. Specific requirements for the M.A. in journalism are as follows.

1. The student is required to write a thesis for 3 to 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 graduate courses.
2. 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.

Course Offerings

NOTE: "X" after a course number indicates that the course is offered primarily by another department but may be taken for credit in this department.

415. ADVANCED PHOTOJOURNALISM (3). Advanced techniques of photography with emphasis on written-visual communication as employed in contemporary mass media. Students write and photograph stories. Preparation of color photographs, work experience with area publications, and picture editing. Lab fee. Prerequisites: Journ. 315 and consent of instructor.

416. PHOTOGRAPH EDITING (3). Editing and layout of photographs in the mass media. Includes selection and preparation of photographs for use as singles, spreads, stories, and essays. Prerequisite: Consent of instructor.

435. ADVANCED PUBLIC RELATIONS (3). Analysis of public relations problems and procedures. Practice in solving public relations problems; preparation of public relations materials. Prerequisite: Journ. 335 or consent of instructor.

454X. INTERNATIONAL BROADCASTING (3). *Speech Communication 454.* A study of the development, structure, functions, and control of international broadcast systems and activities as they affect world relations.

457. THE NEWSFILM DOCUMENTARY (3). In-depth reporting on location of some aspect of the contemporary scene. Students investigate, prepare scripts, film and edit documentaries to be used on television. Some traveling required. Lab fee. Prerequisite: Journ. 357 or consent of instructor.

459X. HISTORY OF BROADCASTING (3). *Speech Communication 459.* The history of radio and television broadcasting in the United States from its inception to the present.

461. THE INDUSTRIAL PRESS (3). Practical work in planning, editing, and producing specialized publications, including reporting, copywriting, picture editing, advertising layout, and business management. Prerequisite: Journ. 300 or consent of department.

471. 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.

472. SCHOOL PUBLICATIONS (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.

480. LAW OF THE PRESS (3). Legal regulations, libel laws, and restrictions on the press, publishing, radio, and television.

481. HISTORY OF JOURNALISM (3). Development of newspapers and periodicals from their beginnings in Europe through the emergence of modern journalism. Current world news-gathering agencies.

482. INTERNATIONAL NEWS COMMUNICATIONS (3). A survey of the mass media and international affairs; foreign correspondence and coverage; international news agencies; country-by-country historical-societal study of foreign journalism.

483. 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.

502. REPORTING OF PUBLIC AFFAIRS (3). An advanced study and application of investigative, interpretive, and in-depth reporting of public affairs. Emphasis is placed on social, political, and economic news as it is developed and reported at the local, state, and federal levels. Course combines practical reporting experiences with seminar discussions and research investigations.

516. PHOTOJOURNALISM SEMINAR (3). Prerequisite: Consent of instructor.

521. SPECIAL TOPICS IN ADVERTISING (3). Prerequisite: Consent of instructor.

535. PUBLIC RELATIONS CASES, CONCEPTS, AND CAMPAIGNS (3). 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. Case method approach.

540. 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.

552. SEMINAR IN BROADCAST NEWS (3). Development, structure, and future of radio-television journalism and its role in society; consideration of contemporary problems, practices, and research.

580. READINGS IN JOURNALISM (3). A selected review of journalism literature, including books, research studies, periodicals.

581. MASS COMMUNICATIONS RESEARCH METHODS (3). Procedures; sources of information; introduction to and use of mass communications research tools; application of research techniques to restricted problems.

582. THE PRESS AND WORLD AFFAIRS (3). Communication 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.

583. 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.

591. INDEPENDENT STUDY (2-4). Open to qualified students who wish to do individual advanced work in journalism or mass communications. Prerequisite: Consent of instructor.

599. THESIS (1-6). The student is eligible to register for this course after he has completed Journ. 581. May be repeated to a maximum of 6 semester hours.

Department of Library Science

GRADUATE FACULTY: Stieg, department chairman.
Broadus, Spargo, Ting, Torok

The Department of Library Science offers a graduate program leading to the degree Master of Arts. In cooperation with the College of Education, it offers a program leading to the degree Master of Science in Education with an area major in library science.

Master of Arts

Admission

Various combinations of abilities and previous education (in addition to the General Education requirements) may be acceptable for admission to this department. The total pattern of each applicant's qualifications is considered in making the decision. In general, however, the following norms are used:

1. A baccalaureate degree from an approved institution, with a broad background in the liberal arts, including courses in the areas of humanities, social sciences, and natural sciences or mathematics; 9 semester hours in each area is the usual minimum requirement. A grade-point average of 3.00 on a 4.00 scale for the last two years of undergraduate work is required.
2. A total score of not less than 1000 on the combined verbal and quantitative sections of the Graduate Record Examination.
3. Successful completion of the following undergraduate courses or their equivalent:

- Lib.S. 409, Foundations of Librarianship (3)
- Lib.S. 411, Evaluation and Use of Library Materials (3)
- Lib.S. 412, Organization of Library Materials (3)

Students who do not meet this requirement may enroll for these courses during the first semester of graduate study, but credit hours for them are not applicable to the graduate degree program.

Equivalent courses taken elsewhere satisfy this requirement, subject to approval of the student's academic adviser. Successful performance on a proficiency examination is required of students presenting courses whose equivalence cannot readily be established.

A student who by reason of extensive experience or other background has mastered the content of any of these courses may also satisfy the requirement by successful performance on the proficiency examination.

4. Personal recommendations or other evidence indicating high probability of success in graduate school and in the profession of librarianship.

Requirements

In addition to the general requirements set by the Graduate School, the 30 graduate semester hours required for the degree must include:

- Lib.S. 416, Library Organization and Management (3)
- Lib.S. 570, Research Methods in Librarianship (2)
- Lib.S. 571, Special Problems in Librarianship (1-3)

The writing of a thesis is optional; if a student elects the thesis, it may be substituted for the required course Lib.S. 571.

With the approval of the student's adviser, as many as 9 graduate semester hours may be elected from related courses in other departments; as many as 9 graduate semester hours may be transferred from another approved institution.

A reading knowledge of one foreign language is required. Demonstration of reading competence may be satisfied by transcript evidence of two years of college work or its equivalent in one language, and/or by a foreign language reading examination given by the University Testing Services.

Alternate Program for School Librarians

Students interested in school librarianship or service in media centers may wish to select as their degree objective the Master of Science in Education. They may elect as many as 15 semester hours of graduate courses in library science. They must also complete the three prerequisite courses, Lib.S. 409, 411 and 412, but the credit hours for them are not applicable to the degree program.

Course Offerings

416. LIBRARY ORGANIZATION AND MANAGEMENT (3). A study of the organization and management of libraries, with emphasis on theories and principles of governance, planning, communication, decision making, and evaluation; current problems in personnel and financial management; the role of systems analysis and computer applications.

418. LIBRARY MATERIALS FOR YOUNG ADULTS (3). Evaluation, selection, and use of materials designed for or appropriate to the needs-

interests, and learning abilities of young adults, and for services and programs in school and public libraries; environmental factors affecting library resources and services for young adults.

475. ADMINISTRATION OF SCHOOL LIBRARIES AND MEDIA CENTERS (3). The functions and objectives of libraries and media centers in the elementary and secondary school; planning, finance, personnel, services, evaluation; instruction in the use of libraries and media centers.

502. INTRODUCTION TO INFORMATION SCIENCE (3). A study of communication theory; analysis of manual and machine capabilities for processing information and facilitating library operations.

507. BIBLIOGRAPHY (3). Critical survey of major types of bibliographies; the present state of national, regional, and international bibliography; introduction to the principles of descriptive and analytical bibliography, evaluation of bibliographies and of bibliographical services in several languages, with attention to interdisciplinary approaches.

510. HISTORY OF BOOKS AND LIBRARIES (3). The evolution of recorded knowledge from the earliest times to the present; its production, dissemination, use and preservation; emphasis on the role of recorded communication in a society and on the library as a social institution.

521. INFORMATION RESOURCES IN THE HUMANITIES (3). Survey of resources and their bibliographical control in philosophy, religion, art, music, literature, and related fields; evaluation for various types of libraries and users.

522. INFORMATION RESOURCES IN THE SOCIAL SCIENCES (3). Survey of resources and their bibliographical control in the social and behavioral sciences: anthropology, economics, political science, psychology, sociology, history, and related fields; evaluation for various types of libraries and users.

524. INFORMATION RESOURCES IN THE SCIENCES (3). Survey of resources in the natural and physical sciences and in technology: astronomy, biology, chemistry, geology, physics, engineering and related fields; bibliographical control of resources, especially the newer methods of storing and disseminating information and research.

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.

527. CHILDREN'S LITERATURE (3). Evaluation, selection, and use in terms of children's interests, needs, and learning abilities of all types of literature in the various media of communication: books, magazines, films, filmstrips, records, and other nonprint sources.

531. COLLEGE AND UNIVERSITY LIBRARIES (3). The functions of the academic library; its relationship to modern higher education; analysis of administrative problems and of services, with emphasis on changing needs of the academic community.

533. PROBLEMS OF SCHOOL LIBRARIES AND MEDIA CENTERS (3). The implications of current issues in education and curricular planning for school libraries and media centers; special problems of organization and administration; the supervision of system, district and regional centers. Prerequisite: Lib.S. 433 or consent of department.

535. PUBLIC LIBRARIES (3). The role of the public library in the community; its sociological and governmental environment; administrative practices and problems; the development of public library systems.

537. SPECIAL LIBRARIES AND INFORMATION CENTERS (3). Functions, organizational patterns, services; problems and policies of collection building, indexing, document analysis, and abstracting.

541. LIBRARY SERVICES FOR CHILDREN (3). The objectives, planning, organization, and evaluation of special programs and services for children.

543. LIBRARY SERVICES FOR ADULTS (3). The analysis of library and information needs of adult library users and nonusers; planning, organization, and evaluation of library resources and services for individuals and for groups.

551. PROBLEMS IN THE ORGANIZATION OF LIBRARY MATERIALS (3). Current issues in cataloging and classification; the cataloging of special collections and special types of materials; analysis of current changes in cataloging policy and practice; organization and administration of centralized cataloging units. A continuation of Lib.S. 412.

553. TECHNICAL SYSTEMS AND SERVICES (3). Procedures and technical aspects of acquisition, organization, circulation and preservation of library materials; emphasis on policy formulation for technical services.

554. GENERAL REFERENCE SERVICES (3). Evaluation and use of basic and nontraditional reference and information resources and services in all subject fields for various types of libraries; the reference function and process in terms of user needs.

557. INFORMATION STORAGE AND RETRIEVAL (3). Methods and systems for information storage, retrieval and dissemination; emphasis on the computer, microreproduction and other technologies.

570. RESEARCH METHODS IN LIBRARIANSHIP (2). The research process from problem selection to presentation; emphasis on scientific method; analysis of methods and techniques used in research; critical analysis of published research.

571. SPECIAL PROBLEMS IN LIBRARIANSHIP (1-3). Report of a systematic investigation of a problem selected by the student with the approval of the instructor. Prerequisite: Lib.S. 570.

580. SEMINAR (3-6). Specific content varies from semester to semester. Representative topics: Modern Publishing; Community College Libraries; Library Automation; Intellectual Freedom; Library Service for Minority Groups; Library Networks; Library Buildings and Furnishings; Library Services for Young Adults. With the consent of the department, may be repeated once if topic changes.

590. INDEPENDENT STUDY (1-3). Supervised reading, a special project, or an internship. Prerequisite: Consent of department.

599. THESIS (1-6).

409. FOUNDATIONS OF LIBRARIANSHIP (3). The evolution and current status of the library as a social institution and of librarianship as a profession; emphasis on the adaptation of traditional concepts and practices to current social changes.

Department of Mathematical Sciences

GRADUATE FACULTY: Selfridge, department chairman; Trail, assistant chairman. Angotti, Beach, Beachy, Behr, Blair, Blau, Bright, Campbell, Cavanaugh, Christiano, Cohen, Connert, Dwyer, Eastman, Ewell, Funk, Gupta, Hardgrove, Hsu, Jungst, Kambayashi, Kettner, Klasa, Kryscio, Kuller, Lawes, Leonard, Lindsey, Lusk, McAlister, E. McCharen, J. McCharen, McFadden, Miller, Minkoff, Montague, Nicholls, Ostberg, Overbeek, Palmer, Powers, Ridenhour, Rodine, Shapiro, Singletary, Sons, Sowder, Thompson, Wheeler, Williams, Wilson, Wunderlich, Zaremba, Zarrow, Zettl

The Department of Mathematical Sciences offers graduate programs leading to the Master of Science degree and to the Certificate of Advanced Study. Applicants for admission to graduate programs in the Department of Mathematical Sciences are expected to have completed the equivalent of the requirements for the degree Bachelor of Science with a major in mathematical sciences at Northern Illinois University. The requirement of a major in mathematical sciences may be waived for applicants with promising undergraduate records.

Master of Science

The Department of Mathematical Sciences offers five programs leading to the degree Master of Science; specifically, emphases in pure mathematics, applied mathematics, computer science, probability and statistics, and mathematics education are available. In addition to the requirements established by the Graduate School, all candidates seeking to qualify for the degree Master of Science in mathematical sciences shall satisfy the following requirements:

1. Complete at least 30 semester hours of graduate work. At least 24 hours must be in mathematical sciences and at least 15 hours must be in mathematical sciences courses numbered 500 or above.
2. Follow a program of study approved by the department. The program will be designed by the student and his adviser and will be built on the requirements listed under one of the five emphases. Each program must include the courses Math. 430 and 421 or 423 unless equivalent material was covered at the undergraduate level.
3. Pass a comprehensive examination in mathematics. Normally, students pursuing full-time graduate study will be required to take the comprehensive examination within two academic years of admission to the graduate school. A

student who fails the examination may, with the permission of the department, repeat it once.

Further details may be obtained from the Department of Mathematical Sciences.

Emphasis in Pure Mathematics

Required courses:

- Math. 520, Algebraic Structures I (3)
- Math. 530, Real Analysis I (3)
- Math. 532, Complex Analysis I (3)
- Math. 550, Topology I (3)

Emphasis in Applied Mathematics

Required courses:

- Math. 530, Real Analysis I (3)
- Math. 540, Applied Mathematics I (3)

At least two of the following:

- Math. 532, Complex Analysis I (3)
- Math. 534, Numerical Analysis (3)
- Math. 536, Ordinary Differential Equations I (3)
- Math. 560, Automata Theory (3)
- Math. 574, Statistical Inference (3)
- Math. 584, Combinatorial Mathematics I (3)

Emphasis in Computer Science

Required courses:

- Math. 462, Introduction to the Foundations of Computer Science (3)
- Math. 464, Data Structures (3)

At least two of the following:

- Math. 466, Programming Languages (3)
- Math. 468, Systems Programming (3)
- Math. 568, Advanced Systems Programming (3)
- Math. 586, Recursive Function Theory and Computability (3)
- Math. 587, Logic and Automated Theorem Proving (3)

At least two of the following:

- Math. 520, Algebraic Structures I (3)
- Math. 530, Real Analysis I (3)
- Math. 534, Numerical Analysis (3)

- Math. 540, Applied Mathematics I (3)
- Math. 560, Automata Theory (3)
- Math. 574, Statistical Inference (3)
- Math. 584, Combinatorial Mathematics I (3)

Emphasis in Probability and Statistics

Required courses:

- Math. 476, Methods of Experimental Statistics (3)
- Math. 530, Real Analysis I (3)
- Math. 574, Statistical Inference (3)

At least one of the following:

- Math. 570, Stochastic Processes I (3)
- Math. 572, Linear Models (3)
- Math. 576, Design and Analysis of Experiments (3)

Emphasis in Mathematics Education

Required courses:

- Math. 431, Advanced Calculus II (3).
- Math. 510, Topics in Mathematics Education I (3)
- Math. 511, Topics in Mathematics Education II (3)

At least one of the following:

- Math. 450, Point Set Topology (3)
- Math. 454, Topics in Geometry (3)
- Math. 456, Linear Geometry I (3)

At least one of the following:

- Math. 460, Computers and Programming (3)
- Math. 470, Introduction to Probability Theory (3)
- Math. 480, Number Theory (3)

At least two of the following:

- Math. 520, Algebraic Structures I (3)
- Math. 530, Real Analysis I (3)
- Math. 532, Complex Analysis I (3)
- Math. 550, Topology I (3)
- Math. 556, Topics in Geometry (3)
- Math. 574, Statistical Inference (3)
- Math. 584, Combinatorial Mathematics I (3)

In addition, students will be required to meet the certification requirements for the standard secondary certificate in their state of residence.

Certificate of Advanced Study

The requirements for the Certificate of Advanced Study vary. Each program must be approved by the Department of Mathematical Sciences.

Course Offerings

402. CURRICULUM AND INSTRUCTION IN ELEMENTARY SCHOOL MATHEMATICS (3). *Crosslisted as Educ. 402X.* 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 mathematical sciences. Prerequisite: Math. 201 and Educ. 375 or consent of department.

410. 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.

412. 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.

420. 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. 233 or 240 or equivalent.

421. ALGEBRA II (3). A continuation of Math. 420. Prerequisite: Math. 420.

423. 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. 420 or equivalent.

430. ADVANCED CALCULUS I (3). A rigorous re-examination of the calculus and an introduction to the theory of real variables. Prerequisites: Math. 232 and 240, or 234, or equivalent.

431. ADVANCED CALCULUS II (3). Continuation of Math. 430. Prerequisite: Math. 430 or equivalent.

434. 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 240 or 233.

435. NUMERICAL MATHEMATICS II (3). A continuation of Math. 434. Prerequisite: Math. 434.
436. 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 or 234. Prerequisites: Math. 232 and 240.
437. BOUNDARY VALUE PROBLEMS (3). Euclidean spaces, boundary value problems, orthogonal series expansions, and applications to partial differential equations. This course is not open to students who have received credit for Math. 234. Prerequisite: Math. 436 or equivalent.
440. COMPLEX VARIABLE THEORY (3). Functions of a complex variable, integration, power series, and residues. Prerequisites: Math. 232 and 240, or 234 or equivalent.
441. TRANSFORM METHODS IN APPLIED MATHEMATICS (3). The Laplace equation and potential theory. Fourier and Laplace transforms. Asymptotic expansions. Prerequisites: Math. 436 and 440 or equivalent.
444. LINEAR PROGRAMMING, MATRIX GAMES, AND APPLICATIONS (3). An introduction to linear programming and matrix games, with applications to problems in the social sciences and operations research. Prerequisite: Math. 240, or 233, or equivalent.
450. POINT SET TOPOLOGY (3). Introduction to the study of metric and topological spaces, the notions of separation, continuity, connectedness, and compactness. Prerequisites: Math. 232 and 240, or 234 or equivalent.
451. INTRODUCTION TO 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. 420 and 450 or equivalent.
454. TOPICS IN GEOMETRY (3). The definition and study of manifolds using topological methods. Prerequisite: Math. 450 or equivalent.
456. LINEAR GEOMETRY I (3). A treatment of affine and related geometries using the techniques of linear algebra. Prerequisite: Math. 241 or 233 or equivalent.
457. LINEAR GEOMETRY II (3). A continuation of Math. 456. Prerequisite: Math. 456.
460. COMPUTERS AND PROGRAMMING (3). A study of the structure and organization of a third generation computer. Programming assignments will be done in the assembly language of the particular computer used. Prerequisite: Math. 305A or equivalent.
461. TECHNIQUES OF COMPUTER PROGRAMMING AND ALGORITHMIC PROCESSES (3). An advanced course in algorithmic processes and computer programming in a user-oriented language. The language will be the same as that used in Math. 305A and will be one which readily lends itself to scientific applications and the solutions of problems in the physical sciences. An elementary knowledge of programming is required. This course is not open to students who have received credit for Math. 305. Prerequisite: Consent of department.
462. INTRODUCTION TO THE FOUNDATIONS OF COMPUTER SCIENCE (3). An introduction to mathematical languages, automata theory, and the theory of recursive functions and computability. Prerequisites: Math. 240 and 305A or equivalent.
464. DATA STRUCTURES (3). A comprehensive study of the theory and the programming techniques related to the storage and management of various forms of data. The programming assignments will be done in assembly language. Prerequisite: Math. 460 or equivalent.
465. EXTERNAL DATA STRUCTURES (3). The formal organization of files; organization techniques using direct access, indexed sequential, and sequential files. Data base concepts, file security. Prerequisite: Math. 468.
466. PROGRAMMING LANGUAGES (3). A systematic presentation of the theory of programming languages. Prerequisites: Math. 460 and 462, or equivalent.
467. FOUNDATIONS OF COMPUTER SCIENCE (3). Propositional logic, Boolean algebra with applications to naive set theory and switching circuits. Additional topics to include strategies of automated theorem proving, and an introduction to first-order functional logics. Prerequisite: Math. 462.
468. SYSTEMS PROGRAMMING (3). A detailed study of systems programming on a third generation computer. Special emphasis will be placed on the logical organization of the computer used. Prerequisite: Math. 464 or equivalent.
470. 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. 232 and 240 or 234 or departmental approval.
472. 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. 470.
475. APPLIED REGRESSION ANALYSIS (3). A basic course in multiple linear regression methods including weighted least squares, stepwise regression, and residual analysis, and applications to math-

emathical models. Problems which involve the use of computing equipment will be treated. Prerequisite: Math. 301 or Math. 350.

476. 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. Prerequisites: Math. 350, or 211 and 301, or equivalent.

480. NUMBER THEORY (3). Divisibility, primes, congruences, quadratic reciprocity, Diophantine equations, continued fractions, and selected topics. Prerequisite: Math. 240 or 233, or departmental approval.

486. LOGIC AND RECURSIVE FUNCTION THEORY I (3). The theory of proof, models, and recursion. Prerequisite: Math. 240 or 233 or equivalent.

487. LOGIC AND RECURSIVE FUNCTION THEORY II (3). A continuation of Math. 486. Prerequisite: Math. 486 or equivalent.

492. ELEMENTARY-JUNIOR HIGH CURRICULUM (1-6). Intensive study of selected mathematics topics in curriculum and instruction as they relate to the teaching of mathematics topics in elementary and junior high schools. Not open for credit toward the major or minor in mathematical sciences. Prerequisite: Consent of department.

510. TOPICS IN MATHEMATICS EDUCATION I (3). A survey and study of recent developments in mathematics education. Primarily intended for students seeking the M.S. degree with an emphasis in mathematics education. Prerequisite: Consent of department.

511. TOPICS IN MATHEMATICS EDUCATION II (3). Continuation of Math. 510. Prerequisite: Math. 510 or equivalent.

520. ALGEBRAIC STRUCTURES I (3). A detailed study of the explicit structure and morphisms of postulationally defined systems. Prerequisite: Math. 421 or 423 or equivalent.

521. ALGEBRAIC STRUCTURES II (3). Continuation of Math. 520. Prerequisite: Math. 520 or equivalent.

524. CATEGORY THEORY (3). The theory of categories and functors. Prerequisite: Math. 421 or equivalent.

530. REAL ANALYSIS I (3). A study of the theory of functions of a real variable. Prerequisite: Math. 431 or equivalent.

531. REAL ANALYSIS II (3). Continuation of Math. 530. Prerequisites: Math. 450 and 530, or equivalent.

532. COMPLEX ANALYSIS I (3). A study of the theory of functions of a complex variable. Prerequisite: Math. 431 or equivalent.

533. COMPLEX ANALYSIS II (3). Continuation of Math. 532. Prerequisite: Math. 532 or equivalent.

534. NUMERICAL ANALYSIS (3). Selected topics in numerical methods. Prerequisite: Consent of department.

536. ORDINARY DIFFERENTIAL EQUATIONS I (3). Existence and uniqueness theory for solutions of ordinary differential equations. Prerequisites: Math. 431 and 436 or equivalent.

537. ORDINARY DIFFERENTIAL EQUATIONS II (3). Continuation of Math. 536. Prerequisite: Math. 536 or equivalent.

540. APPLIED MATHEMATICS I (3). Selected topics in applied mathematics. Prerequisites: Math. 431, 436, and 440 or equivalent.

541. APPLIED MATHEMATICS II (3). Continuation of Math. 540. Prerequisite: Math. 540 or equivalent.

550. TOPOLOGY I (3). A detailed study of metric and topological spaces. Prerequisite: Consent of department.

551. TOPOLOGY II (3). Continuation of Math. 550. Prerequisite: Math. 550 or equivalent.

552. CONVEXITY (3). The theory of convex sets and functions. Prerequisites: Math. 421, 431, and 450, or equivalent.

556. TOPICS IN GEOMETRY (3). Selected topics in geometry. Prerequisites: Math. 456 and 421 or 423.

560. AUTOMATA THEORY (3). An introduction to the algebraic theory of automata. Prerequisite: Math. 421 or equivalent.

562. COMPUTER METHODS (3). An intensive laboratory course in computer usage including programming in FORTRAN IV and PL/I and the use of terminals in teleprocessing. Not open to majors in mathematical sciences.

566. LANGUAGES AND COMPILERS (3). Grammars and languages, parsing, syntax recognition, semantic routines and code generation. Translator writing systems, extensible languages. Prerequisite: Math. 466.

568. ADVANCED SYSTEMS PROGRAMMING (3). Interpretive systems; assemblers, loaders, compilers, library monitoring systems, input-output scheduling, executive programs, job scheduling, multi-access systems, multi-programming, multi-processing. Prerequisite: Math. 468.

570. STOCHASTIC PROCESSES I (3). An introduction to the theory of stochastic processes and applications. Prerequisites: Math. 431 and 470 or equivalent.

571. STOCHASTIC PROCESSES II (3). Continuation of Math. 570. Prerequisite: Math. 570 or equivalent.

572. LINEAR MODELS (3). The theory of linear models and experimental design models. Prerequisite: Math. 472 or equivalent.

574. STATISTICAL INFERENCE (3). Structure of statistical decision problems, optimal decision rules, Bayes decision rules, invariance, hypothesis testing, and estimation. Prerequisite: Math. 472 or equivalent.

576. DESIGN AND ANALYSIS OF EXPERIMENTS (3). General two-way schemes, confounding, fractional replications, incomplete blocks and related designs, multiple comparisons. Prerequisite: Math. 476 or equivalent.

580. NUMBER THEORY I (3). Selected topics from analytic and algebraic number theory. Prerequisites: Math. 421 and 480 or equivalent.

581. NUMBER THEORY II (3). Continuation of Math. 580. Prerequisite: Math. 580 or equivalent.

584. COMBINATORIAL MATHEMATICS I (3). Topics from the theory of enumeration and choice, and the existence and construction of designs. Prerequisite: Math. 421 or equivalent.

585. COMBINATORIAL MATHEMATICS II (3). Continuation of Math. 584. Prerequisite: Math. 584 or equivalent.

586. RECURSIVE FUNCTION THEORY AND COMPUTABILITY (3). A study of recursive functions and Turing machines including a proof of the equivalence of the recursive functions and the Turing computable functions. Prerequisite: Math. 462 or equivalent.

587. LOGIC AND AUTOMATED THEOREM PROVING (3). A study of the theory and implementation of automated theorem process at the current state of the art. Prerequisite: Math. 586.

590. INTERNSHIP IN MATHEMATICS EDUCATION (1-3). Supervised teaching or research in mathematics education. Primarily intended for students seeking an M.S. degree with an emphasis in mathematics education. May be repeated to a maximum of 6 semester hours. Prerequisites: Graduate standing and consent of department.

592. INTERNSHIP IN MATHEMATICS (2-6). Supervised teaching of undergraduate mathematics. Not open for credit toward the M.S. degree. May be repeated to a maximum of 12 semester hours. Prerequisites: Graduate standing and consent of department.

596. TOPICS IN CONTEMPORARY MATHEMATICS EDUCATION (1-9). Intensive study of special topics in mathematics and mathematics education selected to meet the needs of teachers of mathematics at the precollege level. May be repeated to a maximum of 18 semester hours. Prerequisite: Consent of department.

597A. GRADUATE READING IN MATHEMATICS (1-9). Individual reading in mathematics. May be repeated to a maximum of 12 semester hours. Prerequisites: Graduate standing and consent of department.

597B. GRADUATE READING IN COMPUTER SCIENCE (1-9). Individual reading in computer science. May be repeated to a maximum of 12 semester hours. Prerequisites: Graduate standing and consent of department.

598. TOPICS IN CONTEMPORARY MATHEMATICS (1-6). Faculty and student discussion of selected topics in contemporary mathematics. May be repeated to a maximum of 12 semester hours. Prerequisite: Consent of department.

620. THEORY OF SEMIGROUPS I (3). A detailed study of the structure theory of semigroups. Prerequisite: Math. 521 or consent of instructor.

621. THEORY OF SEMIGROUPS II (3). Continuation of Math. 620. Prerequisite: Math. 620 or consent of instructor.

622. THEORY OF FINITE GROUPS I (3). Selected topics from the structure and representation theory of finite groups. Prerequisite: Math. 521 or equivalent.

623. THEORY OF FINITE GROUPS II (3). Continuation of Math. 622. Prerequisite: Math. 622 or consent of instructor.

624. RINGS AND HOMOLOGY I (3). A first course in homological algebra and its applications to the structure theory of rings, modules, and algebras. Prerequisite: Math. 521 or consent of instructor.

625. RINGS AND HOMOLOGY II (3). Continuation of Math. 624. Prerequisite: Math. 624 or consent of instructor.

626. ALGEBRAIC GEOMETRY I (3). A detailed study of modern algebraic geometry. Prerequisite: Math. 521 or equivalent.

627. ALGEBRAIC GEOMETRY II (3). Continuation of Math. 626. Prerequisite: Math. 626 or consent of instructor.

630. FUNCTIONAL ANALYSIS I (3). Selected topics in functional analysis. Prerequisites: Math. 531 and 550 or consent of instructor.

631. FUNCTIONAL ANALYSIS II (3). Continuation of Math. 630. Prerequisite: Math. 630 or consent of instructor.

636. PARTIAL DIFFERENTIAL EQUATIONS (3). A first course in the theory of partial differential equations. Prerequisites: Math. 531 and 537 or consent of instructor.

650. ALGEBRAIC TOPOLOGY I (3). Selected topics in algebraic and differential topology. Prerequisites: Math. 520 and 550 or consent of instructor.

651. ALGEBRAIC TOPOLOGY II (3). Continuation of Math. 650. Prerequisite: Math. 650 or consent of instructor.

652. TOPOLOGICAL GROUPS (3). An introduction to the theory of topological groups and its applications in analysis. Prerequisites: Math. 520, 530, and 550, or consent of instructor.

654. DIFFERENTIAL GEOMETRY I (3). Selected topics in modern differential geometry. Prerequisites: Math. 520 and 550 or consent of instructor.

655. DIFFERENTIAL GEOMETRY II (3). Continuation of Math. 654. Prerequisite: Math. 654 or consent of instructor.

670. PROBABILITY THEORY I (3). Advanced probability theory. Prerequisites: Math. 470 and 530 or consent of instructor.

671. PROBABILITY THEORY II (3). Continuation of Math. 670. Prerequisite: Math. 670 or consent of instructor.

690. SEMINAR IN MATHEMATICS (1-9).

- | | |
|-------------------------------|-------------------------------|
| A. Algebra | E. Geometry |
| B. Analysis | J. Probability and Statistics |
| C. Applied Mathematics | K. Topology |
| D. Foundations of Mathematics | |

Lectures and discussions on topics in advanced mathematics. One to 9 semester hours as scheduled. May be repeated to a maximum of 24 semester hours, not more than 15 of which may be selected in a single area. Prerequisite: Consent of instructor.

Department of Philosophy

GRADUATE FACULTY: Seligman, department chairman. Beanblossom, Brown, Dye, Embree, Gelven, Gotesky, Hudson, King, Kisiel, Livingston, Myers, Stanage, Stormer, Van Steenburgh

The Department of Philosophy offers graduate programs leading to the degree Master of Arts. These programs are designed to prepare students for teaching and research in philosophy and for doctoral-level graduate work in philosophy and in other disciplines, as well as for positions in government and industry where a broad liberal arts background with strong critical training is desired. A student planning to enroll for graduate courses in philosophy should consult his adviser before registering.

Admission requirements are those established for admission to the Graduate School, plus the baccalaureate degree with a major or strong minor in philosophy. In addition, the Department of Philosophy may require a student to remedy specific deficiencies in his preparation by enrolling without graduate credit in certain courses.

Master of Arts

All students studying for the degree Master of Arts in philosophy are required to complete a minimum of 30 semester hours of graduate study and pass a comprehensive examination. In completing these 30 semester hours a candidate may: (1) complete the minimum of 30 semester hours in philosophy, or (2) complete a minimum of 24 semester hours in philosophy and receive an additional 6 semester hours for writing a thesis (Phil. 599), or (3) complete a minimum of 24 semester hours in philosophy and receive up to 6 semester hours of credit for courses taken outside the field of philosophy, or (4) complete a minimum of 18 hours in philosophy, receive an additional 6 semester hours for writing a thesis (Phil. 599), and receive up to 6 semester hours credit for courses taken outside the field of philosophy.

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 three opportunities to pass the comprehensive examination.

Course Offerings

401. **ADVANCED SYMBOLIC LOGIC (3).** Topics vary, but will be selected from characteristic issues: 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 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 of 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, religions, 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 (1-4). 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 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. May be repeated for additional credit, providing no repetition of subject matter occurs. 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. May be repeated for additional credit, providing no repetition of subject matter occurs. Prerequisite: Phil. 311 or 411, 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. May be repeated for additional credit, providing no repetition of subject matter occurs. Prerequisites: Phil. 321 and 322, or consent of instructor.
531. SEMINAR IN ADVANCED ETHICAL THEORY (3). Special topics in advanced ethical theory. May be repeated for additional credit providing no repetition of subject matter occurs. 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 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. May be repeated for additional credit, providing no repetition of subject matter occurs. 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. May be repeated for additional credit, providing no repetition of subject matter occurs. 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.

Department of Physics

GRADUATE FACULTY: Shaffer, department chairman. Albright, Bushnell, Fedro, Feeny, Hasan, Hoeve, Hurych, Kimball, Krause, Meyer, Miner, Mueller, Preston, Rossing, Sill, Tsao, Weaver, Wood

The Department of Physics offers programs leading to the degree Master of Science and, at the sixth-year level, to the Certificate of Advanced Study.

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. Complete a minimum of 24 semester hours in physics including at least 12 semester hours at the 500 level or above and including the following:
 - a. Phys. 400, Analytical Mechanics II, OR Phys. 500, Classical Mechanics (3)
 - b. Phys. 560, Quantum Mechanics (3)
 - c. Phys. 570 OR 571, Electromagnetic Theory I OR II (3)

The remaining hours required to satisfy the minimum of 30 semester hours for the graduate degree are to be chosen from courses in physics or closely related fields after consultation with the student's adviser. In addition, all graduate students are required to register for Phys. 698, Physics Seminar, each semester. Not more than 6 semester hours of credit in Phys. 599, Research, may be applied toward the required 30 semester hours. The choice of courses must be approved by the student's advisory committee. New students are required during the first week of the semester to take a test which will be used for advisement purposes.

2. Successfully pass a proficiency examination in the basic areas of physics: mechanics, electricity and magnetism, thermodynamics, optics and modern physics. This examination should be taken during the first or second semester and must normally be passed during the second semester in order for the student to be considered for continuing financial aid.
3. Submit an acceptable thesis and pass a final oral examination.

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 chairman and the assigned adviser. The program of courses to be taken will be drawn up with consideration given to the student's interests and background.

Course Offerings

NOTE: An "X" after a course number indicates that the course is offered primarily by another department but may be taken for credit in this department.

400. ANALYTICAL MECHANICS II (3). Tensors, variational principles, introduction to Lagrangian and Hamiltonian formulation. dynamics of rigid bodies, introduction to relativistic dynamics. oscillating systems. Corequisite: Phys. 385.

409X. SCIENCE INSTITUTE FOR IN-SERVICE ELEMENTARY TEACHERS (1-8). *Chemistry 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 or minors. Two to six periods a week. Prerequisite: Phys. 251 or 251A.

451. ADVANCED GENERAL PHYSICS (2-4). Continuation of Phys. 450. Not open to physics majors or minors. Two to six periods a week. Prerequisite: Phys. 450.

460. INTRODUCTION TO QUANTUM MECHANICS (3). Schrodinger wave equation, eigen-values and eigen-functions, methods of approximation, and simple applications. Corequisite: Phys. 385.

463. THERMODYNAMICS, KINETIC THEORY, AND STATISTICAL MECHANICS (3). The thermodynamics section will review such topics as the laws of thermodynamics, the entropy concept, and thermodynamic potentials. Probability, distribution functions, and transport phenomena are treated in the kinetic theory portion. An introductory treatment of classical and quantum-mechanical statistical mechanics will be given. The course will stress applications to areas of modern physics. Corequisite: Phys. 320 or consent of instructor.

470. ELECTRICITY AND MAGNETISM II (3). Mathematical treatment of electric and magnetic fields, Maxwell's equations and applications. Prerequisite: Phys. 370. Corequisite: Phys. 371.

472. **PHYSICAL MEASUREMENTS (2).** Special laboratory problems. Prerequisite: Consent of department.

474. **METHODS OF EXPERIMENTAL PHYSICS (3).** Basic techniques of experimental physics, including high-vacuum techniques, digital electronics, design and construction of research apparatus, radiation safety, etc. Open to graduate students and advanced undergraduate students in all sciences. Strongly recommended for all graduate students in physics. Prerequisite: Phys. 375 or consent of department.

475. **ADVANCED ELECTRONICS (3).** Fundamentals of digital instruments and their application to measurements. Servomechanisms and operational amplifiers; analog into digital converters. Noise rejection and synchronous detection. This course is primarily intended for students in the experimental sciences. Two lectures and a 2-hour laboratory period per week. Prerequisite: Phys. 375.

477. **INTRODUCTION TO ASTROPHYSICS (3).** Kepler's laws and solar system, analysis of solar radiations, 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. 460.

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.

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.

495X. **TEACHING OF PHYSICAL SCIENCES (2).** *Chemistry 495.* 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 a half semester. Prerequisite: Physics or chemistry 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 C.A.S. in physics.

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 C.A.S. in physics.

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 I (3).** Linear vector spaces, principles of wave mechanics, one-dimensional problems, central forces, angular momentum, spin, methods of approximation. Prerequisite: Phys. 483.

561. **QUANTUM MECHANICS II (3).** Symmetry principles, theory of scattering, identical particles, many-electron atoms, relativistic electron. Prerequisite: Phys. 560.

563. **STATISTICAL PHYSICS I (3).** Review of thermodynamics, kinetic theory and the Boltzmann transport equation, classic ensemble theory, the H theorem, elementary quantum statistics. Corequisite: Phys. 460.

564. **STATISTICAL PHYSICS II (3).** Density matrix, fluctuations and irreversible thermodynamics, general transport theory, introduction to the many-body problem. Prerequisite: Phys. 563. Corequisite: Phys. 560.

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. 470.

574. METHODS OF EXPERIMENTAL PHYSICS II: SPECTROSCOPY (3). Various experimental methods and applications of spectroscopy including: optical, nuclear, Mossbauer, x-ray diffraction, electron spin resonance, nuclear magnetic resonance, etc. Prerequisite: Phys. 474 or consent of department.

580. ATOMIC AND MOLECULAR PHYSICS (3). Atomic spectra, Zeeman effect, Stark effect, hyperfine structure. Prerequisite: Phys. 483.

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. Corequisite: Phys. 460.

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. 485.

586. METHODS OF THEORETICAL PHYSICS II (3). Applications of group theory to physics. Introduction to Hilbert space. Diagrammatic techniques, correlation functions. Prerequisite: Phys. 560.

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. Prerequisites: 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.

682. 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). S-matrix theory; analyticity properties of propagators, vertex functions, and scattering amplitudes; single-variable dispersion theory. Prerequisite: Phys. 660.

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. SPECIAL TOPICS IN PHYSICS (1-6).

A. Solid State Physics

B. Nuclear Physics

C. Elementary Particle Physics

D. Other Topics of Current Interest

Lectures and discussions on topics in various fields of physics at the graduate level. One to 6 semester hours as scheduled; course may be repeated in one or more fields of physics. Six 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

GRADUATE FACULTY: Banovetz, department chairman; Fusaro, assistant department chairman. Agranoff, Burnam, Czudnowski, Diamond, Dionisopoulos, Dubin, Ducat, Esseks, Flango, Frisch, Glenn, Kent, Krauss, Little, McKeough, Maryanov, Neher, Nicholson, Rehffuss, Russell, Scott, Sherbenou, Thomas, Wenner, Wiegele, Wiste, Wit

The Department of Political Science offers graduate programs leading to the degrees Master of Arts, Master of Arts in Public Affairs, and Doctor of Philosophy. It also offers, at the sixth-year level, programs leading to the Certificate of Advanced Study.

Seven fields of concentration are available in political science: American government and politics, public law, public administration, empirical theory and behavior, political theory, comparative politics, and international relations. 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. All programs are related to the student's career objectives by his departmental adviser.

Master of Arts

Students interested in pursuing a Master of Arts degree with a major in political science normally should have 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 and successfully completing designated courses, by auditing designated courses, or by 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. Pol.S. 590, Scope and Method of Political Science (3)
2. 12 semester hours in one and 9 semester hours in another of the fields of concentration listed above

The student may apply the additional 6 semester hours to the writing of a thesis, or may take 6 semester hours of elective courses within or outside the department. If a thesis is

to be written the candidate must register for Pol.S. 599, Thesis (6). Candidates not writing a thesis must submit copies of one acceptable research paper (star paper) prepared for each of two graduate courses in political science.

No more than 9 semester credits in 400-level graduate courses may be included in the student's program of 30 hours for the Master of Arts degree. Normally a candidate will be required to take the core courses in his chosen fields of study.

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 may also be required.

Master of Arts in Public Affairs

A description of this program follows the course offerings of the Department of Political Science.

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 may 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 seven fields: American government and politics, public law, public administration, empirical theory and behavior, political theory, comparative politics, and international relations. 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 the 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 rank within the top one-third of Northern Illinois University graduate students on the Graduate Record Examinations.

Course requirements. Same as the Graduate School requirements with the following addition: The Department of Political Science requires that 90 semester hours of graduate course work be completed with a cumulative average of "B" or higher. Of the 90 hours, no more than 30 hours may be applied toward Pol.S. 699, Doctoral Research and Dissertation. In completing the remaining required 60 hours of course work, students must take Pol.S. 590 and at least 15 hours in each of three fields of political science. No more than one course outside the department may be counted toward the fulfillment of the minimum requirements in any one field of a student's program. No more than a total of 15 hours may be taken in course work offered by other academic departments. Written candidacy examinations will be administered in each of the three fields in a student's program, followed by an oral examination covering all three fields. The fields offered by the department are: (1) American government and politics, (2) public law, (3) public administration, (4) empirical theory and behavior, (5) political theory, (6) comparative politics, and (7) international relations.

The student will be expected to consult initially with his interim adviser, and subsequently with members of his advisory committee, once these have been appointed, regarding his program of studies. Such consultation will help to insure that the student's doctoral work is related to his career and professional interests, and to Graduate School and departmental requirements. Registration 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 the department will support an application for admission to candidacy for the Ph.D.

Dissertation requirement. Same as Graduate School requirement.

Language and research skills requirements. The student working toward a Ph.D. in political science must demonstrate an ability to make use of research tools. He will do this by showing proficiency in using language or other research skills (for example, statistics, computer applications, and mathematics). The choice of research tools will be made in consultation with the members of the student's advisory committee, and will relate to his fields of specialization. Proficiency is normally demonstrated by passing a special written examination in foreign languages, or, in the case of other research tools, by successfully completing designated courses with a grade of "A" or "B." In certain cases, a student's committee may approve the use of a proficiency examination in lieu of course requirements for the research tool. Any one of the following options will satisfy the language and research skills requirement:

1. Two foreign languages, average reading proficiency
2. One foreign language, high level of reading proficiency
3. One foreign language, average reading proficiency, and one research tool, average proficiency
4. Two research tools, average proficiency
5. One research tool, high level of proficiency (this option not available for computer application)

The language and research skills requirements must be satisfied before the student presents himself for doctoral candidacy examinations.

Residence requirement. Same as Graduate School requirement.

Qualifying examination. Same as Graduate School requirement.

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 will consist of written examinations in three fields of political science, and an oral examination in all four fields in which the student has undertaken doctoral studies. A student who successfully completes this requirement will be recommended to the Graduate School for admission 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, repeat the examination. 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 requirement.

Limitation of time. Same as Graduate School requirement.

Teaching skill requirements. 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

NOTE: A "T" after a course number indicates that an old number is being reused for a new course; an "X" designates a course which is offered primarily by another department but which may be taken for credit in this department.

Many of the courses offered by the department relate to more than one of the seven fields of political science. However, as a general guide to students, the following numbering system is used:

- 00 to -09, American Government
- 10 to -19, Public Law
- 20 to -39, Public Administration
- 40 to -49, Empirical Theory and Behavior
- 50 to -59, Political Theory
- 60 to -79, Comparative Politics
- 80 to -89, International Relations
- 90 to -99, General

(For example, courses numbered 400-409 or 500-509 are in the American government field, while those numbered 450-459 or 550-559 are political theory courses.)

404. METROPOLITAN GOVERNING SYSTEMS (3). An examination of the political and structural elements of public decision-making in metropolitan areas. Particular emphasis is placed upon the impact of public and private influences, exercised through the network of government agencies, upon urban regions. Prerequisite: Pol.S. 140 or 200. Recommended: Pol.S. 303.

405. URBAN POLITICAL BEHAVIOR (3). The organization, conduct, and problems of politics in American urban government. Prerequisite: Pol.S. 140 or 200 or equivalent. Recommended: Pol.S. 303.

407. POLITICAL OPINION (3). The nature and formation of political opinion, techniques for its measurement, the role of the mass media. Prerequisite: Pol.S. 140 or 200. Recommended: Pol.S. 305 and 340.

408. POLITICAL PARTICIPATION AND ELECTORAL BEHAVIOR (3). Analysis of the varying types of political participation with emphasis on electoral behavior and the sociopsychological bases of participation. Prerequisite: Pol.S. 140 or 200. Recommended: Pol.S. 305.

410. AMERICAN CONSTITUTIONAL DEVELOPMENT (3). The growth and development of American constitutional law, based on an analysis and discussion of leading judicial decisions, with attention to the environmental setting of the cases. Prerequisite: Pol.S. 140 or 200 or equivalent. Political science graduate students with public law as a field of study may not take this course for graduate credit.

411. THE SUPREME COURT AND INDIVIDUAL RIGHTS (3). The role of the Supreme Court as protector of individual rights, with emphasis on the communicative freedoms, religion, procedural due process, and civil rights. Prerequisite: Pol.S. 140 or 200 or equivalent. Political science graduate students with public law as a field of study may not take this course for graduate credit.

412. TOPICS IN LAW AND SOCIAL PROBLEMS (3). Examination and analysis of the enduring questions of importance for the legal system. Problems illustrating the intersection of law, morality, and politics are set in the context of contemporary issues. Specific focus of the course changes each semester. May be repeated once as topic changes. Prerequisite: Consent of department.

420. PUBLIC POLICY FORMULATION (3). The dynamics of public policy formulation in the executive branch of government. Prerequisite: Pol.S. 140 or 200. Recommended: Pol.S. 320.

422. PUBLIC ORGANIZATION THEORY (3). A review of theories regarding the internal functioning of large-scale public organizations. Prerequisite: Pol.S. 140 or 200. Recommended: Pol.S. 200 or 330.

432. PUBLIC ADMINISTRATION IN SOUTHEAST ASIA (3). An examination of public administration in selected Southeast Asian countries; includes an analysis of the various factors which condition the operation of these administrative systems, a study of the major ingredients in each, and an appraisal of how well they function in terms of development programs as well as traditional activities. Prerequisite: Pol.S. 140 or 200. Recommended: Pol.S. 260.

439. INTERNSHIP IN ADMINISTRATION (3). Admission upon written departmental approval. Two days a week or equivalent in a government agency. Prerequisite: Pol.S. 320. Recommended: Pol.S. 330.

440. MAJOR MODES OF EMPIRICAL THEORY (3). With focus upon the individual as the basic unit of analysis, the course will examine such major empirical theoretical approaches as institutional analysis; the role of the elites, ideologies, and publics; political power; systems and communications networks, game theory, decision-making, and phenomenology.

442. **ELEMENTARY COMPUTER TECHNIQUES FOR POLITICAL ANALYSIS (3).** Fundamentals of preparation and manipulation of data using the computer with emphasis upon problems and programs particular to research in political science. Prerequisite: Pol.S. 140 or 200, Math. 305B, or equivalent. Recommended: Pol.S. 340.
450. **AMERICAN POLITICAL THOUGHT (3).** An analysis of the political thought of selected American statesmen having political responsibility at the critical moments in American history. Particular attention is given to the relationship between the political philosophy in their thinking and the political actions which they initiated. Prerequisite: Pol.S. 140 or 200. Recommended: Pol.S. 350 or 351.
451. **SOUTHEAST ASIAN POLITICAL THOUGHT (3).** Major political concepts which have influenced Southeast Asian societies. Prerequisite: Pol.S. 140 or 200. Recommended: Pol.S. 371.
455. **MARXISM (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. Prerequisite: Pol.S. 140 or 200. Recommended: Pol.S. 352.
460. **COMPARATIVE COMMUNIST POLITICAL SYSTEMS (3).** Analysis of the political processes and institutions of contemporary communist states and an evaluation of the theoretical methods appropriate to such a study. Prerequisite: Pol.S. 140 or 200. Recommended: Pol.S. 260; prior course work in Soviet, East European, or Communist Chinese governmental systems.
461. **POLITICS OF DEVELOPING AREAS (3).** A broad comparative introduction to the problems and politics of developing areas. Prerequisite: Pol.S. 140 or 200. Recommended: Pol.S. 260.
470. **POLITICAL DISINTEGRATION AND CONFLICT (3).** An introduction to the theories of conflict, opposition, and the disintegration of political systems; includes an analysis of the origins, characteristics, and methods of concluding violent conflicts, including war. Prerequisite: Pol.S. 140 or 200. Recommended: Pol.S. 260.
471. **A COMPARATIVE STUDY OF MINORITIES IN THE POLITICAL PROCESS (3).** A detailed analysis of how different political systems handle the problems posed by the existence of ethnic differentiations within the population; the techniques of government to effect integration and identification with the nation-states, and the activities of minorities in response to governmental policies. (Depending upon the instructor, special emphasis will be placed upon different regions of the world for illustrative materials.) Prerequisite: Pol.S. 140 or 200. Recommended: Pol.S. 260.
472. **COMPARATIVE ELITES (3).** A critical analysis of the current theories of elite behavior and function in social science literature. Prerequisite: Pol.S. 140 or 200. Recommended: Pol.S. 260.
473. **COMPARATIVE POLITICAL PARTIES (3).** A comparative analysis of the origins, development, characteristics, and functions of modern political parties and party systems. Prerequisite: Pol.S. 140 or 200. Recommended: Pol.S. 260 and courses at the 300 level.
480. **INTERNATIONAL LAW (3).** Principles of the international law of peace, war, and neutrality. Prerequisite: Pol.S. 140 or 200. Recommended: Pol.S. 280.
481. **INTERNATIONAL ORGANIZATION (3).** The origins, structure, and functioning of the United Nations and its specialized agencies. Contemporary problems. Prerequisite: Pol.S. 140 or 200. Recommended: Pol.S. 280.
482. **FOREIGN POLICIES OF THE WESTERN EUROPEAN POWERS (3).** Contemporary external policies of France, the Federal Republic of Germany, the United Kingdom, and the European community. Prerequisite: Pol.S. 140 or 200. Recommended: Pol.S. 280.
483. **SOVIET FOREIGN POLICY (3).** The traditional objectives of Russian foreign policy and the contemporary policies of the Soviet Union. Prerequisite: Pol.S. 140 or 200. Recommended: Pol.S. 280 and 366.
484. **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. Prerequisite: Pol.S. 140 or 200. Recommended: Pol.S. 260 or 280.
490. **MATERIALS AND PROBLEMS OF HIGH SCHOOL INSTRUCTION IN THE SOCIAL SCIENCES (3).** *Crosslisted as Econ. 490X.* Offered in conjunction with the Departments of Anthropology, Economics, and Sociology.
491. **MATERIALS AND PROBLEMS OF ELEMENTARY SCHOOL INSTRUCTION IN THE SOCIAL SCIENCES (2).** Offered in conjunction with the Departments of Anthropology, Economics and Sociology.
- 493X. **SEMINAR IN POLITICAL ECONOMY (3).** *Economics 493.*
 A. Decision-Making in the Public Sector
 B. International Relations
 C. Metropolitan Studies
 D. Manpower Policy
 Selected topics in political economy, offered jointly by the Departments of Political Science and Economics. Topics will be listed by semester. May be repeated once as topics change. Prerequisite: Consent of instructors.
495. **SEMINAR IN CURRENT PROBLEMS (3).** Contemporary issues and policies in government and politics. May be repeated to a maximum of 6 semester hours. Prerequisite: Consent of department adviser.

498. SEMINAR ABROAD (3-9). A foreign study program to be arranged with the department chairman.

501. TOPICS IN AMERICAN POLITICS (3). A reading seminar which in any one semester will focus on either the American Executive, comparative state politics, government and the economic system, or some other topic in American politics. May be repeated to a maximum of 6 semester hours as topic changes.

505. SEMINAR IN POLITICAL PARTIES (3). Survey of the literature and research pertaining to American political parties.

506. INTERGOVERNMENTAL RELATIONS (3). An analysis of national-state, national-local, state-local, interstate, and interlocal relationships within the United States. The nature of federalism, constitutional and statutory power bases, and cooperative problem-solving.

507. URBAN POLITICS (3). The theory of urban politics with special emphasis upon urban research design.

508. LEGISLATIVE BEHAVIOR (3). Functioning of legislative bodies, actions of members, coalitions, policy outputs, decision processes, and constituency relationships.

510. SEMINAR IN THE JUDICIAL PROCESS (3). Judicial systems and roles, judicial selection, organization and management of litigation, influences on judicial decision-making, impact and enforcement of judicial decisions, relationships among courts and other policy makers in the political system.

512. SEMINAR ON CONSTITUTIONAL POWERS (3). Advanced study of constitutional problems in such areas as the following: judicial power, separation of powers, federalism, and economic policy. Prerequisite: Pol.S. 410 or consent of instructor.

513. SEMINAR IN CONSTITUTIONAL RIGHTS (3). Advanced study of constitutional problems in civil liberties in such areas as the following: due process, equal protection, criminal procedure, freedom of speech and press, and freedom of religion. Prerequisite: Pol.S. 411 or consent of instructor.

522. 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.

524. 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.

525. TOPICS IN HEALTH AND MENTAL HEALTH ADMINISTRATION (3).

- A. The Politics of Mental Health
- B. Clinical Administration:
Treatment Through Institutional Change
- C. Planning and Policy-Making
in Health and Mental Health

An examination of political and administrative aspects of organizing, maintaining, and delivering health and mental health services.

530. PUBLIC POLICY PROCESSES (3). An introduction to the processes through which public policy is formulated and executed in the U.S. and selected foreign political systems. Concern is focused on the comparative study of political relationships of administrative agencies with clientele, interest groups, and the legislative, executive, and administrative branches. Special attention is also given to questions of administrative responsibility and ethics in the public service.

531. ORGANIZATION SCIENCE I (3). Topics include the history and current state of the public administration discipline, a review of approaches to organizational analysis, a detailed study of organizations from sociological and psychological perspectives, and an introduction to systems-analysis concepts in administrative theory.

532. ORGANIZATION SCIENCE II (3). As a continuation of Pol.S. 531, the course focuses on quantitative techniques in administrative analysis and on the behavioral and systems approaches to budgeting theory. A general review of fiscal planning and reporting methods is included. Prerequisite: Pol.S. 531 or consent of instructor.

535. SCOPE AND METHOD OF PUBLIC ADMINISTRATION (3). A systematic analysis of the scope and method of public administration through time and space. Emphasis upon the use of theory in empirical research and the development of research designs.

539. INTERNSHIP IN PUBLIC ADMINISTRATION (2-6). A work-study experience composed of three elements: (1) administrative service in a government agency; (2) seminar meetings concerned with administrative issues; and (3) the preparation of a comprehensive research report on an administrative problem. May be repeated to a maximum of 6 semester hours. Prerequisite: Consent of department.

542. ADVANCED COMPUTER TECHNIQUES FOR POLITICAL ANALYSIS (3). Use of the computer for advanced political analysis and research.

543. POLITICAL RESEARCH TECHNIQUES (3). Political generalizations and hypotheses; techniques of data gathering; fundamentals of statistics as applied to political research; scales; clustering techniques; applications, counter sorter, and computer; mathematical modeling and simulation in studies of political behavior. Recommended for students taking "computer applications" in lieu of language requirements for the M.A. and Ph.D.

545. 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. May be repeated for a total of 6 credit hours.

550. BASIC PROBLEMS IN ANCIENT POLITICAL PHILOSOPHY (3). An analysis of a major work or major works of classical political philosophy. May be repeated up to 6 hours as topic changes.

551. BASIC PROBLEMS IN MODERN POLITICAL PHILOSOPHY (3). An analysis of a major work or major works illustrative of modern political philosophy. May be repeated up to a maximum of 6 hours as topic changes.

552. THEORY OF AMERICAN DEMOCRACY I: THE FEDERAL CONVENTION (3). A theoretical consideration of the American political order as it is revealed in its founding decade. Primary attention is given to the *Proceedings of the Federal Convention* and related philosophical and historical materials.

553. THEORY OF AMERICAN DEMOCRACY II: THE FEDERALIST (3). A theoretical consideration of the American political order as it is revealed in the founding decade. Primary attention is given to *The Federalist* as a work of political philosophy, to the anti-Federalist writings, and to related philosophical and historical materials.

554. PRINCIPLES OF PLATO'S POLITICAL THEORY (3). An analysis of Plato's political dialogues.

560. SEMINAR IN COMPARATIVE POLITICAL ANALYSIS (3). Reading seminar in the major theoretical and methodological concerns of the field of comparative government. Required for advanced graduate work in comparative government.

562. SEMINAR IN POLITICAL CULTURE (3). An analysis of politics as a cultural manifestation; comparative analysis of the cultural bases of national political systems. Research on selected topics of political culture.

565. SEMINAR IN DEMOCRATIC POLITICAL SYSTEMS (3). An analysis of pluralistic and consensual systems. The course will concern the effects of ideological, institutional, historical, and behavioral forces on the political decision-making and developmental processes of these systems. Students will be expected to have a background in American and Western European political systems.

566. SEMINAR IN TOTALITARIAN POLITICAL SYSTEMS (3). Intensive study of totalitarianism as a theoretical concept and its application to contemporary and premodern political systems. Recommended: Familiarity with the governmental systems of the Soviet Union, East Europe, or Communist China.

567. SEMINAR IN POLITICAL DEVELOPMENT (3). A reading seminar devoted to a comprehensive survey of the literature on the

problems of political development and social modernization in the developing nations.

568. SEMINAR IN POLITICAL ECONOMY OF DEVELOPING AREAS (3). The seminar will examine the political determinants and consequences of economic development programs in underdeveloped nations. Special attention will be given to the politics of the planning process, the internal impact of foreign assistance, the politicization of economic conflict, and the evolution of public policy in selected developing countries.

570. READING SEMINAR IN SOUTHEAST ASIAN POLITICS (3). An examination of the literature concerning the diverse political cultures of Southeast Asia, the salient political forces, and the major political problems of development, integration, and stability in the area.

571. SEMINAR IN THE INDIAN POLITICAL SYSTEM (3). The seminar will deal with the major components of the Indian political system. Special attention will be given to the interaction of traditional and modern aspects of the Indian regime, the problems of integrating multiple levels of decision making, the effects of multiple and major social cleavages on political life, and the process of developing effective political institutions in India.

572. POLITICAL INTEGRATION IN TROPICAL AFRICA (3). A comparative study of the causes and consequences of political parochialism, ethnic nationalism, and other manifestations of malintegration and of the efforts of selected new African states to achieve greater social cohesion and consensus on supportive citizen roles.

575. SEMINAR IN COMPARATIVE POLITICAL INSTITUTIONS AND PROCESSES (3). An examination of the literature dealing with selected institutions and processes, such as parties, interest organizations, elites, legislatures, and executives, in a comparative framework, and the methodology used in examining these phenomena.

576. POLITICAL LEADERSHIP (3). The course will survey and integrate the theoretical contributions and empirical findings of the various branches of the social sciences on the subject of leadership, and more particularly political leadership, in small groups, organizations, and large societies.

580. 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).

581. THEORY AND INTERNATIONAL RELATIONS: SYSTEMIC ANALYSIS (3). An examination of the nature of international relations as a field of study and theories concerning the nature of the international system.

582. SEMINAR IN INTERNATIONAL LAW AND ORGANIZATION (3). Selected topics and cases in international law. Structural and functional problems of the United Nations and its specialized agencies.

583. THEORY AND INTERNATIONAL RELATIONS: INTERNATIONAL REGIONS (3). Regionalism and regional organizations in the international political system.

585. PROBLEMS OF AMERICAN FOREIGN POLICY (3). An examination of major problems in the formulation and conduct of American foreign policy.

586. SEMINAR IN INTERNATIONAL RELATIONS (3). Research and analysis of selected topics in the field of international relations.

587. 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.

588. LATIN AMERICA AND INTERNATIONAL POLITICS (3). An examination of the role of Latin American countries in regional and world affairs.

589. THEORY AND INTERNATIONAL RELATIONS: SUBSYSTEMIC ANALYSIS (3). The political aspects of theories below the systemic level that describe international behavior including communications, small group, decision-making, frustration-aggression, and biological theories as they relate to international political processes.

590. SCOPE AND METHOD OF POLITICAL SCIENCE (3). Examination of research and scholarly methods pursued in political science, the philosophy of science and other philosophical bases for the study of political phenomena. Required of all political science majors.

591. SEMINAR IN COLLEGE TEACHING OF POLITICAL SCIENCE (1-3).

- A. American Government
- B. Public Law
- C. Public Administration
- D. Empirical Theory and Behavior
- E. Political Theory
- J. Comparative Politics
- K. International Relations

Open to graduate teaching interns in political science as an integral part of the college teaching intern program. These credit hours may not be applied toward the hours required for a master's degree, and are not normally accepted toward field requirements for the Ph.D. degree. Prerequisite: Consent of department chairman. May be repeated to a maximum of 8 semester hours; limit of 3 semester hours in each subsection.

596. INDEPENDENT STUDY IN POLITICAL SCIENCE (3-6). Open to qualified students who wish to do individual advanced work in political science. May be repeated to a maximum of 9 semester hours.

599. THESIS (1-6).

600. 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.

605T. SEMINAR IN THE ELECTORAL PROCESS (3). A research seminar devoted to problems and research in voting behavior, electoral participation, suffrage, apportionment, representational linkages, the impact of campaigns, and the interpretation of elections.

610. TOPICS IN PUBLIC LAW (3). Selected topics in public law. May be repeated to a maximum of 6 semester hours.

611. SEMINAR IN JURISPRUDENCE (3). Analysis of the foundations of legal systems. The interrelationship of law, morality, and politics.

612. SEMINAR IN COMPARATIVE LEGAL SYSTEMS (3). Empirical analysis of the preconditions, development, and functions of legal systems. Crosscultural analysis of the judicial process.

613. RESEARCH SEMINAR IN JUDICIAL BEHAVIOR (3). Selected problems in judicial behavior. May also be counted in the empirical theory and behavior field. May be repeated to a maximum of 6 semester hours. Prerequisite: Pol.S. 510 or consent of department.

614. 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.

620. SEMINAR IN PUBLIC ADMINISTRATION (3). Research and discussion of selected topics.

621. SEMINAR IN COMPARATIVE PUBLIC ADMINISTRATION (3). Research and discussion of administrative problems, processes, and methods in various governments.

622. SEMINAR IN METROPOLITAN GOVERNANCE (3). Selected problems in the governing of metropolitan areas.

623. 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.

630. SEMINAR IN PUBLIC POLICY ANALYSIS (3). A research seminar on public policy analysis.

635. SEMINAR IN GOVERNMENTAL AND ADMINISTRATIVE PROBLEMS OF UNDERDEVELOPED COUNTRIES (3). Research and discussion of selected topics.

641. SEMINAR IN EMPIRICAL THEORY AND BEHAVIOR (3). Research and class discussion of selected topics in empirical theory and methodology. May be repeated up to 6 semester hours.

650. SEMINAR IN POLITICAL THEORY (3). Research seminar on selected topics in political philosophy. May be repeated up to 6 semester hours.

660. RESEARCH SEMINAR IN COMPARATIVE POLITICS (3). Examination of aspects of research in comparative politics and preparation and execution of research projects. May be repeated to a maximum of 9 semester hours.

670. RESEARCH SEMINAR IN SOUTHEAST ASIAN POLITICS (3). Analytical cross-national research dealing with salient political issues of Southeast Asia. May be repeated to a maximum of 6 semester hours.

680. RESEARCH SEMINAR IN INTERNATIONAL RELATIONS (3). Research and class discussion of selected topics. May be repeated to a maximum of 9 semester hours.

698. FOREIGN STUDY AND INTERNSHIP (3-9). Individual research, study, and work abroad.

699. DOCTORAL RESEARCH AND DISSERTATION (1-16). May be repeated to a maximum of 32 semester hours.

MASTER OF ARTS IN PUBLIC AFFAIRS

The Master of Arts in Public Affairs degree program has been designed to meet the needs of those students seeking special educational preparation for careers in the public service. It focuses principally upon the dynamics of public policy formulation and execution as the appropriate basis for persons wishing to attack political, social, economic, and environmental problems through career positions in governmental and quasi-public agencies.

Prerequisites for admission to the program include a satisfactory background in statistics and 9 hours of study in the social sciences, including at least one course in American government. Students lacking adequate statistical grounding will be expected to complete Math. 208 or its equivalent at their earliest opportunity after gaining admission to the program.

The M.A.P.A. degree will normally require the completion of a minimum of 30 to 36 semester hours of approved graduate study. This study is to be undertaken in two fields, the public policy core and a selected area of concentration. The public policy core consists of the following required courses (15 hours):

- Pol.S. 530, Public Policy Processes
- Pol.S. 531, Organization Science I
- Pol.S. 532, Organization Science II
- Pol.S. 535, Administration Research and Analysis
- Pol.S. 630, Seminar in Public Policy Analysis

Students must also complete the requirements of one of the following areas of concentration, thus permitting the development of expertise in a specialized field of academic and professional interest:

1. Public Administration. A general study of public administration, focusing principally on organization theory, administrative analysis, and the problems endemic to large federal and state government agencies.

Course requirements:

- Pol.S. 620, Seminar in Public Administration
- Pol.S. 539, Internship in Public Administration*
- 12 additional hours of approved graduate study, including at least 6 hours from course offerings outside the Department of Political Science

2. Urban Management and Development. An analysis of urban problems, especially the political and administrative problems of city management, urban planning, and community organization activities.

Course requirements:

- Pol.S. 622, Seminar in Metropolitan Governance

Pol.S. 539, Internship in Public Administration*

12 additional hours of approved graduate study, including at least 6 hours from course offerings outside the Department of Political Science

3. Comparative and Developmental Administration. A thorough study of the economic and social problems of development administration, and an examination of bureaucratic functioning in other cultures.

Course requirements:

- Pol.S. 621, Seminar in Comparative Public Administration
- 12 additional hours of approved graduate study

4. Fiscal Administration. The critical examination of techniques and problems in the fields of fiscal management, budgetary policy, and political economy.

Course requirements:

- 15 hours of approved graduate study, at least 9 hours of which must be taken from course offerings outside the Department of Political Science
- Pol.S. 539, Internship in Public Administration*

5. Social Service Programming. An intensive review of fundamental problems involved in the development and administration of programs involving human development, labor relations, manpower planning, and related topics.

Course requirements:

- 15 hours of approved graduate study, at least 9 hours of which must be taken from course offerings outside the Department of Political Science

In addition to credit-hour requirements, students must also develop a basic familiarity with the utilization of computers, submit two seminar papers of exceptional quality (one of which will normally be prepared in completion of the requirements of Pol.S. 630), and pass two comprehensive examinations. The first examination will be a written test based upon the public policy core and upon the student's area of concentration; the second will be an oral examination based upon the seminar papers. Students must have completed a minimum of 21 hours of approved graduate study, exclusive of internship courses, and have maintained a grade-point average of at least 3.10 to be eligible to take comprehensive examinations.

*This requirement may be waived if a student has had appropriate professional experience

Department of Psychology

GRADUATE FACULTY: Dean, department chairman. Allen, Bischof, Coover, Davis, Dittrichs, Feldman, Grier, Hershberger, Kaplan, Katkovsky, Lints, Lotsof, D. McAllister, W. McAllister, Markiewicz, Martin, Miller, Peterson, Schwartz, Senkowski, Simon, Stewart, Woodruff

Master of Arts

The degree Master of Arts, with a major in 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 the M.A. in psychology should in no way 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 level of education. There is need for further preparation before one can be regarded as a psychologist, in either the research or the applied area. 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:

	Semester Hours
Core courses: Psych. 501, 504, 506, and three of the following four courses: Psych. 502, 503, 509, 565	18
Thesis: Psych. 599	3-6
Graduate courses in psychology and related fields (to be determined by the student and his adviser)	6-9
	<hr/>
	30

Doctor of Philosophy

The doctoral program in psychology is built around the areas of biopsychology, developmental, personality, clinical, learning and performance, and school psychology, with strong emphasis on quantitative methods and research techniques.

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 30 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 must demonstrate a knowledge of one of the following:
 - a. Two foreign languages, average reading proficiency;
 - b. One foreign language, high level of reading proficiency;
 - c. One foreign language, average reading proficiency, and one research tool, average proficiency;
 - d. Two research tools, average proficiency; or
 - e. One research tool, high level of proficiency.
4. Students entering Northern Illinois University with a master's degree from another institution will be expected to enroll in the core course sequence. With departmental approval students with adequate background may be exempted from individual courses.
5. The candidacy examination will consist of an extensive written examination covering the student's major area.
6. The Ph.D. candidate will complete a dissertation. Normally the dissertation will be the equivalent of two semesters' work (18-24 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.
7. 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

NOTE: A "T" after a course number indicates that an old number is being reused for a new course; an "X" designates a course which is offered primarily by another department but which may be taken for credit in this department.

415T. BEHAVIOR DISTURBANCES IN CHILDREN (3). The course will cover disturbances in children involving intellectual, emotional and expressive behaviors as well as selected therapeutic procedures and their relationship to psychological theories and research. Prerequisite: Psych. 225.

416. INTRODUCTION TO PSYCHOPATHOLOGY (3). An introduction to the study of "pathological" behavior. The development, maintenance, and treatment of problem behavior will be discussed from theoretical, empirical, and clinical perspectives. Prerequisite: Psych. 102 or 210.

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. Prerequisite: Psych. 210.

430. MOTIVATION (3). The study of behavior as a function of biological need and activation. The experimental analysis of the factors which change the effectiveness of positive reinforcements and punishments. Prerequisite: Psych. 330 or consent of instructor.

431T. NEURAL MECHANISMS OF LEARNING AND MEMORY (3). *Crosslisted as B.Sci. 431TX* Physiological correlates of learning, memory, motivation, and attention. Emphasis will be placed on current research in cellular mechanisms of behavioral plasticity. Prerequisites: Psych. 331 and a course in learning, or consent of department.

432. 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. Prerequisite: Psych. 102 or 210.

433. 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. 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). Behavior development examined through physical, cognitive, perceptual, social, personality,

and language processes. Emphasis is on mechanisms involved in development throughout the life span. Graduate majors in psychology will not receive credit for this course. Prerequisite: Psych. 225.

470. SOCIAL PROCESSES IN BEHAVIOR (3). Behavior in the context of social interaction, with an emphasis on experimental findings. Study of such topics as interpersonal judgment and perception, social attraction, aggression, prejudice, and social influence, including attitude formation and persuasion, conformity, and social modelling. Prerequisite: Psych. 102 or 210.

480. COMPARATIVE PSYCHOLOGY (3). *Crosslisted as B.Sci. 480X*. A critical examination of experimental studies using animals as subjects. A comparison of the behavior of the various species. Lecture and laboratory. Prerequisite: Psych. 102 or 210.

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.

GENERAL PREREQUISITE: It is assumed that students enrolling in 500 and 600 level courses in psychology will have had an adequate background on which to build. If the student has any question about his preparation, he should consult with the instructor of the course.

501. FUNDAMENTALS OF LEARNING (3). An analysis of methodology, empirical findings, and theoretical attempts in the area of learning with an emphasis on classical and instrumental conditioning. Prerequisite: Graduate standing in psychology or permission of instructor.

502. INTRODUCTION TO EXPERIMENTAL PERSONALITY (3). An introduction to methods and empirical findings in the area of personality, with emphasis on experimental investigation. The study of several key topics of current interest in the field will be utilized to illustrate typical methods and findings. Prerequisite: Graduate standing in psychology or permission of instructor.

503. BIOPSYCHOLOGY (3). A selected review of current research concerned with the biological and chemical bases of behavior. Prerequisite: Graduate standing in psychology or permission of instructor.

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 behavior investigation.

509. **FUNDAMENTALS OF PERCEPTION (3)**. The major theories of perception and their historical antecedents, classical and contemporary psychophysics, some basic auditory and visual phenomena, and selected topics from the current research literature. Prerequisite: Graduate standing in psychology or permission of the instructor.

516. **ADVANCED PSYCHOPATHOLOGY (3)**

520. **EXPERIMENTAL SOCIAL PSYCHOLOGY (3)**. A survey in depth of topics of current interest in the study of social interaction. Emphasis will be on experimental approaches to the social behavior of humans, but developments in animal social experimentation will also be utilized. Topics examined will include, but not necessarily be limited to, attitudes and persuasion, conformity, social judgment, aggression, and interpersonal attraction. Prerequisite: Graduate standing in psychology or consent of instructor.

522. **THEORIES IN SOCIAL PSYCHOLOGY (3)**. Survey and critical analysis of current theoretical approaches to social behavior. Relevant experimental evidence will be examined in several critical areas of research. Prerequisite: Graduate standing in psychology or permission of department.

523. **SOCIAL INFLUENCE (3)**. Detailed and critical survey of empirical findings on how people influence others in social situations. Includes the study of social modelling and imitation, conformity and compliance, and obedience. Prerequisite: Graduate standing in psychology or permission of department.

524. **ATTITUDE CHANGE (3)**. A survey of current theories of attitude change. Research will be reviewed which demonstrates the success or failure of these theories to predict attitude change. Important theoretical and research issues in the attitude area will be considered.

Prerequisite: Graduate standing in psychology or permission of the department.

526. **THEORIES OF PERSONALITY (3)**. A systematic study of the theoretical contributions of major psychologists to basic understanding of the dynamics of human personality.

527. **NEUROANATOMICAL BASES OF BEHAVIOR (3)**. *Crosslisted as B.Sci. 527X*. Gross, microscopic and ultramicroscopic anatomy of the nervous system; basic subdivisions of the central, peripheral and autonomic components of the nervous system; histology and ultrastructure of nervous tissue; neuroanatomical mechanisms in the regulation of behavior. Prerequisites: Graduate standing in psychology or Psych. 503 or consent of department.

528T. **NEUROANATOMICAL BASES OF BEHAVIOR: LABORATORY (2)**. *Crosslisted as B.Sci. 528TX*. Gross, microscopic, and ultramicroscopic examination of tissues from the nervous systems of selected species. Prerequisite: Psych. 527 or concurrent enrollment.

529. **NEUROPHYSIOLOGICAL BASES OF BEHAVIOR (3)**. Excitation, conduction, and transmission in the nervous system; neural networks and cellular approaches to the study of learning; neural coding and the transformation and representation of information in the nervous system; limbic and hypothalamic regulation of drives and reinforcement. Prerequisites: Graduate standing in psychology and Psych. 527, or consent of instructor.

530. **NEUROCHEMICAL BASES OF BEHAVIOR (3)**. *Crosslisted as B.Sci. 530X*. Biochemistry of the nervous system; chemical composition, metabolism and chemistry of neurons and glia; chemical bases of learning, motivation, and other categories of behavior. Prerequisites: Graduate standing in psychology, Psych. 529, or consent of instructor.

535. **THEORIES OF LEARNING (3)**. A general study of theories of learning with particular emphasis on theories which have emerged from the psychological laboratory.

539. **INTRODUCTION TO SCHOOL PSYCHOLOGY (3)**. A review of the history and development of school psychology, types of problems handled, methods employed, and current perspectives on psychological work in the schools with emphasis on research functions and the utilization of principles of learning. Prerequisite: Consent of instructor.

540. **CLINICAL PSYCHOLOGY I: THEORY AND ASSESSMENT OF INTELLECTUAL FUNCTIONING (3)**. A historical review of theory and research concerning the definition and measurement of intelligence. Topics covered include intellectual development, factor analytic and computer models of intelligence and the construction and use of intelligence tests. Students receive supervised practice in administering, scoring, and reporting intelligence test results and evaluating their implications for intellectual functioning and for such clinical problems as retardation, brain damage, and thought disorders. Prerequisite: Consent of department.

541. CLINICAL PSYCHOLOGY II: THE ANALYSIS OF BEHAVIOR PATHOLOGY (3). Evaluation of criteria, definitions, and classificatory schemes of psychopathology. Review of theoretical and research contributions to understanding the etiology and maintenance of behavior problems. Instruction in obtaining information, conceptualizing and formulating treatment plans with special clinical groups. Prerequisite: Consent of department.

542. CLINICAL PSYCHOLOGY III: PERSONALITY ASSESSMENT (3). Examination of theoretical and practical issues in the assessment of personality with emphasis on problems of reliability, validity and test construction in this area. Review and evaluation of the use and research on specific personality measures. Supervised practice in administering, evaluating and reporting the results of structured and projective technique. Prerequisites: Psych. 540 or 541, or consent of department.

543. CLINICAL PSYCHOLOGY IV: THEORIES OF PSYCHOTHERAPY (3). Examination and evaluation of the major theoretical approaches to psychotherapy including the psychoanalytic schools, client-centered, existential, and learning models. Prerequisite: Psych. 541 or consent of department.

544. CLINICAL PSYCHOLOGY V: BEHAVIOR MODIFICATION (3). Presentation and discussion of various intervention techniques associated with behavior and learning theories and derived from empirical research on behavior change. Prerequisite: Psych. 543 or consent of department.

551. CLERKSHIP IN CLINICAL PSYCHOLOGY (1-3). Preinternship experience in psychological work in institutional settings, such as the school system, clinics, and hospitals. The student will be assigned to one or more institutions where a supervised work program will be designed for him involving psychological assessment and intervention consistent with his experience and training. Prerequisite: Admission to the clinical training program.

552. PRACTICUM IN ASSESSMENT INTERVENTION (1-3). Experience with specific assessment techniques and models, and practice in planning and executing intervention programs. The emphasis of the Practicum will vary among such topics as child-clinical problems, group psychotherapy, behavior assessment and intervention, the use of Projective techniques and intervention via a consulting role. May be repeated to a maximum of 9 hours. Prerequisite: Admission to the clinical training program.

553. PRACTICUM IN SCHOOL PSYCHOLOGY (1-3). Experience in Psychological work in schools. Activities will vary depending on the Prior experience of the student but may include observation and analysis of behavior, assessment of learning dysfunctions, research work, design of learning programs, and consultation with school personnel. May be repeated to a maximum of 6 semester hours. Prerequisite: Psych. 539.

554. PRACTICUM IN PSYCHOTHERAPY (1-3). Supervised experience in planning and executing a therapeutic program with clients who have sought help for adjustment and personality problems. May be repeated to a maximum of 9 semester hours. Prerequisite: Approval of the clinical training area.

555. INTERNSHIP IN CLINICAL PSYCHOLOGY (2). A period of one academic year in a setting such as a hospital or clinic where the student will perform the functions of a clinical psychologist under the direct supervision of qualified personnel. The internship must have the approval of the clinical psychology faculty. Prerequisite: Departmental approval for the doctoral program in clinical psychology.

556. INTERNSHIP IN SCHOOL PSYCHOLOGY (2). A period of one academic year in a school setting where the student will perform the functions of a school psychologist under the direct supervision of qualified personnel. The internship must have the approval of the school psychology faculty. Prerequisites: At least 4 semester hours of Psych. 533 and departmental approval for the doctoral program in school 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 Psych. 560 in which more advanced models from the current literature, and their mathematical bases, are considered. Emphasis is given to the axioms and models for measurement in psychology. Prerequisite: Psych. 560.

565. BEHAVIORAL DEVELOPMENT (3). An intensive review of the processes involved in behavioral development. The focus is on the factors affecting these processes, rather than on a cross-sectional description of characteristic behavioral changes related to age. Prerequisite: Psychology major or permission of instructor.

566. CURRENT ISSUES IN DEVELOPMENTAL PSYCHOLOGY (3). An examination of major historical and contemporary areas within the field of developmental psychology, with the focus on research and theoretical writings appearing within the current five-year period. A combination of classroom activities and out-of-class projects will be utilized. Prerequisites: Psych. 565 and consent of instructor.

567. RESEARCH METHODOLOGY IN DEVELOPMENTAL PSYCHOLOGY (3). An examination of the interplay of theory, research methodology, and design as they exert their influences on data collecting, analysis, and interpretation in the field of developmental psychology. Prerequisites: Psych. 504, 506, and 565, or consent of instructor.

570. STUDIES IN EXPERIMENTAL PSYCHOLOGY (2-6).

- | | |
|----------------------|------------------|
| A. Learning | E. Physiological |
| B. Perception | J. Comparative |
| C. Motivation | K. Mathematical |
| D. Sensory Processes | |

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 subsection.

571. STUDIES IN GENERAL PSYCHOLOGY (2-6).

- | | |
|---------------------------|-------------------------|
| A. Behavioral Development | D. Quantitative Methods |
| B. Individual Differences | E. Instrumentation |
| C. Personality | J. 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 15 semester hours in each subsection.

572. STUDIES IN CLINICAL PSYCHOLOGY (2-6).

- | |
|-------------------------|
| A. Clinical Methods |
| B. Behavioral Pathology |
| C. Group Processes |
| D. Child–Clinical |
| E. Psychotherapy |

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 6 semester hours in each subsection.

580. SEMINAR IN PSYCHOLOGY (2-4).

- | |
|--------------------------|
| A. School Psychology |
| B. Professional Problems |
| C. College Teaching |

Specialized topics will be considered that are of professional concern to those entering the field of psychology. A may be repeated once; B and C may not be repeated. Prerequisite: Consent of instructor.

585. INDEPENDENT STUDY (1-6). 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 (1-6).

699. PH.D. DISSERTATION (1-15). May be repeated for additional credit to a maximum of 24 semester hours.

Department of Sociology

GRADUATE FACULTY: Seymour, department chairman. Beaudry, Burchard, Das, Davis, Doyle, Elkholy, Engelmann, Ferdinand, Godfrey, Horoszowski, Howard, Irle, Jesser, Kornacker, Kourvetaris, Krauss, Marshall, More, Mulder van-Haaster, Rhoads, Rubin, Schindler, Smith, Struzzo, Suchner, Upchurch, Youngquist

The Department of Sociology offers graduate courses and research opportunities leading to the degree Master of Arts and to the Certificate of Advanced Study.

Graduate work in this field is designed to prepare students for teaching or research in sociology, for positions in public and private administration, and for further advanced study. Students desiring to pursue the graduate curriculum in sociology are required to consult with the departmental graduate adviser before being admitted to courses.

Master of Arts

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 these are lacking, they must be compensated for during the graduate program. Students pursuing the master's degree in sociology will be required to complete one advanced course in statistics (Soc. 575), one graduate course or seminar in sociological theory (Soc. 570, 571, or 670), and one graduate seminar in research methods (Soc. 576, 675, or 676).

In addition students are required to elect either (A) a thesis (Soc. 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.

Certificate of Advanced Study

Prerequisite: A master's degree. Candidates working toward the Certificate of Advanced Study in sociology 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, although a minor of 9 semester hours in a closely related field is acceptable. A comprehensive examination, either written or oral, or both, is required. In addition the student must either: (1) take 24 semester hours of course work and write a thesis (6 hours); or (2) take 30 semester hours of course work. Total for the certificate: 30 semester hours.

Course Offerings

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.

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. 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.

463. ADVANCED SOCIAL PSYCHOLOGY (3). Advanced treatment of the principles of social psychology with emphasis on recent developments in theory and research. Prerequisites: Soc. 170 and 260 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. **SOCIOLOGICAL RESEARCH (3).** An alternating seminar on techniques used in sociological research. Possible topics include observation and interviewing, survey analysis, experimentation, formal models and simulation, sociometry, research in community analysis, attitude measurement, documentary analysis. Please see current Class Schedule for particular topics of the seminar. Prerequisites: Soc. 276 or equivalent, and Math. 208 or 301.

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. 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. Prerequisites: Soc. 170, 288.

491. **DEMOGRAPHIC RESEARCH METHODS (3).** Introduction to research and statistical procedures of population analysis. Measures of fertility, mortality, morbidity, and migration; critical analysis of census and migration; critical analysis of census and vital registration data; construction of life tables; population estimates and projections. Prerequisites: Soc. 170, or consent of instructor and Math. 301.

493. **SOCIOLOGY OF SELECTED DEVELOPING SOCIETIES (3).** Modifications in social structures in relation to economic development and urbanization. Focus on East Asian, Southeast Asian, or Middle Eastern societies. Prerequisite: Consent of instructor.

495. **PROSEMINAR IN SOCIOLOGY (3).** Selected topics from major areas of sociology: social psychology, social organization, social disorganization, theory or methods of research. Prerequisite: Consent of instructor.

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. 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 NONWESTERN SOCIETIES (3).** Structural change including evolution, revolution, social disintegration and the development of new forms; the role of elites. Prerequisite: Soc. 391 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. 391 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. 470 or equivalent.

571. **CONTEMPORARY SOCIOLOGICAL THEORY (3).** Critique of Mead, Parsons, Becker, Homans, Merton, and other recent theorists. Prerequisite: Soc. 473 or equivalent.

572. **PROSEMINAR IN SOCIOLOGY (3).** Analysis and synthesis of current research, concepts, and issues in various areas. May be repeated to a maximum of 6 semester hours. Prerequisite: Consent of instructor.

575. **SOCIOLOGICAL STATISTICS (3).** Methods of sampling and testing hypotheses; statistical inference; correlation and other measures of association; methods of treating both quantitative and nonquantitative variables. Prerequisite: 3 semester hours in statistics.

576. **ADVANCED RESEARCH METHODOLOGY (3).** The scientific approach, selection of problems, design, methods of analysis. Prerequisite: Soc. 476 or equivalent.

581. THEORIES OF DELINQUENCY AND CRIME (3). Relation of theories of delinquency and crime to general biological, sociological, and psychological theories. Prerequisite: Soc. 488 or equivalent.

583. THEORIES AND TYPES OF SOCIAL DISORGANIZATION (3). Disruptive forces which affect institutions and social habits. Processes leading to reorganization or disintegration. Prerequisites: Soc. 170 and 483.

590. INDEPENDENT STUDY IN SOCIOLOGY (3). Supervised readings and research in special areas of sociology. May be repeated to a maximum of 12 semester hours. Prerequisite: Written permission of department chairman.

599. THESIS (1-6).

A. Master's Degree

B. Certificate of Advanced Study

May be repeated to a maximum of 6 semester hours at each level.

651. SEMINAR IN SOCIAL INSTITUTIONS (3). Recent research in sociology of religion, the family, sociology of education, or other topics. May be repeated to a maximum of 9 semester hours. Prerequisite: Consent of instructor.

652. SEMINAR IN SOCIAL ORGANIZATION (3). Recent research in stratification, population, or other selected topics. May be repeated to a maximum of 9 semester hours. Prerequisite: Consent of instructor.

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. 658 and 659 combined. Prerequisite: Soc. 558 or 559 or consent of instructor.

659. SEMINAR IN SELECTED SOCIETIES (3). A maximum of 9 semester hours may be taken in Soc. 658 and 659 combined. Prerequisite: Soc. 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 of research, social change, sociology of knowledge, or other topics. May be repeated to a maximum of 9 semester hours. Prerequisite: Soc. 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. 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. 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. 583 or consent of instructor.

Department of Speech Communication

GRADUATE FACULTY: Gulley, department chairman. Andrews, Austin, Breen, Crawford, Dallinger, Deihl, Doederlein, Fisher, Gray, Hanna, Irvin, Johannesen, Kresheck, Lankford, Larson, Meyer, Parker, Pflaumer, Powell, Shearer, Tucker, Wellman, Wilderman, Williams, Wood, Zachman

The Department of Speech Communication offers graduate programs leading to the degree of Master of Arts 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.

A student may concentrate his graduate study in the area of speech communication or speech pathology-audiology. With the approval of his adviser, the student may elect a maximum of 10 semester hours in allied studies.

Spch. 591A, Graduate Study in Speech, is required of all students. A candidate, with the advice and consent of his adviser, may pursue the degree with or without a thesis.

Master of Arts

Requirements in Speech Communication

1. For the Master of Arts in speech communication, a student may concentrate the major portion of his graduate study in one of the areas of the Department of Speech Communication: (1) communication theory, (2) rhetoric and public address, (3) radio-television-film, and (4) speech education.
2. Every candidate must take at least one graduate-level course in communication theory, rhetoric and public address, and radio-television-film. If the candidate plans a teaching career, he must take at least one graduate course in speech education.
3. Spch. 591A, Graduate Study in Speech, is required of all students and must be taken during the first 12 hours of graduate work.
4. Although a student may concentrate his graduate study in one area of speech communication, his adviser reserves the right to require courses in several areas if the student's academic background is deficient in certain basic courses.
5. A candidate, with the advice and consent of his adviser, may elect to earn a Master of Arts degree *with or without* thesis according to the following requirements:

a. Degree with thesis

1. The student must earn a minimum of 30 semester hours of graduate credit.
2. A thesis must be submitted and approved. From 3 to 6 semester hours may be allotted to thesis research and writing.
3. A maximum of 6 credits may be taken in a combination of 597 and 599A.
4. During the semester in which the candidate is to complete his degree requirements, he must pass a written examination (6-8 hours) which will assess his knowledge and ability in his area of concentration.
5. The student must pass an oral examination on his thesis or on his thesis and course work.

b. Degree without thesis

1. The student must earn a minimum of 30 semester hours of graduate credit.
2. A maximum of 3 credits may be earned in Spch. 597.
3. During the semester in which the candidate is to complete his degree requirements, he must pass a written examination (8-12 hours) and must pass an oral examination, both of which will assess his knowledge and ability in his area of concentration.
4. The written examination is to be accompanied by the submission by the student, for evaluation by his committee, of an expanded scholarly paper growing out of previous course work or directed individual study.

Requirements in Speech Pathology-Audiology

1. A candidate, with the advice and consent of his adviser, may elect to earn a degree *with or without* thesis according to the following requirements:

a. Degree with thesis

1. The student must earn a minimum of 30 semester hours of graduate credit.
2. A thesis must be submitted and approved. A maximum of 6 semester hours may be allotted to thesis research and writing.
3. 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.

b. Degree without thesis

1. The student must earn a minimum of 36 semester hours of graduate credit.
 2. The student must pass a written examination which will assess his knowledge and ability in his area of concentration in graduate study.
2. Students electing to concentrate in speech pathology-audiology must meet two additional requirements:
 - a. Completion of the minimum academic requirements for the Certificate of Clinical Competence (ASHS). These requirements are available from the Department of Speech Communication.
 - 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 Communication. The nature of the program will depend on the student's experience and academic background.

For students concentrating in the speech communication division of the department, a thesis is required (for 3-6 semester hours) and the final comprehensive examination is both written and oral.

Course Offerings

NOTE: An "X" designates a course which is offered primarily by another department but which may be taken for credit in this department.

SPEECH COMMUNICATION

400. INTRODUCTION TO RHETORICAL THEORY AND CRITICISM (3). Basic approaches, methods, concepts and standards in rhetorical appraisal, classical and modern.

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. SEMANTIC ASPECTS OF COMMUNICATION (3). An examination of the role of semantics in the study of human communication, with stress on the contribution of language to the meanings of communicative acts.

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 a half semester. Prerequisites: Spch. 305, Thea. 460.

435. ORAL COMMUNICATION IN THE CLASSROOM (3). A study of the theories, practices, and research which relate oral communication to effective learning in the classroom. Practice in developing and evaluating micro-teaching exercises in effective communication interaction in the classroom.

450. EDUCATIONAL RADIO-TELEVISION (3). Practical methods for the use of radio-television instruction in the classroom. Studio experience in the preparation and presentation of instructional units for telecasting. Not open to students with credit in Spch. 353 or its equivalent.

452. BROADCASTING AND SOCIETY (3). Broadcasting as a social force in the United States. Current social issues as they are treated by the broadcasters.

453. COMPARATIVE SYSTEMS OF BROADCASTING (3). The broadcasting systems of other nations relative to their social, economic, cultural, and political aspects.

454. INTERNATIONAL BROADCASTING (3). *Crosslisted as Journ. 454X.* A study of the development, structure, functions, and control of international broadcast systems and activities as they affect world relations.

455. BROADCASTING LAW AND REGULATIONS (3). The development, structure, and functions of the legal control of broadcasting and their effect on programming processes. Prerequisite: Spch. 459.

456. HISTORY OF FILM (3). Historical development of the motion picture.

457. THE TELEVISION FILM DOCUMENTARY (3). Investigation of the theories and techniques of the television documentary.

459. HISTORY OF BROADCASTING (3). *Crosslisted as Journ. 459X.* The history of radio and television broadcasting in the United States from its inception to the present.

460. THEORY OF INTERNATIONAL ORAL COMMUNICATION (3). Examines the basic theoretical concepts underlying the modes, structures, and systems of oral and speech processes in multi-national communication.

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. THE CLASSICAL TRADITION IN RHETORICAL THEORY (3). Foundations of rhetoric, emphasizing the contributions of Plato, Aristotle, Cicero, and Quintilian, and selected medieval, Renaissance, and post-Renaissance rhetorical theorists.

502T. CONTEMPORARY RHETORICAL THEORY (3). Issues in rhetorical theory construction, trends in 20th century rhetorical theorizing, and the approaches to rhetorical theory of such figures as Kenneth Burke, I. A. Richards, Richard M. Weaver, Chaim Perelman, Stephen Toulmin, and Marshall McLuhan.

503T. RHETORIC OF CONTROVERSIAL HISTORIC ISSUES (3). While subject matter will change from semester to semester, focus will be on leading speakers on persistent intellectual, social, and political issues and on rhetorical processes in mass movements and political campaigns. May be repeated to a maximum of 9 semester hours provided there is no duplication of material. Prerequisite: Consent of department.

505. THEORY AND USES OF ARGUMENT (3). A study of modern theories of argument and a critical examination of the function of debate in the determination of public policy.

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.

510. SYMBOLIC BEHAVIOR AND COMMUNICATION (3). Description of the nature of symbols and the major forms of symbolic systems used in speech communication.

530. SPEECH COMMUNICATION WORKSHOP (1-3). For teachers and other professionals who wish to study current problems and keep abreast of trends, innovations, and knowledge in various areas of speech communication. Only 3 semester hours of Spch. 530 may be applied toward a master's degree or Certificate of Advanced Study in speech. However, Spch. 530 may be repeated for credit provided no duplication of subject matter occurs.

533. SEMINAR IN THE TEACHING OF SPEECH (3).

535. THE FORENSIC PROGRAM (3). The organization, direction, and evaluation of intraschool, community, and interschool activities in debate, discussion, extempore speaking, and oratory.

536. SEMINAR IN ORAL INTERPRETATION (3). Critical analysis of literature concerning oral interpretation. Considers teaching, theory, and performance.

539. INTERNSHIP TEACHING OF SPEECH COMMUNICATION (1-3). For graduate students preparing to teach. Study of problems related to selection, organization, and evaluation of course content will be augmented by internship experience in instruction in classes under supervision and criticism. Total cumulative credit allowed for the course is 3 semester hours. Prerequisite: Consent of department.

550. SEMINAR IN BROADCASTING (3). Intensive study of selected topics in broadcasting. Topics will vary from semester to semester. May be repeated to a maximum of 9 semester hours provided that no repetition of subject matter occurs. Prerequisite: Consent of instructor.

551. SEMINAR IN BROADCAST RESEARCH (3). Problems, methods, techniques, and responsibilities related to radio-television research.

552. SEMINAR IN ADVANCED PROBLEMS OF BROADCAST PRODUCTION (3). Techniques, theories, and criticism of production for radio, television, or film as used in television. May be repeated to a maximum of 6 semester hours provided there is no duplication of course content. Prerequisite: Consent of instructor.

553. SEMINAR IN RADIO-TELEVISION MANAGEMENT (3). Problems in the operation and management of the broadcast station in the commercial or educational field. May be repeated to a maximum of 6 semester hours provided there is no duplication of course content. Prerequisite: Consent of instructor.

591A. GRADUATE STUDY IN SPEECH: HISTORY AND METHODS OF RESEARCH IN SPEECH COMMUNICATION (3). Focuses on the nature and development of research questions and methods typical of scholarship in speech communication in such areas as communication theory, rhetorical theory and public address, speech education, and radio-television-film.

592. COMMUNICATIONS RESEARCH METHODOLOGY (3). A survey of research problems and procedures in speech with consideration of treatments and analysis of experimental data.

597. **DIRECTED INDIVIDUAL STUDY I (1-6).** Independent study of problems in any area of speech: speech communication, radio-television-film, speech education, speech pathology-audiology, interpretation, and related fields. Prerequisite: Consent of department.

598. **DIRECTED INDIVIDUAL STUDY II (1-6).** Independent pursuit of advanced problems in speech of special concern to qualified graduate students. Open only to candidates enrolled in the sixth-year program. Prerequisite: Consent of department.

599. **THESIS (1-6).**

A. Master's Degree

B. Certificate of Advanced Study

May be repeated to a maximum of 6 semester hours at each level. Prerequisite: Consent of the student's adviser.

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.

630. **SEMINAR IN SPEECH EDUCATION (3).** May be repeated to a maximum of 9 semester hours provided that no repetition of subject matter occurs.

660. **SPECIAL TOPICS IN RHETORIC AND PUBLIC ADDRESS (3).** Intensive study in selected topic areas varied from semester to semester, such as but not limited to criticism of selected public addresses, the rhetoric of protest, the rhetoric of nonrational forms, issues in ethics, and free speech in communication. May be repeated to a maximum of 9 semester hours provided that no repetition of subject matter occurs. Prerequisite: Consent of department.

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.

423. **VOICE AND ARTICULATION DISORDERS (4).** Nature and causes of disorders of articulation and voice. Consideration of diagnostic and therapeutic procedures. Observation and demonstration laboratory. Prerequisites: Spch. 220, 323, and 477.

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. Prerequisite: Spch. 221.

425. **NEUROPATHOLOGIES OF SPEECH AND LANGUAGE (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. Prerequisite: Spch. 323.

427. **INTRODUCTION TO SPEECH AND LANGUAGE PRACTICUM (1).** Observation, discussion, and beginning clinical practice of diagnostic and therapeutic procedures. Enrollment is required of all students during their first semester of clinical practice in speech pathology. Prerequisite: Spch. 423 or consent of department.

428. **INTRODUCTION TO HEARING PRACTICUM (1).** Observation, practice, and discussion of diagnostic and rehabilitative audiologic procedures. Prerequisite: Spch. 221 or consent of instructor.

429. **DIAGNOSTIC PROCEDURES FOR SPEECH AND LANGUAGE (3).** Fundamental concepts underlying measurement procedures in speech pathology. Emphasis on basic practices in the construction, administration, and interpretation of tests. Techniques of the diagnostic interview and reporting case material. Prerequisite: Spch. 425.

466X. **SIGN LANGUAGE AND FINGERSPELLING FOR THE DEAF (3).** *Special Education 466.* 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.

475. **NOISE AND ITS EFFECTS ON MAN (3).** Physical and psychological parameters of noise, the effects of noise on man, noise control, hearing conservation procedures, and legal aspects of noise.

476. **LANGUAGE PATHOLOGY AND THERAPY (3).** A consideration of language acquisition as it relates to individuals with language deficiencies, with special emphasis on the research, principles, and methods used in the habilitation and rehabilitation of these individuals. Prerequisites: Spch. 324 and 425 or consent of department.

477. **BEHAVIOR MODIFICATION IN COMMUNICATION DISORDERS (3).** Basic principles of learning, including classical and operant conditioning, as they apply to the systematic modification of disorders of communication. Prerequisite: Spch. 221.

527. **ANATOMY AND PATHOLOGY OF THE EAR (3).** The study of the anatomical aspects of the human auditory system. The major divisions of the auditory system as a function of the embryonic development and the morphological development as they relate to the normal system and the pathological system. Prerequisite: Spch. 323 or consent of department.

528. **PSYCHOSOCIAL ASPECTS OF HEARING IMPAIRMENT (3).** Personal, social, educational, and vocational adjustment of the hearing impaired. Prerequisite: Consent of department.

544. STUTTERING RESEARCH AND THERAPY (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. Prerequisite: Spch. 424 or consent of department.

547. INSTRUMENTATION FOR COMMUNICATION DISORDERS (3). Theoretical communication disorders and practical aspects of electronic audio-frequency laboratory equipment commonly used for evaluation and research in speech pathology and audiology.

570. VOICE DISORDERS: RESEARCH AND THERAPY (3). Discussion and review of the literature bearing on the theory, etiology, and treatment of voice disorders. Includes the study of problems associated with laryngectomy. Prerequisite: Spch. 423 or consent of department.

571. ARTICULATION DISORDERS: RESEARCH AND THERAPY (3). Discussion and review of the literature bearing on the theory, etiology, and treatment of disorders of articulation. Prerequisite: Spch. 423 or consent of department.

572. CLEFT PALATE (3). The study of types of oral-facial clefts, embryological development of the lip and palate, velopharyngeal physiology, speech problems and other concomitant difficulties accompanying clefts, principles of therapeutic intervention, and research related to the problem. Prerequisite: Spch. 425 or consent of department.

573. CEREBRAL PALSY (3). The study of types and etiology of cerebral palsy and their effect on oral communication. Principles of therapeutic intervention and research related to the problem. Prerequisite: Spch. 425 or consent of department.

574. APHASIA (3). The study of language interruptions accompanying cerebrovascular accidents, head wounds, and other assaults upon the cerebrum, cerebellum, and brain stem. Principles of therapeutic intervention and research related to the problem.

575. 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 department.

576. ORGANIZATION AND PLANNING OF SPEECH AND HEARING SERVICES (3). Aspects of conducting a program for communication disorders in various settings including public schools, hospital and service clinics, and private practice. A study of current trends affecting the delivery of services in each of those areas.

577. AUDIOLOGIC ASSESSMENT I (3). Administration and interpretation of the standard audiometric battery, as well as discussion of the specialized tests of auditory function (Bekesy, SISI, tone decay, etc.). Prerequisites: Spch. 420 and consent of department.

578. AUDIOLOGIC ASSESSMENT II (3). Continuation of Spch. 577 with emphasis on the physiological tests of auditory function (evoked-response audiometry, electro-dermal audiometry, impedance audiometry, etc.) and the principles and procedures for the hearing aid evaluation. Prerequisites: Spch. 577 and consent of department.

579. ADVANCED PRACTICUM: SPEECH AND LANGUAGE (1-5). Advanced practicum in speech and language diagnosis and therapy. Includes both internal and external practicum settings. May be repeated to a maximum of 5 semester hours. Prerequisite: Spch. 427 or consent of department.

580. ADVANCED PRACTICUM: AUDIOLOGY (1-5). Advanced practicum in audiology diagnosis and therapy. Includes both internal and external practicum settings. May be repeated to a maximum of 5 semester hours. Prerequisite: Spch. 428 or consent of department.

591B. INTRODUCTION TO GRADUATE STUDY IN SPEECH (3). A study of the profession, professional ethics, professional responsibilities, and the interrelationship between research and these responsibilities. For communication disorders (pathology-audiology) majors only.

670. EXPERIMENTAL PHONETICS: PERCEPTION PROCESSES (3). The acoustic and psychoacoustic foundations associated with the perception of oral communication. Laboratory experimentation. Prerequisite: Consent of department.

671. EXPERIMENTAL PHONETICS: PRODUCTION PROCESSES (3). Research literature and laboratory methodology employed in the analysis of vocalized speech and the speech mechanism. Includes laboratory experiences relating to the physiological correlates of verbal behavior.

672. SEMINAR IN LANGUAGE (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. Prerequisite: Consent of department.

673. SEMINAR IN AUDIOLOGY (3). Special topics in audition and the auditory system. May be repeated once to a maximum of 6 semester hours when the topic changes. Prerequisite: Spch. 578 or consent of department.

674. ADMINISTRATION OF SPEECH AND HEARING PROGRAMS (3). A consideration of the basic business and professional principles essential to the operation of a speech and hearing program. Includes study of professional personnel management, budget and finance, plant management and development, and public relations and education.

675. SEMINAR: SPEECH PATHOLOGY (3). Selected topics in speech pathology. Prerequisite: Consent of department.

Department of Theatre Arts

GRADUATE FACULTY: Arnold, department chairman, Dewey, Polzin, Potts, Schaffer, Ulrich, Welsh

The Department of Theatre Arts offers a graduate program leading to the Master of Arts degree. The graduate program 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.

Admission to graduate programs in the Department of Theatre Arts requires a baccalaureate degree, preferably with a major in the arts or humanities. Students holding the bachelor's degree in other fields may be eligible for admission to the program if they can demonstrate their ability to proceed at an advanced level. Students entering the graduate program in theatre arts are expected to have acquired basic knowledge and skills in both the performing arts and the production aspects of theatre. They are expected to have a demonstrable ability in the analysis of dramatic literature and an awareness of the place of theatre in the cultural life of western civilization.

The graduate program is designed to broaden and deepen the student's understanding of the theatre arts by developing his abilities to do independent research of an academic nature while developing his artistic capabilities. Specific programs to fit each student's needs are developed within the framework of the requirements listed here. Programs are developed in consultation among the student, his faculty adviser, and his graduate faculty advisory committee.

Master of Arts

1. The student will take work in each of the three general areas: performing arts, design and technology, history and criticism.
2. Each student will choose an area of concentration.
3. The student will take Thea. 534, Bibliography and Research Techniques in Theatre Arts.
4. The student will be required to demonstrate his artistic aptitude through participation in University Theatre productions.
5. Courses in other academic departments of the University which contribute to the student's program may be taken provided they have received prior approval of the student's faculty adviser. No more than 10 hours of such courses may be counted toward the Master of Arts degree in theatre arts.

6. The student must pass a written comprehensive examination covering the three areas.
7. A candidate, with the advice and consent of his adviser, may elect to earn the Master of Arts degree with or without a thesis according to the following requirements:

a. Degree with thesis

1. The student must earn a minimum of 30 semester hours of graduate credit.
2. A thesis must be submitted and approved. A maximum of 6 semester hours may be allotted to thesis research and writing.
3. The student must pass a written comprehensive examination which will assess his knowledge and ability in his area of concentration in graduate study and an oral examination on his thesis.

b. Degree without thesis

1. The student must earn a minimum of 36 semester hours of graduate credit.
2. The student must pass a written comprehensive examination which will assess his knowledge and ability in his area of concentration in graduate study.
3. The student must complete a project culminating in a written report of independent study (Thea. 597) acceptable to a committee of three graduate faculty members.

Course Offerings

NOTE: A "T" after a course offering indicates that an old number is being reused for a new course.

410. ADVANCED ACTING (3). Special acting styles for the theatre. Emphasis will be placed on Greek, Shakespearean, Restoration, and experimental modern styles. Prerequisite: Thea. 301 or consent of department.

412T. ADVANCED DIRECTING (3). Advanced theory of stage direction with particular emphasis on problems in classical styles, experimental and special contemporary modes. Course is heavily research oriented with additional practice in directing projects. Prerequisite: Thea. 312T or consent of department.

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.

415T. GROUP INTERPRETATION (3). An examination of the aesthetics and practice of group interpretation including readers theatre and chamber theatre. Prerequisite: Thea. 210 or 215 or consent of department.

419. PERFORMANCE (1-3). An in-depth research and performance preparation in one significant area of the performing arts. Open to students who are prepared for advanced and specialized study. Topics to be announced in advance. May be repeated to a maximum of 6 semester hours. Prerequisite: Consent of department.

436. STAGE COSTUME DESIGN (3). Analysis of costume aesthetics, production requirements, historical periods, and theatrical style. Preparation of designs from initial research to working drawings to finished renderings and production plans. Supervised and independent laboratory experience required. Prerequisite: Thea. 230 or consent of department.

441. STAGE LIGHTING (3). Theories and principles of lighting for the stage. Training in the principles and uses of electricity, types of lighting equipment and control, color and its application, and the planning and rigging of lights for the stage. Actual practice and application of principles provided through required laboratory experience in lighting of University Theatre productions.

445. 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.

449T. DESIGN AND TECHNOLOGY (1-3). Seminar in special problems and topics in design and technology. Open to students who are prepared for advanced and specialized study. Topics to be announced in advance. May be repeated to a maximum of 6 semester hours. Prerequisite: Consent of department.

460. EDUCATIONAL THEATRE METHODS (3). The place of the teacher of theatre in the secondary school. The organization, content, material, and procedure for teaching theatre as a curricular subject and as an extracurricular program within the educational system.

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 neoclassical 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, the Restoration, French romanticism, the rise of the director, the independent theatre movement, realism, and expressionism.

476. THEATRE HISTORY (1-3). Seminar in special periods of theatre history. Open to students who are prepared for advanced and specialized study. Topics to be announced in advance. May be repeated to a maximum of 6 semester hours. Prerequisite: Consent of department.

481. 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.

511. SEMINAR: PERFORMING ARTS IN THE THEATRE (3).

- A. Classical Styles
- B. Experimental Styles of Performance
- C. Directing Problems in the Modern Theatre
- D. Acting Problems in Varying Forms of Theatre

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.

512. 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.

513. SEMINAR: THEATRE HISTORY (3).

- A. Classical and Neoclassical Theatre
- B. British Theatre
- C. Roots of the Modern Theatre
- D. Early American Theatre
- E. Modern American Theatre

The subject and materials of this seminar will change from term to term. May be repeated for credit.

515. SEMINAR: PRODUCTION, DESIGN, AND TECHNICAL PROBLEMS (3).

- A. The Physical Theatre
- B. Developments in Technical Practices
- C. Theatre Architecture
- D. History of Costume
- E. Lighting Theory
- I. Scene Design

The subject and materials of this seminar will change from term to term. May be repeated for credit.

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.

517. 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.

532. SEMINAR IN THEATRE EDUCATION (3). A problem-solution approach to the difficulties encountered in teaching theatre as an integral part of the curricular and/or extracurricular program in school systems. Both hypothetical and practical problems will be explored. Particular emphasis will be placed upon investigation and research. Prerequisite: Thea. 460 or teaching experience.

534. BIBLIOGRAPHY AND RESEARCH TECHNIQUES IN THEATRE ARTS (3). An investigation of the resources and research tools used in graduate study of theatre arts. Study of historical, critical, and experimental methods as they apply to the academic study of theatre arts; consideration of the production and creative thesis; consideration of report-writing style and the mechanics of thesis and report writing; and preparation of bibliographies, prospectuses, and reports.

597. DIRECTED INDIVIDUAL STUDY IN THEATRE ARTS (1-3). Independent study of problems in any area of theatre. May be repeated to a maximum of 6 semester hours. Prerequisite: Consent of department.

599. THESIS (1-6). Open only to students engaged in writing a thesis in a Master of Arts program. May be repeated to a maximum of 6 semester hours. Prerequisite: Consent of the student's graduate adviser.



Robert W. Buggert, Ph.D., Dean
Philip S. Wells, Ed.D.,
Assistant Dean

Art
Home Economics
Industry and Technology
Music

College of Fine and Applied Arts

Department of Art

GRADUATE FACULTY: Canon, acting department chairman. Armstrong, Ball, Bealmer, D. Beard, R. Beard, Bell, Bisanz, Bornhuetter, Brown, Burke, Caldwell, Cooler, DeLillo, Driesbach, Even, Falwell, Fox, Fullington, Haendel, Kabak, Kind, A. Liakos, J. Liakos, Magden, Mahmoud, Merritt, Meyer, Mustari, Peck, Rooney, Shahzaman, Simon, Stewart, Strawn, Swynehardt, Syrek, Wells, White, Wood

The Department of Art offers graduate programs leading to the degrees Master of Science in Education with a major in art education, Master of Arts, and Master of Fine Arts. Admission to graduate programs in the Department of Art requires a baccalaureate degree in fine art, art education, art history, or a major in a closely related field. Students who do not have a major in art or in their field of specialization must remove deficiencies through the satisfactory completion of undergraduate courses required by the department; these courses may not be used to satisfy degree requirements. A departmental folio, *Graduate Programs in Art*, is available from the department upon request. It contains complete and detailed information about the graduate programs in art. The student's adviser will guide him in planning his program, in the preparation of his research project, thesis, or one-man show, and in the preparation for the final departmental examination.

The Department of Art may retain for its collection any work produced in scheduled classes or presented for the one-man show.

All studio art courses listed in this catalog, with the exceptions of Art 428, 429, and 599B, are repeatable to a maximum of 9 semester hours.

Master of Science in Education

Candidates for the degree Master of Science in Education with a major in art education must complete a minimum of 30 semester hours of graduate work. The program is designed for those students who wish to prepare for a specialist role in art education in addition to classroom teaching. Degree requirements include:

Art 583, Seminar in Art Education (3) OR Art 580, Seminar (3)

Art 584, History and Philosophy of Art Education (3)

Art 585, Research Methods in Art Education (3)

Specialization or electives in studio, art history, art education, or related professional courses (15-18)

Art 681, Problems in Art Education (research project) (3)

The seminar may not be used as an art education elective. Degree requirements include a background in art or art education subject to approval by the Department of Art. No more than 9 semester hours may be taken outside the Department of Art. Any program requires the written permission of the major adviser.

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 art teaching. Candidates for the degree must complete a minimum of 30 semester hours of graduate work and must choose their area of emphasis early in their work toward the degree. Students who select the studio or art teaching emphasis must pass a portfolio exam. Degree requirements include:

Studio Emphasis

Art 504, Drawing (3)

Art 510, Design (3)

Art 580, Seminar (3)

Art history electives (6)

Studio art electives (minimum -12)

Art 599B, One-Man Show (2)

Three copies of a pictorial documentation of the one-man show must be submitted to the Graduate School as the equivalent of a thesis.

Art History Emphasis

Art 428, Technical and Historical Resources of the Artist: Drawing (3)

Art 429, Technical and Historical Resources of the Artist: Painting (3)

Art 601, Seminar in Art History (3)

Art history electives (minimum-15)

Art 599A, Thesis (2)

Art Teaching Emphasis

Art 580, Seminar (3)

Art 584, History and Philosophy of Art Education (3)

Art 585, Research Methods in Art Education (3)

Art education electives (3)

Studio art and/or art history electives (17-19)

Art 599A, Thesis, OR Art 599B, One-Man Show (2)

In the case of a one-man show, three copies of a pictorial documentation of the show must be submitted to the Graduate School as the equivalent of a thesis.

The following additional requirements must be completed before the Master of Arts degree is conferred:

1. Demonstration of a reading knowledge of one modern foreign language (art history emphasis only)
2. An area concentration in studio courses (studio emphasis only)
3. Art 481 or equivalent (art teaching emphasis only). This course is considered a deficiency and credit in it does not count toward the hours required for the M.A. degree.

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. Students must pass a portfolio exam prior to being admitted to candidacy for the degree. Degree requirements include:

Art 428, Technical and Historical Resources of the Artist: Drawing (3)

Art 429, Technical and Historical Resources of the Artist: Painting (3)

Art 580, Seminar (6)

Art 680, Teaching Art at the College Level (Internship) (3)

Art history electives (9-12)

Art 599B, One-Man Show (2)

Three copies of a pictorial documentation of the one-man show must be submitted to the Graduate School as the equivalent of a thesis.

In certain cases, Art 428 and 429 may be waived by the student's advisory committee.

Course Offerings

NOTE: A "T" after a course number indicates that an old number is being used for a new course.

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. Prerequisite: Art 313 or consent of instructor.

421. **ADVANCED PAINTING (3).** Individually selected problems in studio techniques of painting in a variety of media. Prerequisite: Art 326.

422. **ADVANCED PAINTING (3).** Advanced studio problems in various painting media. Prerequisite: Art 421.

428. **TECHNICAL AND HISTORICAL RESOURCES OF THE ARTIST: DRAWING (3).** The media and processes of the artist and drawing techniques from the 14th through the 19th centuries.

429. **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. Studio and lecture.

431. **ADVANCED PRINTMAKING (3).** Individual development of printmaking skills and techniques through selected problems. Prerequisite: Art 336.

432. **ADVANCED PRINTMAKING (3).** Continuation of the study of techniques through work in selected printmaking areas. 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. 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.

455. **ADVANCED GLASSBLOWING (3).** Continuation of Art 355 with emphasis upon individual style in glassblowing as an art form. Prerequisite: Art 355 or consent of instructor.

456. **WOODCRAFT STUDIO (3).** An opportunity for crafts and sculpture students to use wood as a creative medium as the potter uses clay, the metal craftsman silver, or the sculptor bronze. Emphasis will be upon sculptural use of materials by both hand and machine techniques. Prerequisite: Art 212 or consent of instructor.

457. CASTING AND ELECTROFORMING (1-9). Work in depth in the specific technical processes of casting and electroforming. 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 competence 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. 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. Prerequisite: Art 372.
473. TAPESTRY AND RUG WEAVING (3). Study and application of historic and contemporary methods of tapestry and rug weaving. Prerequisite: Art 471 or consent of instructor.
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 (3). 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, lecture and discussion. Not open to art majors.
484. 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. Lecture.
485. STUDIES IN ART HISTORY (3). A course designed to study specific topics in art history. Topics to be announced. May be repeated, but credit is 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 credit is 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). The art of Burma, Thailand, Malaysia, Cambodia, Laos, North Vietnam, South Vietnam, Indonesia.
488. AFRICAN ART (3). The ancient and contemporary art of Africa.
489. WORKSHOP IN ART OR ART EDUCATION (2 or 3). Concentrated study with professional artists and/or art educators. Offered irregularly. Studio, lecture, and/or discussion. May be repeated to a maximum of 9 semester hours.
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 department chairman and instructor.
491. HISTORY OF PRINTS AND GRAPHIC PROCESSES (3). The development of woodcuts, etching, engraving, lithography, etc., in the history of art.
492. CONTEMPORARY ART (3). A study of current art directions, styles, and attitudes and their relationships to contemporary society.
493. HISTORY OF ARCHITECTURE III: FROM 1900 (3). The study of building styles, theories, form, and construction as exemplified by the major architectural monuments from 1900 to the present.
- 496A. HISTORY OF DECORATIVE ARTS: FURNITURE (3). A chronological survey from ancient Egypt through the 20th century.
- 496B. HISTORY OF DECORATIVE ARTS: MINOR ARTS AND CRAFTS (3). A chronological survey from ancient Egypt through the 20th century.
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 19th century.
501. DRAWING (3). Advanced problems in drawing. Prerequisite: Consent of instructor.
504. DRAWING (3). Analytical studies of style and structure. Prerequisite: Consent of instructor.
510. DESIGN (3). Comprehensive problems involving two- and three-dimensional design in various media. Prerequisite: Consent of instructor.

511. **ADVERTISING DESIGN (3).** Advanced problems in visual communication with an emphasis on media reproduction processes. Prerequisite: Art 412 or consent of instructor.
512. **DESIGN: TECHNICAL PROBLEMS (3).** Opportunity for research in specialized laboratory problems. Prerequisite: Consent of instructor.
513. **PHOTOGRAPHY (3).** Photographic techniques in black and white and color with an emphasis on the aesthetic approach to photography. 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. 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 factors in designing for consumer acceptance. Prerequisite: Consent of instructor.
516. **INDUSTRIAL DESIGN (3).** Technology and product development. Prerequisite: Art 417 or consent of instructor.
517. **INTERIOR DESIGN (3).** Advanced problems in interior design including both commercial and domestic fields. Prerequisite: Art 305 or consent of instructor.
522. **PAINTING (3).** Advanced study of pictorial structure through the use of various techniques and materials. Extended independent study. Prerequisite: Art 422 or consent of instructor.
523. **PAINTING (3).** The development of individual style in painting. Extended independent study. Prerequisite: Art 522 or consent of instructor.
526. **PAINTING (3).** Current modes in painting. Extended independent study. Prerequisite: Consent of instructor.
531. **PRINTMAKING (3).** Advanced work in intaglio, lithography, serigraphy, or woodcut. Prerequisite: Art 432 or consent of instructor.
532. **PRINTMAKING (3).** Experimental printmaking. Prerequisite: Art 531 or consent of instructor.
533. **PRINTMAKING (3).** Advanced: the exploration of technical Problems in any of the various areas of printmaking. Prerequisite: Art 532 or consent of instructor.
541. **CERAMICS (3).** Exploration of three-dimensional form using fired clay. Prerequisite: Art 444 or consent of instructor.
542. **CERAMICS (3).** Advanced ceramics laboratory work emphasizing the development of a personal professional style. Prerequisite: Art 541 or consent of instructor.
543. **ADVANCED CERAMICS (3).** Advanced ceramic laboratory work relating to the professional development of the concerned student. Prerequisite: Art 542.
550. **CRAI TS SEMINAR (3).** Discussion of contemporary problems in the crafts.
551. **METALWORK AND JEWELRY (3).** Advanced design and execution of contemporary metalwork and jewelry. Prerequisite: Art 452 or consent of instructor.
552. **SILVERSMITHING (3).** Design and execution of flat and hollow ware. Prerequisite: Art 551 or consent of instructor.
553. **ENAMELING (3).** An investigation of the areas of enameling, glass, and vitreous materials. Prerequisite: Art 454 or consent of instructor.
560. **SCULPTURE (3).** Advanced: individual development through work in various media. Prerequisite: Art 462 or consent of instructor.
561. **SCULPTURE (3).** Investigation of the various methods of metalworking in sculpture. Prerequisite: Art 560 or consent of instructor.
562. **SCULPTURE (3).** Technical problems in the casting of metal alloys. Prerequisites: Art 561 and consent of instructor.
571. **WEAVING (3).** Advanced weaving laboratory work emphasizing the development of a personal professional style. 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 professional style. Prerequisite: Art 473.
573. **TEXTILE PRINTING (3).** Advanced studio work in varied textile printing media emphasizing the development of a personal professional style. Prerequisite: Art 472.
580. **SEMINAR (3).** Investigation and discussion of current and historical issues related to the visual arts. Required of all graduate students. Three semester hours required of M.S. and M.A. candidates and 6 semester hours required of M.I.A. candidates. (M.S. or M.A. hours applicable to M.I.A.)
- 581T. **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.
- 582I. **CURRICULUM DEVELOPMENT IN ART EDUCATION (3).** An investigation of cultural, developmental, psychological, and perceptual

forces influencing curricular emphases. Analyzing the history and current trends in curriculum development. Learning to structure varieties of curriculum, and to formulate objectives for development of concepts and skills in art.

583. SEMINAR IN ART EDUCATION (3). Investigation and discussion of topics in art education as they relate to issues in the visual arts, society, and education programs.

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 implications 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.

586. ADMINISTRATION AND SUPERVISION OF ART PROGRAMS (3). An analysis of the role of administrators in the visual arts. Developing procedures for the examination of groups and interpersonal relations. Organizing, financing, staffing, and evaluating 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. Prerequisite: Consent of department chairman and instructor.

591. STUDIES IN MEDIEVAL ART (3). Specific subjects chosen from early Christian, Byzantine, Romanesque, or Gothic art. May be repeated to a maximum of 9 semester hours.

592. STUDIES IN ITALIAN RENAISSANCE ART (3). Specific subjects in Italian art from ca. 1200 to ca. 1600. May be repeated to a maximum of 9 semester hours.

593. STUDIES IN NORTHERN RENAISSANCE ART (3). Specific subjects chosen from the arts of Northern Europe from ca. 1400 to ca. 1600. May be repeated to a maximum of 9 semester hours.

594. STUDIES IN 17TH AND 18TH CENTURY ART (3). Specific subjects chosen from baroque or rococo art. May be repeated to a maximum of 9 semester hours.

595. STUDIES IN 19TH CENTURY ART (3). Specific subjects in 19th century art from the time of the French Revolution to ca. 1900. May be repeated to a maximum of 9 semester hours.

596. STUDIES IN AMERICAN ART (3). Specific subjects chosen from the development of art in America from ca. 1670 to the present. May be repeated to a maximum of 9 semester hours.

598. STUDIES IN ORIENTAL ART (3). Specific subjects chosen from the arts of the Middle East, Far East, or Southeast Asia. May be repeated to a maximum of 9 semester hours.

599A. THESIS (1-6). A study of the thesis from the point of view of both content and form.

599B. ONE-MAN SHOW (1-6). Preparation of the one-man show and documentation from the point of view of both content and form.

600. STUDIES IN ANCIENT ART (3). Specific subjects in the arts of Egypt, Mesopotamia, Greece, or Rome. May be repeated to a maximum of 9 semester hours.

601. SEMINAR IN ART HISTORY (3). Investigation of specific topics in art history. Topics to be announced. May be repeated but credit is 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. May be repeated to a maximum of 9 semester hours.

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. Prerequisites: 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. May be repeated to a maximum of 9 semester hours.

605. STUDIES IN 20TH CENTURY ART (3). Specific subjects chosen from the development of contemporary art from ca. 1900 to the present. May be repeated to a maximum of 9 semester hours.

622. COMPARATIVE ARTS (2). *Crosslisted as Music 622X*. 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

GRADUATE FACULTY: Johnston, department chairman. Barra, Burnett, Goodman, C. Keim, R. Keim, Matthews, Paek, Parham, Rockwood, Sie, Smith, Swayne, Wadhwa

The Department of Home Economics offers graduate programs leading to the Master of Science degree in the following areas:

1. Child development—early childhood education
2. Home economics education
3. Marriage and family relations
4. Nutrition and food science
5. Textiles and clothing

A candidate for an advanced degree in home economics is expected to meet the requirements of an area of specialization. Deficiencies in the area of specialization at the undergraduate level will be determined by a committee of graduate staff members and must be made up as directed by the committee.

Requirements for all majors:

- H.Ec. 504, Research Methods (3)
- Seminar or readings course in area of major emphasis (3)
- H.Ec. 599A, Thesis (6) OR 599B, One-Man Show (3) OR 598, Projects (3)
- 6 additional credits in area of major emphasis
- Educ. 508, Educational Statistics (3) (Not required of students in textiles—clothing design emphasis)

Other required courses are listed under area descriptions. Each graduate student works with an academic adviser in his/her major area of study. The student's academic program is subject to approval by a committee of graduate faculty in the department.

All candidates for master's degrees are to complete a minimum of 30 semester hours of credit. A maximum of 6 credits in workshops may be applied toward the master's degree. A thesis or project under the direction of two or more faculty members is required of all students. A written final examination is given. An oral examination may also be given upon request of the area.

Prior to initial registration, each student planning to major in home economics should have a conference with the chairman of the department or a member of the graduate faculty in the area in which he/she wishes to specialize.

Master of Science

Major in Child Development—Early Childhood Education

Option 1—Child Development (thesis required)

This program prepares the student to teach at the college level, pursue advanced graduate studies, and interpret and carry out basic research.

Prerequisite:

- A minimum of 18 semester hours in the fields of child development, marriage and the family, anthropology, psychology, and sociology with at least 9 of the 18 hours taken at the upper-division level

Required courses:

- H.Ec. 500C, Seminar: Child Development and Nursery School Education (3)
- H.Ec. 504, Research Methods (3)
- H.Ec. 532, Child Development and Early Childhood Education (3)
- H.Ec. 599A, Thesis (6)
- Educ. 508, Educational Statistics (3)

Option 2—Child Development and Early Childhood Education (project required)

This program prepares students to teach, supervise, and administer educational programs for young children and to work with their parents.

Prerequisite:

- A minimum of 18 semester hours in child development, early childhood education, marriage and the family with at least 9 of the 18 hours taken at the upper-division level

Required courses:

- H.Ec. 434, Administration and Supervision of Early Childhood Education (3)
- H.Ec. 500C, Seminar: Child Development and Nursery School Education (3)
- H.Ec. 504, Research Methods (3)
- H.Ec. 598, Projects (3)
- Educ. 508, Educational Statistics (3)
- 6 semester hours elected from H.Ec. 431A, 432, 438, 439, 532, 535, 537, 539

Major in Home Economics Education

This program improves teaching proficiency at the high school or college and adult education levels, and prepares students for supervisory positions in home economics.

Prerequisite:

A minimum of 15 semester hours in home economics plus educational psychology, methods of teaching, and evaluation

Required courses:

H.Ec. 500D, Seminar: Home Economics Education (3)
 H.Ec. 504, Research Methods (3)
 H.Ec. 599A, Thesis (6) OR H.Ec. 598, Projects (3)
 Educ. 508, Educational Statistics (3)

Major in Marriage and Family Relations

This program improves teaching proficiency at the high school or college level, or prepares students for work with family agencies and organizations relating to this specialization.

Prerequisite:

A total of 18 semester hours, at least 9 hours at the upper-division level, from the fields of marriage and family relations, child development, psychology, and sociology

Required courses:

H.Ec. 500B, Seminar: Marriage and Family Life (3)
 H.Ec. 504, Research Methods (3)
 H.Ec. 599A, Thesis (6) OR H.Ec. 598, Projects (3)
 Educ. 508, Educational Statistics (3)
 9 hours from H.Ec. 484, 486, 584, 585, 586, 589, 684

Major in Nutrition and Food Science

This major is designed to increase 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, or as a research assistant in nutrition or food science.

Prerequisite:

A total of 18 semester hours from the fields of nutrition, dietetics, food science, biology, and chemistry. Biochemistry, human physiology, and human nutrition must be included

Required courses:

H.Ec. 500A, Seminar: Nutrition and Dietetics (3)
 H.Ec. 504, Research Methods (3)
 H.Ec. 547, Advanced Nutrition (3) (4 with lab)
 H.Ec. 599A, Thesis (6) OR H.Ec. 598, Projects (3)
 Educ. 508, Educational Statistics (3)
 6 additional hours in nutrition, physical science, or behavioral science in accordance with the needs and interests of the student

Major in Textiles and Clothing

This major improves the competence of teachers of textiles and/or clothing in high school, college, and cooperative extension, and of other business professionals in the areas of design or apparel/textiles.

Prerequisite:

A total of 18 semester hours with at least 9 hours at the upper-division level, in the field of textiles and clothing, and an additional 6 hours from supportive fields

Required courses:

H.Ec. 500E, Seminar: Textiles and Clothing (3)
 H.Ec. 504, Research Methods (3)
 H.Ec. 562, Current Problems in Consumer Textiles (3)
 H.Ec. 572, Historic Textiles (3) OR H.Ec. 574, Clothing and Human Behavior (3)
 H.Ec. 599A, Thesis (6) OR H.Ec. 599B, One-Man Show (3) OR H.Ec. 598, Projects (3)
 Educ. 508, Educational Statistics (3)

Students with design emphasis planning a one-man show (599B) must substitute Art 510 or 512 for Educ. 508.

The choice of emphasis is guided by the student's academic goals and professional requirements of the field of specialization. Areas of emphasis related to clothing and textiles are: consumer textiles, textile and apparel design, clothing and human behavior.

Course Offerings

NOTE: A "T" after a course number indicates that an old number is being used for a new course.

405. CHILD NUTRITION (3). The nutritional needs of the child considering the physiological, sociological, and psychological development of the child, especially in group situations. Prerequisite: Consent of instructor.

407. CONSUMER PROTECTION (3). Current trends in consumption; consumer movement in the United States; laws and agencies protecting and serving the consumer; product analysis using appropriate materials and skills. Prerequisite: Graduate standing.

408. CURRENT PROBLEMS AND TRENDS IN NUTRITION AND FOODS (3). 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.

410. COMMUNITY NUTRITION (3). Nutrition problems and practices in the community. Special consideration of the influence of modifying factors such as age, ethnic differences, economic resources, etc. Prerequisite: H.Ec. 200A and 200B or consent of instructor.

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. 250 or consent of instructor.

424. CULTURAL AND NATIONAL FOOD PATTERNS (3). Food preparation as influenced by cultural and national food patterns. Prerequisite: H.Ec. 200A, 301 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 and consent of instructor.

431. INTERNSHIP IN COMMUNITY PROGRAMS (3).

A. Child Development

B. Family Life

C. Dietetics, Nutrition, and Food Services

Observation and participation in community programs. Student will be assigned to an experience appropriate to his professional interest. May be repeated to 10 semester hours. Child development majors are required to take the course for one-half semester for 7 semester hours, alternating with H.Ec. 490. Prerequisite: Consent of instructor.

432. THEORIES OF CHILD DEVELOPMENT (3). Analysis of the major theories of child development and their implications in working with young children. Prerequisite: 6 semester hours in child development.

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 preschool through adolescence. The group dynamics approach is used in planning and carrying out meetings. Prerequisites: H.Ec. 484 and one of the following- H.Ec. 230, Psych. 225, Educ. 300, 301, 302, or 303; or equivalent.

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. Additional problem required for graduate credit. May be repeated. Maximum of 6 semester hours of workshop credit may be applied toward the master's degree. Prerequisite: Consent of instructor.

452. FLAT PATTERN DESIGN (3). Pattern designing by flat pattern techniques with emphasis on fitting, analysis of design, and current design trends. Prerequisite: H.Ec. 252 or consent of instructor.

453. EXPERIMENTAL TEXTILES (3). Standard textile testing methods used in determining the physical and chemical characteristics of fibers, yarns, and fabrics, and the statistical methods employed in data analysis and evaluation. Prerequisites: H.Ec. 152, 351 and Chem. 110 and 111; or equivalents.

454. DRAPING (3). Apparel design based upon the interrelating factors of material, line, and form. Prerequisite: H.Ec. 252, or consent of instructor.

458. ADULT EDUCATION IN HOME ECONOMICS (3). Curriculum and methods for teaching adults. Observation and participation.

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). An analysis of consumer behavior in the selection and consumption of clothing by families in various socioeconomic, ethnic, and age groups. Prerequisite: Psych. 102 and Soc. 170.

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 or consent of instructor.

485. COMPARATIVE AMERICAN FAMILIES (3). Identification of contemporary family behavior patterns and interactions according to differences by: sex, rural-urban residence, standard of living, education, occupation, ethnicity, and religion. Prerequisite: Soc. 170.

486. AGING AND THE FAMILY (3). The multidisciplinary approach to aging; changing family functions and the 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 (1-9).

- A. Nutrition and Dietetics
- B. Marriage and Family Life
- C. Child Development
and Nursery School Education
- D. Home Economics Education
- E. Textiles and Clothing

Readings and reports in the designated areas of home economics. May be repeated up to 9 hours of credit.

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 preprofessional programs in home economics in the junior college.

525. ADMINISTRATION AND 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: 3 semester hours in child development or consent of instructor.

535. BEHAVIOR ASSESSMENT OF THE INFANT AND YOUNG CHILD (3). Content and methodology of the assessment of behavior of the infant and young child. Specific discussions and materials on the measurement of personality, maturation and readiness, intelligence, social behavior, and interests and attitudes. Application of some of these tests and measurements will be an integral part of this course. Prerequisite: Consent of instructor.

537. THE CHILD IN HIS FAMILY (3). An understanding of the effect of the basic social institutions upon the socialization of the child.

539. PRACTICUM.

- A. Parent Education (3-12).
- B. Family Counseling (3-12).

Under staff supervision, the student develops and sustains a program aimed at changing attitudes and behaviors. A maximum of 6 semester hours may be applied toward a master's degree. Prerequisite: Consent of instructor.

547. ADVANCED NUTRITION (3 or 4). Physiological aspects of nutrition, emphasizing the function of nutrients at the cellular level and the interrelationships between nutrients. Recent research. Upon consent of adviser may be taken with laboratory, (4 semester hours) or without laboratory (3 semester hours). Prerequisite: H.Ec. 250 or its equivalent and any course in biochemistry.

550. WORKSHOP IN HOME ECONOMICS (1-6). Workshop designed for professional personnel to study current issues, trends, programs in a specialized area. Emphasis varies and is announced in workshop title. May be repeated. Maximum of 6 semester hours of workshops may be applied toward master's degree. Prerequisite: Consent of instructor.

552. NUTRITION IN HUMAN GROWTH AND DEVELOPMENT (3). Nutrition as a factor in human growth and development throughout the life cycle. Prerequisite: H.Ec. 250 or equivalent and a course in human physiology.

554. ADVANCED APPAREL DESIGN (3). Exploration of apparel design through draping and pattern drafting technique. Emphasis is placed on the original ideas and interrelated factors of materials, design and form. Prerequisite: H.Ec. 452 or 454.

562. CURRENT PROBLEMS IN CONSUMER TEXTILES (3). New development in textiles; analysis of quality control and production standards, evaluation of current problems. Prerequisite: H.Ec. 351 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.

568T. READINGS IN TEXTILES AND CLOTHING (3). An analysis of selected readings including research in textiles and clothing. Prerequisite: Consent of instructor.

572. HISTORIC TEXTILES (3). Methods of textile formation and textile design processes over time and in diverse cultures. Prerequisite: H.Ec. 152 or equivalent.

574. CLOTHING AND HUMAN BEHAVIOR (3). Clothing as a reflection of human behavior as related to the concepts from the behavioral sciences. Interpretation of research findings. Prerequisite: H.Ec. 464 or consent of instructor.

584. THE FAMILY WITH TEENAGERS (3). Developmental tasks of the family with teenagers; parental roles, adolescent roles, communication networks, problems of teen identity and sexuality.

585. THE ATYPICAL FAMILY (3). An analysis of the adjustments, possible problems, and ways to strengthen the atypical family. Prerequisite: H.Ec. 484, Soc. 170, or consent of instructor.

586. FAMILY LIFE PROGRAMS (3). An examination of the philosophical perspectives and current status of family life programs, including methodology, techniques, procedures, and ways of strengthening family life. Prerequisite: H.Ec. 484 or consent of instructor.

589. MARRIAGE AND FAMILY LIFE (3). Readings from current literature pertaining to interactional dynamics of marriage and family life. Prerequisite: H.Ec. 484 or consent of instructor.

598. PROJECTS (1-6). Individual application of student's area of study to the solution of a problem, under supervision of an adviser. Not open to students who select a thesis program. Prerequisite: H.Ec. 504 or consent of adviser.

599A. THESIS (1-6). Individual investigation of a problem under supervision of an adviser. Prerequisite: H.Ec. 504 or consent of adviser.

599B. ONE-MAN SHOW (1-6). Preparation of the one-man show and documentation from point of view of both content and form. Prerequisite: Admission to degree candidacy in textiles and clothing (design emphasis) and consent of adviser.

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 department chairman.

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.

684. THEORIES OF FAMILY COUNSELING (3). An examination and discussion of the historical development of family counseling, and of the various theories and techniques currently employed in the field. Prerequisite: 6 graduate semester hours in the family or related areas.

406A. NUTRITION IN THE EDUCATIONAL SYSTEM (3). Need for and techniques of effective nutrition education and development of individual projects for teaching nutrition. Prerequisite: Consent of instructor.

Department of Industry and Technology

GRADUATE FACULTY: Warner, department chairman. Beck, Brown, Comer, Cornwell, Erickson, Fugelso, Gilbert, Glogovsky, Hamm, Hartsuch, Hulfachor, Jacobsen, Johnson, Kohler, Newell, Petersen, Quick, Senteney, Simpson, White

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. Teacher education
 - a. Industrial education
 - b. Industrial arts
 - c. Vocational and technical training
 - d. Safety
 - e. Community college
 - f. Administrative certificate
2. Safety
3. Technologies
4. Industrial training

A candidate for an advanced degree is expected to have at least an undergraduate minor in the field or a major in a closely related field. Students should review the admission and graduate degree requirements found in this catalog.

A graduate faculty adviser is appointed for each student seeking a master's degree and together they plan a program of courses leading to the degree. For the Certificate of Advanced Study an advisory committee of three graduate faculty members of the department assists the student in planning his program of courses.

A candidate for a master's degree is to complete successfully a minimum of 30 or 32 semester hours of graduate credit, depending upon his program option, as well as passing a comprehensive written examination. An oral examination may be given upon request of the department.

Master of Science in Education

Industrial education teachers, under advisement, may select courses to improve their teaching and qualify for advancement.

A graduate major working toward the degree Master of Science in Education must satisfy one of the following program options:

1. A minimum of 24 semester hours of work in courses plus a thesis (I&T 599B) for 6 semester hours. Total minimum: 30 semester hours.

2. A minimum of 32 semester hours of work in courses.

Other requirements:

1. I&T 500, Introduction to Graduate Work in Industrial Education
2. I&T 601, 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 21 to 23 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 options:

1. A minimum of 24 semester hours of work in courses plus a thesis (I&T 599B) for 6 semester hours. Total minimum: 30 semester hours.
2. A minimum of 32 semester hours of work in courses.

Other requirements:

1. I&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 and a thesis is required. 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.

Safety

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.

For all other major programs in the Department of Industry and Technology, including industrial education, the course offerings in the department listed under "Safety" may be taken as elective semester hours outside the major area.

Course Offerings

INDUSTRY AND TECHNOLOGY

401. 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: I&T 345.

402. INDUSTRIAL TRAINING AND EVALUATION (3). The history of employee training, kinds of training, training programs, and instructional methods and evaluation procedures.

403. 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 audiovisual devices.

404. SUPERVISION IN INDUSTRY (2). Principles, methods, and techniques for supervision of people in their work. For supervisory personnel and those preparing for such positions.

406. OCCUPATIONAL ANALYSIS (2). Techniques and procedures in analyzing occupations to ascertain their basic elements.

407. INDUSTRIAL COOPERATIVE EDUCATION (2). Problems and procedures in the operation of cooperative part-time programs.

408. 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.

410. RESIDENTIAL DESIGN AND ARCHITECTURAL DRAWING (3). For students who wish to develop skills in, and become acquainted with, the general field of home planning and architectural drawing. The various techniques of representation are studied and applied in practical situations.

412. TECHNICAL ILLUSTRATION (3). Axonometric, oblique, perspective, and schematic drawing techniques including line and surface shading, exploded views, pictorial details, and assemblies. Special emphasis on illustrating for catalogs, advertising media, service manuals, and installation diagrams. Prerequisite: I&T 310.

413. DESIGN IN INDUSTRIAL EDUCATION (3). The principles of design and the application of such principles in designing industrial education and other creative projects.

450. ADVANCED PHOTO-OFFSET PROCESSES (3). Offset lithography, related photography, process camera operation, linework and halftones, platemaking, offset press operation, and production methods. Assignments involving work in basic color, layout, and publications. Prerequisite: I&T 350 or consent of instructor.

454. COLD TYPE COMPOSITION (3). Tape operation in typesetting; the use of computers in printing; operation of typical photographic, electronic, and strike-on cold type machines; field trips to study commercial installations. Prerequisite: I&T 350 or consent of instructor.

456. PRINTING ESTIMATING (3). Identification and determination of costs relative to materials, operations, and factors involved in the production of printed matter. Prerequisite: Consent of instructor.

457. COLOR REPRODUCTION (3). Color theory, color films, filters, and inks, flat and process color, instruments and controls, masking, separation on enlarger and process camera, direct and indirect screening, electronic scanners, color proofs, controlling press runs, with emphasis on offset presses. Prerequisite: I&T 450 or consent of instructor.

469. MULTI-AXIS PART PROGRAMMING (3). Advanced part programming methods for multi-axis machine tools using the API and subset languages. Prerequisite: I&T 364 or consent of instructor.

470. MICROWAVE FUNDAMENTALS (3). Microwave theory and techniques of microwave measurement. Principles and applications of component parts of microwave systems. Prerequisite: I&T 378 or consent of instructor.

471. ELECTRONIC OPERATIONAL AMPLIFIERS (3). An analysis of operational amplifiers in electrical circuits. Application of operational amplifiers, analysis of operational amplifiers and the theory of operation. Prerequisite: I&T 378 or consent of instructor.

472. ELECTRONIC APPLICATIONS (3). Electronic circuits used in color television with emphasis on applications for teaching electronics. Opportunities for development of demonstration equipment. Primarily for teaching majors. Prerequisite: I&T 372 or consent of instructor.

473. INDUSTRIAL ELECTRONICS (3). Theory and applications of industrial electronic equipment used in the automatic control of

machines and production systems. Prerequisite: I&T 372 or consent of instructor.

475. **COMPUTER CIRCUITS (3)**. Computer hardware as an electronic application. Fundamentals and principles of analog and digital computers, input-output devices and data conversion. Prerequisite: I&T 378 or consent of instructor.

479. **ELECTRIC FIELDS, WAVES, TRANSMISSION LINES, AND ANTENNAS (3)**. The characteristics of electric fields and waves; characteristics and applications of transmission lines and antennas. Prerequisite: I&T 471 or consent of instructor.

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: I&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: I&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.

502. **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.

505. **CURRICULUM CONSTRUCTION IN INDUSTRIAL EDUCATION (3)**. The concepts underlying course construction in industrial education. Problems in the selection and organization of instructional materials and course content.

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 observation followed by consideration of purpose, selection of ac-

tivities, purchase of tools and equipment, and means of starting a program. For administrators and industrial arts majors.

562. **PRINCIPLES OF AUTOMATED MANUFACTURING (3)**. Principles of organization and administration of computer-aided manufacturing. Special attention is given to the design of organizational structures and numerical control of production. Prerequisite: I&T 364 or consent of instructor.

563. **INDIVIDUAL PROBLEMS IN N/C (1-6)**. An advanced independent study course in numerical control technology. Research reading and written reports are required. Problems must be defined and approved before registration. May be repeated to a total of 6 semester hours. Prerequisite: I&T 562 or consent of instructor.

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.

570. **ELECTRONIC FUNCTION GENERATORS (3)**. The basic problems and their solutions concerning the generation, translation, and utilization of complex waveforms are presented. Frequency and amplitude stability analysis techniques are presented.

571. **ELECTRONIC NETWORK SYNTHESIS (3)**. Presentation of network synthesis procedures. The image parameter method is presented in terms of image impedance function and image transfer functions.

572. **INTERMEDIATE FILTER DESIGN (3)**. Application of filter design utilizing design tables and computers. Emphasis is placed on speed and measured utility of design. Prerequisite: I&T 476 or consent of instructor.

573. **ADVANCED ELECTRICAL SERVOMECHANISMS (3)**. The analysis and design of servomechanisms using analytical tools.

574. **ELECTRONIC INFORMATION THEORY (3)**. A treatment of information theory as it applies to electronic communications. Including properties of signals, their treatment, noise reduction, and shaping of signals.

575. **NONLINEAR ANALYSIS OF ELECTRONICS SYSTEMS (3)**. Techniques for finding approximate solutions for nonlinear control problems; emphasis is placed on the use of these analysis techniques as applied to solutions of advanced technology problems.

576. **DATA TRANSMISSION (3)**. Study of direct-wire and radio-type data transmission. Transmission loss, types of modulation, and effects of received signal integrity on error are analyzed and evaluated.

577. **ADVANCED ACTIVE ELECTRONIC DEVICES (3).** Advanced study of fundamentals of design and operation of active devices with emphasis on design of integrated circuits including active devices.

578. **ELECTRICAL NOISE (3).** An analysis of noise in electrical circuits; including the study of sources of noise, analytical techniques used to analyze noise, and detection measurements and standards of noise.

598. **TECHNICAL PROBLEMS (1-6).**

- | | |
|-------------------------------|--------------------------|
| A. General | M. Metals |
| B. Elementary Industrial Arts | N. Numerical Control |
| C. Crafts | R. Mechanical Technology |
| D. Drawing | U. Power Mechanics |
| E. Electronics | V. Safety |
| J. Graphic Arts | W. Wood Technology |
| K. Industrial Supervision | |

Advanced study of technical problems at the master's and C.A.S. levels under direct faculty supervision. May be repeated for a maximum of 6 semester hours at each level. Prerequisite: Consent of faculty member who will supervise the study.

599A. **DIRECTED STUDY (1-6).** Directed study in independent research projects at the master's and C.A.S. levels. May be repeated for a maximum of 6 semester hours at each level. Prerequisites: Consent of adviser and faculty member directing the study.

599B. **MASTER'S THESIS (1-6).** Open only to students who elect to write a thesis for the master's degree. May be repeated for a maximum of 6 semester hours. Prerequisite: I&T 500 and consent of adviser.

599C. **CERTIFICATE OF ADVANCED STUDY THESIS (1-6).** Open only to students who elect to write a thesis for the C.A.S. May be repeated for a maximum of 6 semester hours. Prerequisite: Consent of adviser.

601. **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.

603. **EVALUATION IN INDUSTRIAL EDUCATION (3).** The principles and techniques of evaluation of instruction as applied to courses in industrial education.

606. **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.

607. **TRENDS IN INDUSTRIAL EDUCATION (2).** The evaluation and significance of trends from the viewpoints of theory and practice.

608. **ADMINISTRATION AND SUPERVISION OF INDUSTRIAL EDUCATION (3).** Administrative and supervisory principles and practices pertaining to leadership, communications, and personnel functions, and their evaluation.

645. **TECHNOLOGY IN INDUSTRIAL EDUCATION (3).** Modern industrial developments such as automation, uses 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.

670. **ADVANCED FUNCTION GENERATORS (3).** Utilizes techniques developed in I&T 570, to design a variety of quartz crystal oscillators, and simple quartz resonator filters. Prerequisite: I&T 570 or consent of instructor.

672. **ADVANCED FILTER DESIGN (3).** The basics of filter theory are combined with the practical aspects of polynomial tables designed to synthesize contemporary filter designs. Prerequisite: I&T 572 or consent of instructor.

674. **SIGNAL SAMPLE TECHNIQUES (3).** Signal sample techniques and applications of these techniques to sampling devices.

678. **PHASE LOCKED LOOP TECHNIQUES (3).** Phase locked loop circuitry and the utilization of these techniques in instrumentation and communication.

690. **INDUSTRIAL EDUCATION FOR THE IN-SERVICE TEACHER (3).** Problems of in-service education in upgrading programs of industrial education. Special emphasis given to individual problems.

SAFETY

431. **DRIVING RANGES AND SIMULATORS (3).** Principles and practices of teaching on multiple-car driving ranges and with driving simulators; administration of multi-phase programs in driver and traffic safety education. Laboratory activities: observation and teaching on a range and with simulators. Prerequisite: I&T 333.

432. **DISASTER PREPAREDNESS (3).** Organization for survival from natural and man-made disasters. Warning and communication systems, radiological monitoring, shelter management. Fallout shelter experience required.

433. **SPECIAL TEACHING PRACTICES IN TRAFFIC SAFETY EDUCATION (3).** Principles and techniques for fabrication and/or

utilization of multi-media instructional aids, programmed instructional systems, special classroom instructional methods. Communication skills for exceptional students. Laboratory activities: teaching demonstrations, instruction of exceptional children. Prerequisite: I&T 333.

434. INDUSTRIAL ACCIDENT PREVENTION (3). A survey of the principles and techniques used to minimize the frequency and severity of industrial accidents.

436. DESIGN AND ADMINISTRATION OF INDUSTRIAL SAFETY PROGRAMS (3). An analysis of current problems and trends in the design and supervision of model industrial accident prevention programs. Prerequisite: I&T 434.

438. SAFETY IN TRANSPORTATION SYSTEMS (3). The status of, and rationale for, improvements in safety practices and legislation for the commercial carriers (rail, highway, water, and air transportation). Each student shall investigate one system in depth.

530. MAN'S SAFETY IN THE MODERN WORLD (3). Philosophies and principles of the need for, and status of, safety programs. Dimensions and directions of new and existing safety programs explored.

532. SCHOOL SAFETY PROGRAMS (3). The organization, supervision, and administration of school safety programs. Each student shall investigate one safety program in depth. Prerequisite: I&T 530 or consent of instructor.

534. BEHAVIORAL FACTORS IN SAFETY (3). Psychological, physiological, and sociological factors as they affect man's safety. Each student shall identify and pursue a topic of interest. Prerequisite: I&T 530 or consent of instructor.

535. SEMINAR IN SAFETY (1-6). Current issues or problems in safety. May be repeated. A limit of 6 semester hours may be earned toward advanced degrees.

537. SYSTEMS ANALYSIS IN SAFETY (4). Systems analysis techniques applied to accident record systems, theories of accident causation, and effectiveness of safety programs. Prerequisite: I&T 530 or consent of instructor.

539. 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. Prerequisite: Consent of adviser and instructor.

Department of Music

GRADUATE FACULTY: Ballinger, department chairman; Riggan, assistant chairman. Ashkenasi, Bach, Baker, Beezhold, Bird, Buggert, Dill, Fay, Floyd, Fred, Han, Haugland, Kirkpatrick, Loessel, Menard, Modell, O'Connor, Pursley, Rast, E. Smith, W. Smith, Steg, Tipton, Walker, Weed

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, or 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 Department of Music, before being admitted to a Master of Music program.

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 before admission. Students working toward all Master of Music degrees must perform an audition in their principle performance area and/or meet alternative requirements prescribed in the specific major. All students will be required to meet departmental standards on a Graduate Music Qualifying Examination.

Major in Music Education

Option 1

1. Music education—12 hours
 - a. Music 524, Techniques of Research in Music (3)

- b. Music 525, Foundations of Music Education (3)
- c. Music education and/or conducting electives (6)
2. Music history and literature, and theory and composition—10 hours
 - a. Music history and literature (2-8)
 - b. Theory and composition (2-8)
3. Music performance—4-6 hours
 - a. Major performing medium (2-4)
 - b. Ensemble (2)
4. Music 599 (thesis, recital, transcription, or original composition)—4 hours

Total: 32 semester hours •

Option 2 (non-thesis)

The basic requirements are the same as Option 1, except that performance requirements are 4 semester hours and Music 599 is not required. Instead, 6 semester hours may be chosen from music or any other field with the adviser's consent.

Major in Music Theory and Composition*

1. Music history and literature—6 semester hours.
2. Music performance—6 hours
 - a. Applied electives (4)
 - b. Ensemble electives (2)
3. Theory and composition—12 hours
 - a. 2 hours selected from Music 407, Counterpoint I (2) OR Music 408, Counterpoint II (2)
 - b. Music 507, Advanced Counterpoint (3)
 - c. 3 hours selected from Music 505, Advanced Orchestration (3); Music 598, Advanced Wind and Percussion Scoring (3) OR Music 547, Vocal Arranging (3)
 - d. Music 552, Composition (4)
4. Music 599 (thesis)**—4 hours
5. Electives—4 hours

Total: 32 semester hours

Major in Music History and Literature

1. Music history and literature—9 hours.
2. Theory and composition—4-6 hours.
3. Music performance—6 hours.

*Three compositions should be submitted to the theory faculty for their approval as a prerequisite for admission to this option.

**May be a written thesis in music theory or an original composition, subject to the approval of the appropriate committee.

- a. Applied (4)
 - b. Ensembles (2)
 4. Music 599 Thesis 4 semester hours
 5. Electives in humanities or music history and literature—7-9 hours
- Total: 32 semester hours

Major in Performance and Pedagogy in Piano or Voice

1. Music history and literature—6 hours
 2. Music performance, major area*—10 hours.
 3. Music 599 (recital)**—4 hours.
 4. Electives—12 hours.
- Total: 32 semester hours

Major in Performance and Pedagogy in an Orchestral Instrument

1. Music theory and composition—6 hours
 2. Music history and literature—6 hours
 3. Music performance—12 hours
 - a. Major instrument (10)
 - b. Large or small ensemble or both (2)
 4. Music 599 (recital)**—4 hours
 5. Electives—4 hours
- Total: 32 semester hours

Graduate Requirements

In partial fulfillment of graduate 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; write a thesis, a transcription, or an original composition; or elect a non-thesis option. Candidates for the Master of Music degree with a major in music theory and composition may elect to write a thesis or

**Enrollment in the major performance area is required in each semester or summer session of residence; however, no more than 16 semester hours of credit for music performance in the major area may be applied toward the 32-semester-hour total.*

***Two copies of the master tape recording must be submitted to the Graduate School.*

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 department chairman. 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 may, subject to the approval of the appropriate departmental committee, submit a thesis, a transcription, or an original composition, or perform a full public recital.

Course Offerings

NOTE: An "X" after a course number indicates that the course is offered primarily by another department but may be taken for credit in this department.

MUSIC HISTORY AND LITERATURE

420. INTRODUCTION TO RESEARCH IN MUSICOLOGY (3). Fundamental techniques of bibliography and research as applied to historical studies in music. Prerequisites: Music 321 and 322.

421. TOPIC STUDIES IN ETHNOMUSICOLOGY (3). Studies and reports on special topics in ethnic music: bibliography, discography, instruments, non-western theatre and music, folk elements in art music, etc. Prerequisites: Music 324 or by consent of instructor.

437. PIANO LITERATURE (2). A survey of clavier and piano literature to the mid-19th century. Two periods a week. For piano majors, or by 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 by consent of instructor.

445. HISTORY OF AMERICAN MUSIC (3). 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 I (3). Twentieth century harmonic, contrapuntal, and formal development; primitivism; neoclassicism; jazz influences; early serial techniques. Prerequisite: Undergraduate degree or consent of instructor.

530. SEMINAR IN MUSIC HISTORY AND LITERATURE (3). Research and analysis in selected areas of music history and literature. May be repeated to a maximum of 6 semester hours.

531. CONTEMPORARY IDIOMS II (3). Historical, organizational, and theoretical aspects of electronic and computer music, and other experimental compositions. Prerequisite: Music 523 or consent of instructor.

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 romanticists, 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.

622X. COMPARATIVE ARTS (2). *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. Prerequisites: 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 6 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. ADVANCED WIND AND PERCUSSION SCORING (3). Scoring for diverse wind and percussion ensembles. Prerequisite: Music 307 or consent of instructor.

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 INSTRUMENTS: 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, organization, 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 of vocal repertoire as developed through ensemble participation. Sections include Madrigal Singers, Women's Chorus, and Opera Workshop. May be repeated. Admission by consent of instructor.

447. **CONCERT CHOIR (1).** The study and performance of musical masterworks from the 16th through the 20th century. May be repeated. Prerequisite: Consent of instructor.

485. **CHORUS (1).** Open to all 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 wood-wind ensembles. May be repeated. Prerequisite: Consent of instructor.

480. **SYMPHONY ORCHESTRA (1).** Open to all qualified students. May be repeated. Prerequisite: Consent of instructor.

492. **UNIVERSITY BANDS (1).** Open to all qualified 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 6 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).** *Crosslisted as Educ. 509X.* 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).** *Crosslisted as Educ. 519X.* 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).** *Crosslisted as Educ. 525X.* 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.

**Two semester hours a semester (1 a summer) in the music education course of study. Four semester hours a semester (2 a summer) in a performance and pedagogy course of study. No student may receive 4 semester hours a semester (2 a summer) until he has passed an audition for admission to a course of study in performance and pedagogy and has received permission to register for 4 semester hours a semester (2 a summer).*

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 6 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.

572. **INSTRUMENTAL TECHNIQUES AND MATERIALS: PERCUSSION (2).** Techniques of individual and class instruction in the percussion instruments. Review and evaluation of solo and ensemble material at 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 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 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 (1-4).** The preparation and presentation of a thesis or a graduate recital, the choice to be approved by the departmental graduate faculty. May be repeated to a maximum of 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 6 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.



James E. Heald, Ph.D., Dean
John H. Johansen, Ph.D.,
Associate Dean
Samuel C. Davis, Ed.D.,
Assistant Dean

Educational Administration
and Services
Elementary Education
Secondary Professional
Education
The School of Nursing
Outdoor Teacher Education
Physical Education for Men
Physical Education for Women
Special Education

College of Education

Departments of Education

Educational Administration and Services

GRADUATE FACULTY: Getschman, department chairman. Abrams, Alexander, Ary, Axelson, Bauernfeind, Beasley, Belnap, Bosdell, Carlson, Carroll, Clifton, Collins, Davidson, Davis, Dewar, Drake, Farwell, Ference, Fox, Froom, Gilbert, Gourley, Hanson, Harkness, Harris, Haugen, Heald, Herrmann, Holden, Hunyard, Husa, Johansen, Johns, Karabinus, Kremer, Kuschman, Leonard, Lotsof, Loughlin, McConeghy, McDonald, Merritt, Moss, Nejedlo, O'Connor, Ogilvie, Owens, Pecilunas, Powell, Ripley, Roesch, Rosemier, Schmidt, Speelman, Tiedeman, Troescher, Vacca, Van Duyne, Wells, Westlund, Wheat, Winkley, Yankow

Elementary Education

GRADUATE FACULTY: Sloan, department chairman. Barney, Binter, Bishop, Borstad, Bradtmueller, Brantley, Carr, Chaffee, Chastain, Cleland, DiCola, Deprin, Dlabal, Ende, Ferguson, Foster, Grothe, Hoffmann, Horton, Jacobs, Kise, Kuhn, Lanning, Lipscomb, Many, Meyer, Miller, Morrison, Moyers, Nerbovig, Olberg, Palmer, Price, G. Scriven, Seaberg, Seguel, Sheriff, C. Smith, L. Smith, Speer, R. Starkey, Syverson, Triplett, Vlasak, Voelker, Wernick, Wheeler

Secondary Professional Education

GRADUATE FACULTY: Maple, department chairman. Amar, Armstrong, Bazeli, Bragg, Brode, Cluff, Ellis, Frerichs, Frey, Harrison, Heilman, Humm, King, Lang, Leekley, McDowell, Mueller, Nelson, Peterson, Pourchot, Radebaugh, Reach, Reyes, Riley, Roberts, E. Scriven, Sherman, Simpson, R. Smith, J. Starkey, Swan, Thompson, Tink, Vedral, Veri, Wendel, Wills

The Departments of Education offer the degree Master of Science in Education, 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 office of the Departments of Education.

Students may specialize in the following areas listed under each degree or certificate:

Master of Science in Education

- Elementary education
- Curriculum and supervision
- Specialization in reading
- Counselor education
- Educational administration
- School business management
- Secondary professional education
- History and philosophy of education
- Instructional media
- Early childhood education

Certificate of Advanced Study

- Educational administration
- School business management
- Elementary education
- Curriculum and supervision
- Secondary professional education
- Counselor education

Doctor of Education

- Educational administration
- Counselor education
- Curriculum and supervision
- Educational psychology
- Elementary education
- Secondary professional 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 1 includes the writing of a thesis; Option 2 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 1

- Education 503 and 6 semester hours of foundations to be selected from Educ. 500, 501, 504, 505 (9 semester hours)

- b. 15 semester hours approved by the student's adviser with an emphasis in one of the fields listed above (15)
- c. Master's Thesis, Educ. 599A (6)

Option 2

Same basic requirements as Option 1 except that the thesis (Educ. 599A) is not required. Instead, 6 semester hours in the major field are selected with the approval of the student's adviser.

Residence Requirements

Elementary Education

Of the minimum 30 semester hours required for the M.S.Ed. in elementary education, at least 6 hours must be earned in residence (at NIU in DeKalb, the Lorado Taft Campus, or the Quad Cities Center). A maximum of 24 semester hours of extension credit may be applied toward the degree; and a maximum of 6 semester hours may be transferred from another institution of higher learning. However, no more than 24 semester hours of extension and transfer credit combined will be counted toward a degree program.

Secondary Professional Education

In meeting the requirements for master's degrees in the Department of Secondary Professional Education, a candidate must include a minimum of 15 semester hours of credit earned in residence, as prescribed in the preceding paragraph. The balance of the program may consist of residence, extension, and/or transfer credit except as limited by Graduate School regulations.

Educational Administration and Services

In meeting the semester-hour requirements for master's degrees in the Department of Educational Administration and Services, a candidate must include a minimum of 15 semester hours of credit earned in residence, as prescribed above for elementary education. The balance of the program may consist of residence, extension, and/or transfer credit except as limited by Graduate School regulations.

Objectives for Each Area of Specialization

1. **Elementary education** emphasizes specialized study to strengthen and broaden 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. **Curriculum and supervision** provides the student with information 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** trains 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. **Counselor education** provides preparation in the theory, techniques, and information needed by the professional school counselor at all educational levels. The academic requirements as set forth by the Office of the Superintendent of Public Instruction in Illinois for recognition of school guidance personnel are fully met. One academic year of practical experience in personnel work or teaching, or both, prior to graduation in the area is essential. For individuals who are preparing to be counselors in noneducational settings, individualized programs are designed.
5. **Educational administration** 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** 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. See the "Special Programs" section of this catalog for further information.

7. **Secondary professional education** is intended for the college graduate who is generally interested in increasing his competence 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. Programs may be designed to assist noncertified persons holding degrees in other fields to acquire certification in the secondary schools of Illinois and a Master of Science in Education degree with a specialization in secondary education. Details are explained in the Department of Education publication *Handbook in Education*. Copies are available in the Department of Education.

8. **History and philosophy of education** is designed to provide background knowledge in the historical and philosophical foundations of education for 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** 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 students with varying backgrounds and abilities in the area.

10. **Early childhood education** offers specialized study to strengthen and broaden 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.

Field Work

Supervised field work is sometimes required in a given program of study especially when, in the adviser's judgment, it is necessary to prepare the student in his chosen specialty.

Deficiency Study

In cases in which the student's background in his chosen specialty is limited, he may be required to fulfill deficiency requirements.

Internship Programs

The Departments of Education currently utilize internship programs in the areas of educational administration, counselor education, the community college, curriculum and supervision, school business management, elementary teaching and secondary teaching. For further information and internship possibilities see course descriptions.

Options for Advanced Preparation for Secondary School Teaching

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 noncertified persons holding degrees in other fields to acquire certification and a Master of Science in Education degree 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 in the section of this catalog dealing with general procedures for admission.

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, Test Construction 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 coopera-

tion 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 schools.

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 in a previous section of this catalog.) After the student's application has been approved by the Dean of the Graduate School, the student will be interviewed by the appropriate department chairman 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.

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 for 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. Arrange an interview with the chairman of his advisory committee after receiving notification of acceptance by the departmental admission committee.
5. Confer with his advisory committee to plan a program of study. (Quadruplicate copies of the program shall be prepared.)

In addition, all general Graduate School procedures for sixth-year programs are to be followed. (See "Requirements for Graduate Degrees.")

Specific Requirements for Each

C.A.S. 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 competence 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 satisfy the absence of the latter with internship experience. (See Educ. 695.)

2. School business management. This area is designed to afford additional and advanced technical study for persons who are serving as school business managers. This program offers both technical and general theoretical study related to work of school management in school systems of medium and large sizes. (See the "Special Programs" section of this catalog.)

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 Educ. 695. Internship.

3. Elementary education. This area is designed for experienced elementary teachers and others 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. Curriculum and supervision. This area is designed for students who wish to continue study in curriculum and supervision 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 interested in reading as a major area of emphasis may select this field of study.

5. Secondary professional education. This area is designed for those students who are interested in increasing general competence 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 of successful teaching experience in secondary schools prior to admission to the sixth-year program. His program must include Educ. 508 and 602. 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 competence 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.

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 candidate's advisory committee, additional hours above the 90 required for the doctoral 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 to become superior teachers or teacher educators. Within the first type of service, an area of emphasis may be selected from the following five: (a) educational administration, (b) counselor education, (c) educational psychology, (d) instructional media, or (e) curriculum and supervision. Within the second type of service, two areas of emphasis are offered: elementary education and secondary professional education. Both (1) and (2) may serve to prepare individuals for teaching at the college level. Preparation for research responsibilities both as producer and as 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 are similar to those listed for the master's degree and the C.A.S. However, the candidate will also have additional interviews and letters of recommendation, and will take aptitude tests, 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 credit 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, dissertation, 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, or 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 minimum of 15 cognate semester hours outside the field of professional education.
2. A minimum of 18 semester hours in the specialization, including any courses which the doctoral committee believes necessary to complete the specialization in any department in any college.
3. A limitation of 30 semester hours on the amount of master's degree work that may be applied to basic competencies or to cognate or specialization requirements noted above.
4. 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 dissertation problems.

Examinations

Candidacy Examination. A written candidacy examination 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 basic competencies. Dates on which application for the examination can be made will be announced by the Departments of Education. 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

NOTE: A "T" after a course number indicates that an old number is being used for a new course; an "X" designates a course offered primarily by another department but which may be taken for credit in this department.

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.

402X. CURRICULUM AND INSTRUCTION IN ELEMENTARY SCHOOL MATHEMATICS (3). *Mathematical Sciences 402*. The aims and organization of materials for the mathematics programs for the elementary school. Primarily for elementary education majors. Prerequisite: Math. 201 or equivalent.

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 6 to 12 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). Construction of overhead transparencies, slides, and other materials, with emphasis on 35mm format. Prerequisite: Educ. 430.

432. TELEVISION IN THE CLASSROOM (3). The effective use of television as an instructional device in the classroom.

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.

450T. WORKSHOP IN ADULT CONTINUING 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.

451. THE NATURE OF ADULT CONTINUING EDUCATION (3). This course is designed for students studying in various departments

and areas who wish to explore the field as it exists in basic education, high schools, junior colleges, universities, private schools, businesses, governmental agencies, non-profit organizations and churches. The historical, philosophical and sociological bases of adult education will be examined with emphasis on present roles and future trends in the field.

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.

483. CONTEMPORARY LANGUAGE ARTS (3). An introduction to contemporary applied language arts programs. Emphasis on methods, materials and instructional procedures for elementary school children.

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.

503. INTRODUCTION TO EDUCATIONAL 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 a 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.

509X. SUPERVISION AND ADMINISTRATION OF THE MUSIC PROGRAM (3). *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 THE DEVELOPING ELEMENTARY SCHOOL CHILD (3). Contemporary knowledge and theories of child development. The role of the teacher in the selection and application of these concepts of child development to specific classroom procedures.

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.

519X. MEASUREMENT, EVALUATION AND GUIDANCE IN MUSIC (2). *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.

525X. FOUNDATIONS OF MUSIC EDUCATION (3). *Music 525*. The historical and philosophical bases of music education. The application of learning theories to problems of music teaching.

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.

528. SURVEY OF RESEARCH IN EDUCATIONAL ADMINISTRATION (3). Survey of selected research studies in educational organization and administration. Prerequisite: Educ. 551.

529A. ADULT LEARNING: MATURITY THROUGH OLD AGE (3). An inquiry into learning theories and their relationships to mature and aging adults. Emphasis on the problems of changes in learning capacities, incentives, emotional development and their implications for adult educators.

529B. CURRICULUM DEVELOPMENT IN ADULT CONTINUING EDUCATION (3). The application of fundamental principles and concepts of curriculum development to instructional programs designed specifically for the adult learner.

529C. EDUCATING THE DISADVANTAGED ADULT (3). Focus on the cultural, personal and economic problems of the disadvantaged adult. Emphasis on relating to and utilizing agencies that refer undereducated adults to programs and assist in the development of basic coping skills.

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, subculture, 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). Design and production of audio and visual materials for use in an instructional system with emphasis on motion picture format. Prerequisite: Consent of instructor.

539. INSTRUCTIONAL TELEVISION PROGRAMMING (3). Closely supervised preparation of instructional television lessons from conception through execution, utilization, and evaluation. Prerequisite: Spch. 450 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 in-service 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: Standing as C.A.S. or doctoral student; 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 (3).** Problems of maintaining buildings and grounds: custodian relationships, scheduling, budgeting, purchasing, supply administration, recordkeeping, and cost analysis.

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, members of boards of education, representatives from 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.

547. **HUMANISTIC SOCIAL THEORY APPLIED TO EDUCATION (3).** This course will investigate humanistic social theory and a brief survey of its origins in humanistic psychology, educational studies based on this approach, and relevant contributions from the social sciences.

550T. **ORGANIZATION AND ADMINISTRATION OF ADULT CONTINUING EDUCATION (3).** The organizing, financing, staffing, promoting and evaluating of programs of adult education. Teaching resources and the role of the adult education administrator.

551. **SCHOOL ORGANIZATION AND ADMINISTRATION: PRINCIPLES, CONCEPTS, AND STRUCTURE (3).** Development of an awareness and understanding of the social, political, and behavioral bases for school administration.

552. **EVALUATING SECONDARY SCHOOLS (3).** Focuses on the characteristics of quality and the processes of evaluating secondary schools. Attention is given to the development of reports of evaluation and models for their implementation. Prerequisite: Teaching experience.

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.

554. **METHODS AND MATERIALS IN ADULT CONTINUING EDUCATION (1-3).**

- A. Instructional Theory as Applied to Adult Continuing Education
- B. Developing Instructional Objectives to Adult Programs

C. Individualizing Instruction in Adult Basic Education and General Education Development

D. Literacy Development in Adult Continuing Education

E. Computational Skill Development in Adult Basic Education and General Education Development

J. Diagnosing, Prescribing and Evaluating Adult Learning

A course for adult educators who wish to identify and study various contemporary methodologies and materials used in teaching adult students.

555. **INTERNSHIP (1-9).** Work individually or in small groups in a practical situation under the guidance of a staff member of that setting and a University supervisor.

556. **SCHOOL ORGANIZATION AND ADMINISTRATION: PROGRAMS AND PRACTICES (3).** Examination of administrative practices in the areas of educational programs, staff and pupil personnel functions, physical plant, finance and business management, and school-community relations. Prerequisite: Educ. 551.

557. **ESSENTIALS OF SCHOOL LAW (3).** Survey course on legal problems in the school setting. Designed for master's degree candidates.

558. **CHILDREN'S LITERATURE (3).** An advanced course in children's literature. Designing, implementing, and evaluating children's literary experiences. Emphasis on practical application in the elementary school.

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.

561T. **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.

562A. **COUNSELING TECHNIQUES: THEORY AND PRACTICE (3).** An introduction to counseling theory and practice with emphasis on interview techniques.

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. **PRINCIPLES AND TECHNIQUES IN PUPIL PERSONNEL WORK (3).** Foundations of guidance and pupil personnel work. Implementation of specific practices with emphasis on the use of various techniques and records in guidance and counseling.

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.

566. **PROBLEMS AND ALTERNATIVES IN ADULT CONTINUING EDUCATION (1-3).**

- A. Evaluating Teacher Effectiveness in Adult Continuing Education
- B. Constructing Evaluative Tools for the Adult Learner
- C. Counseling the Undereducated Adult
- D. Testing Adults Using Standardized Tests
- E. Job Placement
- J. Development of Non-Credit Community Courses

Modules designed to examine adult life as it affects adult education. Emphasis will be on analyzing issues in adult education and determining promising options.

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/or 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 evaluative instruments. Prerequisite: Educ. 481 or 482 or equivalent.

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.

578. **TEACHING ADULTS ENGLISH AS A SECOND LANGUAGE (1-3).**

- A. Methods and Materials for Teaching Listening Skills
- B. Methods and Materials for Teaching Speaking Skills
- C. Methods and Materials for Teaching Reading Skills
- D. Methods and Materials for Teaching Writing Skills
- E. Methods and Materials for Teaching English Communication Skills in Related Subjects
- J. Awareness of Various Original Ethnic Backgrounds Affecting English Language Development

An examination of methods and materials relevant to teaching adults English as a second language. Consideration will be given to psycho-

social-cultural conditions surrounding the adult. Particular emphasis will be placed on preparing students for the high school equivalency examination in English.

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.

581. APPLIED LINGUISTICS IN THE ELEMENTARY SCHOOL (3). The application of linguistic principles in the elementary language arts. Major emphasis on applied linguistics in the areas of reading, spelling, listening, speech, grammar, usage, and literature. Prerequisite: A curriculum course in elementary school language arts or its equivalent.

582. THE KINDERGARTEN YEARS: TRANSITION AND PERSPECTIVE (3). A study of learning continuity in early childhood years. Emphasis upon the kindergarten years.

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). Detailed study of selected research in elementary school language arts with emphasis on principles, trends, methods, and materials. Focus on curriculum patterns and innovations.

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. 482 or 575 or equivalent.

590T. COUNSELING WITH MINORITY PERSONS (3). Cultural values, needs, and feelings of persons with differing social, economic, and racial background, with emphasis upon a critical examination of psychological and social bases of current and alternative counseling strategies.

591. ADVANCED EDUCATIONAL STATISTICS (3). Testing experimental hypotheses by use of t-tests, chi-square, analyses of variance procedures. Use of confidence intervals in estimating population parameters. Consideration of power and of control of errors in simple and complex designs. Prerequisite: 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: Educ. 593 or consent of instructor.

595. TEACHING PRACTICUM (1-6). For those actively engaged in teaching who are interested in improving their teaching skills. Clinical work with the guidance of experienced professionals and consultants in teacher education. Experiences arranged to meet the needs, concerns and interests of each individual. May be repeated to a maximum of 6 semester hours. Does not fulfill the student teaching requirement. Prerequisite: Consent of the director of student teaching.

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 (1-6). Open only to the student who elects to write a thesis for the degree Master of Science in Education or Master of Science with a major in community mental health. The student enrolls with the faculty member directing the thesis. Prerequisites: Educ. 503 and consent of instructor.

599B. CERTIFICATE OF ADVANCED STUDY THESIS OR FIELD STUDY (1-6). Prerequisite: Consent of the chairman of the student's 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 and 508 or equivalents.

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. Corequisite: 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. Corequisite: Educ. 611.

613. SEMINAR IN EARLY CHILDHOOD EDUCATION (3). Identification and analysis of problems and issues in early childhood education.

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. COMPARATIVE EARLY CHILDHOOD EDUCATION (3). A cross-cultural, multidisciplinary approach to the study of both formal and informal education of children. Emphasis on the content and context of learning in early childhood in contemporary industrial and preliterate societies.

620. RESEARCH SEMINAR: HUMANISTIC SOCIAL THEORY IN EDUCATION (3). The major emphases will be on humanistic criticisms and contributions to research methodology. Students will study and report on educationally relevant theoretical and/or applied topics of their own selection. Prerequisites: Previous or concurrent enrollment in Educ. 547 and a research course in education or the social sciences, or 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.

637. PRACTICUM IN MEDIA (3). Development of devices and materials for instructional media through individual production and design. May be repeated to a total of 6 semester hours. Prerequisites: Educ. 431 and 538 and consent of instructor.

638. MEDIA CURRICULUM DEVELOPMENT (3). Development of media courses and programs at the college level. Prerequisite: Consent of instructor.

639. THEORY OF MEDIA COMMUNICATION (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 IN MEDIA (3). Problems in organization, administration, and research in media. Prerequisite: Consent of instructor.

643. RESEARCH SEMINAR IN CURRICULUM (3). Designed for the advanced student who is interested in planning and conducting a research study in curriculum. May be an exploratory or pilot study related to the doctoral dissertation. May be repeated to a maximum of 6 semester hours. Prerequisites: Admission to C.A.S. or doctoral program and consent of instructor.

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: Standing as C.A.S. or doctoral student.

650. SYSTEMS ANALYSIS IN EDUCATION (3). Extended study of the systems approach to decision making in education, focusing upon specific problems of design, implementation, and evaluation. Prerequisite: Completion of master's degree or equivalent.

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.

661. GROUP LEADERSHIP (3). Study of leadership styles in task-oriented and personal growth groups. Emphasis on the analysis and attainment of leadership behaviors that are most facilitative to individual and group purposes and goals. Prerequisite: Consent of instructor.

662. ADVANCED PRACTICUM IN COUNSELING (3).

A. Individual Counseling Practice

B. Group Counseling Practice

Supervised practice of counseling. Separate sections devoted to the development of skills in working with individual clients and with groups. May be repeated for a maximum of 6 semester hours. Prerequisite: 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. Prerequisites: Educ. 567 or equivalent, or admission to doctoral program, and consent of instructor.

669. LEARNING RESEARCH PRACTICUM (3). Extended study of learning theory and individual research focusing upon specific and persistent problems of design, translation, and interpretation of learning research for educators. May be repeated to a maximum of 6 semester hours. 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).

- A. Methodology and Design: Learning
- B. Methodology and Design: Developmental
- C. Methodology and Design: Statistics and Measurement
- D. Methodology and Design: Educational Psychology

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. Prerequisite: Master's degree.

672. SEMINAR IN SECONDARY SCHOOL EVALUATION (3). Emphasis on critical analysis of the models, materials, and practices used in the evaluation of secondary, junior high/middle schools, and the development of alternative and more effective approaches to evaluation. Limited to advanced graduate students. Course may be repeated to a maximum of 6 semester hours. Prerequisite: Consent of instructor.

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). An analysis of selected problems and issues in American higher education.

676. EVALUATING ADULT CONTINUING EDUCATION PROGRAMS (3). An advanced study of program designs and evaluation necessary in effectively analyzing and improving programs in adult continuing education.

677. REVIEW OF RESEARCH IN ADULT CONTINUING EDUCATION (3). A comprehensive study of research literature in adult continuing education and related social science fields. Additional emphasis will be placed on examination of diagnostic instruments.

678. INTERNATIONAL ADULT EDUCATION (3). An examination of the present status of adult continuing education in selected foreign countries. Emphasis on scope, purposes, and development of adult continuing education institutes and programs internationally.

679. ADMINISTRATION OF ADULT CONTINUING EDUCATION (3). This course will relate administrative theory and research to current practice in the field of adult continuing education. Additional emphasis will include finance, budget development, the development of both public and institutional support and the evolving role of the adult education director. Designed primarily for students working toward the doctoral degree.

680. SEMINAR IN ADULT CONTINUING EDUCATION (1-6). Advanced study and discussion of current issues, and research with additional attention given to proposal writing in the field of adult continuing education. Investigation of specific topics of concern for the student working toward the doctorate in adult education. Group and individual interests contribute to the design of the course.

681. BAYESIAN APPROACH TO EDUCATIONAL STATISTICS AND DECISION MAKING (3). Subjective probabilistic assessments of data using Bayesian analysis and inference. Implications for research problems, designs and interpretations. Computer applications. Corequisite: Educ. 591 or consent of instructor.

682. NONPARAMETRIC STATISTICS (3). Application, computation, and interpretations of nonparametric 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 noncontinuous variates, single and multiple variate regression, and methods of multifactor analysis. Prerequisites: Educ. 508 or equivalent and consent of instructor.

690. THEORY OF MEASUREMENT (3). Analysis of theoretical approaches to reliability, validity, item analysis and factor analysis. Exploration of related measurement problems. Prerequisites: Educ. 508, and 510 or 563, or equivalent.

691. CONSTRUCTION OF SCALING INSTRUMENTS (3). Techniques of scale construction for use in assessing attitudinal, interest, temperament, personality variables, and psychomotor skills; reliability and validity of each technique. Prerequisite: Educ. 591 or consent of instructor.

695. INTERNSHIP (1-12). Work individually or in small groups in a practical situation under the guidance of a staff member of that setting and a University supervisor. Open only to C.A.S. and doctoral students, or by permission of instructor.

696. EXTERNSHIP IN EDUCATIONAL ADMINISTRATION (3). A seminar designed expressly for practicing school administrators and directly related to applied problems in educational administration. Must be taken in fall semester and the following spring semester for a total of 6 semester hours. Written permission of instructor required.

699. DOCTORAL RESEARCH AND DISSERTATION (1-12). Student must accumulate 12 semester hours prior to graduation. Prerequisites: Candidacy for the doctoral degree and consent of chairman of doctoral committee.

School of Nursing

GRADUATE FACULTY: Lefkowitz, director. Cearlock, Frerichs, Hart, Jensen, Krogdahl, Murrin, Nissen, Pender, Zeeman

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

Admission to graduate study in nursing requires graduation from a state-approved school of nursing, a baccalaureate degree from an accredited college or university, and consent of the graduate committee of the School of Nursing. Applicants who lack an upper-division nursing major will be required to earn a specified number of hours in undergraduate nursing courses prior to admission to candidacy.

The Master of Science with a major in nursing may be earned by electing one of two options. Option 1 includes the writing of a thesis whereas Option 2 is a program of courses without a thesis. In either option a minimum of 30 semester hours is required, distributed as follows:

Option 1

- a. Area of nursing specialization (18)
 - b. Cognate courses approved by the department adviser (6)
 - c. Master's thesis (6)
- Total: 30 semester hours

Option 2

- a. Area of nursing specialization (18)
 - b. Cognate courses approved by the department adviser (12)
- Total: 30 semester hours

The graduate student plans a program in consultation with an assigned adviser from the School of Nursing. The student may select an area of specialization in medical-surgical nursing, maternal and child health nursing, community health nursing, or nursing administration. Courses that must be taken in each of the areas of specialization are as follows:

1. 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 Medical-Surgical Nursing

2. 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

3. Community Health Nursing

- Nursing 501, Nursing Perspectives
Nursing 502, Nursing Research
Nursing 560, Group Dynamics in Community Health
Nursing 561, Health Structure of the Community
Nursing 562, Seminar and Practicum in Community Nursing

4. 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

400. WORKSHOP IN NURSING (1-3). Study of current issues and problems in the field of nursing. Prerequisite: Acceptance by the director of the workshop. May be repeated.

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 non-nursing majors.

470. NURSING IN THE MEDICAL SPECIALTIES (1-3). Explorations of solutions to problems of delivery of health care by nursing personnel. Experimentation with new formats for communicating data relevant to the delivery of health care by nursing personnel. May be repeated to a maximum of 9 semester hours. Open to registered nurses and generic students with the consent of the instructor.

480. SPECIAL TOPICS IN NURSING (1-3). Exploration of topics of special interest in a particular area of nursing. May be repeated to a maximum of 9 semester hours. Admission by permit only.

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 interrelationship 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 implications, 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: Introductory statistics course.

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 pathophysiological, psychosocial and cultural factors affecting nursing care.

521. **SEMINAR AND PRACTICUM IN MEDICAL-SURGICAL NURSING (6).** Analysis of the role of the nurse as a clinical practitioner and teacher. Field experiences will provide opportunity for exploration and practice in the area of interest. Prerequisite: Nursing 520 and consent of instructor.

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 (3).** Study of the impact of societal changes on the family during the child-bearing and the child-rearing years with consideration of the independent functions of the nurse in this dynamic society.

541. **SEMINAR AND PRACTICUM IN MATERNAL AND CHILD HEALTH NURSING (6).** Analysis of the role of the nurse as a teacher or a clinical practitioner. The field experience will provide opportunity to increase competence in the area of interest. Prerequisite: Nursing 540 and consent of instructor.

560. **GROUP DYNAMICS IN COMMUNITY HEALTH (3).** Examination of group work theories, concepts, and the process of group

behavior. Structural and functional characteristics of small groups and forces that promote or impede group interaction. Ongoing group processes are observed and evaluated.

561. **HEALTH STRUCTURE OF THE COMMUNITY (3).** Analysis of health structure on local, state and national levels with emphasis on nurse participation in local health organizations.

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 and consent of instructor.

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.

580. **SEMINAR IN CLINICAL NURSING (1-3).** Seminar format to be utilized in the exploration of solutions to the development of nursing services in meeting current modern health needs. May be utilized to experiment with new formats for communicating relevant information in fields requiring nursing expertise. May be repeated to a maximum of 9 semester hours. Consent of instructor required.

599. **MASTER'S THESIS (1-6).** 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

GRADUATE FACULTY: Hammerman, department chairman.
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.

Admission to the graduate program in the Department of Outdoor Teacher Education requires a baccalaureate degree in education or a related discipline. Additional admission requirements are:

1. an undergraduate grade-point average of 2.50 for the last two years
2. a composite score of 700 or higher on the Graduate Record Examination
3. letters of recommendation indicating that the student is capable of performing satisfactorily in graduate courses
4. evidence that the student's professional goals and aspirations are congruent with the goals and purposes of the master's degree program 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 OTE 410, 555, 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. A student may wish to include recommended cognate courses Educ. 500 or 501 in his program of studies.

- c. A maximum of 18 semester hours of extension course credit taken at Northern Illinois University may be counted toward meeting the degree requirements.

Option 2

Students electing Option 2 must satisfy all requirements listed under Option 1 except OTE 599, Master's Thesis. Option 1 requires the equivalent of five 3-semester-hour courses in outdoor teacher education 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. A maximum of 18 semester hours of extension course credit taken at Northern Illinois University may be counted toward meeting the degree requirements.

Course Offerings

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 outdoors.

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. Evolvement of this movement in American public education is traced and recent significant trends and existing outdoor education programs are examined. Prerequisite: OTE 410.

505. 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. Prerequisite: Consent of instructor.

506. ENVIRONMENTAL QUALITY EDUCATION (3). Cultural, ecological and educational implications of the environmental movement. Emphasis on factors and influences leading to environmental quality literacy.

509. TEACHING PHYSICAL SCIENCE IN THE OUTDOORS (3). Study of selected aspects of the physical sciences as related to the outdoor environment. Emphasis on teaching and use of research

techniques of scientific investigation. Prerequisite: One course in mathematics and one in natural science.

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. Prerequisite: OTE 410.

515. **FIELD SCIENCE (3).** Provides a basic fund of scientific knowledge which can be studied in the natural environment. Special attention devoted to field research techniques in scientific investigation.

519. **LEISURE AND THE OUTDOORS (3).** Man and leisure in a changing society and their impact on the natural environment. Emphasis on developing outdoor recreation skills and leadership techniques.

520. **ANALYSIS AND DEVELOPMENT OF CURRICULUM MATERIALS IN OUTDOOR EDUCATION (3).** The selection, production, and utilization of audiovisual materials related to outdoor education. The student will learn how to operate and care for scientific and audiovisual 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. Prerequisite: OTE 410 and consent of adviser.

530. **INTERNSHIP IN OUTDOOR EDUCATION (1-6).** An internship designed to provide supervised experiences in program planning and organization, outdoor instruction, supervision, and administration. May be repeated to a maximum of 6 semester hours of credit. Prerequisites: OTE 410 and consent of adviser.

555. **INTRODUCTION TO EDUCATIONAL RESEARCH IN OUTDOOR EDUCATION (3).** Basic course in educational research with emphasis on outdoor education.

599. **MASTER'S THESIS (1-6).** Open only to the student 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 and 555.

Department of Physical Education for Men

GRADUATE FACULTY: Brigham, department chairman. Dean, Dunn, Floyd, Fulton, Healey, Kahler, LaBaw, Luck, Stroup, Wells, Winn

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

A student working toward the degree Master of Science in Education with a major in the Department of Physical Education for Men is 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 either PE-M 500 or 510 and PE-M 520 or 613.

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

A student who wishes to pursue a program leading to the Certificate of Advanced Study normally must have a baccalaureate degree or master's degree (or its equivalent) in physical education. The student may elect either a thesis or a non-thesis program, each of which requires 30 semester hours beyond the master's degree. Of the 30 hours required for the certificate, a minimum of 20 hours must be taken in the Department of Physical Education for Men.

During the semester in which he is enrolled in his first graduate course leading to the Certificate of Advanced Study, the student will confer with his advisory committee to plan a program of study. The requirements will be flexible, and the program of courses to be taken will be constructed with consideration given to the student's background, interests, and professional objectives.

A candidate for the Certificate of Advanced Study who did not receive a master's degree in the Department of Physical Education for Men, Northern Illinois University, must take a qualifying examination. The results will be used in counseling the student and in determining his eligibility for admission to candidacy. The examination is to be taken during the first semester in which he is enrolled in the program and should precede the establishment of a program of study. In cases where the department finds that a student's academic background is limited with reference to a planned program, he may be required to fulfill deficiency requirements which will not count toward meeting the total credit-hour requirements of the C.A.S. Failure to take the examination at the prescribed time may result in dismissal from the program.

Course Offerings

400. METHODS AND MATERIALS IN HEALTH EDUCATION (3). Health education methods and materials for elementary and secondary schools. Prerequisites: PE-M 190 and 262 or consent of the instructor.

401. CURRENT AND CRITICAL ISSUES IN HEALTH EDUCATION (3). An in-depth investigation of the most current and critical health problems such as sex education, drug education, mental illness, consumer health, and population problems. A significant portion of the course activities will be the planning, execution, and evaluation of appropriate clinical experience(s). Prerequisite: PE-M 262 or consent of the instructor.

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 emphasis 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 interschool 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 to orient the student 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. Prerequisite: PE-M 570.

599A. **MASTER'S THESIS (1-3).** Satisfactory completion of master's thesis. Prerequisite: PE-M 581.

599B. **CERTIFICATE OF ADVANCED STUDY RESEARCH AND THESIS (1-6).** 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. Prerequisite: Demonstrated proficiency in the use of research tools.

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, and 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 faculty and must have their problems approved before registering. Prerequisite: PE-M 570.

Department of Physical Education for Women

GRADUATE FACULTY: Cunningham, department chairman. Bell, Heidorn, Lane, Moyer, Payne, Plowman, Popp, Ringo, Zimmerman

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. 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 for the degree, 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

3 hours from PE-W 465 or 500 or 575

3 hours from Educ. 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 programs 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 and 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 chairman 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.

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.

454. THE MANAGEMENT OF PHYSICAL IMPAIRMENT THROUGH EXERCISE (3). Designed primarily for physical education majors. Principles and application of exercise to selected skeletal and muscular dysfunction. Prerequisite: Human anatomy or consent of instructor.

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 in dance and associated areas.

467. DANCE NOTATION (3). Historical survey of movement notation methods used throughout the world. Theory and practice in writing various methods, with concentration 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). Philosophy and standards of intercollegiate and inter-scholastic 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 cultural patterns of civilization and educational movements. Development of philosophical concepts paralleling educational philosophy. Application of basic philosophy to the instructional program.

510. 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 PHYSICAL EDUCATION (3). Techniques and procedures of supervision in 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 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 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 (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 preschool and elementary school.

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 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 599A or 599B. Prerequisite: Consent of adviser.

572. CURRENT TRENDS IN PHYSICAL EDUCATION (3). Contemporary trends in 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.

586. SEMINAR IN MOTOR LEARNING (3). Evaluation of the current motor learning research in physical education and the development of a specific motor learning topic for discussion. Prerequisite: PE-W 486 or equivalent.

587. PSYCHOLOGICAL IMPLICATIONS FOR MOTOR ACTIVITY (3). Investigation of current psychological theory and research relative to teaching and learning of motor skills.

599A. MASTER'S THESIS (1-6). Open only to students writing the master's thesis. Topic should be approved prior to enrollment in course. May be taken for 3 or 6 semester hours. Prerequisite: PE-W 570 or equivalent and approval of research by advisory committee.

599B. RESEARCH AND THESIS FOR CERTIFICATE OF ADVANCED STUDY (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 layout, 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.

Department of Special Education

GRADUATE FACULTY: Klemm, department chairman. Blankenship, D'Alanzo, Fair, Hapeman, Huston, Lokerson, Lotsof, Mauser, Phillips, Sedlak, Sternberg

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
- 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 degree may follow either of two options.

Option 1

- a. Educ. 503, Introduction to Educational Research
- b. Sp.Ed. 509, Educational Diagnostics for Exceptional Children
- c. Sp.Ed. 599, 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 (Sp.Ed. 599) is not required. Instead, 6 semester hours in special education courses are selected with approval of the adviser.

Provisions are made to assist noncertified persons who hold baccalaureate degrees in fields other than special education to

acquire certification and a Master of Science in Education degree 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. May be taken concurrently with Educ. 375.

410. CHARACTERISTICS OF MENTAL RETARDATION (3). A survey of the classification, diagnosis, characteristics and education of mentally retarded.

411. CURRICULUM, METHODS, AND MATERIALS FOR THE EDUCABLE MENTALLY HANDICAPPED: ELEMENTARY (3). The curriculum, instructional methods, and materials appropriate for teaching the educable mentally handicapped. Opportunities for involvement with children will be provided. Prerequisite: Sp.Ed. 410 or consent of instructor.

412. CURRICULUM, METHODS, AND MATERIALS FOR THE EDUCABLE MENTALLY HANDICAPPED: SECONDARY (3). The curriculum, instructional methods, and materials appropriate for teaching the educable mentally handicapped from ages 15 through 21. Course work is related to practice through laboratory experience in special education classrooms. Prerequisite: Sp.Ed. 410 or consent of instructor.

413. CURRICULUM, METHODS, AND MATERIALS FOR THE TRAINABLE MENTALLY HANDICAPPED (3). The curriculum, instructional methods, and materials appropriate for teaching the trainable mentally handicapped, including objectives and class organization. Prerequisite: Sp.Ed. 410 or consent of instructor.

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.

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. Prerequisite: Sp.Ed. 300.

441. ANATOMY, PHYSIOLOGY, AND HYGIENE OF THE EYE (3). Medical lectures and laboratory demonstration by an ophthalmologist, with an educator presenting functional implications of various pathologies in the educational setting. Prerequisite: Sp.Ed. 440 or consent of department.

442. BEGINNING BRAILLE (3). Mastery in the reading, writing, and teaching of braille. Development and use of special materials: slate and stylus techniques presented; introduction to Nemeth Code of mathematics. Prerequisite: Sp.Ed. 440 or consent of department.

443. METHODS AND MATERIALS IN TEACHING BLIND CHILDREN (3). Identification, classification, and methods of curriculum development; principles of selection, preparation, use, and effective evaluation of materials. Prerequisite: Sp.Ed. 442 or proficiency in braille.

444. METHODS AND MATERIALS IN TEACHING PARTIALLY SIGHTED CHILDREN (3). Identification, classification, and methods of curriculum development; principles of selection, preparation, use, and effective evaluation of materials. Administration and evaluation in vision screening presented; and application of low vision aids in the utilization of residual vision. Prerequisite: Sp.Ed. 440.

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: Sp.Ed. 440 or consent of department.

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 preschool 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). Principles and techniques of teaching language to the preschool and school-age deaf using natural language and the Fitzgerald Key. "Language Outline," prepared by a committee of teachers at the Central Institute for the Deaf, is followed. The language problems of deaf children with multiple handicaps. Prerequisite: Sp.Ed. 461.

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, evaluation of educational methods, personal, educational and vocational guidance for the deaf. The role of the parent. Research studies dealing with psychology, social adjustment and learning problems.

466. SIGN LANGUAGE AND FINGERSPELLING FOR THE DEAF (3). *Crosslisted as Spch. 466X*. 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. Prerequisite: Sp.Ed. 300.

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.

505. VOCATIONAL PROGRAMMING FOR THE HANDICAPPED (3). The vocational training, evaluation, and placement of special education pupils of senior high school age; the role of work-study and sheltered workshop personnel. Prerequisite: Consent of instructor.

507. BEHAVIOR MODIFICATION FOR THE CLASSROOM TEACHER (3). Principles and techniques of behavioral analysis applied to the learning and behavioral management of the student exhibiting learning and behavioral difficulties. Designed to enable the classroom teacher to implement environmental and contingency management principles in the classroom.

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 or consent of instructor.

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 ASPECTS OF MENTAL RETARDATION (3). A study of the educationally significant characteristics of the mentally retarded with emphasis on research. Prerequisite: Sp.Ed. 410.

512. PSYCHOLOGICAL AND SOCIOLOGICAL ASPECTS OF MENTAL RETARDATION (3). A study of the psychological and sociological problems and characteristics of the mentally retarded, including a consideration of research. Prerequisite: Sp.Ed. 410.

515. CURRICULUM DEVELOPMENT FOR THE MENTALLY RETARDED (3). Principles in the construction and administration of curricula for the mentally retarded. Prerequisite: Sp.Ed. 411 or Sp.Ed. 413 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 509 or 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 Sp.Ed. 509 or consent of instructor.

529. ADVANCED EDUCATIONAL DIAGNOSTICS FOR CHILDREN WITH LEARNING DISABILITIES (3). Advanced training in educational diagnosis of children with learning disabilities including the administration and interpretation of specialized testing instruments. Prerequisites: Sp.Ed. 509 or equivalent 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). Reinforcement 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.

550. NATURE AND NEEDS OF EMOTIONALLY DISTURBED CHILDREN (3). A study of emotional disturbances including causes, characteristics, and implications for educational planning.

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. Prerequisite: Sp.Ed. 550.

555. PROGRAMS FOR SOCIALLY MALADJUSTED CHILDREN (3). Techniques for early identification, programming, and remediation of socially maladjusted children. Emphasis given to the period of early childhood to preadolescence. Prerequisite: Consent of instructor.

556. PROGRAMS FOR SOCIALLY MALADJUSTED ADOLESCENTS AND YOUNG ADULTS (3). Procedures for the identification and remediation of socially maladjusted adolescents and young adults. Prerequisite: 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). The impact of a hearing loss on the processes of learning. Methods of overcoming the educational deficit of the hard of hearing. Prerequisite: Sp.Ed. 560.

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 6 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: Consent of instructor.

597. PRACTICUM OF SPECIAL EDUCATION (1-5). 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: Admission to Graduate School or consent of adviser.

598. INSTITUTE IN SPECIAL EDUCATION (1-3). A series of lectures, consultations, and discussion sessions on a relatively limited area of research or education. Prerequisite: Consent of instructor.

599. MASTER'S THESIS (1-6). Enrollment by special arrangement with the student's major adviser. May be repeated for a maximum of 6 semester hours.

601. THE BRAIN AND LEARNING (3). Detailed consideration of associations between brain function and aspects of behavior. Emphasis

on the neurology of learning with focus on implication for education of handicapped children. Prerequisite: Consent of instructor.

602. COGNITIVE PROCESSES AND HANDICAPPED CHILDREN (3). A critical evaluation of the impact of handicaps on cognition, with consideration of the differences among the mentally retarded, emotionally disturbed, deaf, blind, and those with learning disabilities. Prerequisite: Consent of instructor.

603. SEMINAR: HANDICAPS AND LEARNING (3). An analysis of concepts and research related to learning in handicapped children. Prerequisite: Standing as advanced sixth-year student, or consent of instructor.

609. EDUCATIONAL ASSESSMENT FOR HANDICAPPED CHILDREN (3). Advanced study of symptomatology in relation to the diagnostic process, with attention to its significance for educational planning. Prerequisite: Sp.Ed. 509 or equivalent.

620. DISORDERS OF WRITTEN AND READ LANGUAGE (3). Consideration of the written and read language systems as they relate to all areas of handicap. Emphasis on the associations among these disorders and psychology of learning in the sensorially impaired and those with dysfunctions of the central nervous system. Prerequisite: Consent of instructor.

622. REMEDIAL EDUCATION FOR EXCEPTIONAL CHILDREN (3). A study of principles and practices in remedial education as they pertain to enhancement of learning in handicapped children. Prerequisite: Consent of instructor.

690. LABORATORY STUDIES IN SPECIAL EDUCATION (3). Theoretical constructs, design, and procedures for laboratory research in special education. Participation in research projects required. May be repeated. Prerequisite: Consent of instructor.

694. INDEPENDENT RESEARCH (3). Advanced study of specific problems related to the student's interest area; may cover any area of handicap. May be repeated. Prerequisites: Standing as sixth-year student and consent of instructor.

695. SEMINAR: RESEARCH METHODOLOGIES IN SPECIAL EDUCATION (3). A consideration of the major concepts underlying research on handicapped children with analysis of the design, variables, and parameters most critical in study of children who have limited language, motor, and mental abilities. Prerequisite: Consent of instructor.

697. INTERNSHIP (6-12). Assignment as an intern in assessment and/or in programming. Participation in on-going programs in residential or public schools for handicapped children; work as a student-staff member according to the assignment that has been undertaken. Students must accumulate 12 semester hours prior to graduation. Prerequisite: Consent of adviser.



Robert L. Thistlethwaite, Ph.D., Dean
John W. Eaton, Ed.D.,
Assistant to the Dean
William J. Masson, Ph.D.,
Assistant to the Dean
Lawrence C. Hackamack, Ph.D.,
Coordinator of Business Research
Donald D. Scriven, Ph.D., Coordinator
of Computer Systems in Business
Ruth E. Westlund, Ph.D.,
College Counselor

Accountancy
Business Education
Finance
Management
Marketing

College of Business

Programs in 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 scores on the Admission Test for Graduate Study in Business (ATGSB) are required as an admission credential. The minimum standards that the College of Business will apply to admission to all graduate programs in business at the master's level are: (1) graduation from a regionally accredited college with a grade-point average of 2.50 or above (based on a 4.00 grading system) or a score of 450 or above on the ATGSB;* (2) demonstration of growth, maturity, and motivation as evidenced from trends and patterns in college, employment, and civic experiences. See additional requirements under departmental specialization.

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.). All graduate students working toward these degrees must complete Math. 210 or equivalent or the first course in calculus.

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 nonprofit 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.

*The Department of Accountancy requires a minimum grade-point average of 2.50 and a minimum score of 450 on the ATGSB.

A large number of students desiring graduate study in business do not have undergraduate preparation 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 a program varying in length, with the upper limit at 60 semester hours. Students with a bachelor's degree in business administration will usually have met all, or most, of the requirements of Phase One. Programs for such students will consist of the 30 semester hours of graduate work required in Phase Two. Students whose bachelor's degree is in some field other than business will have the maximum of 60 semester hours reduced in accordance with their previous background in business and economics.

For the M.B.A. degree, the total program for most students will require a minimum of 24 semester hours' work (or equivalent) 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' work (or equivalent) beyond the core and the baccalaureate degree in classes reserved exclusively for graduate students.

As outlined below, the M.B.A. is divided into two distinct phases.

Phase One

The first phase of the program consists of 30 semester hours of course work if no previous formal education in business administration has been taken. Phase One requirements may be reduced by previous acceptable credit in courses that are equivalent to courses listed in Phase One. 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.

With the approval of the student's adviser, Phase One course requirements which have not been satisfied at the time of admission to the Graduate School at Northern Illinois University may be fulfilled by any one, or a combination, of the following:

1. Completion of graduate courses in residence at NIU.
2. Completion of NIU graduate extension courses.
3. Transfer of graduate residence credit from any regionally accredited college or university.

Normally a student will complete 18 semester hours of Phase One requirements before enrolling in Phase Two courses. The Phase One program is as follows:

- Fin. 500, Survey of Business Economics (3)
- Accy. 505, Financial and Managerial Accounting Concepts I (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 I (3)
 Accy. 559, Business Data Processing (3)
 Electives in business or business-related disciplines (6 semester hours)
 Total: 30 semester hours

Phase Two

Phase Two consists of an advanced core and electives. A core of seven courses totaling 21 semester hours is required of all M.B.A. students. The remaining 9 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 9 semester hours of elective courses may be used to achieve a degree of specialization or greater breadth.

With the approval of the student's adviser, courses in Phase Two may be taken by:

1. Completion of courses in residence at NIU.
2. Completion of extension courses offered by NIU.
3. Transfer of graduate credit up to a maximum of 15 semester hours from any regionally accredited college or university.

The courses prescribed for Phase Two are as follows.

Fin. 503 or Mgt. 503 or Mktg. 503, Introduction to Research (3)

One of the following five courses:

Accy. 605, Financial and Managerial Accounting Concepts II (3)

Fin. 680, Quantitative Analysis in Business Research (3)

Fin. 525, Business Statistics for Research II (3)

Fin. 527X-Mgt. 527, Operations Research in Business (3)

Accy. 621-Fin. 621X, Computer Theory and Programming (3)

Mgt. 633, Organization Theory (3) OR Mgt. 634, Administrative Theory and Practice (3)

Mktg. 654, Marketing Management (3)

Mgt. 672, Business Policies (3)

Fin. 607, Financial Analysis (3)

Mktg. 665, Marketing Structures and Price Policies (3) OR
 Fin. 671, Business and Economic Forecasting (3)

Electives (9 semester hours)

Total: 30 semester hours

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, the examination may be written or oral, 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 (M.S.)

A student pursuing the Master of Science degree in business administration must present a minimum of 30 semester hours of undergraduate work in the following areas prior to entering the major field of concentration: accountancy, business law, economics, finance, management, marketing, and statistics. Accordingly, the courses listed in Phase One of each of the areas of specialization meet these requirements.

Therefore, an individual who presents 30 or more semester hours of acceptable business and economics courses enters Phase Two in one of the following areas of specialization: accountancy, finance, management, or marketing. Phase One course requirements that have not been satisfied at the time of admission to the Graduate School at Northern Illinois University may be fulfilled, with approval of the student's adviser, by any one, or a combination, of the following:

1. Completion of graduate courses in residence at NIU.
2. Completion of NIU graduate extension courses.
3. Transfer of graduate residence credit from any regionally accredited college or university.

Normally a student will complete 18 semester hours of Phase One requirements before enrolling in Phase Two.

With the approval of the student's adviser, Phase Two courses may be taken by:

1. Completion of courses in residence at NIU.
2. Completion of extension courses offered by NIU, dependent upon availability of courses.
3. Transfer of graduate credit up to a maximum of 15 semester hours from any regionally accredited college or university.

Thesis Option. A thesis is required for the M.S. with a major in finance, management, or marketing. A thesis is optional in accountancy.

Students interested in international business as an area of concentration should also refer to the section entitled "International Business" under Special Programs.

Specialization in Accountancy

Admission standards for the Department of Accountancy are: graduation from a regionally accredited college with a grade-point average of 2.50 or above (based on a 4.00 grading system) and a score of 450 or above on the ATGSB.

For students specializing in accountancy the writing of a thesis is optional.

It is recommended that Math. 211 or Math. 229 be taken in addition to Math. 210.

Phase One

The courses listed below are included in Phase One of the student's program unless a grade of "C" or better has been earned in the equivalent undergraduate courses. A minimum grade-point average of 3.00 must be maintained in all graduate course work completed at NIU.

- Accy. 505, Financial and Managerial Accounting Concepts I (3)
- Accy. 559, Business Data Processing (3)
- Fin. 500, Survey of Business Economics (3)
- Fin. 505, Financing the Business Enterprise (1-3)
- 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 I (3)

In addition to the above, the student must show proficiency in the following accountancy courses. This requirement may be satisfied for specific courses in one of three ways: (1) previous credit with a grade of "C" or better, (2) a proficiency examination, or (3) satisfactory completion of the course. However, the equivalent grade-point average earned for all courses in the group must be 2.50 or above.

- Accy. 314, Intermediate Accounting I (3)
- Accy. 315, Intermediate Accounting II (3)
- Accy. 330, Cost Accounting (3)
- Accy. 440, Auditing Theory (3)
- Accy. 455, Individual and Business Taxation (3)

None of the above courses can be counted as accountancy electives in Phase Two.

Phase Two

Specific accounting requirements (12 semester hours):

- Accy. 603, Professional Research Methodology (3)
- Accy. 632, Managerial Accounting Theory (3)
- Accy. 663, Seminar in Accounting (3)
- Accy. 507, Business Information Systems (3)

Accountancy electives (3-9 semester hours):

- Accy. 643, Advanced Theory of Auditing (3)
- Accy. 621, Computer Theory and Programming (3)
- Accy. 685, Income Theory (3)

Related fields requirements (9 semester hours):*

- Economics or finance
- Organization behavior
- Quantitative analysis

Other electives (0-6 semester hours):**

- Accountancy or related fields, or Accy. 599A, Master's Thesis (1-6)

Total: 30 semester hours

Under no circumstances will more than 6 hours of 400-level credit be accepted in Phase Two. A 400-level accountancy course can be taken for graduate credit only when so indicated in the schedule of courses.

Total: 30 semester hours

Specialization in Finance

Phase One

Students pursuing the M.S. degree are required to include the following courses in Phase One in their programs. 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, Financial and Managerial Accounting Concepts I (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)

**The specific courses in these areas must be approved by the adviser.*

***If approved by the graduate adviser, one 400-level accountancy course other than Accy. 440 or 455 and one 400-level non-accountancy course may be taken in Phase Two.*

Fin. 524, Business Statistics for Research I (3)
Electives in business and/or economics (9 semester hours)
Total: 30 semester hours

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 (1-3)
Electives in finance as approved by adviser (12-15 semester hours)
Related area electives must be earned outside the department and approved by the adviser (6 semester hours)
Total: 30 semester hours

Specialization in Management

Phase One

Students pursuing the M.S. degree are required to include the following courses in Phase One in their programs. Credit 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, Financial and Managerial Accounting Concepts I (3)
Fin. 505, Financing the Business Enterprise (1-3)
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 I (3)
Electives in business and/or economics (3 semester hours)
Total: 30 semester hours

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. 633, Organization Theory (3)
Mgt. 634, Administrative Theory and Practice (3)
Mgt. 635, Human Factors and Organizational Behavior (3)

Mgt. 672, Business Policies (3)
Mgt. 599, Master's Thesis (1-6)
Electives as approved by adviser (9-12 semester hours)

Students in both phases must choose at least one seminar course from among the following: Mgt. 620, 638, and 661. Related area electives (at least 6 semester hours) must be earned outside the department and approved by the adviser.

Total: 30 semester hours

Specialization in Marketing

Phase One

Students pursuing the M.S. degree are required to include the following courses in Phase One in their programs. 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, Financial and Managerial Accounting Concepts I (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 I (3)
Electives in business and/or economics (3 semester hours)
Total: 30 semester hours

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. 654, Marketing Management (3)
Mktg. 599, Master's Thesis (1-6)
Electives in marketing as approved by adviser (9 semester hours)
Other area electives as approved by adviser (9-12 semester hours)
Related area electives 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

Students pursuing the degree Master of Science in Education with a specialization in business education are required to have completed each of the following courses, or its equivalent, or to remove any deficiency by satisfactorily completing the course defined as the graduate equivalent. Credits earned in the Phase One graduate courses will not count toward the 30-semester-hour degree requirement in Phase Two. A minimum of 30 semester hours in business or economics is required in Phase One.

With the approval of the student's adviser, Phase One course requirements which have not been satisfied at the time of admission to the Graduate School at Northern Illinois University may be fulfilled by any one, or a combination, of the following:

1. Completion of graduate courses in residence at NIU.
2. Completion of NIU graduate extension courses.
3. Transfer of graduate residence credit from any regionally accredited college or university.

With the approval of the student's adviser, Phase Two courses may be taken by:

1. Completion of courses in residence at NIU.
2. Completion of extension courses offered by NIU, dependent upon availability of courses.
3. Transfer of graduate credit up to a maximum of 15 semester hours from any regionally accredited college or university.

Phase One

The first course listed is the undergraduate course. The course in brackets is its graduate equivalent.

- Accy. 206-207, Elementary Accounting I, II (6) [Accy. 505, Financial and Managerial Accounting Concepts I (3)]
- Econ. 260-261, Principles and Problems of Economics I, II (6) [Fin. 500, Survey of Business Economics (3)]

Fin. 320, Principles of Finance (3) [Fin. 505, Financing the Business Enterprise (1-3)]

Fin. 323, Business Statistics I (3) [Fin. 524, Business Statistics for Research I (3)]

Mgt. 311, Business Law I (3) [Mgt. 511, Legal Aspects of Business (3)]

Mgt. 333, Principles of Management (3) [Mgt. 505, Principles of Business Organization (3)]

Mktg. 310, Principles of Marketing (3) [Mktg. 505, Graduate Survey of Marketing (3)]

Business or economics electives: undergraduate (9 semester hours) [graduate (3 semester hours)]

Phase Two

Students pursuing the degree Master of Science in Education with a specialization in business education must 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 (1-6)

Students must elect one of the following options:

Option A. The student must write a thesis for 3 to 6 semester hours of credit.

Option B. The student must complete in approved form one or more major papers or projects for 3 semester hours of credit.

The student must take 19-22 hours in elective courses. Electives in related areas (at least 6 semester hours) must be earned outside the department and approved by the adviser.

Total: 30 semester hours

Certificate of Advanced Study

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 in business education.

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 student will have an advisory committee whose membership will include 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.

The general requirements for doctoral study listed below apply to all applicants.

General requirements

1. All doctoral candidates in business education must meet the undergraduate requirements of this University. If deficiencies exist in either the business education or the business administration area, they must be made up without graduate credit.
2. Full-time teaching experience for three years, or the equivalent, is required for admission to candidacy for the doctoral degree.
3. For admission to the doctoral program, see general Graduate School policy as stated elsewhere in this catalog. The master's degree must have been received prior to admission to candidacy for the doctoral program.
4. Residence. Two consecutive semesters of residence are required, not including summer session. (See 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.
5. Statistics requirements. Candidates are required to take two courses in statistics.
6. 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.
7. Examinations. Doctoral students in business education 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 Department of Business Education.

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. An oral examination will then be administered by the student's committee.

Specific requirements

1. 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)
 - Two courses in statistics (6)
 - Dissertation (10-25)
2. Education—12-28 semester hours
 - Recommended graduate background courses in education:
 - Educ. 500, Social Foundations of Education (3)
 - Educ. 501, Psychological Foundations of Education (3)
 - Educ. 504, Philosophical Foundations of Education (3)
 - Educ. 533, The Organization of Curriculum (3) OR
 - Educ. 535, Secondary School Curriculum (3)
3. Related fields—9-18 semester hours
4. 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. A student can obtain a concentration of work devoted to international business by working closely with an adviser in one of the fields mentioned above.

**Electives from business administration may be substituted for business education, as determined by student's background and needs.*

TEACHING IN 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 may qualify for teaching at the junior college level.

Department of Accountancy

GRADUATE FACULTY: Casler, department chairman. Barbour, Cheng, Delaney, Foth, Iliff, Jain, Kieso, Lahey, McClary, Poor, Scriven

Course Offerings

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. 315.

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. Prerequisites: Accy. 259, 315; Fin. 323.

441A. AUDITING PRACTICE (3). The student is required to prepare a complete set of auditing working papers, write formal audit reports, study the official auditing bulletins and case studies, and discuss current topics. Prerequisite: Accy. 440.

449. COMPUTERIZED BUSINESS SYSTEMS (3). *Crosslisted as Fin. 449X.* Advanced instruction in computer programming and systems analysis for business applications. The course emphasizes systems design, simulation, and computer programming techniques. Prerequisite: Accy. 259 or equivalent.

454. ACCOUNTING SYSTEMS (3). The problems involved in the design and installation of accounting systems, including systematizing the clerical department of a business. Classification of accounts, account codes, ledgers, financial reports, flow charts, and function charts. Prerequisite: Accy. 315, or 330, or concurrent registration.

455. INDIVIDUAL AND BUSINESS TAXATION (3). Study of the basic concepts of federal income taxation as they apply to individuals, corporations, and partnerships. Topics include gross income, exclusions, allowable deductions, and basis for gain or loss on the disposition of property. Prerequisite: Accy. 207 or consent of instructor.

456. ADVANCED FEDERAL TAXES (3). Advanced topics in income taxation with special attention to estates and trusts, reorganizations, tax research, and tax management. 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. 207.

471. ADVANCED ACCOUNTING (3). Contemporary accounting theory and practice pertaining to business combinations and corporate consolidations. The course also includes accounting for partnerships and governmental units. Prerequisite: Accy. 315 or equivalent.

475. C.P.A. PROBLEMS (3-5). The analysis and review of accounting principles and practices as developed and illustrated in complex selected problems. Discussion of selected problems and theory. Laboratory practice in the solution of typical problems encountered in the C.P.A. 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. 207 or equivalent.

503. INTRODUCTION TO RESEARCH (3). To acquaint the student with research which has been completed in the 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: 18 hours of accounting, or consent of instructor.

505. FINANCIAL AND MANAGERIAL ACCOUNTING CONCEPTS I (3). An introduction to the nature, uses, and limitations of accounting information. Financial and managerial accounting concepts are presented from the viewpoint of the user. Problems and cases are used to emphasize the kinds of accounting information relevant for decision making. Open to students with less than 6 semester hours in accounting, or by permission of the graduate adviser.

507. BUSINESS INFORMATION SYSTEMS (3). *Crosslisted as Fin. 507X.* An introduction to business information concepts with attention directed to designing and using a business information system. The course emphasizes data communication as well as the administration and control of data files within a business information system.

540. FINANCIAL STATEMENTS ANALYSIS (3). Analysis and interpretation of financial reports with particular reference to the construction of statements, the meaning of accounts, ratios, and other evaluating indices.

559. BUSINESS DATA PROCESSING (3). *Crosslisted as Bus.E. 559X and Fin. 559X.* General characteristics of data processing. Provides advanced treatment of computer applications in business and education. Laboratory assignments in using data processing concepts, writing, computer programs, and use of time-sharing computer. Open only to graduate students who have not had a course in data processing. Not applicable toward Phase Two of the M.B.A. or M.S. program in business administration.

599A. MASTER'S THESIS (1-6). Open to students writing a thesis under the M.S. or M.B.A. program. The student enrolls with the faculty member directing the thesis. Prerequisite: Accy. 503 or equivalent.

603. PROFESSIONAL RESEARCH METHODOLOGY (3). An examination of the methods of inquiry and research and development of competence in professional writing. Includes outside readings in those areas and written critiques of selected accounting literature. A major paper is also required. Prerequisite: 18 semester hours of accounting 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.

605. FINANCIAL AND MANAGERIAL ACCOUNTING CONCEPTS II (3). Extended analysis of financial and managerial accounting concepts. The uses of accounting information in interpreting, coordinating, and implementing management's policies, in measuring and evaluating performance, and in tactical and strategic planning for future business activity. Prerequisite: Accy. 505 or equivalent. Not open to students with more than 9 hours of accounting except by permission of the department chairman.

621. COMPUTER THEORY AND PROGRAMMING (3). *Crosslisted as Fin. 621X*. 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. 259 or 559, or equivalent.

632. MANAGERIAL ACCOUNTING THEORY (3). An examination of the central issues which arise in the application of managerial accounting concepts to situations encountered in business. Readings, cases, and problems will be used in the study of such topics as product costing, budgeting, standard costs, differential costs, and cost-volume-profit analysis. Prerequisite: 21 hours of accounting, including Accy. 330, or consent of instructor.

643. 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: 21 hours of accounting, including Accy. 440 or 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. Prerequisite: 21 hours of accounting or consent of instructor.

685. 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: 21 hours of accounting or consent of instructor.

Department of Business Education

GRADUATE FACULTY: Harris, acting department chairman. Brown, Cambridge, D. Crank, F. Crank, Eaton, Garman, Pender, Wooschlagler

Course Offerings

NOTE: An "X" after a course number indicates that the course is offered primarily by another department but may be taken for credit in this department.

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. Prerequisite: Bus.E. 150.

406. ORGANIZATION AND OPERATION OF COOPERATIVE AND PROJECT PLAN OCCUPATIONAL EDUCATION PROGRAMS (3). Overview of vocational education, changing philosophy and environment, planning and organizing new programs, role of coordinator in implementing the many facets of occupational education programs.

407. DIRECTED OCCUPATIONAL EXPERIENCE (1-4). A combination of classroom and on-the-job instruction provides occupational education teachers and teacher coordinators with an opportunity to secure and apply practical experiences to improve teaching and coordination. Various concepts of cooperative and project plan programs are developed in class and applied and tested during the laboratory (on-the-job) training phase of the course. May be repeated to a maximum of 4 semester hours. Prerequisite: Bus.E. 406 or consent of instructor.

408. COORDINATION TECHNIQUES IN COOPERATIVE VOCATIONAL EDUCATION (2-3). Background and development of occupational education programs, techniques for effective public relations, selection and placement of trainees, selection of training stations, development of training station personnel, working with advisory committees, solving problems faced by coordinators, follow-up activities, program development activities. Prerequisite: Bus.E. 406 or equivalent.

409. INDIVIDUALIZING INSTRUCTION IN COOPERATIVE AND PROJECT PLAN OCCUPATIONAL EDUCATION PROGRAMS (2-3). Performance-oriented curricula, systems for identifying abilities needed by students; sources and types of instructional media, designing, implementing, and evaluating selected instructional systems.

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 competence 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 schools. An evaluation of classroom materials, methods, research, and current trends through a mutual exchange of ideas and experience.

519. PROBLEMS IN BUSINESS COMMUNICATION (3). Objectives, subject matter selection, presentation, achievement standards, and evaluation related to various business communication forms.

520. IMPROVEMENT OF INSTRUCTION IN STENOGRAPHY (3). Teaching techniques and an evaluation of research in methodology for the purpose of improving 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 TYPING (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, advanced, and personal-use classes; remedial practices; motivation; and the use of materials and supplies.

522. IMPROVEMENT OF INSTRUCTION IN ACCOUNTING (3). Improvement in the techniques of teaching accounting in the secondary school and community college. The place of accounting in the curriculum, methods of motivation and the use of visual aids and

practice sets, testing and grading, individual progression techniques and evaluation of research.

523. METHODS AND MATERIALS IN TEACHING BASIC BUSINESS SUBJECTS AND CONSUMER EDUCATION (3). Techniques of teaching the basic business subjects. An evaluation of classroom materials, methods (including microteaching), 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). Personal budgeting; the cooperative movement; consumer standards and grade labels; governmental aids for consumers; the buying of shelter, insurance, and investments; the use of installment buying and other forms of credit.

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). 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). Objectives, organization, equipment and layout, content, standards, and methods of teaching office practice. Operation of common office machines.

558. INTERNSHIP IN BUSINESS EDUCATION (3-7). For the student who has exhibited superior characteristics of leadership, business experience, or potential success as an educator. A full semester required under the supervision of a member of the University business education department in a junior high school, secondary school, community college, or similar institution. A maximum of 3 semester hours may be included in a master's degree program. Consent of department required.

559X. BUSINESS DATA PROCESSING (3). *Accountancy 559; cross-listed as Fin. 559X.* General characteristics of data processing. Provides advanced treatment of computer applications in business and educa-

tion. Laboratory assignments in using data processing concepts, writing computer programs, and use of time-sharing computer. Open only to graduate students who have not had a course in data processing. Not applicable toward Phase Two of the M.B.A. or M.S. program in business administration.

590. WORKSHOP IN BUSINESS EDUCATION (2-3). Principles and problems in business education. Especially designed for experienced business educators and school administrators of secondary and collegiate institutions. Current practices, administration, and supervision in business education. Lectures, individual projects, field trips, and laboratory sessions. May be repeated once.

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). 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.

594. DISTRIBUTIVE EDUCATION IN THE POST-SECONDARY SCHOOL (2-3). Organization, curriculum construction, certification requirements, state and federal regulations, mid-management, role in area vocational school, programs in operation in various states, problems of teaching, new concepts and developments.

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.

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 FAMILY FINANCE AND CONSUMER EDUCATION (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, four-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).

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.

Department of Finance

GRADUATE FACULTY: Bishop, department chairman. Alwan, Andrews, Basti, Bozovich, Brown, Chang, Craig, Eaton, Hess, Komarynsky, Kreidle, Kuhn, Masson, Miller, Olive, Simon, Thistlethwaite, Tseng, Wilbur

Course Offerings

NOTE: An "X" after a course number indicates that the course is offered primarily by another department but may be taken for credit in this department.

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. 207.

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.

430. FINANCIAL HISTORY OF THE UNITED STATES (3). A 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.

449X. COMPUTERIZED BUSINESS SYSTEMS (3). *Accountancy 449*. Advanced instruction in computer programming and systems analysis for business applications. The course emphasizes systems design, simulation, and computer programming techniques. Prerequisite: Accy. 259 or equivalent.

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 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 484, or 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 (3). 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, offering the student a practical application of economic theory to financial problems. Prerequisites: Fin. 323 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.

488. MORTGAGE BANKING AND REAL ESTATE FINANCE (3). The nature of real estate credit, general and special methods of real estate finance, the mortgage market, principles of major lending institutions, and the operations of governmental lending and underwriting agencies. Prerequisite: Fin. 418 or consent of instructor.

489. REAL ESTATE INVESTMENT (3). The investment characteristics of real estate, income tax considerations, ownership forms, financing and the analysis and projection of investment returns are studied. Consideration is given to specific types of investment properties such as land, residential, commercial, and industrial. Prerequisite: Fin. 418 or 420.

498X. INTERNATIONAL BUSINESS PROBLEMS (3). *Marketing 498*. The analytical approach gives particular emphasis to foreign financial and marketing problems. The balance of payments position of the United States is studied, as well as the interrelationships among developing countries. Procedures of overseas business development and distribution are stressed. Prerequisite: Mktg. 367 or 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 the 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. 207 or 388 or 505 or equivalent.

507X. BUSINESS INFORMATION SYSTEMS (3). *Accountancy 507*. An introduction to business information concepts with attention directed to designing and using a business information system. The course emphasizes data communications as well as the administration and control of data files within a business information system.

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.

527X. OPERATIONS RESEARCH IN BUSINESS (3). *Management 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.

559X. BUSINESS DATA PROCESSING (3). *Accountancy 559; Cross-listed as Bus.E. 559X*. General characteristics of data processing. Provides advanced treatment of computer applications in business and education. Laboratory assignments in using data processing concepts, writing computer programs, and use of time-sharing computer. Open only to graduate students who have not had a course in data processing. Not applicable toward Phase Two of the M.B.A. or M.S. program in business administration.

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.

599. MASTER'S THESIS (1-6). Open to students writing a thesis under the M.S. or M.B.A. program. 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.

607. FINANCIAL ANALYSIS (3). This course deals with the analysis of current and future financial position that serves as the foundation for decision making by creditors, managers, and owners. The material covered includes ratio analysis, sources and uses of funds, operating and financial leverage, capital budgeting under risk and uncertainty, the cost of capital, and the financial structure. The course is problem oriented but cases and reading may be utilized. Prerequisite: Fin. 320 or 505 or equivalent.

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.

621X. COMPUTER THEORY AND PROGRAMMING (3). *Accountancy 621*. 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. 559 or equivalent.

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.

651. SEMINAR IN COMMERCIAL BANK MANAGEMENT (3). This course deals with contemporary developments in commercial bank management. The expansion of commercial banks into a wide range of activities by means of one-bank holding companies, recent changes in bank capital structures, the controversy over the composition of bank financial statements, and innovations in lending policies will be considered in detail. Recognition will be given to recent changes in the tax laws as they affect banks. Prerequisite: Fin. 450.

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 505 or equivalent.

670. SEMINAR IN INSURANCE PROBLEMS (3). Intensive investigation of significant topics and problems in insurance. Prerequisite: Fin. 416 or 417 or equivalent.

671. 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. 323 or 524 or equivalent.

680. QUANTITATIVE ANALYSIS IN BUSINESS RESEARCH (3). Basic principles of classical statistical inference as applied to analyzing and reporting business research and to choosing the best action in business decision problems; completion of this theory by recent developments in personal probability. Prerequisites: Fin. 323 and Math. 210 or equivalent courses.

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. 324 or equivalent.

Department of Management

GRADUATE FACULTY: Nowik, acting department chairman. Andreasen, Dirksen, Giese, Green, Hackmack, Kendall, Kennedy, Lane, Novak, Pecenka, Plumlee, Rifai, Sims

Course Offerings

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: 6 hours in management science, including Mgt. 327.

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, distribution, 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. Emphasis will be given to those companies producing abroad.

503. **INTRODUCTION TO RESEARCH (3).** To acquaint the student with research which has been completed in the departmental area during recent years. The students 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 communication, coordination, and direction.

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).** *Crosslisted as Fin. 527X.* 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.

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 agreements; procedures and methods of settling grievances. Prerequisite: Mgt. 438 or consent of instructor.

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 635 and consent of instructor.

599. **MASTER'S THESIS (1-6).** Open to students writing a thesis under the M.S. or M.B.A. program. 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. 633.

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 problems, opportunities, and policy alternatives in personnel management and labor relations. The ramifications that labor organizations have in management decision making. Prerequisite: Mgt. 433.

633. ORGANIZATION THEORY (3). Traces historical development of organization theory from preclassical through contemporary theories. Analysis of organizational structure and behavior ranging from systems in the steady state to complex, dynamic social systems concerned with adaptation, growth, and conflict. Prerequisite: Mgt. 505 or equivalent.

634. ADMINISTRATIVE THEORY AND PRACTICE (3). A study of decision making in an organizational setting. Emphasis is placed on concepts, theories, and value issues related to the decision-making process; quantitative techniques available to the decision maker are studied as they apply to the business firm. Prerequisites: Mgt. 505 and Math. 210.

635. HUMAN FACTORS AND ORGANIZATIONAL BEHAVIOR (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. 435 or consent of instructor.

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.

640. 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.

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. 633.

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. 633.

672. 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. 633 or 634.

697. SEMINAR FOR EXECUTIVES (1). 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.

Department of Marketing

GRADUATE FACULTY: Howland, department chairman. Arnold, Brown, Groke, Hancock, Hanna, Hendrickson, Johnson, Kizilbash, McNamara, Stewart, Wales, Wasson

Course Offerings

410. **AGRIBUSINESS SYSTEMS AND PUBLIC POLICY (3).** 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: Mktg. 310, Fin. 323.

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: Mktg. 310 and Fin. 323.

446. **SALES MANAGEMENT (3).** Responsibilities and functions of the sales manager including sales organizational structure, selection of salesman, recruiting, testing, conducting sales training programs, compensation plans, controlling expenses, sales forecasting, budgets, routing, quotas, ethics, and other related areas. The student also is required to submit a term project. Prerequisite: Mktg. 350 or permission 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: Mktg. 310.

450. **LEGAL AND SOCIAL ASPECTS OF PROMOTION IN MARKETING (3).** An analytical approach to the controls of promotion and their relationship to current social issues affecting marketing. Intensive study is given to those regulatory bodies of government whose activities affect advertisers. Prerequisite: Mktg. 348 or permission of instructor.

452. **CREATIVE COMMUNICATION AND CAMPAIGNS (3).** Designed to give the student an understanding of the creative processes involved in promoting products, services, and ideas. Emphasis is placed on analyzing and integrating the various elements of the "promotional mix" into an effective campaign. Prerequisite: Mktg. 348 or permission of instructor.

458. **INTERNSHIP IN BUSINESS (3-7).** The student will work full-time for a half semester, 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 department chairman.

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. Prerequisite: Mktg. 310 or equivalent, or consent of instructor.

465. **RETAILING (3).** A study of types of retail institutions; store location and organization, buying and merchandising techniques, retail advertising and sales promotion, inventory control; personnel policies and career opportunities available in retailing. Prerequisite: Mktg. 310 or equivalent.

466. **MARKETING COMMUNICATION AND PROMOTION (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: Mktg. 348 or equivalent.

467. **INTERNATIONAL BUSINESS (3).** Principles and methods of international business as related to organizational aspects, international marketing, and advanced technical and financial features of doing business abroad. Prerequisite: Mktg. 310 or 367, or consent of instructor.

475. **INDUSTRIAL MARKETING (3).** The special problems of marketing industrial products. Marketing planning as a management function. Management of the marketing channels. Pricing of industrial products. Getting the industrial products sold. Efficient physical distribution of industrial products. Customer services. Prerequisite: Mktg. 310 or equivalent.

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, utilizing various transportation costing, unit control, and location techniques, is stressed as an aid to the design and administration of an effective system. Prerequisite: Mktg. 310 or equivalent.

490. **SEMINAR IN CURRENT MARKETING (3).** Intensive study of currently important issues or developments in marketing. Prerequisites: Mktg. 310 or equivalent and consent of instructor.

498. **INTERNATIONAL BUSINESS PROBLEMS (3).** *Crosslisted as Fin. 498X.* The analytical approach gives particular emphasis to foreign financial and marketing problems. The balance of payments position of the United States is studied, as well as the interrelationships among developing countries. Procedures of overseas business development and distribution are stressed. Prerequisite: Mktg. 367 or consent of instructor.

503. INTRODUCTION TO RESEARCH (3). To acquaint the student with research which has been completed in the departmental area during recent years. The students 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.

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: Consent of instructor.

599. MASTER'S THESIS (1-6). Open to students writing a thesis under the M.S. or M.B.A. program. The student enrolls with the faculty member directing the thesis. Prerequisite: Mktg. 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: Mktg. 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.

625. CONSUMER BEHAVIOR AND MARKETING COMMUNICATION SYSTEM (3). An investigation of behavioral and communication research, appraising models, methodology, and concepts applicable to marketing. Emphasis is placed on designing marketing communication systems which in structure and output reflect a behavioral orientation toward the market place.

654. 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: Mktg. 310 or 505 or equivalent.

655. 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: Mktg. 505 or equivalent.

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: Mktg. 310 or 505 or equivalent.

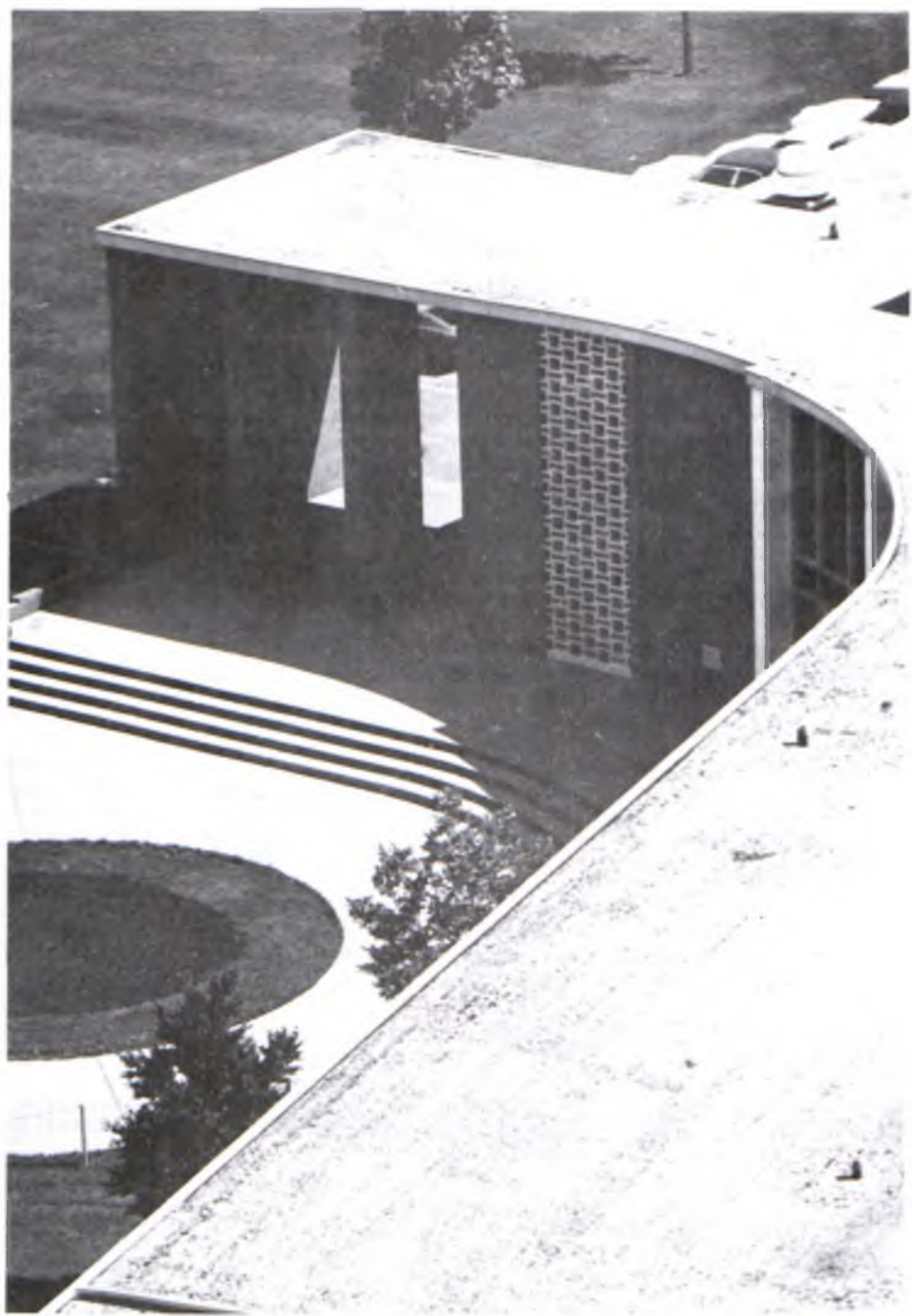
665. MARKETING STRUCTURES AND PRICE POLICIES (3). An analysis of the role of prices in various market structures; the price-making mechanism under conditions of imperfect competition with special emphasis on administered pricing. Prerequisites: Mktg. 505 or its equivalent and Fin. 500 or its equivalent.

666. SEMINAR IN MARKETING RESEARCH (3). A critical analysis of marketing research programs including a study of projective and quantitative marketing research methods. Prerequisite: Mktg. 505 or 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: Mktg. 505 or equivalent.

677. 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: Mktg. 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: Mktg. 505 or equivalent.



Business

International Business

School Business Management

Intra Business

Center for Governmental Studies

Center for Southeast Asian

Studies

International and Foreign

Study Programs

Military Science

School of Allied Health

University Seminars

Special Programs

Business

INTERNATIONAL BUSINESS

GRADUATE FACULTY: Groke, coordinator. Basti, Brown, Cheng, Dirksen, Giese, Kizilbash

International business is an area option, not a degree-offering unit. All graduate degrees in this area are obtained through departments of the College of Business. The following courses are suggested for graduate students interested in a concentration in international business.

Course Offerings

Mktg. 467. **INTERNATIONAL BUSINESS (3).** Principles and methods of international business as related to organizational aspects, international marketing, and advanced technical and financial features of doing business abroad. Prerequisite: Mktg. 310 or 367, or consent of instructor.

Mgt. 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. Emphasis will be given to those companies producing abroad. Prerequisite: Mgt. 333 or consent of instructor.

Accy. 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. 207 or equivalent.

Mktg. 498. **INTERNATIONAL BUSINESS PROBLEMS (3).** *Crosslisted as Fin. 498X.* The analytical approach gives particular emphasis to foreign financial and marketing problems. The balance of payments position of the United States is studied, as well as the interrelationships among developing countries. Procedures of overseas business development and distribution are stressed. Prerequisite: Mktg. 367 or consent of instructor.

Mktg. 410. **AGRIBUSINESS SYSTEMS AND PUBLIC POLICY (3).** 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.

Mktg. 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: Consent of instructor.

Fin. 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.

SCHOOL BUSINESS MANAGEMENT

GRADUATE FACULTY: Yankow, coordinator

Course Offerings

Accy. 541. **ACCOUNTING, STATEMENT ANALYSIS, AND BUDGETING (2-3).** Principles of school fund 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 noncertified 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.

Mktg. 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.

Center for Governmental Studies

INTRA BUSINESS

668. SEMINAR IN BUSINESS ADMINISTRATION (3). This course is designed as a capstone course in business administration. The student draws upon analytical tools and background knowledge from other M.B.A. courses to analyze comprehensive business problems. The processes of policy formation, executive decision making, and strategic planning are emphasized. Reading and lectures related to the business firm's social, political, and economic environment are scheduled. Prerequisite: Final semester standing in the M.B.A. program.

697. SEMINAR FOR EXECUTIVES (1). 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.

GRADUATE FACULTY: Rehfuss, acting director. Agranoff, Banovetz, Flango, Scott, Sherbenou, Thomas

The Center for Governmental Studies is organized as a sub-unit of the Department of Political Science. Its purposes are: (1) to administer the undergraduate and graduate public affairs educational programs for the Department of Political Science, including the graduate program in public administration; (2) to promote, coordinate, and administer research programs concerned with public affairs and policy issues and questions; and (3) to provide services in the public affairs field to the University community.

The center administers an internship program which not only serves as a vital part of curriculum but which also provides a measure of support for graduate students. A significant aspect of this internship program is the supervision of minority internships.

Although the center is not a degree-granting unit, it administers programs leading to advanced degrees, with emphasis on the Master of Arts in Public Affairs (M.A.P.A.). Degrees are conferred by the Department of Political Science in accordance with departmental requirements.

All students working toward the M.A.P.A. degree are required to complete the five courses in the Department of Political Science making up the public policy core: Pol.S. 530, 531, 532, 535, and 630. Each student takes additional courses in a selected area of concentration. A student may include in his program, with the approval of his adviser, appropriate courses in other departments. Normally courses taken outside the Department of Political Science will total 6-9 semester hours. Typical of courses outside of political science which may be taken for the Master of Arts in Public Affairs are:

ECONOMICS

- 454. State and Local Finance (3)
- 485. Topics in Urban Economics (3)

GEOGRAPHY

- 462. Urban Geography: External Spatial Relations of Urban Areas (3)
- 559. Geographic Aspects of Regional Planning and Development (3)

HISTORY

- 459. Problems in the History of the African-American (3)

Center for Southeast Asian Studies

MANAGEMENT

- 436, Wage and Salary Administration (3)
- 633, Organization Theory (3)
- 635, Human Factors and Organizational Behavior (3)

PSYCHOLOGY

- 430, Motivation (3)
- 470, Social Processes in Behavior (3)

SOCIOLOGY

- 461, Intergroup Relations (3)
- 552, Community Analysis (3)

SPEECH COMMUNICATION

- 461, Organizational Communications Seminar (3)
- 507, Theory of Discussion (3)

More detailed information on the M.A.P.A. program appears at the end of the Department of Political Science section of this catalog.

GRADUATE FACULTY: Hart, director. Beaudry, Cooler, de Queljoe, Dutton, Maryanov, Neher, Rubin, H. Smith, Thomas, Wilson

The center, founded in 1963, is charged with coordinating academic courses dealing with Southeast Asia and with developing and administering other programs in the University which are concerned with the area. These programs include: sponsoring conferences and lectures involving visiting scholars; assisting in the expansion of the Southeast Asia Library Collection; obtaining and administering funds for graduate students and faculty research; operating a publications program (*Special Report* series) on Southeast Asia; and advising students interested in a Southeast Asia concentration.

Since the center is not a degree-offering unit, all graduate degrees are obtained through the departments, whose special requirements must be met. A student earning a graduate degree may, with the consent of his departmental adviser, also take a concentration of courses in Southeast Asian studies. Completion of the concentration will be noted on the student's transcript of credits.

At the M.A. level, the graduate student must meet the following concentration requirements: he must successfully complete four graduate courses (excluding thesis credit) dealing with Southeast Asia, at least two of which must be offered by departments other than that in which the student is earning his degree; he must demonstrate competence in a Southeast Asian language (equivalent to one year's course work); if required by his department to write a thesis, or a special paper in lieu thereof, he must write on a Southeast Asian topic.

At the Ph.D. level, the concentration requirements to be met by the student are as follows: he must successfully complete six graduate courses (excluding dissertation credit) dealing with Southeast Asia, at least three of which must be offered by departments other than that in which the student is earning his degree; he must demonstrate proficiency in a Southeast Asian language (equivalent to two years' course work); he must write his doctoral dissertation on a Southeast Asian topic.

The specific Southeast Asian courses which the student is permitted to take as part of the concentration requirements are selected in consultation with his departmental adviser.

International and Foreign Study Programs

Participating departments are: Anthropology, Art, Economics, Education, Foreign Languages and Literatures, Geography, History, International Business, Political Science, and Sociology.

Southeast Asian courses are listed below:

ANTHROPOLOGY

401, Peoples and Cultures of Southeast Asia (3)

ART

487, Southeast Asian Art (3)

598, Studies in Oriental Art (3)*

FOREIGN LANGUAGES AND LITERATURES**

FLIN 421, Introduction to Indonesian Literature (3)

FLIS 481, Independent Study in a Foreign Language (Indonesian, Dutch, Malay, and Thai) (1-3)

GEOGRAPHY

452, Geography of Southeast Asia (3)

HISTORY

448, History of Burma and Thailand (3)

449, History of Malaysia and Indonesia (3)

541, Seminar in Southeast Asian History (3)

519J, Reading Seminar (Asian history) (3)*

636J, Independent Study (Asian history) (3)*

POLITICAL SCIENCE

432, Public Administration in Southeast Asia (3)

451, Southeast Asian Political Thought (3)*

471, Comparative Study of Minorities in the Political Process (3)*

473, Comparative Political Parties (3)*

567, Seminar in Political Development (3)*

570, Reading Seminar in Southeast Asian Politics

587, Southeast Asia and International Politics (3)

635, Seminar in Governmental and Administrative Problems of Underdeveloped Countries (3)*

670, Research Seminar in Southeast Asian Politics (3)

SOCIOLOGY

457, Comparative Family Systems (3)*

493, Sociology of Selected Developing Societies (3)*

558, Social Dynamics of Non-Western Societies (3)*

*Courses may meet the concentration requirements when they include substantial treatment of Southeast Asia.

**Foreign Languages and Literatures FLIN 103-104, Beginning Indonesian (Accelerated), FLTH 103-104, Beginning Thai (Accelerated), and 201-202, Intermediate Thai (Accelerated), may be audited but not taken for graduate credit.

GRADUATE FACULTY: Wit, director; Kuschman, assistant director

The University is developing an increasing number of varied opportunities for graduate students to study and to conduct thesis research abroad. During the summer, the International and Special Programs Office in association with various University departments and colleges sponsors specialized study tours for academic credit. In the past these opportunities have been offered in anthropology, art, business, economics, education, English, foreign languages and literatures, history, home economics, outdoor teacher education, physical education for women, political science, and sociology. Although concentrated largely in Europe, the tours also have included Japan, Mexico, British Honduras, and Canada.

During the regular academic year, Northern Illinois University conducts its own sponsored study programs abroad including graduate student exchange arrangements with foreign universities. In addition, it participates in several associations of universities which jointly conduct such programs in different parts of the world. All programs are designed to add to and supplement study and research opportunities available on campus.

Further details can be obtained through the International and Special Programs Office.

Opportunities for study abroad may involve, in addition to the courses designated below, a variety of courses in foreign languages, sciences, English, social sciences, art, history, music, theatre, philosophy, and education.

Course Offerings

401. INTERNATIONAL STUDIES (1-9). Course work undertaken as part of approved university study programs abroad. May be repeated to a maximum of 18 hours.

402. INTERNATIONAL STUDIES (1-9). Course work undertaken as part of approved university residential study programs abroad. May be repeated to a maximum of 18 hours.

Department of Military Science

FACULTY: Berry, department head. Copeland, Engen, Kniker, Pilkington

The Department of Military Science offers graduate students the opportunity of receiving a commission in the United States Army upon completion of two years of on-campus military studies, and two six-week summer camp sessions. The prerequisites for enrollment in the two-year program are:

1. Status as a U.S. citizen, at least 17 years of age.
2. Full-time enrollment as a graduate student.
3. Two years of academic work remaining.
4. Expectation of achieving a graduate degree prior to reaching 28 years of age.
5. An interview by an army officer.
6. Successful completion of an Army physical examination and ROTC qualifying test.
7. Successful completion of a six-week basic summer camp the summer prior to admission.

Applicants for the two-year program should contact the Department of Military Science during the period January through March to complete administrative processing for the basic summer camp.

All textbooks and uniforms required are furnished free by the Department of Military Science. Students in the two-year program receive \$100 per month during the school year. Students will be paid approximately \$450 for the basic summer camp period, and \$425 for the advanced summer camp period. Transportation to and from both summer camps will be paid by the Army.

During the last year of the program, flight training is offered as an extracurricular activity to qualifying students. The training is conducted by an FAA-approved flying school near the University. The instruction consists of 35 hours of ground training and approximately 36 hours of flight instruction. This training is at no cost to the student. A student who completes the two-year ROTC program as a graduate student is eligible to apply for a regular Army commission if designated a distinguished military student.

Credit hours earned in military science are not applicable toward graduate degree requirements; however, the following constitute the minimum course requirements:

Course Offerings

301. ADVANCED MILITARY SCIENCE (1). Leadership techniques; military teaching principles; branches of the Army; leadership laboratory (3 hours of class and 1 hour of leadership laboratory per week).

302. ADVANCED MILITARY SCIENCE (2). Small unit tactics and communications; fundamentals and dynamics of the military team; pre-camp orientation; leadership laboratory (3 hours of class and 1 hour of leadership laboratory per week). The student is required to take a 2- or 3-hour nonmilitary course which supplements the material in this course. The choice of course must be approved by the department.

401. ADVANCED MILITARY SCIENCE (1). Operations. Army administration, military justice, orientation to service leadership, and leadership laboratory (3 hours of class and 1 hour of leadership laboratory per week).

402. ADVANCED MILITARY SCIENCE (2). Organization, logistics, decision making; principles of internal defense-development; review of map reading, terrain appreciation, and land navigation; leadership laboratory (3 hours of class and 1 hour of leadership laboratory per week). The student is required to take a 2- or 3-hour nonmilitary course which supplements the material in this course. The choice of course must be approved by the department.

For additional information contact:
Department of Military Science
Williston Hall, Room 226
Telephone: (815) 753-0574

School of Allied Health

GRADUATE FACULTY: Terry, program director. Fogel, Haning, Pecilunas

COMMUNITY MENTAL HEALTH PROGRAM

The School of Allied Health offers a program of graduate studies leading to a Master of Science degree with a major in community mental health. Admission to the program requires the consent of an interdepartmental committee, although the specific program is structured in consultation with the adviser. There is a strong professional and academic orientation to the "community" thus the program is highly interdisciplinary, involving four or more academic departments. An important component of the program is a field work experience requiring not less than 300 clock hours prior to the comprehensive examination. This field experience is in addition to the 30 semester hours required for graduation. Two options are available to students in this program.

Option 1

- a. 12 semester hours in education courses required:
Educ. 562A
Educ. 562B
Educ. 569
Another 3-hour course chosen with the approval of the student's adviser.
- b. 6 semester hours in sociology, including Soc. 552, Community Analysis.
- c. 6 semester hours in psychology, including Psych. 416, Introduction to Psychopathology.
- d. 6 semester hours in home economics, including H.Ec. 484, Family Relationships.

Option 2

Same basic requirements as Option 1 but 6 semester hours of Educ. 599A, Master's Thesis, will be required. In fulfilling the requirements in sociology, psychology, and home economics, the candidate will take only one course instead of two in two of these three departments.

University Seminars

Course Offerings

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.

Graduate Faculty, 1974-75

Mohammed Fathi Abdel-Hameed, Ph.D., University of California, Davis, Associate Professor of Biological Sciences (1967).

Peter D. Abrams, Ph.D., Illinois Institute of Technology, Professor of Education (1966).

Harold E. Aikins, Ph.D., University of Colorado, Professor of History (1949).

Carl H. Albright, Ph.D., Princeton University, Professor of Physics (1968).

Virgil W. Alexander, Ph.D., University of Nebraska, Professor of Education (1971).

H. Dorothy Allen, Ph.D., University of Wisconsin, Professor of Foreign Languages and Literatures (1966).

Jon G. Allen, Ph.D., University of Rochester, Assistant Professor of Psychology (1972).

Hadi Alwan, Ph.D., University of Wisconsin, Professor of Finance (1966).

Wesley F. Amar, Ed.D., Loyola University, Associate Professor of Education (1969).

Haakon L. Andreasen, Ph.D., University of Iowa, Associate Professor of Management (1967).

Daniel K. Andrews, Ph.D., Ohio State University, Associate Professor of Finance (1967).

E. Wyllys Andrews, Ph.D., Tulane University, Assistant Professor of Anthropology (1970).

James R. Andrews, Ph.D., Northwestern University, Associate Professor of Speech Communication (1970).

Rodney Angotti, Ph.D., University of Pittsburgh, Associate Professor of Mathematical Sciences; Assistant Dean, College of Liberal Arts and Sciences (1967).

Carmen L. Armstrong, Ed.D., Indiana University, Associate Professor of Art (1968).

Nolan A. Armstrong, Ed.D., Indiana University, Associate Professor of Education (1968).

Don W. Arnold, Ph.D., University of Iowa, Professor of Marketing (1957).

Richard L. Arnold, Ph.D., Northwestern University, Professor of Theatre Arts; Acting Chairman, Department of Theatre Arts (1965).

(The date indicates beginning of service to the University.)

Donald E. Ary, Ph.D., University of Iowa, Professor of Education (1969).

Shmuel D. Ashkenasi, Diploma, Curtis Institute of Music, Professor of Music (1969).

John A. Axelson, Ph.D., University of Michigan, Professor of Education (1965).

Jan M. Bach, D.M.A., University of Illinois, Associate Professor of Music (1966).

Charles E. Baker, Ph.D., Indiana University, Professor of Music (1947).

S. Orville Baker, Ph.D., Harvard University, Professor of English (1950).

Walter N. Ball, Ph.D., Ohio State University, Associate Professor of Art (1968).

James S. Ballinger, D.M.A., University of Illinois, Associate Professor of Music; Chairman, Department of Music (1966).

James M. Banovetz, Ph.D., University of Minnesota, Professor of Political Science; Chairman, Department of Political Science (1963).

Edna H. Barbour, C.P.A., Ph.D., Ohio State University, Associate Professor of Accountancy (1957).

LeRoy Barney, Ed.D., University of Northern Colorado, Professor of Education (1965).

Marguerite C. Barra, Ph.D., Texas Woman's University, Associate Professor of Home Economics (1968).

Gilbert D. Bartell, Ph.D., University of Arizona, Associate Professor of Anthropology (1966).

Abraham Z. Bass, Ph.D., University of Minnesota, Assistant Professor of Journalism (1969).

Abdul Z. Basti, Ph.D., University of Colorado, Associate Professor of Finance (1967).

Robert H. Bauernfeind, Ph.D., Purdue University, Professor of Education (1963).

Frank P. Bazeli, Ed.D., Wayne State University, Associate Professor of Education (1967).

James W. Beach, Ph.D., Iowa State University, Professor of Mathematical Sciences (1953).

John A. Beachy, Ph.D., Indiana University, Associate Professor of Mathematical Sciences (1969).

- William Bealmer, M.F.A., University of Colorado, Associate Professor of Art (1969).
- Ronald E. Beanblossom, Ph.D., University of Rochester, Assistant Professor of Philosophy (1970).
- Doratheia K. Beard, Ph.D., Ohio State University, Associate Professor of Art (1966).
- Richard E. Beard, Ph.D., Ohio State University, Professor of Art (1966).
- Kenneth L. Beasley, Ph.D., Northwestern University, Professor of Education; Assistant to the President, Information and Public Affairs (1964).
- James A. Beaudry, Ph.D., Cornell University, Assistant Professor of Sociology (1967).
- Burley V. Bechdolt, Jr., Ph.D., University of Southern California, Assistant Professor of Economics; Coordinator, Environmental Studies (1970).
- John R. Beck, Ed.D., Indiana University, Associate Professor of Industry and Technology (1968).
- Frank Beezhold, M.M., Cosmopolitan School of Music, Associate Professor of Music (1957).
- Merlyn J. Behr, Ph.D., Florida State University, Associate Professor of Mathematical Sciences (1968).
- William H. Beik, Ph.D., Harvard University, Assistant Professor of History (1968).
- Jerome Bell, M.F.A., Cranbrook Academy of Art, Associate Professor of Art (1966).
- Mary M. Bell, Ph.D., University of Iowa, Professor of Physical Education for Women (1957).
- Ralph A. Belnap, Ed.D., University of Wyoming, Professor of Education (1958).
- C. Jackson Bennett, Ph.D., University of Wisconsin, Associate Professor of Biological Sciences (1957).
- Alfred Binter, Ed.D., University of Kansas, Professor of Education (1961).
- Gordon W. Bird, Ed.D., Teachers College, Columbia University, Professor of Music; Associate Director of Extension (1960).
- Rudolf M. Bisanz, Ph.D., Syracuse University, Professor of Art (1967).
- Ledford J. Bischof, Ed.D., Indiana University, Professor of Psychology (1954).
- George W. Bishop, Jr., Ph.D., New York University, Professor of Finance; Chairman, Department of Finance (1965).
- Inez E. Bishop, Ed.D., University of Illinois, Professor of Education (1967).
- Lloyd D. Black, Ph.D., University of Michigan, Professor of Geography (1966).
- William D. Blair, Ph.D., University of Maryland, Assistant Professor of Mathematical Sciences (1971).
- Martha E. Blankenship, Ed.D., University of Houston, Associate Professor of Special Education (1969).
- Harvey I. Blau, Ph.D., Yale University, Assistant Professor of Mathematical Sciences (1969).
- Thomas W. Blomquist, Ph.D., University of Minnesota, Associate Professor of History (1965).
- Robert L. Bornhuetter, M.F.A., Tulane University, Associate Professor of Art (1969).
- Rodney M. Borstad, Ed.D., University of Northern Colorado, Professor of Education (1964).
- Betty J. Bosdell, Ph.D., University of Illinois, Professor of Education (1966).
- Kenneth L. Bowden, M.S.Ed., Northern Illinois University, Assistant Professor of Geography (1964).
- Ralph H. Bowen, Ph.D., Columbia University, Professor of History (1960).
- John E. Bower, Ph.D., University of Michigan, Professor of Chemistry (1951).
- Richard C. Bowers, Ph.D., University of Minnesota, Professor of Chemistry; Vice President and Provost (1965).
- Helen Bozovich, Ph.D., Iowa State University, Associate Professor of Finance (1968).
- Weldon G. Bradtmueller, Ed.D., Indiana University, Associate Professor of Education (1968).
- Roy L. Bragg, Ed.D., University of Arizona, Associate Professor of Education (1967).

Mabel R. Brantley, Ed.D., Columbia University, Professor of Education (1956).

Myles P. Breen, Ph.D., Wayne State University, Associate Professor of Speech Communication (1968).

Robert J. Brigham, P.E.D., Indiana University, Professor of Physical Education for Men; Chairman, Department of Physical Education for Men; Director of Athletics (1955).

George Bright, Ph.D., University of Texas, Assistant Professor of Mathematical Sciences (1971).

W. Elwood Briles, Ph.D., University of Wisconsin, Professor of Biological Sciences (1967).

Robert N. Broadus, Ph.D., University of Southern California, Professor of Library Science (1961).

Donald F. Brod, Ph.D., University of Minnesota, Associate Professor of Journalism (1969).

E. Leland Brode, Ph.D., University of Michigan, Professor of Education (1965).

James E. Brower, Ph.D., Syracuse University, Assistant Professor of Biological Sciences (1969).

Cecil H. Brown, Ph.D., Tulane University, Assistant Professor of Anthropology (1970).

Harold I. Brown, Ph.D., Northwestern University, Assistant Professor of Philosophy (1969).

Richard D. Brown, Ph.D., University of Illinois, Associate Professor of Business Education (1971).

Robert D. Brown, Ph.D., University of Minnesota, Professor of Industry and Technology (1957).

William J. Brown, Ph.D., New York University, Professor of Finance (1967).

William T. Brown, Ed.D., Pennsylvania State University, Professor of Art (1964).

Wilson B. Brown, Ph.D., Fletcher School of Law and Diplomacy, Tufts University, Associate Professor of Marketing (1969).

Donald R. Buckner, Ed.D., The American University, Director, Office of Student Housing Services (1967).

Robert W. Buggert, Ph.D., University of Michigan, Professor of Music; Dean, College of Fine and Applied Arts (1964).

Waldo W. Burchard, Ph.D., University of California, Professor of Sociology (1958).

Joseph D. Burchfield, Ph.D., Johns Hopkins University, Assistant Professor of History (1967).

Roy O. Burke, Ed.D., Florida State University, Associate Professor of Art (1953).

Jeffrey M. Burnam, Ph.D., University of Chicago, Assistant Professor of Political Science (1970).

Alice Burnett, Ed.D., Columbia University, Associate Professor of Home Economics (1973).

Paul S. Burtness, Ph.D., University of Chicago, Professor of English; Dean, College of Liberal Arts and Sciences (1953).

William Buscombe, Ph.D., Princeton University, Professor of Geology (1970).

David L. Bushnell, Ph.D., Virginia Polytechnic Institute, Associate Professor of Physics (1961).

Eleanor J. Caldwell, Ed.D., Teachers College, Columbia University, Professor of Art (1967).

Richard W. Cambridge, Ph.D., University of Iowa, Associate Professor of Business Education (1964).

Graham M. Campbell, Ph.D., Pennsylvania State University, Associate Professor of Mathematical Sciences (1972).

Charles Canon, Ed.D., Indiana University, Professor of Art; Acting Chairman, Department of Art (1948).

William R. Cantrall, Ph.D., University of Illinois, Associate Professor of English and Education (1969).

Milton E. Carlson, Ph.D., University of Wisconsin, Professor of Education (1959).

David S. Carr, Ph.D., Northwestern University, Associate Professor of Education (1970).

George C. Carrington, Jr., Ph.D., Ohio State University, Professor of English (1967).

Margaret L. Carroll, Ph.D., University of Wisconsin, Professor of Education (1953).

Clifford M. Caruthers, Ph.D., University of Missouri, Associate Professor of English (1968).

- Clarence J. Casella, Ph.D., Columbia University, Associate Professor of Geology (1965).
- Darwin J. Casler, D.B.A., Michigan State University, Professor of Accountancy; Chairman, Department of Accountancy (1971).
- Joseph M. Cavanaugh, Ph.D., Syracuse University, Assistant Professor of Mathematical Sciences (1970).
- Helen Cearlock, M.S., Northern Illinois University, Assistant Professor of Nursing (1973).
- Clifford H. Chaffee, Ph.D., University of Wisconsin, Associate Professor of Education (1970).
- Wei-Chien Chang, Ph.D., University of Wisconsin, Assistant Professor of Finance (1971).
- C. Shelton Chastain, Ed.D., University of Northern Colorado, Associate Professor of Education (1964).
- Philip C. Cheng, Ph.D., Louisiana State University, Associate Professor of Accountancy (1968).
- John G. Christiano, Ph.D., University of Pittsburgh, Professor of Mathematical Sciences (1959).
- Kenneth L. Cleland, Ed.D., University of Tennessee, Professor of Education (1954).
- Silas W. Clifton, Ed.D., University of Northern Colorado, Professor of Education; Director, University Counseling Center (1958).
- Fred R. Cohen, Ph.D., University of Chicago, Assistant Professor of Mathematical Sciences (1972).
- Alan L. Cole, Ph.D., University of Michigan, Associate Professor of Geography (1969).
- Harold W. Collins, Ph.D., Purdue University, Professor of Education (1965).
- John C. Comer, Ed.D., Wayne State University, Associate Professor of Industry and Technology (1969).
- John E. Connett, Ph.D., University of Maryland, Assistant Professor of Mathematical Sciences (1969).
- Richard M. Cooler, B.A., University of North Carolina, Assistant Professor of Art (1970).
- Gary D. Coover, Ph.D., University of Oregon, Assistant Professor of Psychology (1972).
- Raymond L. Cornwell, Ph.D., University of Minnesota, Associate Professor of Industry and Technology (1969).
- George D. Craig, Ph.D., University of Illinois, Associate Professor of Finance (1969).
- Doris H. Crank, Ed.D., Northwestern University, Professor of Business Education (1965).
- Floyd L. Crank, Ph.D., Northwestern University, Professor of Business Education; Coordinator, Off-Campus Teaching in Business (1965).
- Paul K. Crawford, Ph.D., Northwestern University, Professor of Speech Communication (1940).
- Robert F. Cunico, Ph.D., Purdue University, Associate Professor of Chemistry (1968).
- Phyllis Cunningham, Ph.D., University of Iowa, Professor of Physical Education for Women; Chairman, Department of Physical Education for Women (1970).
- Moshe M. Czudnowski, *Docteur de l'Universite*, University of Paris, Professor of Political Science (1971).
- Richard E. Dahlberg, Ph.D., University of Wisconsin, Professor of Geography; Chairman, Department of Geography (1970).
- Bruno D'Alanzo, Ph.D., Bowling Green State University, Assistant Professor of Special Education (1971).
- Carl A. Dallinger, Ph.D., University of Iowa, Professor of Speech Communication (1965).
- Man Singh Das, Ph.D., Oklahoma State University, Associate Professor of Sociology (1969).
- Peter H. Daum, Ph.D., Michigan State University, Assistant Professor of Chemistry (1969).
- Jane L. Davidson, Ph.D., University of Michigan, Associate Professor of Education; Director, Reading Clinic (1970).
- Joel L. Davis, Ph.D., University of California, Assistant Professor of Psychology (1970).
- Murray S. Davis, Ph.D., Brandeis University, Assistant Professor of Sociology (1969).
- Samuel C. Davis, Ed.D., University of Illinois, Assistant Professor of Education; Assistant Dean, College of Education (1970).
- Mark F. Dean, P.E.D., Indiana University, Professor of Physical Education for Men (1957).

- Sanford J. Dean, Ph.D., Ohio State University, Professor of Psychology; Chairman, Department of Psychology (1969).
- E. Roderick Deihl, Ph.D., Ohio State University, Associate Professor of Speech Communication (1967).
- Patrick R. Delaney, C.P.A., Ph.D., University of Illinois, Assistant Professor of Accountancy (1970).
- John N. DeLillo, M.A., Ohio State University, Assistant Professor of Art (1966).
- John E. DeMott, Ph.D., Northwestern University, Associate Professor of Journalism (1971).
- Louis D. Deprin, Ed.D., University of Arizona, Professor of Education (1968).
- David H. de Queljoe, Ed.D., Teachers College, Columbia University, Associate Professor of Foreign Languages and Literatures (1967).
- John A. Dewar, Ed.D., University of Kansas, Professor of Education (1961).
- Walter S. Dewey, Ph.D., University of Iowa, Professor of Theatre Arts (1966).
- Martin Diamond, Ph.D., University of Chicago, Professor of Political Science (1971).
- Joseph M. DiCola, Ed.D., Northern Illinois University, Assistant Professor of Education (1971).
- Howard R. Dill, M.M., Northwestern University, Associate Professor of Music (1958).
- Charles D. Dillman, Ph.D., University of Michigan, Associate Professor of Geography; Coordinator, Latin American Studies Programs (1966).
- P. Allan Dionisopoulos, Ph.D., University of California, Professor of Political Science (1962).
- Alvin J. Dirksen, Ph.D., University of Wisconsin, Associate Professor of Management (1969).
- Raymond Ditrichs, Ph.D., University of Iowa, Associate Professor of Psychology (1963).
- John J. Dlabal, Jr., Ed.D., University of Kansas, Professor of Education; Assistant Director, Extension, College of Continuing Education (1965).
- Arthur P. Doederlein, Ph.D., Northwestern University, Assistant Professor of Speech Communication (1969).
- George W. Donaldson, Ed.D., Teachers College, Columbia University, Professor of Outdoor Teacher Education (1964).
- John E. Doyle, Ph.D., Northwestern University, Assistant Professor of Sociology (1969).
- William M. Drake, Ed.D., Indiana University, Associate Professor of Education; Associate Director, University Counseling Center (1965).
- David F. Driesbach, M.F.A., University of Iowa, Professor of Art (1964).
- Martin D. Dubin, Ph.D., Indiana University, Associate Professor of Political Science; Coordinator, International Relations Program (1965).
- Craig R. Ducat, Ph.D., University of Minnesota, Assistant Professor of Political Science (1970).
- J. Hubert Dunn, Ph.D., University of Illinois, Professor of Physical Education for Men (1962).
- Russel E. Durning, Ph.D., University of North Carolina, Associate Professor of English (1970).
- Thomas A. W. Dwyer III, Ph.D., University of Maryland, Assistant Professor of Mathematical Sciences (1970).
- James W. Dye, Ph.D., Tulane University, Associate Professor of Philosophy (1966).
- Phillip M. Eastman, Ph.D., University of Texas, Assistant Professor of Mathematical Sciences (1972).
- John W. Eaton, Ed.D., Indiana University, Associate Professor of Business Education; Assistant to the Dean, College of Business (1952).
- Paul W. Eaton, Ph.D., University of Minnesota, Associate Professor of Finance (1969).
- Abdo A. Elkholy, Ph.D., Princeton University, Professor of Sociology (1965).
- Joseph R. Ellis, Ed.D., University of Texas, Professor of Education; Coordinator, Research and Services, College of Education (1964).
- Roland T. Ely, Ph.D., Harvard University, Associate Professor of History (1966).
- Lester E. Embree, Ph.D., New School of Social Research, Assistant Professor of Philosophy (1969).

- Russell S. Ende, Ph.D., University of Ottawa (Canada), Professor of Education (1964).
- Hugo O. Engelmann, Ph.D., University of Wisconsin, Professor of Sociology (1969).
- Richard C. Erickson, Ph.D., Purdue University, Professor of Industry and Technology; Coordinator, Vocational and Technical Education (1970).
- James E. Erman, Ph.D., Massachusetts Institute of Technology, Assistant Professor of Chemistry (1970).
- John D. Esseks, Ph.D., Harvard University, Associate Professor of Political Science (1968).
- Emory G. Evans, Ph.D., University of Virginia, Professor of History; Chairman, Department of History (1964).
- Robert L. Even, Ph.D., University of Minnesota, Professor of Art (1963).
- John A. Ewell, Ph.D., University of California, Associate Professor of Mathematical Sciences (1973).
- Martha Fair, Ed.D., Northern Illinois University, Assistant Professor of Special Education (1973).
- Bobby R. Falwell, M.F.A., Rochester Institute of Technology, Assistant Professor of Art (1970).
- Gaylord H. Farwell, Ed.D., State University of New York (Buffalo), Professor of Education (1962).
- R. Vernon Fay, Ph.D., Eastman School of Music, University of Rochester, Professor of Music (1955).
- Arthur J. Fedro, Ph.D., Northwestern University, Associate Professor of Physics (1965).
- Harold F. Feeny, D.Sc., Laval University (Quebec), Professor of Physics (1961).
- Solomon E. Feldman, Ph.D., Indiana University, Associate Professor of Psychology (1965).
- Theodore N. Ferdinand, Ph.D., University of Michigan, Professor of Sociology (1970).
- Camille Ference, Ph.D., Ohio State University, Assistant Professor of Education (1973).
- Arthur L. Ferguson, Ph.D., Illinois State University, Associate Professor of Education (1968).
- Antonio Ferres, Certificate, *Escuela de Ingenieria Tecnica Industrial de Madrid*, Associate Professor of Foreign Languages and Literatures (1969).
- Cletus G. Fisher, Ph.D., Ohio State University, Professor of Speech Communication; Director, Pathology-Audiology Division, Department of Speech Communication (1968).
- Victor E. Flango, Ph.D., University of Hawaii, Assistant Professor of Political Science (1971).
- Ronald C. Flemal, Ph.D., Princeton University, Associate Professor of Geology (1967).
- J. Robert Floyd, D.M., Indiana University, Professor of Music (1962).
- Jerald D. Floyd, Ed.D., University of Utah, Associate Professor of Physical Education for Men (1966).
- Marvin Fogel, Ph.D., Texas Tech University, Assistant Professor of Allied Health (1973).
- Stephen Foster, Ph.D., Yale University, Associate Professor of History (1966).
- Walter S. Foster, Ed.D., University of Oregon, Professor of Education (1964).
- Edward C. Foth, Ph.D., Michigan State University, Assistant Professor of Accountancy (1971).
- Arnold B. Fox, Ph.D., New York University, Professor of English (1955).
- Gary L. Fox, M.S., Illinois State University, Associate Professor of Art (1968).
- Raymond B. Fox, Ed.D., University of California, Professor of Education (1959).
- Elon W. Frampton, Ph.D., University of Illinois, Associate Professor of Biological Sciences (1969).
- Bernhart G. Fred, Ph.D., Northwestern University, Professor of Music (1959).
- Allen H. Frerichs, Ed.D., University of Illinois, Professor of Education (1963).
- Marian Frerichs, Ed.D., Northern Illinois University, Associate Professor of Nursing (1971).
- Sherman H. Frey, Ph.D., University of Iowa, Professor of Education (1962).

- Morton J. Frisch, Ph.D., Pennsylvania State University, Professor of Political Science (1964).
- William P. Froom, Ed.D., Indiana University, Professor of Education (1947).
- Stanley H. Frost, Ph.D., University of Illinois, Associate Professor of Geology (1965).
- R. J. Michael Fry, M.D., University of Dublin, Adjunct Professor of Biological Sciences (1971).
- Mark A. Fugelso, M.S.M.E., Stanford University, Assistant Professor of Industry and Technology (1970).
- Gilbert A. Fullington, Ed.D., Teachers College, Columbia University, Associate Professor of Art (1967).
- Clifton D. Fulton, Ph.D., University of Illinois, Associate Professor of Physical Education for Men (1965).
- Mary O. Furner, Ph.D., Northwestern University, Associate Professor of History (1961).
- Anthony Fusaro, Ph.D., Pennsylvania State University, Associate Professor of Political Science; Assistant Chairman, Department of Political Science (1966).
- Arra M. Garab, Ph.D., Columbia University, Professor of English (1966).
- John B. Gardner, Ph.D., University of Pennsylvania, Associate Professor of English; Assistant to the President (1968).
- Eric T. Garman, Ed.D., Texas Tech University, Associate Professor of Business Education (1969).
- William A. Garthe, Ph.D., Cornell University, Assistant Professor of Biological Sciences (1964).
- F. R. Geigle, Ed.D., New York University, Professor of Business Education; Vice President for Development and Alumni Relations (1951).
- Charles M. Gelven, Ph.D., Washington University, Associate Professor of Philosophy (1966).
- Charles H. George, Ph.D., Princeton University, Professor of History (1961).
- Margaret George, Ph.D., University of Pittsburgh, Professor of History (1970).
- Keith R. Getschman, Ed.D., Northern Illinois University, Professor of Education; Chairman, Department of Educational Administration and Services (1965).
- James A. Gherity, Ph.D., University of Illinois, Professor of Economics (1964).
- Willis E. Giese, Ph.D., University of Wisconsin, Professor of Management (1968).
- Harold G. Gilbert, Ph.D., Ohio State University, Professor of Industry and Technology (1956).
- Norman S. Gilbert, Ed.D., University of Illinois, Associate Professor of Education; Director, Testing Services (1966).
- James R. Giles, Ph.D., University of Texas, Associate Professor of English (1970).
- Gary D. Glenn, Ph.D., University of Chicago, Assistant Professor of Political Science (1966).
- Ronald J. Glogovsky, Ed.D., University of Northern Colorado, Assistant Professor of Industry and Technology (1970).
- Eleanor P. Godfrey, Ph.D., Radcliffe College, Professor of Sociology (1970).
- Oswald H. Goering, Ed.D., Indiana University, Professor of Outdoor Teacher Education (1958).
- Samuel S. Goldich, Ph.D., University of Minnesota, Professor of Geology (1968).
- Earl O. Goodman, Jr., Ed.D., Teachers College, Columbia University, Associate Professor of Home Economics (1972).
- Rubin Gotesky, Ph.D., New York University, Professor of Philosophy (1960).
- Robert H. Gourley, Ed.D., University of Northern Colorado, Professor of Education; Acting Director, Placement Bureau (1960).
- Michael W. Grady, Ph.D., Stanford University, Associate Professor of English (1970).
- Paul Graeser, Ph.D., Columbia University, Assistant Professor of Economics (1967).
- John D. Graham, Ph.D., Michigan State University, Associate Professor of Chemistry (1965).
- Laurine L. Graham, Ph.D., Michigan State University, Associate Professor of Chemistry (1965).

- Douglas Grahn, Ph.D., Iowa State University, Adjunct Professor of Biological Sciences (1971).
- Pierre B. Gravel, Ph.D., University of Michigan, Professor of Anthropology (1965).
- Philip A. Gray, Ph.D., Ohio State University, Assistant Professor of Speech Communication (1966).
- William D. Gray, Ph.D., University of Pennsylvania, Adjunct Professor of Biological Sciences (1970).
- Gerald G. Green, Ed.D., Indiana University, Professor of Management (1965).
- Gwynn A. Greene, Ed.D., Teachers College, Columbia University, Professor of Education; Coordinator, Student Teaching (1954).
- David W. Greenfield, Ph.D., University of Washington, Associate Professor of Biological Sciences (1970).
- J. Brown Grier, Ph.D., University of Louisville, Associate Professor of Psychology (1965).
- Paul O. Groke, Ph.D., Interamerican University, Professor of Marketing; Coordinator, International Business (1962).
- James H. Grosklags, Ph.D., University of Wisconsin, Associate Professor of Biological Sciences (1958).
- Sue E. Gross, Ph.D., Tulane University, Assistant Professor of History (1968).
- Barbara Grothe, Ed.D., University of Nebraska, Associate Professor of Education (1970).
- Donald R. Grubb, Ed.D., University of Utah, Professor of Journalism; Chairman, Department of Journalism (1959).
- B. Ross Guest, Ph.D., University of Chicago, Professor of Geography (1958).
- Halbert E. Gulley, Ph.D., University of Iowa, Professor of Speech Communication; Chairman, Department of Speech Communication (1970).
- Dolores A. Gunnerson, Ph.D., University of Utah, Assistant Professor of Anthropology (1965).
- James H. Gunnerson, Ph.D., Harvard University, Professor of Anthropology; Director, Anthropology Laboratory and Museum (1963).
- Chaitan P. Gupta, Ph.D., University of Rochester, Associate Professor of Mathematical Sciences (1969).
- Lawrence C. Hackmack, Ph.D., University of Iowa, Professor of Management; Coordinator, Business Research, College of Business (1961).
- Ruth Haddock, Ph.D., Syracuse University, Professor of Education; Administrative Associate to the Vice President for Student Affairs (1954).
- William G. Haendel, M.S., University of Wisconsin, Professor of Art (1955).
- Charles W. Hagelman, Ph.D., University of Texas, Professor of English; Chairman, Department of English (1968).
- Stephen Haliczzer, Ph.D., St. Andrews University (Scotland), Assistant Professor of History (1968).
- Marion T. Hall, Ph.D., Washington University, Adjunct Professor of Biological Sciences (1971).
- Hallie J. Hamilton, Ed.D., Indiana University, Associate Professor of Journalism (1958).
- Erwin C. Hamm, Ed.D., Cornell University, Associate Professor of Industry and Technology (1966).
- Donald R. Hammerman, Ed.D., Pennsylvania State University, Professor of Outdoor Teacher Education; Chairman, Department of Outdoor Teacher Education; Director, Lorado Taft Field Campus (1954).
- Arnold E. Hampel, Ph.D., University of Wisconsin, Assistant Professor of Biological Sciences and Chemistry (1970).
- Kuo-Huang Han, M.M., Northwestern University, Assistant Professor of Music (1972).
- William O. Hancock, Ph.D., Purdue University, Associate Professor of Marketing (1968).
- M. Jamil Hanifi, Ph.D., Southern Illinois University, Assistant Professor of Anthropology (1969).
- Quentin C. Haning, Ph.D., Iowa State University, Assistant Professor of Allied Health (1969).
- Michael S. Hanna, Ph.D., University of Missouri, Assistant Professor of Speech Communication (1971).
- Nessim Y. Hanna, Ph.D., University of Illinois, Associate Professor of Marketing (1970).
- Earl F. Hanson, Ph.D., University of Chicago, Associate Professor of Education (1973).

- Laszlo Hanzely, Ph.D., Southern Illinois University, Assistant Professor of Biological Sciences (1969).
- Larry Hapeman, Ph.D., St. Louis University, Assistant Professor of Special Education (1973).
- Clarence E. Hardgrove, Ph.D., Ohio State University, Professor of Mathematical Sciences (1950).
- Karl D. Hardman, Ph.D., Indiana University, Adjunct Assistant Professor of Biological Sciences (1971).
- Kenneth H. Harmet, Ph.D., University of Chicago, Associate Professor of Biological Sciences (1955).
- E. Edward Harris, Ed.D., Northern Illinois University, Professor of Business Education (1965).
- JoAnn E. Harris, Ed.D., Northern Illinois University, Associate Professor of Education (1973).
- Wendell V. Harris, Ph.D., University of Wisconsin, Professor of English; Associate Provost (1970).
- Alton Harrison, Jr., Ph.D., University of Oklahoma, Professor of Education (1967).
- William F. Harrison, Ph.D., University of New Mexico, Assistant Professor of Foreign Languages and Literatures (1969).
- Ann M. Hart, Ed.D., Indiana University, Professor of Nursing (1959).
- Donn V. Hart, Ph.D., Syracuse University, Professor of Anthropology; Director, Center for Southeast Asian Studies (1971).
- Larry D. Hartman, Ed.D., Oklahoma State University, Assistant Professor of Business Education (1973).
- George L. Hartsuch, C.A.S., Northern Illinois University, Assistant Professor of Industry and Technology (1964).
- Mazhar Hasan, Ph.D., Illinois Institute of Technology, Professor of Physics (1961).
- Earl S. Haugen, Ed.D., University of Northern Colorado, Professor of Education (1965).
- A. Oscar Haugland, D.M.A., Eastman School of Music, University of Rochester, Professor of Music (1960).
- James E. Heald, Ph.D., Northwestern University, Professor of Education; Dean, College of Education (1970).
- William A. Healey, P.E.D., Indiana University, Professor of Physical Education for Men (1954).
- Jane H. Heidorn, Ph.D., Ohio State University, Associate Professor of Physical Education for Women (1968).
- Denise Heilbronn, Ph.D., Indiana University, Assistant Professor of Foreign Languages and Literatures (1971).
- Donald E. Heilman, Ed.D., University of Washington, Associate Professor of Education (1964).
- William J. Hendrickson, Ed.D., Teachers College, Columbia University, Professor of Marketing (1957).
- Edward T. Herbert, Ph.D., University of Wisconsin, Associate Professor of English (1957).
- William A. Herrmann, Ph.D., Michigan State University, Assistant Professor of Education; Coordinator, Office of Student Financial Aids (1960).
- Wayne A. Hershberger, Ph.D., University of Colorado, Associate Professor of Psychology (1964).
- Joseph A. Hess, Ph.D., Northwestern University, Associate Professor of Finance (1970).
- John E. Higginson, M.A., University of Michigan, Assistant Professor of History (1971).
- Hendrick G. Hoeve, Dr., University of Amsterdam, Associate Professor of Physics (1964).
- Earl E. Hoffman, Ph.D., University of Wisconsin, Associate Professor of Education (1968).
- George S. Holden, Ed.D., State University of New York (Buffalo), Associate Professor of Education (1966).
- Stephen F. Holtzman, Ph.D., University of California, Assistant Professor of Anthropology (1970).
- Kenneth H. Honea, Ph.D., University of Vienna, Associate Professor of Anthropology (1969).
- Arthur A. Hoppe, Ed.D., Columbia University, Professor of Education (1967).
- Jacob B. Hoptner, Ph.D., Columbia University, Professor of History (1966).
- Lucie T. Horner, Ph.D., University of Chicago, Professor of Foreign Languages and Literatures (1967).
- Pawel Horoszowski, Ph.D., Warsaw University, Professor of Sociology (1969).

- Lowell W. Horton, Ph.D., Ohio State University, Professor of Education (1969).
- David H. Howard, Ph.D., Indiana University, Associate Professor of Sociology (1958).
- Richard H. Howland, Ph.D., University of Michigan, Professor of Marketing; Chairman, Department of Marketing (1964).
- Ih-Ching Hsu, Ph.D., University of New Mexico, Assistant Professor of Mathematical Sciences (1970).
- James L. Hudson, Ph.D., Johns Hopkins University, Assistant Professor of Philosophy (1970).
- Roy Hulfachor, M.Ed., University of Illinois, Assistant Professor of Industry and Technology (1966).
- William L. Humm, Ph.D., Southern Illinois University, Assistant Professor of Education (1970).
- Robert J. Hunyard, Ed.D., Indiana University, Professor of Education; Director, Communication Services (1959).
- Zdenek Hurych, Ph.D., Charles University (Prague), Associate Professor of Physics (1968).
- Harold E. Husa, Ed.D., Michigan State University, Professor of Education (1969).
- Hazel F. Huston, Ed.D., University of Southern California, Assistant Professor of Special Education (1968).
- Kathryn Iliff, C.P.A., Ed.D., University of Denver, Professor of Accountancy (1956).
- Roger D. Irle, Ph.D., University of Oregon, Assistant Professor of Sociology; Director, Honors Program (1969).
- Bruce Irvin, Ph.D., Stanford University, Assistant Professor of Speech Communication (1968).
- Jerome Israel, Ph.D., Rutgers University, Associate Professor of History (1970).
- Norman C. Jacobs, Ph.D., Ohio State University, Associate Professor of Education (1965).
- Eckhart A. Jacobsen, Ph.D., University of Connecticut, Professor of Industry and Technology (1961).
- Tribhovan N. Jain, Ph.D., Michigan State University, Assistant Professor of Accountancy (1970).
- E. Nelson James, Ph.D., University of Iowa, Professor of English (1948).
- Bernard N. Jaroslow, Ph.D., University of Chicago, Adjunct Associate Professor of Biological Sciences (1971).
- Benjamin Jegers, Dr.Phil., University of Gottingen (Germany), Associate Professor of Foreign Languages and Literatures (1968).
- Mary J. Jensen, M.Ed., Teachers College, Columbia University, Assistant Professor of Nursing (1965).
- Clinton J. Jesser, Ph.D., Michigan State University, Associate Professor of Sociology (1964).
- Richard L. Johannesen, Ph.D., University of Kansas, Associate Professor of Speech Communication (1971).
- John H. Johansen, Ph.D., Northwestern University, Professor of Education; Associate Dean, College of Education (1969).
- Jerry L. Johns, Ph.D., Michigan State University, Associate Professor of Education (1970).
- Duane R. Johnson, Ed.D., Michigan State University, Professor of Industry and Technology (1963).
- Harold G. Johnson, Ph.D., University of Wisconsin, Associate Professor of Marketing (1971).
- Howard D. Johnson II, Ph.D., Ohio State University, Assistant Professor of Chemistry (1973).
- James A. Johnson, Ed.D., University of North Dakota, Professor of Education; Director, Student Teaching (1965).
- Betty Jane Johnston, Ph.D., Purdue University, Professor of Home Economics; Chairman, Department of Home Economics (1971).
- Malcolm T. Jollie, Ph.D., Stanford University, Professor of Biological Sciences (1965).
- Orville E. Jones, Ed.D., University of Oklahoma, Professor of Outdoor Teacher Education (1960).
- Thomas B. Jones, Ph.D., Cornell University, Assistant Professor of History (1968).
- Dale G. Jungst, M.S., University of Iowa, Assistant Professor of Mathematical Sciences (1959).
- Robert W. Kabak, M.F.A., Yale University, Associate Professor of Art (1968).

- Robert W. Kahler, Ed.D., University of Northern Colorado, Professor of Physical Education for Men (1962).
- Martin I. Kallich, Ph.D., Johns Hopkins University, Professor of English (1958).
- Tatsuji Kambayashi, Ph.D., Northwestern University, Associate Professor of Mathematical Sciences (1967).
- Martin F. Kaplan, Ph.D., University of Iowa, Associate Professor of Psychology (1965).
- Robert A. Karabinus, Ph.D., University of Illinois, Associate Professor of Education (1968).
- Walter Katkovsky, Ph.D., Ohio State University, Professor of Psychology (1968).
- Benjamin Keen, Ph.D., Yale University, Professor of History (1965).
- Carol A. Keim, M.Ed., Pennsylvania State University, Assistant Professor of Home Economics (1971).
- Robert E. Keim, Ph.D., Florida State University, Assistant Professor of Home Economics (1969).
- John Kempton, Ph.D., University of Illinois, Professor of Geology (1973).
- Edward L. Kendall, Ph.D., University of Pittsburgh, Associate Professor of Management (1970).
- George T. Kennedy, Ph.D., Ohio State University, Associate Professor of Management (1969).
- Frederick G. Kent, J.D., Charles University (Prague), Associate Professor of Political Science (1950).
- Stephen R. Kern, Ph.D., Columbia University, Assistant Professor of History (1970).
- John A. Kerr, Jr., Ph.D., University of Wisconsin, Assistant Professor of Foreign Languages and Literatures (1972).
- James E. Kettner, Ph.D., Massachusetts Institute of Technology, Assistant Professor of Mathematical Sciences (1972).
- Dennis N. Kevill, Ph.D., University of London, Professor of Chemistry (1963).
- Donald E. Kieso, C.P.A., Ph.D., University of Illinois, Professor of Accountancy; Coordinator, Accountancy Internships (1963).
- Young Chin Kim, Ph.D., Columbia University, Associate Professor of Economics (1970).
- Clyde W. Kimball, Ph.D., St. Louis University, Professor of Physics (1964).
- Joshua B. Kind, Ph.D., Columbia University, Associate Professor of Art (1969).
- James H. King, Ed.D., University of Colorado, Professor of Education (1958).
- James T. King, Jr., Ph.D., University of Notre Dame, Associate Professor of Philosophy (1967).
- Samuel C. Kinser, Ph.D., Cornell University, Professor of History (1965).
- William C. Kirkpatrick, Jr., Ed.D., University of Southern California, Associate Professor of Music (1965).
- Leonard K. Kise, Ed.D., Cornell University, Professor of Education (1967).
- Theodore J. Kisiel, Ph.D., Duquesne University, Associate Professor of Philosophy (1969).
- Edward R. Kittrell, Jr., Ph.D., University of Chicago, Professor of Economics (1966).
- Askari H. Kizilbash, Ph.D., University of Nebraska, Assistant Professor of Marketing (1971).
- Stanislas Klasa, *Docteur-es-Sciences*, University of Geneva, Associate Professor of Mathematical Sciences (1968).
- Eugene W. Klemm, Ph.D., Northwestern University, Professor of Special Education; Chairman, Department of Special Education (1967).
- Paul J. Kleppner, Ph.D., University of Pittsburgh, Associate Professor of History (1969).
- Roderick G. Kohler, Ed.D., University of Missouri, Professor of Industry and Technology (1947).
- Jaroslav Komarynsky, Ph.D., University of Illinois, Associate Professor of Finance (1969).
- Mildred Kornacker, Ph.D., University of Chicago, Associate Professor of Sociology (1967).
- Leonard J. Kouba, Ph.D., Boston University, Assistant Professor of Geography (1966).
- George A. Kourvetaris, Ph.D., Northwestern University, Associate Professor of Sociology (1969).

- Roland L. Kramer, Ph.D., University of Pennsylvania, Professor of Marketing (1973).
- H. Brigitte Krause, Ph.D., University of Marbourg, Associate Professor of Physics (1968).
- Irving Krauss, Ph.D., University of California, Associate Professor of Sociology (1969).
- Wilma R. Krauss, Ph.D., University of Hawaii, Assistant Professor of Political Science (1969).
- John R. Kreidle, C.F.A., Ph.D., Ohio State University, Professor of Finance (1963).
- Bruce J. Kremer, Ed.D., Michigan State University, Professor of Education (1967).
- Gordon C. Krescheck, Ph.D., Ohio State University, Associate Professor of Chemistry (1965).
- Janet D. Krescheck, Ph.D., Northwestern University, Associate Professor of Speech Communication (1968).
- Marion K. Krogdahl, M.S., University of Minnesota, Assistant Professor of Nursing (1964).
- Richard J. Kryscio, Ph.D., State University of New York (Buffalo), Assistant Professor of Mathematical Sciences (1972).
- Herbert E. Kubitschek, Ph.D., University of Illinois, Adjunct Professor of Biological Sciences (1971).
- Gerald W. Kuhn, D.B.A., Indiana University, Associate Professor of Finance (1966).
- Jeanette M. Kuhn, Ed.D., Teachers College, Columbia University, Professor of Education (1967).
- Robert G. Kuller, Ph.D., University of Michigan, Associate Professor of Mathematical Sciences (1968).
- William E. Kuschman, Ed.D., Indiana University, Professor of Education; Assistant Director, International and Special Programs (1965).
- Jene K. Kwon, Ph.D., University of Iowa, Associate Professor of Economics (1968).
- Nye L. LaBaw, Ed.D., Michigan State University, Associate Professor of Physical Education for Men (1960).
- James M. Lahey, C.P.A., Ph.D., University of Illinois, Associate Professor of Accountancy (1970).
- Elizabeth C. Lane, Ph.D., New York University, Professor of Physical Education for Women; Coordinator, Physical Therapy Program (1954).
- Robert E. Lane, Ph.D., University of Iowa, Associate Professor of Management (1964).
- Robert M. Lang, Ed.D., Indiana University, Assistant Professor of Education (1970).
- Charles H. Lange, Ph.D., University of New Mexico, Professor of Anthropology; Chairman, Department of Anthropology (1971).
- James E. Lankford, Ph.D., University of Oklahoma, Associate Professor of Speech Communication (1969).
- Frank W. Lanning, Ed.D., North Texas University, Professor of Education (1961).
- Charles U. Larson, Ph.D., University of Minnesota, Associate Professor of Speech Communication (1968).
- Prem Singh Laumas, Ph.D., Wayne State University, Professor of Economics (1971).
- Charles P. Lawes, Ph.D., Dartmouth College, Assistant Professor of Mathematical Sciences (1970).
- Guy Leekley, J.D., University of Chicago, Assistant Professor of Education (1970).
- Annette S. Lefkowitz, Ed.D., Teachers College, Columbia University, Professor of Nursing; Director and Chairman, School of Nursing (1958).
- Lauren G. Leighton, Ph.D., University of Wisconsin, Associate Professor of Foreign Languages and Literatures (1972).
- Henry S. Leonard, Ph.D., Harvard University, Professor of Mathematical Sciences (1968).
- Lloyd L. Leonard, Ed.D., University of Northern Colorado, Professor of Education (1963).
- Lester S. Levy, Ph.D., Cornell University, Professor of Economics (1964).
- Avra S. Liakos, Certificate, Greek-French School of Ursulines at Naxos, Assistant Professor of Art (1968).
- James D. Liakos, University of Athens, Assistant Professor of Art (1968).
- W. Bruce Lincoln, Ph.D., University of Chicago, Associate Professor of History (1967).

- Wendell A. Lindbeck, Ph.D., University of Wisconsin, Professor of Chemistry (1949).
- John H. Lindsey II, Ph.D., Harvard University, Associate Professor of Mathematical Sciences (1969).
- Carlton E. Lints, Ph.D., University of Chicago, Associate Professor of Psychology (1968).
- Edra E. Lipscomb, Ed.D., Indiana University, Professor of Education (1956).
- D. Richard Little, Jr., Ph.D., University of California, Associate Professor of Political Science (1963).
- Donald W. Livingston, Ph.D., Washington University, Assistant Professor of Philosophy (1967).
- Cornelius J. Loeser, Ph.D., University of California, Assistant Professor of Geography (1965).
- Earl O. Loessel, Ed.D., University of Michigan, Associate Professor of Music (1965).
- William H. Logue, Ph.D., University of Chicago, Associate Professor of History (1966).
- Jean E. Lokerson, Ph.D., University of Maryland, Associate Professor of Special Education (1972).
- Antoinette B. Lotsof, Ph.D., Ohio State University, Associate Professor of Education (1966).
- Erwin J. Lotsof, Ph.D., Ohio State University, Professor of Psychology (1961).
- Leo J. Loughlin, Ph.D., University of Wisconsin, Professor of Education (1960).
- Emory F. Luck, Ph.D., University of Illinois, Associate Professor of Physical Education for Men; Head Basketball Coach (1969).
- Ewing L. Lusk, Ph.D., University of Maryland, Assistant Professor of Mathematical Sciences (1970).
- Darrel L. Lynch, Ph.D., University of Illinois, Professor of Biological Sciences (1962).
- Donald B. McAlister, Ph.D., Queen's University (Belfast), Professor of Mathematical Sciences (1970).
- Wallace R. McAllister, Ph.D., University of Iowa, Professor of Psychology (1969).
- Edith B. McCharen, Ph.D., Louisiana State University, Assistant Professor of Mathematical Sciences (1970).
- John D. McCharen, Jr., Ph.D., Louisiana State University, Assistant Professor of Mathematical Sciences (1970).
- Raymond H. McClary, D.B.A., Indiana University, Associate Professor of Accountancy (1968).
- James A. McCleary, Ph.D., University of Michigan, Professor of Biological Sciences; Chairman, Department of Biological Sciences (1969).
- Gary L. McConeghy, Ed.D., Wayne State University, Associate Professor of Education (1968).
- Keith H. McDonald, Ph.D., Michigan State University, Professor of Education (1962).
- V. Dale McDowell, Ph.D., Northwestern University, Professor of Education (1959).
- Robert McEdden, Ph.D., Queen's University (Belfast), Professor of Mathematical Sciences (1968).
- Lyle D. McGinnis, Ph.D., University of Illinois, Professor of Geology (1967).
- Wayne J. McIlrath, Ph.D., University of Iowa, Professor of Biological Sciences (1964).
- David L. McKay, Ed.D., Wayne State University, Associate Professor of Art (1967).
- Kevin L. McKeough, Ph.D., University of Michigan, Associate Professor of Political Science (1969).
- John J. McNamara, Ph.D., Purdue University, Associate Professor of Marketing (1970).
- Norman E. Magden, M.A., Case Western Reserve University, Assistant Professor of Art (1967).
- Benjamin L. Mahmoud, M.F.A., Ohio University, Associate Professor of Art (1965).
- Parvine Mahmoud, Ph.D., Indiana University, Professor of Foreign Languages and Literatures (1965).
- Wesley A. Many, Ph.D., University of Iowa, Professor of Education (1963).
- Robert J. Maple, Ed.D., Northern Illinois University, Professor of Education; Chairman, Department of Secondary Professional Education (1967).

- Dorothy Markiewicz, Ph.D., Ohio State University, Assistant Professor of Psychology (1972).
- Hannah L. Marshall, Ph.D., Northwestern University, Assistant Professor of Sociology (1969).
- Joseph A. Martellaro, Ph.D., University of Notre Dame, Professor of Economics (1967).
- Randall B. Martin, Ph.D., Syracuse University, Professor of Psychology (1963).
- Gerald S. Maryanov, Ph.D., Indiana University, Associate Professor of Political Science (1967).
- W. Roy Mason III, Ph.D., Emory University, Associate Professor of Chemistry (1967).
- William J. Masson, Ph.D., University of Iowa, Professor of Finance; Assistant to the Dean, College of Business (1968).
- Carol K. Mathers, Ph.D., University of Iowa, Associate Professor of Biological Sciences (1956).
- Lillian B. Matthews, Ph.D., Ohio State University, Associate Professor of Home Economics (1968).
- August J. Mauser, Ed.D., Indiana University, Professor of Special Education (1972).
- Donald W. Maxfield, Ph.D., University of Iowa, Associate Professor of Geography; Coordinator, Urban Studies (1970).
- James M. Mellard, Ph.D., University of Texas, Professor of English (1967).
- Pierre Menard, Diploma, Juilliard School of Music, Assistant Professor of Music (1970).
- Helen V. Merritt, M.F.A., Northern Illinois University, Associate Professor of Art (1962).
- James W. Merritt, Ed.D., Harvard University, Professor of Education (1948).
- Aubrey S. Messenger, Ph.D., Michigan State University, Assistant Professor of Geography (1963).
- Axel Meyer, Ph.D., Illinois Institute of Technology, Professor of Physics (1967).
- D. Eugene Meyer, Ed.D., University of Northern Colorado, Associate Professor of Education (1971).
- Jerry D. Meyer, M.A., Southern Illinois University, Assistant Professor of Art (1968).
- R. Gene Meyer, M.S., University of Illinois, Assistant Professor of Speech Communication (1965).
- Nicholas A. Michas, Ph.D., University of Illinois, Associate Professor of Economics (1973).
- Asenath A. Miller, Ph.D., University of Iowa, Assistant Professor of Psychology (1971).
- Elwyn R. Miller, Ph.D., University of Iowa, Professor of Education; Associate Director, Student Teaching (1956).
- Ethel B. Miller, Ed.D., George Peabody College for Teachers, Associate Professor of Education (1967).
- I. Marion Miller, Ph.D., Northwestern University, Professor of Chemistry; Chairman, Department of Chemistry (1968).
- George L. Miller, Ph.D., Claremont Graduate School, Professor of Finance (1966).
- Herbert F. Miller, Ph.D., Ohio State University, Professor of Mathematical Sciences (1953).
- James I. Miller, Jr., Ph.D., Harvard University, Associate Professor of English (1970).
- Joseph E. Milosh, Jr., Ph.D., University of Illinois, Professor of English (1970).
- Wallace B. Miner, M.A., Indiana University, Professor of Physics (1948).
- John L. A. Mitchell, Ph.D., Princeton University, Assistant Professor of Biological Sciences (1973).
- Sidney Mittler, Ph.D., University of Michigan, Professor of Biological Sciences (1960).
- Ronald J. Modell, M.Mus., University of Tulsa, Associate Professor of Music (1969).
- Khan A. Mohabbat, Ph.D., State University of New York (Buffalo), Associate Professor of Economics (1968).
- Margariete A. Montague, Ph.D., University of Wisconsin Madison, Assistant Professor of Mathematical Sciences (1973).
- J. Carroll Moody, Jr., Ph.D., University of Oklahoma, Associate Professor of History (1968).
- Douglas M. More, Ph.D., University of Chicago, Professor of Sociology (1968).

- Robert C. Morris, Ph.D., University of Wisconsin, Associate Professor of Geology (1964).
- Harriet B. Morrison, Ed.D., Boston University, Associate Professor of Education (1967).
- Harold F. Mosher, Jr., Ph.D., University of Texas, Associate Professor of English (1970).
- James H. Moss, Ed.D., Ball State University, Assistant Professor of Education (1970).
- William A. Moultrie, Ph.D., University of Iowa, Assistant Professor of Geography (1970).
- Lou J. Moyer, Ph.D., University of Iowa, Associate Professor of Physical Education for Women (1962).
- Clyde L. Moyers, Ed.D., Indiana University, Professor of Education (1966).
- Fred M. Mueller, Ph.D., University of Chicago, Visiting Professor of Physics (1969).
- Richard J. Mueller, Ph.D., University of Iowa, Professor of Education (1963).
- Joanna Mulder van-Haaster, *Doctorandus*, University of Amsterdam, Assistant Professor of Sociology (1968).
- Donald M. Murray, Ph.D., New York University, Professor of English (1956).
- Frederic W. Murray, Ph.D., University of New Mexico, Associate Professor of Foreign Languages and Literatures (1969).
- Margaret A. Murrin, C.A.G.S., Boston University, Associate Professor of Nursing (1968).
- Louis F. Mustari, M.A.E., Art Institute of Chicago, Assistant Professor of Art (1969).
- C. Mason Myers, Ph.D., University of Michigan, Professor of Philosophy (1959).
- Clark D. Neher, Ph.D., University of California, Associate Professor of Political Science (1969).
- Robert J. Nejedlo, Ph.D., University of Wisconsin, Associate Professor of Education (1967).
- Richard J. Nelson, J.D., Northwestern University, President of the University (1971).
- Robert H. Nelson, Ed.D., University of Northern Colorado, Professor of Education (1962).
- Marcella H. Nerbovig, Ph.D., University of Wisconsin, Professor of Education (1957).
- Darrell E. Newell, Ph.D., University of Iowa, Professor of Industry and Technology (1968).
- Theodore E. Newman, Ph.D., University of Iowa, Assistant Professor of Economics (1968).
- Peter J. Nicholls, Ph.D., Cambridge University, Visiting Assistant Professor of Mathematical Sciences (1971).
- Norman K. Nicholson, Ph.D., Cornell University, Associate Professor of Political Science (1965).
- Constance E. Nissen, C.A.G.S., Boston University, Associate Professor of Nursing (1961).
- Knut J. Norstog, Ph.D., University of Michigan, Professor of Biological Sciences (1966).
- Ralph S. Novak, Ph.D., University of Iowa, Professor of Management; Coordinator, Executive Development Program (1960).
- Francis J. Nowik, Ed.D., University of Northern Colorado, Associate Professor of Management; Acting Chairman, Department of Management (1961).
- G. Allan O'Connor, M.M., University of Illinois, Assistant Professor of Music (1968).
- Henry A. O'Connor, Ed.D., University of Missouri, Professor of Education (1956).
- Ira E. Odom, Ph.D., University of Illinois, Associate Professor of Geology (1964).
- William K. Ogilvie, Ed.D., Indiana University, Professor of Education (1955).
- Robert T. Olberg, Ed.D., Wayne State University, Professor of Education (1968).
- Garnet D. Olive, C.F.A., Ph.D., University of Iowa, Professor of Finance; Coordinator, Master of Business Administration Program (1964).
- Otto H. Olsen, Ph.D., Johns Hopkins University, Professor of History (1967).
- Donald Ostberg, Ph.D., University of California, Professor of Mathematical Sciences (1967).

- Heinz D. Osterle, Ph.D., Brown University, Associate Professor of Foreign Languages and Literatures (1972).
- Charlotte M. Otten, Ph.D., University of Michigan, Professor of Anthropology (1967).
- Ross A. Overbeek, Ph.D., Pennsylvania State University, Assistant Professor of Mathematical Sciences (1971).
- Blanche E. Owens, Ph.D., University of Iowa, Professor of Education (1960).
- Soae Paek, Ph.D., Texas Woman's University, Associate Professor of Home Economics (1967).
- John M. Palmer, Ph.D., Oklahoma State University, Assistant Professor of Mathematical Sciences (1973).
- Ronald A. Palmer, Ph.D., Southern Illinois University, Assistant Professor of Education (1970).
- Ellen S. Parham, Ph.D., University of Tennessee, Associate Professor of Home Economics (1966).
- M. Jack Parker, Ph.D., Southern Illinois University, Associate Professor of Speech Communication (1965).
- Carl P. Parrini, Ph.D., University of Wisconsin, Associate Professor of History (1965).
- L. Anne Payne, Ph.D., University of Iowa, Associate Professor of Physical Education for Women (1965).
- Joseph O. Pecenka, Ph.D., University of Illinois, Professor of Management (1967).
- Leonard P. Pecilunas, Ph.D., Florida State University, Associate Professor of Allied Health (1968).
- Lee B. Peck, M.F.A., University of Wisconsin, Assistant Professor of Art (1970).
- Albert R. Pender, Ph.D., University of North Dakota, Associate Professor of Business Education (1967).
- Nola J. Pender, Ph.D., Northwestern University, Associate Professor of Nursing (1969).
- Charles A. Pennel, Ph.D., University of Illinois, Professor of English; Director, Graduate Studies in English (1971).
- Carl Peraino, Ph.D., University of Wisconsin, Adjunct Associate Professor of Biological Sciences (1971).
- Eugene C. Perry, Jr., Ph.D., Massachusetts Institute of Technology, Associate Professor of Geology (1972).
- Joseph J. Pesek, Ph.D., University of California, Los Angeles, Assistant Professor of Chemistry (1971).
- Goodwin G. Petersen, M.A., Ohio State University, Assistant Professor of Industry and Technology (1964).
- Candida L. Peterson, Ph.D., University of California, Santa Barbara, Assistant Professor of Psychology (1971).
- Joan L. Peterson, Ph.D., University of Nebraska, Associate Professor of Education (1964).
- Elizabeth M. Pflaumer, Ph.D., Ohio State University, Assistant Professor of Speech Communication (1969).
- William D. Phillips, Ed.D., Columbia University, Professor of Special Education (1973).
- David M. Piatak, Ph.D., University of Maine, Associate Professor of Chemistry (1966).
- Sharon A. Plowman, M.S., University of Illinois, Assistant Professor of Physical Education for Women (1970).
- Edward L. Plumlee, D.B.A., Texas Tech University, Associate Professor of Management (1969).
- Donald E. Polzin, Ph.D., University of Iowa, Professor of Theatre Arts (1962).
- Frederick A. Poor, Ph.D., University of Minnesota, Associate Professor of Accountancy (1955).
- M. Joan Popp, Ph.D., University of Iowa, Associate Professor of Physical Education for Women (1959).
- Lawrence D. Porter, Ph.D., University of California, Los Angeles, Visiting Associate Professor of Geology (1972).
- Norman B. Potts, Ph.D., Indiana University, Assistant Professor of Theatre Arts (1969).
- Leonard L. Pourchot, Ed.D., University of Northern Colorado, Professor of Education (1962).
- Jon T. Powell, Ph.D., University of Oregon, Associate Professor of Speech Communication (1969).
- Marvin Powell, Ph.D., Syracuse University, Professor of Education (1961).

- Marvin A. Powell, Jr., Ph.D., University of Minnesota, Assistant Professor of History (1970).
- Michael J. Powers, Ph.D., Indiana University, Assistant Professor of Mathematical Sciences (1968).
- Kadaba V. Prahlad, Ph.D., University of Missouri, Professor of Biological Sciences (1966).
- Richard S. Preston, Ph.D., Yale University, Professor of Physics (1970).
- Eleanor M. Price, Ph.D., Cornell University, Professor of Education (1951).
- Granville Price, Ph.D., University of Missouri, Professor of Journalism (1962).
- Richard N. Price, D.Phil., University of Sussex, Associate Professor of History (1968).
- Wilbur F. Pursley, Ph.D., Eastman School of Music, University of Rochester, Associate Professor of Music (1964).
- Otho J. Quick, Ph.D., University of Minnesota, Professor of Industry and Technology (1956).
- Byron F. Radebaugh, Ed.D., University of Toledo, Professor of Education (1966).
- Yueh Erh Rahman, M.D., Louvain University (Belgium), Adjunct Assistant Professor of Biological Sciences (1971).
- Lawrence R. Rast, Ph.D., Northwestern University, Associate Professor of Music (1970).
- Gordon C. Rausser, Ph.D., University of California, Davis, Professor of Economics (1972).
- Christopher R. Reed, M.A., Roosevelt University, Assistant Professor of History (1971).
- John A. Rehfuss, D.P.A., University of Southern California, Associate Professor of Political Science; Director, Center for Governmental Studies (1969).
- Eldon A. Reiling, Ph.D., Michigan State University, Assistant Professor of Economics (1965).
- Martin Reinemann, Ph.D., Northwestern University, Professor of Geography (1947).
- Arthur Reissner, Ph.D., University of Chicago, Associate Professor of Foreign Languages and Literatures (1959).
- Clayton H. Reitan, Ph.D., University of Wisconsin, Assistant Professor of Geography (1971).
- Robert H. Renshaw, Ph.D., Michigan State University, Assistant Professor of Economics (1965).
- Albert Resis, Ph.D., Columbia University, Associate Professor of History (1964).
- Donald J. Reyes, Ed.D., University of Northern Colorado, Associate Professor of Education (1969).
- Rosalie D. Reynolds, Ph.D., University of Wyoming, Professor of Chemistry (1960).
- John K. Rhoads, Ph.D., University of Wisconsin, Associate Professor of Sociology (1966).
- Jerry R. Ridenhour, Ph.D., Arizona State University, Assistant Professor of Mathematical Sciences (1971).
- Ahmed K. Rifai, Ph.D., Syracuse University, Associate Professor of Management (1970).
- Glen W. Riffin, Ed.D., University of Illinois, Assistant Professor of Music; Assistant Chairman, Department of Music (1970).
- G. Glenn Riley, Ph.D., Southern Illinois University, Associate Professor of Education (1968).
- Mildred B. Ringo, Ph.D., University of Oregon, Associate Professor of Physical Education for Women (1966).
- David B. Ripley, Ph.D., University of Iowa, Assistant Professor of Education (1971).
- Thomas B. Roberts, Ph.D., Stanford University, Assistant Professor of Education (1970).
- Kiffin A. Rockwell, Ph.D., University of North Carolina, Associate Professor of History (1964).
- Catherine A. Rockwood, Ph.D., University of Chicago, Professor of Home Economics (1958).
- Robert H. Rodine, Ph.D., Purdue University, Associate Professor of Mathematical Sciences (1968).
- Winston L. Roesch, Ph.D., University of Michigan, Professor of Education (1962).
- Charles J. Rohde, Jr., Ph.D., Northwestern University, Professor of Biological Sciences (1946).

- Frederick W. Rolf, Ph.D., University of Iowa, Professor of Chemistry (1946).
- Doris Rolfe, Ph.D., University of Kansas, Assistant Professor of Foreign Languages and Literatures (1972).
- John H. Rooney, Jr., M.F.A., Syracuse University, Associate Professor of Art (1968).
- William J. Roscelli, Ph.D., Ohio State University, Professor of English (1971).
- Robert A. Rosemier, Ph.D., University of Iowa, Professor of Education (1967).
- Marvin S. Rosen, Ph.D., University of California, Berkeley, Associate Professor of History (1964).
- Thomas D. Rossing, Ph.D., Iowa State University, Professor of Physics (1971).
- Daniel N. Rubel, Ph.D., University of Michigan, Associate Professor of Geology (1964).
- Herbert J. Rubin, Ph.D., Massachusetts Institute of Technology, Assistant Professor of Sociology (1971).
- Morley E. Russell, Ph.D., University of Michigan, Associate Professor of Chemistry (1965).
- Robert W. Russell, Ph.D., Fletcher School of Law and Diplomacy, Tufts University, Assistant Professor of Political Science (1970).
- James A. Rutledge, Ph.D., Ohio State University, Professor of Education; Dean, Graduate School (1974).
- Michael Salovesh, Ph.D., University of Chicago, Assistant Professor of Anthropology (1970).
- Anthony E. Scaperlanda, Ph.D., University of Texas, Professor of Economics (1964).
- Byron S. Schaffer, Jr., Ph.D., Ohio State University, Professor of Theatre Arts (1964).
- Alfred A. Schilt, Ph.D., University of Illinois, Professor of Chemistry (1962).
- Marvin S. Schindler, Ph.D., Ohio State University, Professor of Foreign Languages and Literatures; Chairman, Department of Foreign Languages and Literatures (1971).
- Paul T. Schindler, Ph.D., Northwestern University, Assistant Professor of Sociology (1969).
- Ole A. Schjeide, Ph.D., University of California, Professor of Biological Sciences (1969).
- Fritz Schlenk, Ph.D., University of Berlin, Adjunct Professor of Biological Sciences (1971).
- Wesley I. Schmidt, Ed.D., Michigan State University, Professor of Education (1961).
- Robert W. Schneider, Ph.D., University of Minnesota, Professor of History (1961).
- Gertrude Schoenbohm, Ph.D., University of Iowa, Associate Professor of Foreign Languages and Literatures (1961).
- Richard C. Schreiber, Ph.D., University of Missouri, Assistant Professor of Journalism (1973).
- Martha E. Schreiner, *Docteur de l'Universite*, University of Paris, Professor of Foreign Languages and Literatures (1946).
- Mary S. Schriber, Ph.D., Michigan State University, Associate Professor of English (1967).
- Steven Schwartz, Ph.D., Syracuse University, Assistant Professor of Psychology (1971).
- Jordan A. Schwarz, Ph.D., Columbia University, Associate Professor of History (1965).
- David W. Scott, Ph.D., Northwestern University, Assistant Professor of Political Science (1968).
- Donald D. Scriven, Ph.D., University of Iowa, Professor of Accountancy; Coordinator, Computer Systems in Business (1969).
- Eldon G. Scriven, Ed.D., Cornell University, Professor of Education (1958).
- Georgia Scriven, Ed.D., Northern Illinois University, Associate Professor of Education (1969).
- Dorothy I. Seaberg, Ed.D., Wayne State University, Professor of Education (1964).
- William R. Seat III, Ph.D., Indiana University, Professor of English; Director, Freshman English (1954).
- Robert A. Sedlak, M.S.Ed., Pennsylvania State University, Professor of Special Education (1973).
- Mary L. Seguel, Ed.D., Teachers College, Columbia University, Associate Professor of Education (1957).

- John L. Selfridge, Ph.D., University of California, Los Angeles, Professor of Mathematical Sciences; Chairman, Department of Mathematical Sciences (1971).
- David B. Seligman, Ph.D., Duke University, Associate Professor of Philosophy; Chairman, Department of Philosophy (1971).
- Peter C. Senkowski, Ph.D., University of Iowa, Assistant Professor of Psychology (1971).
- George W. Senteney, Ed.D., University of Missouri, Professor of Industry and Technology (1955).
- S. Frederick Seymour, Ph.D., University of Chicago, Professor of Sociology; Chairman, Department of Sociology (1969).
- John C. Shaffer, Ph.D., University of Delaware, Associate Professor of Physics; Chairman, Department of Physics (1966).
- Mahboob Shahzaman, Ed.D., Teachers College, Columbia University, Professor of Art (1965).
- Harvey L. Shapiro, Ph.D., Purdue University, Associate Professor of Mathematical Sciences (1969).
- James R. Shawl, Ph.D., University of Washington, Assistant Professor of Foreign Languages and Literatures (1967).
- William M. Shearer, Ph.D., University of Denver, Professor of Speech Communication (1958).
- Edgar L. Sherbenou, Ph.D., University of Kansas, Associate Professor of Political Science (1959).
- Marion G. Sheriff, Ed.D., Teachers College, Columbia University, Associate Professor of Education (1964).
- Homer C. Sherman, Ph.D., University of Iowa, Professor of Education (1966).
- Sean N. Shesgreen, Ph.D., Northwestern University, Assistant Professor of English (1969).
- James R. Shirley, Ph.D., University of California, Associate Professor of History (1962).
- Georgiana W. Sie, Ph.D., University of Iowa, Professor of Home Economics (1964).
- Larry R. Sill, Ph.D., Iowa State University, Associate Professor of Physics; Associate Dean, College of Liberal Arts and Sciences (1964).
- Murray Simon, M.F.A., Art Institute of Chicago, Assistant Professor of Art (1970).
- Seymore Simon, Ph.D., University of California, Professor of Psychology (1961).
- Simon M. Simon, Ph.D., New York University, Associate Professor of Finance (1969).
- Edwin L. Simpson, Ed.D., Indiana University, Professor of Education (1968).
- Victor G. Simpson, Ed.D., Indiana University, Associate Professor of Industry and Technology (1967).
- Clarence A. Sims, Ph.D., University of Illinois, Associate Professor of Management (1961).
- Warren K. Sinclair, Ph.D., University of London, Adjunct Professor of Biological Sciences (1971).
- Wilson E. Singletary, Ph.D., University of Illinois, Professor of Mathematical Sciences; Director, Computer Science, Department of Mathematical Sciences (1971).
- Jack W. Skeels, Ph.D., University of Wisconsin, Professor of Economics (1963).
- Joyce G. Skeels, Ph.D., University of Wisconsin, Adjunct Assistant Professor of Economics (1973).
- Martin J. Sklar, M.A., University of Wisconsin, Assistant Professor of History (1969).
- John Skok, Ph.D., University of Chicago, Professor of Biological Sciences (1962).
- Charles A. Sloan, Ph.D., University of Iowa, Associate Professor of Education; Chairman, Department of Elementary Education (1972).
- Albert D. Smart, Ph.D., University of Illinois, Associate Professor of Marketing (1973).
- Charles W. Smith, Ed.D., Pennsylvania State University, Associate Professor of Education (1967).
- Elwood L. Smith, D.M., Indiana University, Associate Professor of Music (1965).
- Harold E. Smith, Ph.D., Cornell University, Professor of Sociology (1957).
- J. Harvey Smith, Ph.D., University of Wisconsin, Assistant Professor of History (1970).
- Lois A. Smith, Ed.D., Michigan State University, Associate Professor of Education (1967).

- Miriam L. Smith, Ed.D., Pennsylvania State University, Assistant Professor of Home Economics (1968).
- Richard B. Smith, Ed.D., Michigan State University, Professor of Education (1968).
- Wilbur A. Smith, Ph.D., University of Southern California, Professor of Music (1949).
- Linda Sons, Ph.D., Cornell University, Associate Professor of Mathematical Sciences (1967).
- John C. Soper, Ph.D., University of Massachusetts, Assistant Professor of Economics; Coordinator, Office of Economic Education (1972).
- Paul D. Sorensen, Ph.D., University of Iowa, Assistant Professor of Biological Sciences (1970).
- Lev I. Soudek, Ph.D., Charles University, Prague, Professor of English (1969).
- William E. Southern, Ph.D., Cornell University, Professor of Biological Sciences (1959).
- Larry K. Sowder, Ph.D., University of Wisconsin, Assistant Professor of Mathematical Sciences (1969).
- Charles W. Spangler, Ph.D., University of Maryland, Associate Professor of Chemistry (1965).
- Gladys R. Spargo, Ph.D., Northwestern University, Assistant Professor of Library Science (1966).
- Larry Speelman, Ph.D., Ohio State University, Assistant Professor of Education (1971).
- William R. Speer, Ed.D., University of Northern Colorado, Associate Professor of Education (1963).
- Elaine G. Spencer, Ph.D., University of California, Assistant Professor of History (1967).
- George W. Spencer, Ph.D., University of California, Associate Professor of History (1967).
- Sherman M. Stange, Ph.D., University of Colorado, Associate Professor of Philosophy (1968).
- William D. Stark, Ed.D., Pennsylvania State University, Associate Professor of Outdoor Teacher Education (1968).
- John D. Starkey, Ed.D., University of Northern Colorado, Professor of Education (1967).
- Roberta J. Starkey, Ed.D., Texas Tech University, Professor of Education (1967).
- Marvin J. Starzyk, Ph.D., University of Wisconsin, Associate Professor of Biological Sciences (1966).
- Allen E. Staver, Ph.D., University of Wisconsin, Assistant Professor of Geography (1969).
- Paul O. Steg, D.M.A., Boston University, Professor of Music (1961).
- Karl H. Stein, Ph.D., New York University, Professor of Marketing (1973).
- Leslie Sternberg, Ph.D., University of Connecticut, Assistant Professor of Special Education (1973).
- George P. Stevens, Ph.D., University of Wisconsin, Professor of Geography (1950).
- Daniel K. Stewart, Ph.D., Michigan State University, Associate Professor of Marketing (1970).
- J. Douglas Stewart, M.F.A., Ohio University, Associate Professor of Art (1967).
- Manard Stewart, Ph.D., University of Oregon, Assistant Professor of Psychology (1970).
- Lewis F. Stieg, Ph.D., University of Chicago, Professor of Library Science; Chairman, Department of Library Science (1972).
- Gerald D. Stormer, Ph.D., Tulane University, Assistant Professor of Philosophy (1970).
- Cecil G. Strawn, Jr., M.F.A., Southern Illinois University, Associate Professor of Art (1953).
- Francis E. Stroup, Ed.D., University of Southern California, Professor of Physical Education for Men (1959).
- John A. Struzzo, Ph.D., Florida State University, Assistant Professor of Sociology (1970).
- Lucien H. Stryk, M.F.A., University of Iowa, Professor of English (1958).
- John S. Stuckless, Ph.D., Stanford University, Assistant Professor of Geology (1972).
- Robert W. Suchner, Ph.D., University of Wisconsin, Assistant Professor of Sociology (1970).
- Joseph Suhadolc, *Dottore in Lingue e Letterature Straniere*, University of Venice, Professor of Foreign Languages and Literatures (1959).

- Virtus W. Suhr, Ph.D., Iowa State University, Professor of Industry and Technology; Assistant to the Dean, College of Continuing Education (1962).
- Howard A. Swan, Jr., Ph.D., University of Iowa, Associate Professor of Education; Director, Learning Center (1966).
- Malcolm D. Swan, Jr., Ed.D., University of Montana, Professor of Outdoor Teacher Education (1965).
- Janet E. Swayne, M.Ed., Pennsylvania State University, Assistant Professor of Home Economics (1967).
- Mary Swynehardt, Ed.D., University of Colorado, Professor of Art (1947).
- Edward F. Syrek, M.F.A., University of Wisconsin, Associate Professor of Art (1960).
- Genevieve B. Syverson, Ph.D., University of Michigan, Professor of Education (1960).
- Ryland Taylor, Ph.D., University of Notre Dame, Associate Professor of Economics (1967).
- David R. Terry, Ph.D., University of Illinois, Associate Professor of Allied Health; Director, School of Allied Health (1973).
- Robert L. Thistlethwaite, Ph.D., University of Iowa, Professor of Finance; Dean, College of Business (1954).
- M. Ladd Thomas, Ph.D., Fletcher School of Law and Diplomacy, Tufts University, Professor of Political Science (1963).
- Michael L. Thompson, Ed.D., University of Arkansas, Professor of Education; Acting Associate Dean, Graduate School (1960).
- Russell C. Thompson, Ph.D., University of Utah, Assistant Professor of Mathematical Sciences (1973).
- John F. Thomson, Ph.D., University of Chicago, Adjunct Professor of Biological Sciences (1971).
- David V. Tiedeman, Ed.D., Harvard University, Professor of Education (1973).
- Lee-Hsia Ting, Ph.D., University of Chicago, Assistant Professor of Library Science (1973).
- A. Kerby Tink, Ph.D., Northwestern University, Professor of Education (1957).
- Eleanor L. Tipton, Ed.D., Teachers College, Columbia University, Associate Professor of Music (1965).
- Andrew G. Torok, Ph.D., Case Western Reserve University, Assistant Professor of Library Science (1973).
- George L. Trager, Ph.D., Columbia University, Professor of Anthropology (1971).
- Stanley M. Trail, Ph.D., Oklahoma State University, Associate Professor of Mathematical Sciences; Assistant Chairman, Department of Mathematical Sciences (1967).
- DeWayne R. Triplett, Ed.D., University of Nebraska, Professor of Education (1965).
- Carol M. Troescher, Ed.D., Indiana University, Assistant Professor of Education; Conference Bureau (1953).
- Peter Tsao, Ph.D., Texas A & M University, Associate Professor of Physics (1958).
- Chipei P. Tseng, Ph.D., University of Iowa, Associate Professor of Finance (1967).
- Basil Tsotsis, Ph.D., University of Wisconsin, Adjunct Professor of Biological Sciences (1972).
- Charles O. Tucker, Ph.D., Ohio State University, Associate Professor of Speech Communication (1965).
- John H. Ulrich, Ph.D., University of Iowa, Professor of Theatre Arts (1963).
- Harley M. Upchurch, Ph.D., Louisiana State University, Assistant Professor of Sociology (1969).
- Richard T. Vacca, Ph.D., Syracuse University, Assistant Professor of Education (1973).
- Francis C. Valette, Ph.D., University of Illinois, Associate Professor of Foreign Languages and Literatures (1972).
- Franklin D. Van Buer, Ph.D., University of Illinois, Assistant Professor of Economics; Assistant Provost (1966).
- Gustaaf Van Cromphout, Ph.D., University of Minnesota, Associate Professor of English (1968).
- H. John Van Duyne, Ed.D., University of Rochester, Associate Professor of Education (1969).
- Johanna Van Lente, Ph.D., Northwestern University, Assistant Professor of Foreign Languages and Literatures (1968).
- Elston W. Van Steenburgh, Ph.D., University of Michigan, Associate Professor of Philosophy (1969).

- Joe W. Vaughn, Ph.D., University of Kentucky, Professor of Chemistry (1961).
- Nancy M. Vedral, Ed.D., Indiana University, Associate Professor of Education (1969).
- Clive C. Veri, Ph.D., University of Nebraska, Professor of Education; Dean, College of Continuing Education (1973).
- Jack R. Villmow, Ph.D., University of Wisconsin, Professor of Geography (1968).
- Richard F. Vlasak, Ed.D., University of Illinois, Assistant Professor of Education (1970).
- Alan M. Voelker, Ph.D., University of Wisconsin—Madison, Associate Professor of Education (1973).
- Bruce W. Von Zellen, Ph.D., Duke University, Associate Professor of Biological Sciences (1959).
- Paul D. Voth, Ph.D., University of Chicago, Professor of Biological Sciences (1970).
- Sudha P. Wadhwa, Ph.D., University of Wisconsin, Assistant Professor of Home Economics (1972).
- David L. Wagner, Ph.D., University of Michigan, Assistant Professor of History (1962).
- Hugh G. Wales, Ph.D., Northwestern University, Professor of Marketing (1971).
- Albert Walker, Ph.D., Case Western Reserve University, Associate Professor of Journalism (1967).
- Donald L. Walker, M.S., Juilliard School of Music, Associate Professor of Music (1967).
- James C. Warner, Ed.D., University of Missouri, Professor of Industry and Technology; Chairman, Department of Industry and Technology (1962).
- Chester R. Wasson, Ph.D., University of Minnesota, Professor of Marketing (1967).
- Allen D. Weaver, Ph.D., New York University, Professor of Physics (1955).
- Robert B. Webb, Ph.D., University of Oklahoma, Adjunct Professor of Biological Sciences (1971).
- Maurice J. Weed, Ph.D., Eastman School of Music, University of Rochester, Professor of Music (1954).
- Dale H. Weeks, Ph.D., University of Nebraska, Associate Professor of Economics (1957).
- Jack Weiner, Ph.D., Indiana University, Associate Professor of Foreign Languages and Literatures (1970).
- Malcolm P. Weiss, Ph.D., University of Minnesota, Professor of Geology (1967).
- John F. Wellman, Ph.D., University of Michigan, Assistant Professor of Speech Communication (1969).
- Harold P. Wells, Ph.D., University of Illinois, Associate Professor of Physical Education for Men (1964).
- Philip C. Wells, Ed.D., Indiana University, Professor of Education (1956).
- Philip S. Wells, Ed.D., Teachers College, Columbia University, Associate Professor of Art; Assistant Dean, College of Fine and Applied Arts (1968).
- Willard Welsh, Jr., Ph.D., Stanford University, Professor of Theatre Arts (1959).
- Robert L. Wendel, Ed.D., University of Northern Colorado, Associate Professor of Education (1968).
- Manfred W. Wenner, Ph.D., Johns Hopkins University, Associate Professor of Political Science (1969).
- Walter Wernick, Ed.D., Teachers College, Columbia University, Professor of Education (1957).
- Ruth E. Westlund, Ph.D., University of Minnesota, Professor of Education; Counselor, College of Business (1959).
- Thomas E. Wheat, Ed.D., Ball State University, Assistant Professor of Education (1970).
- Robert F. Wheeler, Ph.D., University of Missouri, Assistant Professor of Mathematical Sciences (1972).
- Wallace J. Wheeler, Ed.D., Northwestern University, Professor of Education (1960).
- Bruce White, Ed.D., Teachers College, Columbia University, Professor of Art (1967).
- Conard L. White, Ph.D., University of Illinois, Assistant Professor of Industry and Technology (1970).
- J. Patrick White, Ph.D., University of Michigan, Associate Professor of History; Assistant Chairman, Department of History (1961).

- Thomas C. Wiegele, Ph.D., University of Pennsylvania, Associate Professor of Political Science (1969).
- Morris Wiener, Ed.D., Michigan State University, Professor of Outdoor Teacher Education (1963).
- William L. Wilbur, Ph.D., University of North Carolina, Associate Professor of Finance (1968).
- Raymond D. Wilderman, Ph.D., University of Iowa, Associate Professor of Speech Communication (1955).
- Eddie R. Williams, Ph.D., Columbia University, Assistant Professor of Mathematical Sciences (1970).
- J. David Williams, Ph.D., University of Iowa, Associate Professor of Speech Communication (1959).
- William P. Williams, Ph.D., Kansas State University, Associate Professor of English (1967).
- Vernon L. Wills, Ed.D., University of Missouri, Professor of Education (1968).
- Constance Wilson, Ph.D., Cornell University, Assistant Professor of History (1967).
- David C. Wilson, Ph.D., Rutgers University, Associate Professor of Mathematical Sciences (1970).
- Quintus C. Wilson, Ph.D., University of Minnesota, Professor of Journalism (1969).
- Robert S. Wilson, Ph.D., Brown University, Assistant Professor of Chemistry (1969).
- Carol K. Winkley, Ph.D., University of Chicago, Professor of Education (1965).
- Jerome E. Winn, P.E.D., Indiana University, Professor of Physical Education for Men (1948).
- Richard A. Wiste, Ph.D., University of California, Assistant Professor of Political Science (1970).
- Daniel Wit, Ph.D., Princeton University, Professor of Political Science; Director, International and Special Programs (1961).
- How-Kin Wong, Ph.D., University of Hong Kong, Associate Professor of Geology (1971).
- Charles Wood, Ph.D., London University, Professor of Physics (1967).
- Joseph M. Wood III, M.F.A., Yale University, Associate Professor of Art (1968).
- Margaret L. Wood, Ph.D., University of Iowa, Professor of Speech Communication (1949).
- A. Bond Woodruff, Ph.D., Ohio State University, Professor of Psychology (1959).
- Ruth B. Wooschlager, Ed.D., Northwestern University, Professor of Business Education (1960).
- Marvin C. Wunderlich, Ph.D., University of Colorado, Professor of Mathematical Sciences (1967).
- Henry G. Yankow, Ph.D., Northwestern University, Professor of Education; Coordinator, School Business Management (1958).
- Alfred F. Young, Ph.D., Northwestern University, Professor of History (1964).
- Robert J. Young, Jr., Ph.D., University of Wisconsin, Associate Professor of Foreign Languages and Literatures (1971).
- Wayne A. Youngquist, M.A., Rutgers University, Assistant Professor of Sociology (1970).
- Thomas A. Zachman, Ph.D., University of Oklahoma, Associate Professor of Speech Communication (1968).
- Jerrold H. Zar, Ph.D., University of Illinois, Associate Professor of Biological Sciences (1968).
- Stanislaw K. Zaremba, D.M., University of Wilno (Lithuania), Professor of Mathematical Sciences (1973).
- Robert L. Zarrow, Ph.D., Cornell University, Assistant Professor of Mathematical Sciences (1972).
- Sarah H. Zeeman, M.S., St. Xavier College, Assistant Professor of Nursing (1968).
- Anton Zettl, Ph.D., University of Tennessee, Professor of Mathematical Sciences (1969).
- M. Nadine Zimmerman, Ph.D., University of Wisconsin, Professor of Physical Education for Women (1958).
- Philip H. Zoldester, Ph.D., University of Minnesota, Associate Professor of Foreign Languages and Literatures (1972).

Development and Alumni Relations

Development and Alumni Relations Offices

These offices are located in Lowden Hall 107 and 109. The staff is responsible for working with such constituent groups of the University as alumni, students, parents of students, faculty and staff, the business and industrial community, citizens of northern Illinois, and other friends of NIU.

The programs of development and alumni relations are designed to keep these constituencies informed about the programs and progressive development of NIU, to offer them opportunities to participate in these programs, and to encourage their moral, influential, and financial support of the University. This cultivation and educational fund-raising program revolves around NIU alumni, the oldest and largest constituent group. This office maintains the records for NIU alumni.

Alumni and friends of Northern may make gifts in various ways through wills and bequests, insurance plans, trust funds, property, or other tangible forms. Gifts to the University from private sources should be channelled through the Office of Development and the Northern Illinois University Foundation.

Alumni Association

The Northern Illinois University Alumni Association is an organization of graduates and former students which fosters a continuing relationship with their university. The association is dedicated to serve Northern by providing a program which enhances communication and support of alumni for the University. The Alumni Association program includes campus events at Homecoming, All-Alumni Weekend, and May Fete; class reunions; area meetings; continuing education programs; alumni publications; alumni achievement awards; scholarships and grants for undergraduates; graduate fellowships; and alumni records. Active membership is available to all graduates, former students, faculty, and friends of the University who contribute to the University through the association.

The Alumni Association is located in 107 Lowden Hall as part of the Alumni Relations Office. The Director of Alumni Relations works with a policy-making body of elected alumni who serve on the Alumni National Board of Directors. The Alumni Association works closely with the NIU Foundation, which is established to receive major gifts for Northern's development as an institution of higher education.

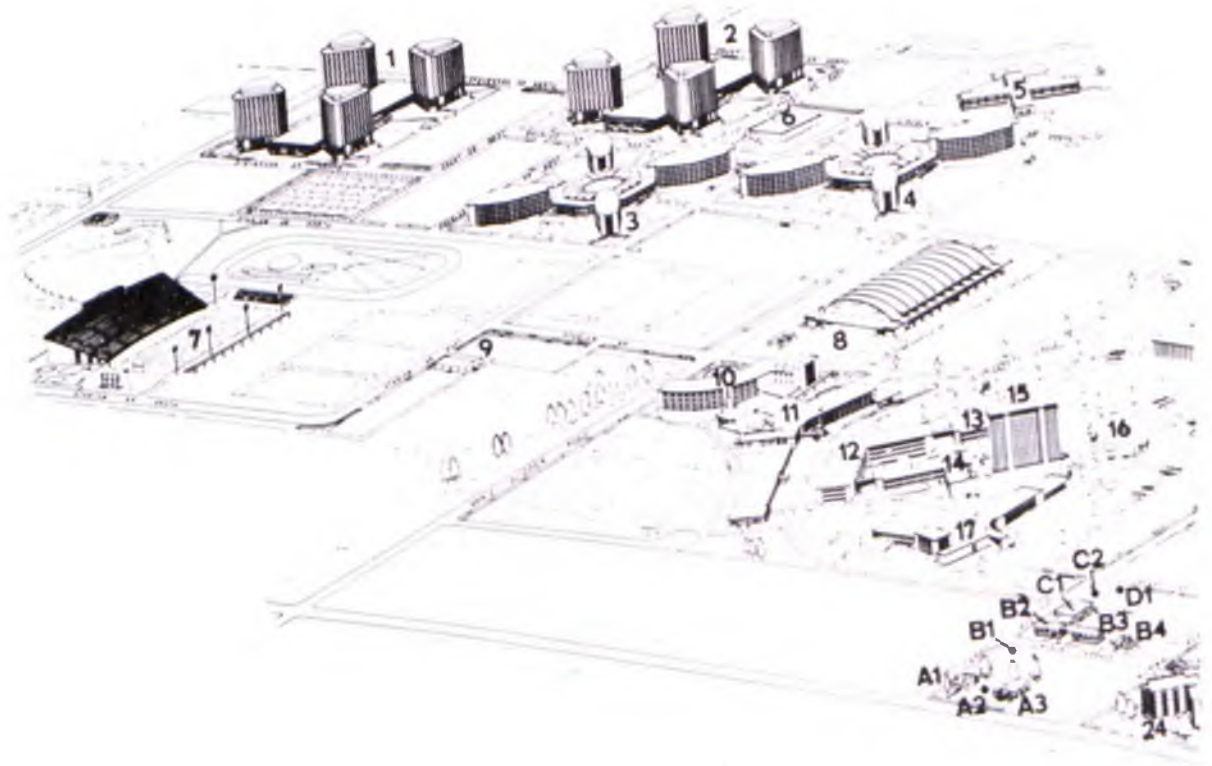
Northern Illinois University Foundation

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 Vice President for Development and Alumni Relations, the Vice President for Business Affairs, the Vice President and Provost, 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 of Development serves as the Executive Director of the foundation. The foundation serves as the education 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 Student Financial Aids, enables deserving students to borrow, at a low rate of interest, on personal notes.

Additional information may be secured through the Office of Development.



CAMPUS MAP

Northern Illinois University

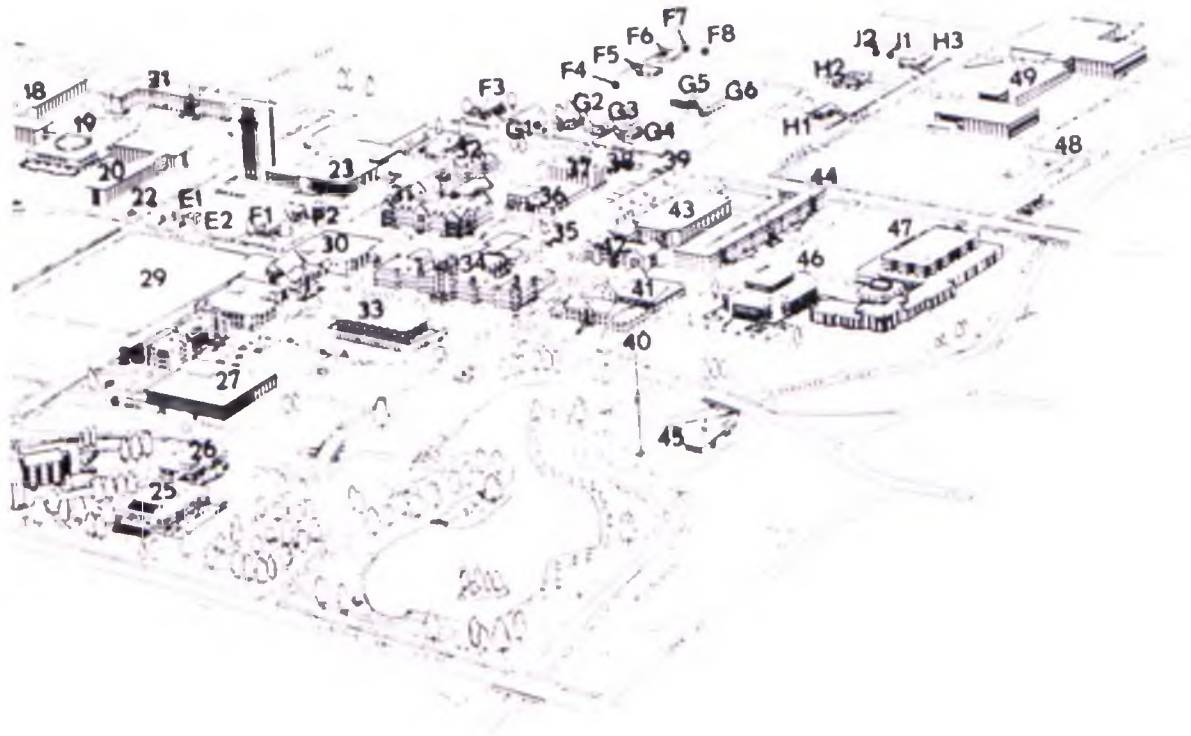
INDEX

Adams Hall 32
 Altgeld Hall 34
 Anderson Hall 49
 Campbell Hall 45
 Computer Bldg. 9
 Davis Hall 28
 Douglas Res. Hall 3
 East Heating Plant 35
 Faraday Hall 27

Field House 8
 Fine Arts Bldg. 17
 Gilbert Res. Hall 44
 Graham Hall 10
 Grant Towers Res. Hall 2
 Gurler School 11
 Health Center 37
 Industry & Technology Bldg. 40
 Lincoln Res. Hall 4
 Lowden Hall 33
 McMurry Hall 42
 Montgomery Hall 25
 Music Bldg. 47

Neptune Central Res. Hall 19
 Neptune East Res. Hall 20
 Neptune North Res. Hall 21
 Neptune West Res. Hall 18
 Nursing, School of 26
 Postal Station 22
 Psych-Math Bldg. 24
 Psychology Laboratory 48
 Reavis Hall 13
 Reavis-Watson Lecture Hall 16
 Reavis West 12
 Security & Communications Bldg. 36
 Speech & Hearing Annex 39

Speech & Hearing Clinic 38
 Stadium 7
 Stevenson Towers Res. Hall 1
 Still Gym 41
 Swen Parson Library 30
 University Apartments 5
 University Center 23
 University Library (under const.) 29
 Visual Arts Bldg. 46
 Watson East 15
 Watson Hall 14
 West Heating Plant 6
 Williston Hall 31
 Wirtz Hall 43



Temporary Buildings:

- A-1 627 Lincoln Hwy.
- A-2 623 Lincoln Hwy.
- A-3 621 Lincoln Hwy.
- B-1 630 Lincoln Terrace
- B-2 629 Lincoln Terrace
- B-3 615 Lincoln Terrace
(Personnel and Insurance)
- B-4 605 Lincoln Terrace
- C-1 140 Carroll Ave.
- C-2 146 Carroll Ave.
- D-1 620 Locust St.
- E-1 627 College Ave.

- E-2 625 College Ave.
- F-1 305 Normal Rd.
- F-2 313 Normal Rd.
(Ombudsman)
- F-3 401 Normal Rd.
- F-4 428 Normal Rd. (Educational
Administration Center)
- F-5 432 Normal Rd.
(Honors Program)
- F-6 436 Normal Rd.
- F-7 438 Normal Rd. (Northern
Star Business Office)
- F-8 440 Normal Rd.

- G-1 557 Lucinda Ave.
- G-2 549 Lucinda Ave.
(Northern Yearbook)
- G-3 543 Lucinda Ave.
(College of Business Annex)
- G-4 535-1 Lucinda Ave.
(Minority Studies Center)
- G-5 535-2 Lucinda Ave.
- G-6 535-3 Lucinda Ave.
- H-1 429 Garden Rd.
- H-2 501 Garden Rd.
- H-3 515 Garden Rd. (Music Annex)
- J-1 540 College View Ct.
- J-2 520 College View Ct.

Index

- Academic dismissal, 13
 on failure to be admitted to candidacy for
 doctoral degrees, 22
- Academic load, 11
- Academic standing, 13
- Accountancy, Department of, 181
- Accountancy (specialization), 176
- Accreditation and affiliation of University, 6
- Admission
 to Graduate School, 9-10
 to master's degree programs, 14
 to M.B.A., 16
 to M.F.A., 17
 to C.A.S., 18
 to doctoral programs, 20
 to teacher education, 145
- Admission Test for Graduate Study in Business
(ATGSB), 10, 174
 fee for, 25
- Adviser (advisory committee)
 master's degrees, 14
 M.B.A., 16
 C.A.S., 19
- Alumni Association, 225
- Alumni relations, 225
- American government and politics, 93
- American history, 68, 73
- American literature, 54, 56
- Anthropology, Department of, 34
- Apartments, 29
- Application
 for admission to Graduate School, 9
 for graduate assistantship, 27
- Application fee, 26
- Applied mathematics, 81
- Art, Department of, 120
- Art education, 120
- Art history, 120
- Art teaching, 120
- Asian history, 68, 70
- Asian languages, 59
- Assistantships, 27
 application for, 27
- Auditing, auditors, 11
- Automobiles on campus, 31
- Biological Sciences, Department of, 37
- Biopsychology, 102
- Board of Regents, inside front cover
- British history, 68, 71
- Business, College of, 173
- Business, graduate programs in, 174
- Business, special programs in, 196
- Business administration, graduate study in, 174
- Business Education, Department of, 183
- Business education, graduate study in, 178
- Calendar, 2
- Campus, map of, 226
- Candidacy, admission to, for doctoral degrees,
22
- Candidacy examination for doctoral degrees, 22
- Center for Governmental Studies, 197
- Center for Southeast Asian Studies, 198
- Certificate of Advanced Study (C.A.S.)
 programs, 8
 requirements for, 18-20
- Certification
 teacher's, 30
 as requirement for M.S.Ed. degree, 144
- Chemistry, Department of, 42
- Child development—nursery school education
(home economics), 125-126. *Also see* De-
partments of Education.
- Clinical psychology, 102
- Communication, mass. *See* Departments of
Journalism and Speech Communication
- Community health nursing, 158
- Community Mental Health, Master of Science
 with a major in, 201
- Comparative politics, 93
- Comprehensive examination
 master's degrees, 15
 M.B.A., 17
 C.A.S., 20
- Computer science, 81
- Continuing Education. *See* Extension credit
and Extension students, fees for
- Counseling Center, 29
- Counselor education, 143, 146
- Course load, 11
- Courses, graduate. *See* individual departmental
listings
- Credit, graduate courses carrying
 master's degree, 15
 M.B.A., 17
 C.A.S., 19
- Credit requirements
 master's degrees, 4
 M.B.A., 16
 M.F.A., 18
 C.A.S., 18
 doctoral degrees, 21
- Curriculum and supervision (specialization),
143, 146
- Defense of doctoral dissertation, 22
- Deficiencies, 11
 removal of before admission to candidacy
 for graduate degrees
 for master's degrees, 15
 for M.B.A., 16
 for C.A.S., 19
- Degrees offered, 7-8
 requirements for, 14-23
- Design. *See* Department of Art
Developmental psychology, 102
- Directory for correspondence, inside back cover
- Dismissal, academic
 See Academic dismissal
- Dissertation, doctoral, 22-23
 fee for, 25
- Doctoral programs, 8
 requirements for, 20-23
- Doctor of Education degree
 programs, 8
 requirements for, 20-23
- Doctor of Philosophy degree
 programs, 8
 requirements for, 20-23
- Dormitories, 29
- Early childhood education, 126, 144
- Earth sciences. *See* Departments of Geography
and Geology
- Economics, Department of, 47
- Ed.D. *See* Doctor of Education
- Education, College of, 141
- Education, Departments of, 142
- Education, early childhood, 126, 144
- Educational administration (specialization).
143, 146
- Educational Administration and Services. De-
partment of, 142
- Educational psychology, 147
- Elementary education (specialization), 143,
146
- Elementary Education, Department of, 142
- Empirical theory and behavior (political sci-
ence), 93
- Employment
 for graduates, 30
 for spouses of students, 31
- Encumbrances, 26-27
- English, Department of, 53
- English language, 54, 55
- English literature, 55
- European history, 68, 71
- Examination(s)
 candidacy, for doctoral degrees, 22
 comprehensive, for master's degrees, 15

- comprehensive, for M.B.A., 17
 final, for C.A.S., 20
 language proficiency, 21
 qualifying, for C.A.S., 20
 qualifying, for doctoral degrees, 22
 required for admission, 10
- Expenses, 24-25
- Extension credit allowed
 for master's programs, 14
 for M.B.A., 16
 for C.A.S., 19
 for doctoral programs, 21
- Extension students, fees for, 25
- Faculty, graduate, 202
- Fees, 24-26
- Fellowships, 27
- Final examination for C.A.S., 20
- Finance, Department of, 186
- Finance (specialization), 176
- Financial aids, 27-28
- Fine and Applied Arts, College of, 119
- Foreign Languages and Literatures, Department of, 57
- Foreign students, 9
- Foreign study programs, 199
 in history, 69
- French, 57
- Geography, Department of, 60
- Geology, Department of, 64
- German, 58
- Governmental Studies, Center for, 197
- Grade-point average (honor-point average)
 computation of, 13
 minimum required for admission to graduate programs, 9
 minimum required for master's degree, 14
 for M.B.A., 16
 for M.F.A., 17
 for C.A.S., 18
 for doctoral degrees, 20
- Grading system, 12-13
- Graduate assistantships, 27
- Graduate Council, inside front cover
- Graduate credit for seniors, 44
- Graduate Record Examinations (GRE), 10
 fees for, 25
- Graduate School, 7
 offices of, inside front cover
- Graduation
 application dates. *See* Calendar
 fee for, 25
- Grants-in-aid, 28
- Handicapped, teaching of (special education), 167
- Health Service, 29
- History, Department of, 67
- History of the Graduate School and of the University, 6
- History and philosophy of education, 144
- Home Economics, Department of, 125
- Home economics education, 126
- Honor-point average. *See* Grade-point average
- Housing, 29
- Illinois Guaranteed Loan Program, 28
- Incompletes, 12
- Industrial relations (economics), 48
- Industry and Technology, Department of, 130
- Instructional media, 144
- Insurance
 fees, 24
 major medical coverage, 29
- International and foreign study programs, 199
- International business, 179, 196
- International relations, 93
- Internship programs in education, 140
- Intra Business, 197
- Italian, 57
- Junior college teaching, preparation for (College of Business), 180
- Journalism, Department of, 76
- Language proficiency examinations, 21
 fees for, 25
- Language requirements
 doctoral degrees, 21
 master's degrees, *see* major department
- Latin, 59
- Latin American history, 68, 75
- Learning and performance (psychology), 102
- Learning disabilities, 167
- Leave of absence
 for master's degrees, 15
 for M.B.A., 17
 for M.F.A., 18
 for C.A.S., 20
 for doctoral degrees, 23
- Liberal Arts and Sciences, College of, 33
- Libraries, 6
- Library Science, Department of, 78
- Limitation of time
 for master's degrees, 15
 for M.B.A., 17
 for M.F.A., 18
 for C.A.S., 19
 for doctoral degrees, 21
- Linguistics, 55
- Literature. *See* Departments of English and Foreign Languages and Literatures
- Loans, 27-28
- Management, Department of, 189
- Management (specialization), 177
- Manpower studies (economics), 47
- Map of campus, 226
- Marketing, Department of, 191
- Marketing (specialization), 177
- Marriage and family relations, 126
- Mass communication. *See* Departments of Journalism and Speech Communication
- Master of Arts (M.A.)
 programs, 7
 requirements for, 14-16
- Master of Arts in Public Affairs (M.A.P.A.), 7,
 101
 requirements for, 14-16
- Master of Business Administration (M.B.A.)
 programs, 7
 requirements for, 16-17
- Master of Fine Arts (M.F.A.)
 programs, 8
 requirements for, 17-18, 121
- Master of Music (M.M.)
 programs, 7
 requirements for, 14-16
- Master of Science
 programs, 7
 requirements for, 14-16
- Master of Science in Business Administration (M.S.) programs, 7, 175
- Master of Science with a major in Community Mental Health
 programs, 7
 requirements for, 201
- Master of Science in Education (M.S.Ed.)
 programs, 7
 requirements for, 14-16
- Master's degree programs, 7
 requirements for, 15-17
- Maternal and child health nursing, 158
- Mathematical Sciences, Department of, 81
- Mathematics education, 82
- Matriculation, 11
 deferment in, 11
- Medical care, 29
- Medical insurance, 29
 fee for, 24, 29
- Medical-surgical nursing, 158
- Mental Health (Community), Master of Science
 with a major in, 201

- Military Science, Department of, 200
 Motor vehicles, on campus, 30
 Music, Department of, 135
 Music
 education, 135
 education and research, 138
 history and literature, 135
 performance and pedagogy, 136
 theory and composition, 135
- National Direct Student Loan Program, 27
 Northern Illinois University Foundation, xxx
 Nursing, School of, 158
 Nursing administration, 158
 Nursery school education, 124, 142, 144
 Nutrition and dietetics, 126
- Off-campus housing, 29
 One-man show
 in art, 120, 121
 in textile and clothing design (home economics), 126
 for M.F.A., 18
 Oral defense of doctoral dissertation, 22
 Outdoor Teacher Education, Department of, 160
 Out-of-state students, fees for, 24-25
 definitions of residency, 25
- Parking on campus, 31
 Part-time students, fees for, 24-25
 Personality (psychology), 102
 Petition, procedure for, 13
 Ph.D. *See* Doctor of Philosophy
 Philosophy, Department of, 87
 Physical Education for Men, Department of, 162
 Physical Education for Women, Department of, 164
 Physical examination, required for admission, 10
 Physics, Department of, 90
 Placement Bureau, 30
 Political Science, Department of, 93
 Political theory, 93
 Portuguese, 58
 Probability and statistics (mathematical sciences), 82
 Program, planning of, 10
 Programs, graduate, 7-8
 requirements for, 14-23
 Psychology, Department of, 102
 Public Affairs, Master of Arts in, 101
 Public administration (political science), 93
- Publications of Graduate School, 8
 Public law (political science), 93
 Pure mathematics, 81
- Qualifying examination
 C.A.S., 20
 doctoral degrees, 22
- Reading (specialization), 143
 Records (student), policy on release of information, 13
 Recreational facilities, 31
 Refunds of fees, 26
 Registration, 11
 registration, continued, in thesis and dissertation courses
 for master's programs, 15
 for M.B.A., 17
 for M.F.A., 18
 for C.A.S., 20
 for doctoral programs, 22-23
- Requirements for graduate degrees
 master's degrees, 14-18
 C.A.S., 18-20
 doctoral degrees, 20-23
- Research-tool requirements for doctoral degrees, 21
 Residence, definition of (for payment of out-of-state tuition), 25-26
 Residence halls, 29
 Residence requirement
 for master's degrees, 14
 for M.B.A., 17
 for doctoral degrees, 21
- Responsibility of student, 13
 ROTC (Department of Military Science), 200
 Russian, 59
 Russian history, 68, 75
- Safety (industry and technology), 131, 133
 School business management, 142, 143, 146, 196
 School psychology, 102
 Secondary professional education (specialization), 143, 144, 146
 Secondary Professional Education, Department of, 142
 Seminars, University, 201
 Sociology, Department of, 107
 Southeast Asian Studies, Center for, 198
 Spanish, 57
 Special Education, Department of, 167
 Special programs
 allied health, 201
- business, 196
 foreign study, 199
 governmental studies, 197
 military science, 200
 Southeast Asian studies, 198
 University Seminars, 201
- Speech and Hearing Clinic, 30
 Speech Communication, Department of, 110
 Speech pathology and audiology, 110, 113
 Standing, academic, 13
 Statistics, probability and (mathematical sciences), 82
 Student-at-large, 10
 Student records, policy on, 13
 Student teaching (teacher education), 30, 145
 Studio emphasis (art), 120
- Teacher education, 145
 Teaching assistantships, 27
 Test of English as a Foreign Language (TOEFL), 9
 Textiles and clothing, 126
 Theatre Arts, Department of, 115
 Thesis
 master's degrees, 15
 M.B.A., 17
 C.A.S., 20
- Time, limitation of. *See* Limitation of time
 Traineeships, 27
 Transcripts, fee for, 25
 Transfer credit
 for master's degrees, 14
 for M.B.A., 16
 for C.A.S., 19
 for doctoral degrees, 21
- Tuition and Fees, 24-26
- United States history, 68, 73
 University Counseling Center, 29-30
 University Health Service, 29
 University Seminars, 201
- Vehicles, motor, on campus, 31
 Veterans' educational benefits, 31
 Veterans State Scholarship, 25, 31
- Withdrawal from the University, 12-13

Directory for Correspondence

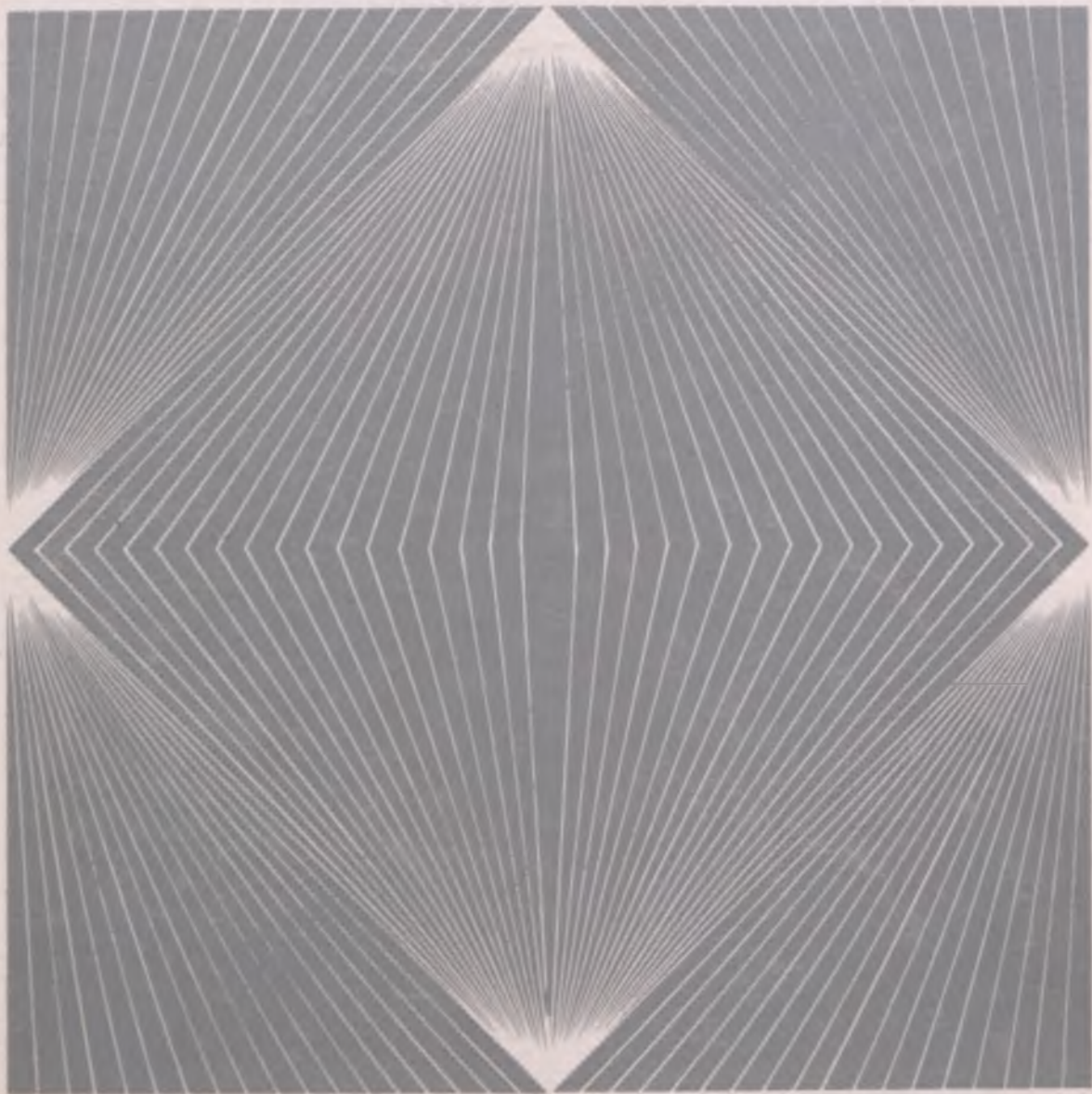
Inquiries concerning graduate work in specific fields should be addressed according to the following list.

Prospective students seeking information in assistantships, fellowships, and traineeships should also direct their inquiries to the persons whose names appear below.

Accountancy: Darwin J. Casler, D.B.A
Anthropology: Charles H. Lange, Ph.D.
Art: Charles Canon, Ed.D.
Biological Sciences: James A. McCleary, Ph.D.
Business Administration (M.B.A.): Garnet D. Olive, Ph.D.
Business Education: E. Edward Harris, Ed.D.
Center for Southeast Asian Studies: Donn V. Hart, Ph.D.
Chemistry: F. Marion Miller, Ph.D.
Economics: Laurence J. Mauer, Ph.D.
Educational Administration and Services: Keith R. Getschman, Ed.D.
Elementary Education: Charles A. Sloan, Ph.D.
English: Charles A. Pennel, Ph.D.
Finance: George W. Bishop, Jr., Ph.D.
Foreign Languages and Literatures: Marvin S. Schindler, Ph.D.
Geography: Richard E. Dahlberg, Ph.D.
Geology: Peter N. Webb, Ph.D.
History: J. Patrick White, Ph.D.
Home Economics: Betty Jane Johnston, Ph.D.
Industry and Technology: James C. Warner, Ed.D.
Journalism: Donald R. Grubb, Ed.D.
Library Science: Lewis F. Stieg, Ph.D.
Management: Francis J. Nowik, Ed.D.
Marketing: Richard H. Howland, Ph.D.
Mathematical Sciences: John L. Selfridge, Ph.D.
Music: William C. Kirkpatrick, Ed.D.
Nursing: Annette S. Lefkowitz, Ed.D.
Outdoor Teacher Education: Donald R. Hammerman, Ed.D.
Philosophy: David B. Seligman, Ph.D.
Physical Education for Men: Robert J. Brigham, P.E.D.
Physical Education for Women: Phyllis Cunningham, Ph.D.
Physics: John C. Shaffer, Ph.D.
Political Science: James M. Banovetz, Ph.D.
Psychology: Sanford J. Dean, Ph.D.
Secondary Professional Education: Robert Maple, Ed.D.
Sociology: S. Frederick Seymour, Ph.D.
Special Education: Eugene Klemm, Ph.D.
Speech Communication: Halbert Gulley, Ph.D.
Theatre Arts: Richard L. Arnold, Ph.D.



The text of this book is printed
on 100 percent recycled stock—
reclaimed and deinked waste paper.



dit for Extension Work (Doctoral Programs), pages 1-10

SUPPLEMENT AND ERRATA

**NORTHERN ILLINOIS
UNIVERSITY BULLETIN:
GRADUATE CATALOG,
1974-1975**

Credit for Extension Work (Doctoral Programs), page 21

A maximum of 9 semester hours of NIU extension work is allowed toward the Ph.D. or Ed.D. However, any NIU extension credits applied toward a Certificate of Advanced Study will reduce the maximum allowed toward the doctorate by an equal number of hours.

Tuition and Fees, pages 24-25

Tuition and fees are subject to change at any time. The following statements should be used only as a general guide to college expenses. The official charges are those billed by the Bursar's Office during the fee payment period for each term.

Fall or Spring Semester

12 or more semester hours	In-State	Out-of-State
Tuition	\$202.00	\$532.50
Fees		
Activity fee	13.50	13.50
Student bus fee	10.00	10.00
Athletic fee	15.25	15.25
Bond revenue fee	33.00	33.00
Health service fee	15.00	15.00
Health insurance	13.00	13.00
	<hr/>	<hr/>
	\$301.75	\$632.25

6½ to 11½ semester hours	In-State	Out-of-State
Tuition per semester hour	\$ 18.00	\$ 45.00
Fees		
Activity fee	13.50	13.50
Student bus fee	10.00	10.00
Athletic fee	15.25	15.25
Bond revenue fee	33.00	33.00
Health service fee	15.00	15.00
Health insurance	13.00	13.00

1 to 6 semester hours	In-State	Out-of-State
Tuition per semester hour	\$ 18.00	\$ 45.00
Colloquium fee (graduate-level students only)	5.00	5.00
Bond revenue fee	16.50	16.50

Intersession

Tuition (1 semester hour)	\$ 18.00
Tuition (2 or more semester hours)	36.00
Health service	3.00
Health insurance	3.50

Summer Session

6 or more semester hours	In-State	Out-of-State
Tuition	\$101.00	\$266.25
Fees		
Activity fee	6.75	6.75
Bond revenue fee	16.50	16.50
Health service fee	7.50	7.50
Health insurance*	6.25	6.25
	<hr/>	<hr/>
	\$138.00	\$303.25
Less than 6 semester hours	In-State	Out-of-State
Tuition per semester hour	\$ 18.00	\$ 45.00
Colloquium fee		
(graduate-level students only)	2.50	2.50
Bond revenue fee	8.25	8.25

Extension Students

Students enrolled only for extension courses in a given term pay the same tuition as on-campus students for that term. No fees or out-of-state tuition is charged for extension courses.

Students enrolled for courses both on campus and in extension pay tuition for all hours taken but fees for on-campus hours only.

Special Fees

The late registration fee listed under "Special Fees," page 25, is no longer charged, but instead a fee of \$25.00 is charged for all fee payments made after the due date. Otherwise, special fees remain as indicated in the list on page 25.

Course Offerings, Department of Geography, page 61

The following previously approved courses were inadvertently omitted from the 1974-1975 Graduate Catalog:

462. Urban Geography: External Spatial Relations of Urban Areas (3). Major focus on American urban development; analysis of spatial distributions of urban areas; classifications and functions of cities; introduction to central place theory. Prerequisite: Geog. 204 or consent of department.

463. Urban Geography: Internal Spatial Structure of Urban Areas (3). Major focus on the structure of American cities; survey of functional and physical patterns of urban spatial structure; determinants of land usage; analysis of selected urban problems. Prerequisite: Geog. 204 or consent of department.

*Includes coverage from the beginning of Summer Session up to the first day of regularly scheduled classes of the Fall Semester.

Course Offerings, Department of Library Science, page 80

Lib.S. 409, Foundations of Librarianship, is not offered for graduate credit.

New Programs

Master of Science in Education with a Major in Adult-Continuing Education

The master's degree (M.S.Ed.) program in adult-continuing education offers intensive preparation in the field of adult education with focus on the areas of adult basic education, high school completion, and teaching English as a second language for adults. The program also contains the necessary flexibility for individualizing a course of study for a person desiring both some initial training in the administration of adult education programs and an enhanced awareness of the larger field of adult-continuing education.

In order to facilitate these goals, variable credit is available in courses which are designed to serve the needs of the adult educator by meeting specific problems existing in adult learning centers, providing opportunities for flexible program planning and individualized instruction, and helping the university be responsive to community needs.

Requirements

The program leading to the Master of Science in Education with a major in adult-continuing education includes the following required core courses:

Education 451	The Nature of Adult-Continuing Education	(3)
Education 503	Introduction to Educational Research	(3)
Education 529A	Adult Learning: Maturity Through Old Age	(3)

Total: 9 hours

If the student elects to write a thesis for 6 hours credit, this credit counts toward the 30 hours minimum but does not reduce the core requirements.

The student is required to select a minimum of 9 additional hours from the following list of courses and/or their variable-credit subsections.

Education 450T	Workshop in Adult-Continuing Education	(1-3)
Education 529B	Curriculum Development in Adult-Continuing Education	(3)
Education 529C	Educating the Disadvantaged Adult	(3)
Education 550	Organization and Administration of Adult-Continuing Education	(3)
Education 554 A,B,C,D,E,J	Methods and Materials in Adult-Continuing Education	(1-3)
Education 566 A,B,C,D,E,J	Problems and Alternatives in Adult-Continuing Education	(1-3)

Education 578	Teaching Adults English as a Second	
A,B,C,D,E,J	Language	(1-3)
Education 555	Internship in Adult-Continuing Education	(1-9)

Students majoring in adult-continuing education with less than two years' full-time experience in adult-continuing education are required to take a prescribed number of hours in Education 555, Internship in Adult-Continuing Education.

The remaining minimum hours necessary for the degree are to be selected from offerings within the College of Education and/or from cognate areas within the University (i.e., Sociology, Business, Political Science).

After admission to the Graduate School, the student should contact and arrange an appointment with his assigned adviser in the Education Advisement Office, Graham Hall, to determine program content.

Proficiency tests

Upon admission to the adult-continuing education program, the student has the option of requesting proficiency examinations covering the three required core courses. The student will be granted graduate credit toward the degree program for each required course in which he has demonstrated proficiency. The exams will be composed, administered, and evaluated by the adult education faculty.

Master of Science with a Major in Computer Science

In addition to fulfilling the requirements established by the Graduate School, all candidates seeking to qualify for the degree Master of Science with a major in computer science must satisfy the following requirements:

1. Complete at least 30 semester hours of graduate work which may not include Math. 460. At least 24 hours must be in mathematical sciences and at least 15 hours must be in courses numbered 500 or above.
2. Follow a program of study approved by the Department of Mathematical Sciences. The program will be designed by the student and his adviser.
3. Pass a comprehensive examination in computer science. Students pursuing full-time graduate study will be required to take the comprehensive examination within two academic years of admission to the graduate school.

Required courses:

- Math. 462, Introduction to the Foundations of Computer Science (3)
- Math. 464, Data Structures (3)
- Math. 468, Systems Programming (3)
- Math. 568, Advanced Systems Programming (3)

At least one of the following courses must also be included in a student's program:

- Math. 465, External Data Structures (3)
- Math. 466, Programming Languages
- Math. 467, Foundations of Computer Science (3)

Graduate Faculty, pages 202-224

The following names should be included in the list of Graduate Faculty members. (Dates in parentheses indicate beginning of service to the University.)

Martin H. Bartels, Ph.D., Ohio State University, Professor of Education; Counselor, Placement Bureau (1951).

Robert P. Bartholomew, M.F.A., Michigan State University, Assistant Professor of Art (1973).

Robert Earl Bennett, Ph.D., University of Missouri, Assistant Professor of Accountancy (1968).

Dorothea A. Bilder, M.F.A., Southern Illinois University, Assistant Professor of Art (1968).

Emanuel A. Boateng, Ph.D., University of Oregon, Assistant Professor of Speech Communication (1972).

Franklin E. Court, Ph.D., Kent State University, Assistant Professor of English (1969).

Donald A. Cress, Ph.D., Marquette University, Assistant Professor of Philosophy (1973).

Raymond J. Dembinski, Ed.D., Indiana University, Assistant Professor of Education (1972).

Leonard D. Dobson, Ph.D., Florida State University, Assistant Professor of Political Science (1972).

Mason G. Fenwick, M.A., University of Michigan, Assistant Professor of Biological Sciences (1957).

Laurence Finkelstein, Ph.D., Columbia University, Professor of Political Science (1973).

Rosanne K. Frank, M.S.Ed., Northern Illinois University, Assistant Professor of Nursing (1967).

James W. Greenlee, Ph.D., University of Illinois, Associate Professor of Foreign Languages and Literatures (1973).

Roderick T. Groves, Ph.D., University of Wisconsin, Associate Professor of Political Science (1965).

Stephen F. Hallam, Ph.D., University of Iowa, Assistant Professor of Business Education (1974).

Larry Donald Hartman, Ed.D., Oklahoma State University, Assistant Professor of Business Education (1973).

- David H. Kamens, Ph.D., Columbia University, Assistant Professor of Sociology (1972).
- Beverly LaBelle, Ed.D., Northern Illinois University, Assistant Professor of Nursing (1973).
- Glenn A. Lemasters, Ph.D., Cambridge University, Assistant Professor of History (1968).
- Robert C. Mason, Ed.D., University of Nebraska, Associate Professor of Education (1970).
- Angelo Mazzocco, Ph.D., University of California (Berkeley), Assistant Professor of Foreign Languages and Literatures (1970).
- Glenn A. Meeter, Ph.D., University of Iowa, Associate Professor of English; Director of Undergraduate Studies, Department of English (1969).
- Nancy L. Metzler, Ph.D., Northwestern University, Assistant Professor of Philosophy (1972).
- Esther P. Mocega-Gonzalez, Ph.D., University of Chicago, Assistant Professor of Foreign Languages and Literatures (1964).
- Gian Sarup, Ph.D., Pennsylvania State University, Assistant Professor of Sociology (1972).
- Herbert J. Storing, Ph.D., University of Chicago, Professor of Political Science (1973).
- Frank E. Taylor, Ph.D., Cornell University, Assistant Professor of Physics (1972).
- Stephen D. Thurston, M.F.A., Rochester Institute of Technology, Assistant Professor of Art (1973).
- Charles E. Trott, Ph.D., Ohio State University, Associate Professor of Geography (1972).
- Rosa Valdes-Cruz, Ph.D., University of Chicago, Assistant Professor of Foreign Languages and Literatures (1964).
- Robert L. Vogl, Ph.D., University of Michigan, Assistant Professor of Outdoor Teacher Education (1965).
- Dieter Von Ehrenstein, Ph.D., University of Heidelberg, Professor of Physics (1969).
- Glenn L. Wood, Ed.D., Indiana University, Assistant Professor of Education (1967).