



**GRADUATE CATALOG**  
**2010-11**

*Effective Fall Semester 2010*

## Notices

The university reserves the right to make changes in admission requirements, fees, degree requirements, and other specifications set forth in this catalog. Such changes take precedence over catalog statements. While reasonable effort is made to publicize such changes, the student should remain in close touch with departmental advisers and appropriate offices, because responsibility for complying with all applicable requirements ultimately rests with the student.

Although the university attempts to accommodate the course requests of students, course offerings may be limited by financial, space, and staffing considerations or may otherwise be unavailable. Nothing in this catalog may be construed to promise or guarantee registration in any course or course of study (whether required or elective) nor may anything be construed to promise or guarantee the completion of an academic program within a specified length of time.

Admission to the Graduate School is not complete until application materials have been fully processed and the applicant has been notified by the Graduate School in writing of admission.

Other statements of a legal nature are printed in the "Notices" and "General Regulations" sections of this catalog.

## Student Responsibility

It is the responsibility of students to know and observe all regulations and procedures relating to the program they are pursuing, as well as those of the university and Graduate School. In no case will a regulation be waived or an exception granted because students plead ignorance of, or contend that they were not informed of, the regulations or procedures. Questions on regulations and their interpretation pertaining to studies at the graduate level should be addressed to the office of the dean of the Graduate School.

Students planning to graduate should familiarize themselves with the dates relating to application for graduation and other pertinent deadlines. (See Graduate School Calendar.) It is necessary to apply for graduation by the specified deadline in order to graduate in a particular term, whether or not the student plans to attend the commencement ceremonies.

Students must satisfy the degree requirements of the catalog in force during the term for which they have been admitted to and begin course work in a degree program; or they may, with the consent of their advisers, meet graduation requirements by complying with the provisions of a later catalog. Students readmitted to a degree program must meet degree requirements of the catalog in force at the time of the later admission (or of a subsequent catalog, as provided above). Aside from degree requirements, all students are subject to the regulations and policies stated in the catalog currently in force. Exceptions to regulations contained in the Graduate Catalog require the written approval of the office of the dean of the Graduate School, unless otherwise stated in the catalog.

Graduate students and students-at-large should notify the Graduate School immediately of any change in address so that receipt of mail will not be delayed.

## Graduate School Information

The Graduate School  
Adams Hall  
Northern Illinois University  
DeKalb, Illinois 60115-2864

Phone numbers:  
815-753-0395 (Graduate School)  
(800) 892-3050 (toll-free number for Illinois callers only)  
815-753-1000 (general university number)

E-mail address: [gradsch@niu.edu](mailto:gradsch@niu.edu)

World Wide Web site: [www.grad.niu.edu](http://www.grad.niu.edu)

World Wide Web information on the Graduate School is linked to much additional information on departments and their programs and includes an online version of this catalog. The online catalog can be found at <http://catalog.niu.edu>. Beginning with the 2006-07 academic year, the online catalog is the definitive version of program descriptions and of academic policies and procedures.

World Wide Web sites for academic colleges, departments, and schools are accessible through NIU's home page at [www.niu.edu](http://www.niu.edu) as well as via the Graduate School Web site. E-mail addresses are found at many of the departmental sites.

Further information on specific graduate programs can also be requested from the persons indicated in the "Directory for Correspondence" in this catalog.



# Graduate Catalog 2010-11

Effective Fall, 2010

**The Graduate School**

**College of Business**

**College of Education**

**College of Engineering and Engineering  
Technology**

**College of Health and Human Sciences**

**College of Liberal Arts and Sciences**

**College of Visual and Performing Arts**

#### Recycled paper

Northern Illinois University is an equal opportunity/affirmative action institution and does not discriminate on the basis of race, color, religion, sex, age, marital status, national origin, disability, status based on the Victims' Economic Security and Safety Act (VESSA) or status as a disabled or Vietnam-era veteran, or any other factor unrelated to professional qualifications, in employment or in admission or access to, treatment in, or operation of its educational programs and activities. Such discrimination is prohibited by Titles VI and VII of the Civil Rights Act, Title IX of the Education Amendments, Sections 503 and 504 of the Rehabilitation Act of 1973, the Age Discrimination Acts of 1974 and 1975, the Vietnam-Era Veterans' Readjustment Assistance Act of 1974, Titles I-VI of the Victims' Economic Security and Safety Act, and other federal and state statutes and regulations. Inquiries concerning application of Title IX, Section 504, and other statutes and regulations may be referred to the Affirmative Action and Diversity Resources Center, 1515 W. Lincoln Highway, DeKalb, IL 60115, telephone 815-753-1118, or to the director of the Office of Civil Rights, U.S. Department of Education, Washington, D.C. 20024. The Constitution and Bylaws of Northern Illinois University afford equal treatment regardless of political views or affiliation, sexual orientation, or other factors unrelated to scholarly or professional performance (Constitution Article 9, Section 9.2; Bylaws Article 5, Section 5.211; Bylaws Article 7, Section 7.25 and Section 7.252; Bylaws Article 10; and Bylaws Article 18).

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[www.niu.edu](http://www.niu.edu) 5/10 43972



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# Calendar

For detailed information regarding Graduate School deadlines pertaining to application, admission, and graduation, see the official Graduate School Calendar, which is available from the Graduate School and at our website, [www.grad.niu.edu](http://www.grad.niu.edu).

## Fall Semester 2010

### August 16-201, Monday-Friday

Department, college, and university faculty meetings

### August 23, Monday

Beginning of classes

### September 6, Monday

Labor Day Holiday (university closed)

### November 24, Wednesday

Beginning of Thanksgiving break

### November 29, Monday

Resumption of classes

### December 6-11, Monday-Saturday

Final examinations

### December 10, Saturday

Commencement; fall 2009 degree date

## Spring Semester 2011

### January 10-14, Monday-Friday

Department and college faculty meetings

### January 17, Monday

Martin Luther King, Jr., Holiday (university closed)

### January 18, Tuesday

Beginning of classes

### March 7-13, Sunday

Beginning of spring break

### March 21, Monday

Resumption of classes

### May 6, Friday

Reading Day

### May 7, 9-13, Saturday, Monday-Friday

Final examinations

### May 13, Friday

Commencement; spring 2011 degree date

## Summer Session 2011

### June 13, Monday

Beginning of classes

### July 4, Monday

Independence Day Holiday (university closed)

### August 5, Friday

End of summer session

### August 6, Saturday

Summer 2011 degree date

### June 2010

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 2010

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 2010

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 2010

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 2010

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 2010

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 2010

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 2011

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 2011

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 2011

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 2011

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 2011

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			

# A Guide to Reading This Catalog

## Course Designators

ACCY–Accountancy  
 AHCD–Allied Health and Communicative Disorders  
 AHPT–Physical Therapy  
 AHRC–Rehabilitation Counseling  
 ANTH–Anthropology  
 ART–Art  
 ARTD–Art Design  
 ARTE–Art Education  
 ARTH–Art History  
 ARTS–Art 2-D and 3-D Studio  
 AUD–Audiology  
 BIOS–Biological Sciences  
 CAHA–Adult and Higher Education  
 CAHC–Counseling  
 CAHE–Counseling, Adult and Higher Education  
 CHEM–Chemistry  
 COMD–Communicative Disorders  
 COMS–Communication Studies  
 CSCI–Computer Science  
 ECON–Economics  
 ELE–Electrical Engineering  
 ENGL–English  
 EPF–Educational Psychology and Foundations  
 EPFE–Foundations of Education  
 EPS–Educational Psychology  
 ETR–Research and Assessment  
 ETRA–Educational Technology, Research and Assessment  
 ETT–Instructional Technology  
 FCNS–Family, Consumer, and Nutrition Sciences  
 FINA–Finance  
 FLAL–Applied Linguistics and General  
 FLCL–Classical Languages  
 FLFR–French  
 FLGE–German  
 FLIN–Indonesian  
 FLIS–Foreign Language Independent Study  
 FLIT–Italian  
 FLMT–Foreign Language Methods  
 FLPO–Portuguese  
 FLRU–Russian  
 FLSP–Spanish  
 FLST–Foreign Language Special Topics  
 FLTE–Foreign Language Instructional Technology  
 GEOG–Geography  
 GEOL–Geology  
 HIST–History  
 IDSP–Inter-College Interdisciplinary  
 IEET–Interdisciplinary Engineering and Engineering Technology  
 IHHS–Interdisciplinary Health and Human Sciences  
 ILAS–Interdisciplinary Liberal Arts and Sciences  
 ISYE–Industrial Engineering  
 JOUR–Journalism  
 KNDN–Physical Education Dance  
 KNPE–Physical Education  
 LEBM–School Business Management  
 LEEA–Educational Administration  
 LESM–Sport Management  
 LTCY–Literacy Education  
 LTIC–Bilingual/ESL  
 LTLA–Language Arts  
 LTRE–Reading

MATH–Mathematical Sciences  
 MEE–Mechanical Engineering  
 MET–Meteorology  
 MGMT–Management  
 MILS–Military Science  
 MKTG–Marketing  
 MUSC–Music  
 NURS–Nursing  
 OMIS–Operations Management and Information Systems  
 PHHE–Public Health and Health Education  
 PHIL–Philosophy  
 PHYS–Physics  
 POLS–Political Science  
 PSPA–Public Administration  
 PSYC–Psychology  
 SOCI–Sociology  
 STAT–Statistics  
 TECH–Technology  
 THEA–Theatre Arts  
 TH-D–Dance Performance  
 TLCI–Curriculum and Instruction  
 TLEC–Early Childhood Education  
 TLEE–Elementary Education  
 TLRN–Teaching and Learning  
 TLSE–Special Education  
 UBUS–Interdisciplinary Business  
 UEET–Interdisciplinary Engineering and Engineering Technology  
 UHHS–Interdisciplinary Health and Human Sciences  
 UNIV–University-Wide Interdisciplinary  
 WOMS–Women's Studies

X–This letter following a course number indicates that the course is offered primarily by another department but may be taken for credit in the department offering it with the “X” listing.

## Abbreviations Used in This Catalog

### Advanced Degrees

Au.D.–Doctor of Audiology  
 D.P.T.–Doctor of Physical Therapy  
 Ed.D.–Doctor of Education  
 Ed.S.–Educational Specialist  
 J.D.–Juris Doctor  
 M.A.–Master of Arts  
 M.A.S.–Master of Accounting Science  
 M.A.T.–Master of Arts in Teaching  
 M.B.A.–Master of Business Administration  
 M.F.A.–Master of Fine Arts  
 M.M.–Master of Music  
 M.P.A.–Master of Public Administration  
 M.P.H.–Master of Public Health  
 M.P.T.–Master of Physical Therapy  
 M.S.–Master of Science  
 M.S.Ed.–Master of Science in Education  
 M.S.T.–Master of Science in Taxation  
 M.S.T.–Master of Science in Teaching  
 Ph.D.–Doctor of Philosophy

### Other Abbreviations

CRQ–Corequisite  
 GPA–Grade point average

PRQ—Prerequisite

## Definitions of Terms Used in This Catalog

**\*Academic dismissal:** Dismissal from the university for reasons such as not maintaining the required grade point average (GPA), or for accumulating excessive hours of graduate grades of D, F, U, or WF.

**\*Academic probation:** Academic status of a graduate-level student whose graduate GPA is below 3.00.

**Accredited institution:** A post-secondary institution that is accredited by the appropriate regional agency (New England Association of Schools and Colleges, Middle States Association of Colleges and Schools, North Central Association of Colleges and Schools, Northwest Association of Schools and Colleges, Southern Association of Colleges and Schools, or Western Association of Schools and Colleges).

**\*Admission (to the Graduate School):** Formal acceptance, both by the Graduate School and by the appropriate department or program, to pursue a specific graduate degree in a particular subject area or a Performer's Certificate in music.

**\*Auditing:** Registering for and attending a class regularly without necessarily completing the work required for credit; requires agreement of the instructor. (No grade points or credit hours are earned for audited courses.)

**\*Certificate of graduate study:** A course of study, not linked to the pursuit of a degree, consisting of a coherent set of courses, fewer than for a major, addressing a specific theme. Completion of the requirements for a certificate of graduate study will result in an appropriate notation on the student's academic record.

**\*Concentration:** A course of study, typically interdisciplinary, linked to the pursuit of a specific graduate degree. Completion of the requirements for a concentration will result in an appropriate notation on the student's academic record.

**Corequisite (CRQ):** A requirement, usually enrollment in a course, which should be undertaken at the same time as the course being described (if that requirement or its equivalent has not been completed previously).

**\*Correspondence course:** A course, other than an independent study course, that does not involve significant real-time interaction between students and faculty, when such interaction would normally be a part of the same course offering on campus.

**\*Course load:** All courses for which a student is registered, regardless of whether they are taken for credit or whether they are at the graduate level.

**Departmental requirements:** Courses or other requirements specified by a department as necessary for completion of a given course of study.

**Dismissal:** See **Academic dismissal**.

**Drop:** A procedure by which a course is deleted from a student's schedule so the course does not appear on the student's permanent academic record. A student may drop a course early in a term; this procedure must be completed by the date published each academic term. An administrative office may drop students from courses in which they are not eligible to enroll. See also **Withdrawal**.

**Elective:** A course in which a student chooses to enroll, as distinguished from a specific course required as part of a particular course of study.

**Encumbrance:** A hold placed on a student's record as a result of an unfulfilled obligation to the university. This may prevent the distribution of transcripts and may prevent further registration. A student with an encumbrance preventing registration is not eligible to participate in course work and may not be enrolled in a course retroactively if the encumbrance is not cleared before the course is over.

**Endorsement:** The written notation entered upon the face of a teaching certificate designating additional specific subjects and/or grade levels which an individual is qualified to teach. Endorsements are earned by taking designated course work in a specific discipline area.

**Enrollment:** Registration in a course that subsequently appears on the student's permanent academic record.

**Entitlement program:** A specific teacher certification program

approved by the Illinois State Board of Education to be offered by an institution of higher education.

**\*GPA hours:** The number of semester hours for which grades of A, B, C, D, F, or U are recorded.

**\*Grade point:** The numerical value given to letter grades. A grade of D is equivalent to 1 point per semester hour, a C to 2 points, a B to 3 points, and an A to 4 points.

**\*Grade point average (GPA):** A student's scholastic average, computed by dividing the total number of grade points earned by the total number of GPA hours. For a graduate student or student-at-large, the GPA is based on all courses taken at NIU that carry graduate credit.

**Graduate-level student:** A graduate student or student-at-large.

**Graduate student:** A student admitted to the Graduate School whose admission has not been canceled or terminated and who has not been academically dismissed.

**Half-session courses:** Courses that are offered for the first or second half of an academic term, rather than a full term. They are distinguished by an F (first half term) or an L (last half) after the course number.

**Hold:** See **Encumbrance**.

**\*Incomplete (temporary):** A grade (I) that may be assigned by an instructor when a student is temporarily unable to complete course requirements because of unusual circumstances. Left unresolved, a grade of I becomes on the academic record a permanent grade of incomplete (IN).

**\*International student:** With respect to academic regulations in this catalog, any student who is not a U.S. citizen.

**Major:** A designated subject area in which one can pursue an extensive program of study leading to a graduate degree or to the Performer's Certificate in music. Completion of the requirements for a major will result in an appropriate notation on the student's academic record.

**Option:** An academic track within a program or specialization.

**Prerequisite (PRQ):** A requirement, usually completion of another course or its equivalent, which should be met before a student registers for the course being described.

**Probation:** See **Academic probation**.

**Proficiency examination:** A way for a student to receive course credit for individual or special study. Graduate credit may not be earned by proficiency examination.

**Recognized institution:** An institution in a country outside of the U.S. that is recognized by that nation's Ministry of Education, or similar authority, as a post-secondary, academic-degree-granting institution.

**\*Reentry:** Return of a student to study at NIU after a lapse in enrollment, into the same classification/program as that in which the student was previously enrolled.

**\*Reinstatement:** A procedure by which a student who was formerly enrolled in the university but was academically dismissed is permitted to enroll again.

**Semester hour:** The university's unit of academic credit reflecting a standard expectation of course activity.

**Specialization:** A subdivision of a graduate major representing a particular subject focus within the major. Completion of the requirements for a specialization will result in an appropriate notation on the student's academic record at the time of the student's graduation from the major program.

**\*Student-at-large:** A student who holds a baccalaureate or higher degree from an accredited U.S. institution (or the equivalent from a recognized foreign institution), who is not admitted to the Graduate School, but who has received permission from the Graduate School to register for graduate-level classes and who has not been academically dismissed.

**Transcript:** A copy of a student's permanent academic record at a particular institution.

**\*Transfer credit:** Course work completed at an accredited U.S. institution other than NIU, or at a recognized foreign institution, that is accepted in partial fulfillment of requirements for a graduate degree at NIU.

**\*Withdrawal:** Formal action by which a student officially discontinues participation in a course; a record of enrollment remains on the student's permanent academic record. This action must be taken by the deadline published each term on the Graduate School website, [www.grad.niu.edu](http://www.grad.niu.edu). See also **Drop**.

# Northern Illinois University

## History

Northern Illinois University is a comprehensive university, whose faculty, staff, and students engage in instruction, research and artistry, and professional service in a variety of fields.

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

In July 1921, the legislature 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, and the institution's Graduate School was established.

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 degrees and certificates at the baccalaureate, professional, and graduate levels.

In 1965, the Illinois State Teachers College Board became the Board of Governors of State Colleges and Universities; in 1967, Northern Illinois University was placed under the control of the newly created Board of Regents; in 1996, this authority was transferred to the Board of Trustees of Northern Illinois University.

Northern Illinois University has offered work leading to graduate degrees since 1951 and currently offers graduate study in over 100 major programs and specializations. The following master's degrees, which encompass more than 50 academic majors, are now available: Master of Accounting Science (M.A.S.), Master of Arts (M.A.), Master of Business Administration (M.B.A.), Master of Fine Arts (M.F.A.), Master of Music (M.M.), Master of Physical Therapy (M.P.T.), Master of Public Administration (M.P.A.), Master of Public Health (M.P.H.), Master of Science (M.S.), Master of Science in Education (M.S.Ed.), and Master of Science in Taxation (M.S.T.). In 1961 programs leading to the degrees Doctor of Philosophy (Ph.D.) and Doctor of Education (Ed.D.) were authorized; currently, the Ph.D. is offered by ten academic departments and the Ed.D. in six academic majors. The Juris Doctor (J.D.) degree, offered by the College of Law, was authorized in 1979, the Performer's Certificate in 1982, the Educational Specialist (Ed.S.) degree in 1983, and the Doctor of Audiology (Au.D.) in 2003.

## Mission

The central mission of Northern Illinois University is the transmission, expansion, and application of knowledge through teaching, research and artistry, and public service. Recognizing that students will need to learn throughout their lives, the university provides them with the opportunity to become more competent in analytical thought, informed judgment, and effective communication. In its instructional activities, the university conveys an understanding of the organization of knowledge and the means of inquiry.

The university aims to develop a respect for rationality, a tolerance for uncertainty, and an appreciation of diversity. It fosters the capacity to explore the unfamiliar, to use the intellect in the process of discovery and the synthesis of knowledge, and to become familiar with new technology and its implications. It strives to enhance the imagination, sensibility, and creative talents of each student. It believes that all students should attain a level of academic and professional competence sufficient for productive employment and citizenship and makes opportunities available for those who are able to undertake the advanced study required for leadership in their chosen professional fields and academic disciplines.

The university makes significant contributions to the expansion of knowledge. To accomplish this, it provides an environment of academic freedom in which all are free to inquire and to disseminate scholarly and creative work. It believes that active programs in research and artistry promote intellectual vitality and enrich an institution's instructional mission and its service to the broader community.

NIU enthusiastically accepts its responsibility to contribute to the nation's scientific, technological, and educational advancement, to bring ideas to bear on issues of public policy, to contribute to the sustained appreciation of our diverse cultural heritage and the international nature of contemporary life, and to prepare and develop scholars and educational leaders. The university is committed both to pure research and to the study of applications of knowledge.

Northern Illinois University's history reflects flexibility in the face of change and consistency in the pursuit of excellence. In this, the university expects its future to confirm its past.

## Accreditation and Affiliation

Northern Illinois University is accredited by the Higher Learning Commission and is a member of the North Central Association of Colleges and Schools. NIU is included in the Research Universities—High Activity category of the Carnegie Foundation for the Advancement of Teaching and has achieved the Community Engagement Classification for Outreach and Partnerships.

The university and its colleges have institutional membership or other affiliations in or with the American Association of Colleges for Teacher Education, American Council on Education, Association of State Colleges and Universities, Association of Public and Land-grant Universities (formerly NASLGC), Council of Graduate Schools, and Universities Research Association.

The university is fully accredited by the National Council for Accreditation of Teacher Education to offer teacher education programs.

In the College of Business, the M.A.S., the M.S.T., the M.B.A., and the M.S. in management information systems programs are accredited by AACSB International—The Association to Advance Collegiate Schools of Business.

In the College of Education, the Council for Accreditation of Counseling and Related Educational Programs has accredited the following program areas in counseling within the Department of Counseling, Adult and Higher Education: community counseling, school counseling, and student development in higher education (M.S.Ed.), and counseling (Ed.D.).

In the College of Engineering and Engineering Technology, the undergraduate programs in electrical engineering, industrial engineering, and mechanical engineering are accredited by the Engineering Accreditation Commission of the Accreditation Board for Engineering and Technology (ABET). The undergraduate technology program emphases in electrical engineering technology and manufacturing engineering technology are accredited by the Technology Accreditation Commission of ABET and the emphasis in industrial technology is accredited by the National Association of Industrial Technology.

In the College of Health and Human Sciences, the M.P.T. program offered by the School of Allied Health and Communicative Disorders is accredited by the Commission on Accreditation in Physical Therapy. The Au.D. and M.A. with a specialization in speech-language pathology are accredited by the American Speech-Language-Hearing Association and a specialization in rehabilitation counseling holds accreditation from the Council on Rehabilitation Education. The specialization in marriage and family therapy in the M.S. program in applied family and child studies within the School of Family, Consumer, and Nutrition Sciences is accredited by the Commission on Accreditation for Marriage and Family Therapy. In the same school, the Dietetic Internship, taken in conjunction with the M.S. degree in nutrition and dietetics, is accredited by the Commission of Accreditation/Approval for Dietetics Education. The graduate nursing program in the School of Nursing and Health Studies is accredited by the Commission on Collegiate Nursing Education, and the master of public health degree is accredited by the Council on Education for Public Health.

The College of Law is accredited by the American Bar Association and is a member of the Association of American Law Schools.

In the College of Liberal Arts and Sciences, the Master of Public Administration within the Department of Political Science is accredited by the National Association of Schools of Public Affairs and Administration, and the clinical psychology area within the Doctor of Philosophy degree program in the Department of Psychology is accredited by the American Psychological Association.

In the College of Visual and Performing Arts, the School of Art, School of Music, and School of Theatre and Dance are accredited, respectively, by the National Association of Schools of Art and Design, the National Association of Schools of Music, and the National Association of Schools of Theatre.

## University Academic Publications

The *Undergraduate Catalog* contains information on undergraduate admission policies and procedures, graduation requirements, academic regulations, expenses, housing, financial aid, and other university services, as well as detailed descriptions of academic majors, minors, and course offerings. Copies are available to current students from the university's bookstore, and to prospective students from the Office of Admissions. It is online at [catalog.niu.edu](http://catalog.niu.edu).

The *Graduate Catalog* contains detailed statements of Graduate School policies and procedures, curricula, and expenses, and lists the graduate course offerings of the various departments. Copies are available from the Graduate School. It is online at [catalog.niu.edu](http://catalog.niu.edu).

The *College of Law Bulletin* provides information regarding application procedures, academic requirements, course offerings, and tuition and fees, as applicable to law students. Copies may be obtained from the College of Law. It is online at [law.niu.edu](http://law.niu.edu).

The *Graduate School Calendar and Information for International Graduate Students* are available from the Graduate School and online at [www.grad.niu.edu](http://www.grad.niu.edu). The *Graduate School Manual for Theses and Dissertations* is available for purchase at campus bookstores and is available online at [www.grad.niu.edu](http://www.grad.niu.edu). *Information for International Graduate Students* is online at [www.niu.edu/grad/inter.html](http://www.niu.edu/grad/inter.html).

# The Graduate School

**Vice President for Research and Dean of the Graduate School:**  
**Lisa Freeman, D.V.M., Ph.D.**  
**Acting Dean: Bradley Bond, Ph.D.**

## Graduate Council, 2009-10

Robert Barrett, student, College of Liberal Arts and Sciences  
 Paul Bauer, D.M., College of Visual and Performing Arts  
 Bradley Bond, Ph.D., acting dean of the Graduate School  
 Jeffrey Chown, Ph.D., College of Liberal Arts and Sciences  
 Therese A. Clarke Arado, J.D., College of Law  
 Howard Eckdahl, student, College of Visual and Performing Arts  
 James Erman, Ph.D., interim vice president for research  
 Behrooz Fallahi, Ph.D., College of Engineering and Engineering  
 Technologoy  
 Mark Frank, Ph.D., College of Liberal Arts and Sciences  
 Charles R. Gowen, Ph.D., College of Business  
 Bernard Harris, Ph.D., College of Liberal Arts and Sciences  
 Janet Holt, Ph.D., College of Education  
 James M. Johnson, Ph.D., College of Business  
 Jinsook Kim, Ph.D., College of Health and Human Sciences  
 Michael Konen, Ph.D., College of Liberal Arts and Sciences  
 Eliyahu Lazovsky, student, College of Health and Human Sciences  
 Lichuan Liu, Ph.D., College of Engineering and Engineering  
 Technology  
 Doris M. Macdonald, Ph.D., College of Liberal Arts and Sciences  
 Kali Naraharisetti, student, College of Engineering and Engineering  
 Technology  
 Nestor Osorio, M.A., M.L.S., University Libraries  
 Brad Sagarin, Ph.D., College of Liberal Arts and Sciences  
 Erika Schlichter, student, College of Education  
 M Cecil Smith, Ph.D., College of Education  
 Deborah Smith-Shank, Ph.D., College of Visual and Performing  
 Arts  
 Lee Sunderlin, Ph.D., College of Liberal Arts and Sciences  
 Josephine Umoren, Ph.D., College of Health and Human Sciences  
 David Walker, Ph.D., College of Education  
 Lauriece Zittel, Ph.D., College of Education

## Graduate Programs

The graduate degrees and Performer's Certificate offered by the university are listed below by the name of the college and of the department or school in which that degree program is housed. See "Directory for Correspondence" in the following section to ascertain to whom inquiries should be directed and from whom additional information may be sought.

### Graduate School

Master of Arts in Teaching (M.A.T.)  
 (see also individual departments for specializations.)  
 Master of Science in Teaching (M.S.T.)  
 (see also individual departments for specializations.)

### College of Business

Master of Business Administration (M.B.A.)

### Department of Accountancy

Master of Accounting Science (M.A.S.)  
 Master of Science in Taxation (M.S.T.)

### Department of Finance

### Department of Management

### Department of Marketing

### Department of Operations Management and Information Systems

Master of Science (M.S.)  
 Management Information Systems

### College of Education

### Department of Counseling, Adult and Higher Education

Master of Science in Education (M.S.Ed.)  
 Adult and Higher Education  
 Counseling  
 Doctor of Education (Ed.D.)  
 Adult and Higher Education  
 Counseling

### Department of Educational Technology, Research and Assessment

Master of Science (M.S.)  
 Educational Research and Evaluation  
 Master of Science in Education (M.S.Ed.)  
 Instructional Technology  
 Doctor of Education (Ed.D.)  
 Instructional Technology

### Department of Kinesiology and Physical Education

Master of Science (M.S.)  
 Sport Management  
 Master of Science in Education (M.S.Ed.)  
 Physical Education  
*with or without specialization in*  
 Adapted Physical Education  
 Exercise Physiology/Fitness Leadership  
 Pedagogy and Curriculum Development in Physical  
 Education

### Department of Leadership, Educational Psychology and Foundations

Master of Science in Education (M.S.Ed.)  
 Educational Administration  
 Educational Psychology  
 Foundations of Education  
 School Business Management  
 Educational Specialist (Ed.S.)  
 Educational Administration  
 Doctor of Education (Ed.D.)  
 Educational Administration  
 Educational Psychology

### Department of Literacy Education

Master of Science in Education (M.S.Ed.)  
 Literacy Education  
 Doctor of Education (Ed.D.)  
 Curriculum and Instruction  
*with specialization in*  
 Literacy Education

**Department of Teaching and Learning**

Master of Arts in Teaching  
*with specialization in*  
Elementary Education  
Master of Science in Education (M.S.Ed.)  
Curriculum and Instruction  
Early Childhood Education  
Elementary Education  
Special Education  
*with specialization in*  
Advanced Special Education Practices  
Blind Rehabilitation  
Early Childhood Special Education  
Learning Behavior Specialist I  
Orientation and Mobility  
Visual Impairments  
Doctor of Education (Ed.D.)  
Curriculum and Instruction  
*with specialization in*  
Curriculum Leadership  
Elementary Education  
Secondary Education

**College of Engineering and Engineering Technology**

Master of Science in Teaching (M.S.T.)  
*with specialization in*  
Engineering Education

**Department of Electrical Engineering**

Master of Science (M.S.)

**Department of Industrial and Systems Engineering**

Master of Science (M.S.)

**Department of Mechanical Engineering**

Master of Science (M.S.)

**Department of Technology**

Master of Science (M.S.)  
Industrial Management

**College of Health and Human Sciences**

**School of Allied Health and Communicative Disorders**

Master of Arts (M.A.)  
Communicative Disorders  
*with specialization in*  
Audiology  
Rehabilitation Counseling  
Speech-Language Pathology  
Master of Physical Therapy (M.P.T.)  
Doctor of Audiology (Au.D.)  
Doctor of Physical Therapy

**School of Family, Consumer, and Nutrition Sciences**

Master of Science (M.S.)  
Applied Family and Child Studies  
*with or without specialization in*  
Marriage and Family Therapy  
Nutrition and Dietetics  
Family and Consumer Sciences  
*with specializations in*  
Apparel Studies  
Family and Consumer Sciences Education

**Department of Military Science**

**School of Nursing and Health Studies**

Master of Arts in Teaching  
*with specialization in*  
Health Education, 6-12 and Middle School  
Master of Public Health (M.P.H.)  
*with or without specialization in*  
Health Promotion  
Health Services Management  
Master of Science (M.S.)  
Nursing  
Master of Science in Teaching  
*with specialization in*  
Health Education, 6-12 and Middle School

**College of Liberal Arts and Sciences**

**Department of Anthropology**

Master of Arts (M.A.)

**Department of Biological Sciences**

Master of Science (M.S.)  
*with or without specialization in*  
Bioinformatics  
Biology Teaching  
Human Anatomical Sciences  
Doctor of Philosophy (Ph.D.)

**Department of Chemistry and Biochemistry**

Master of Science (M.S.)  
Chemistry  
Doctor of Philosophy (Ph.D.)  
Chemistry

**Department of Communication**

Master of Arts (M.A.)  
Communication Studies

**Department of Computer Science**

Master of Science (M.S.)

**Department of Economics**

Master of Arts (M.A.)  
Doctor of Philosophy (Ph.D.)

**Department of English**

Master of Arts (M.A.)  
Doctor of Philosophy (Ph.D.)

**Department of Foreign Languages and Literatures**

Master of Arts (M.A.)  
Foreign Languages  
*with specialization in*  
French  
Spanish

**Department of Geography**

Master of Science (M.S.)

**Department of Geology and Environmental Geosciences**

Master of Science (M.S.)  
Geology  
Master of Science in Teaching (M.S.T.)  
*with specialization in*  
Middle School Mathematics Education  
Doctor of Philosophy (Ph.D.)  
Geology

**Department of History**

Master of Arts (M.A.)  
Doctor of Philosophy (Ph.D.)

**Department of Mathematical Sciences**

Master of Science (M.S.)  
 Applied Probability and Statistics  
 Mathematics  
*with specialization in*  
 Applied Mathematics  
 Computational Mathematics  
 Mathematics Education  
 Pure Mathematics  
 Master of Science in Teaching (M.S.T.)  
*with specialization in*  
 Middle School Mathematics Education  
 Doctor of Philosophy (Ph.D.)

**Department of Philosophy**

Master of Arts (M.A.)

**Department of Physics**

Master of Science (M.S.)  
*with specialization in*  
 Applied Physics  
 Basic Physics  
 Physics Teaching  
 Doctor of Philosophy (Ph.D.)

**Department of Political Science**

Master of Arts (M.A.)  
 Master of Public Administration (M.P.A.)  
*with specialization in*  
 Comparative and Developmental Administration  
 Fiscal Administration  
 Human Services Administration  
 Public Management and Leadership  
 Urban Management  
 Doctor of Philosophy (Ph.D.)

**Department of Psychology**

Master of Arts (M.A.)  
 Doctor of Philosophy (Ph.D.)

**Department of Sociology**

Master of Arts (M.A.)  
*with or without specialization in*  
 Criminology

**College of Visual and Performing Arts****School of Art**

Master of Arts (M.A.)  
*with specialization in*  
 Art History  
 Studio Art  
 Master of Science (M.S.)  
*with specialization in*  
 Art Education  
 Master of Fine Arts (M.F.A.)

**School of Music**

Master of Music (M.M.)  
 Performer's Certificate

**School of Theatre and Dance**

Master of Fine Arts (M.F.A.)  
 Theatre Arts  
*with specialization in*  
 Acting  
 Design and Technology  
 Directing

**Graduate Concentrations and Certificates of Graduate Study****Graduate Concentrations**

A concentration is a course of study, typically interdisciplinary, linked to the pursuit of a specific graduate degree. Completion of the requirements for a concentration will result in an appropriate notation on the student's academic record.

See "Directory for Correspondence" in the following section to ascertain to whom inquiries should be directed and from whom additional information may be sought.

The concentrations offered by the university are listed below.

Biochemistry or Biophysics  
 Historical Administration  
 Latin American Studies  
 Southeast Asian Studies

**Certificates of Graduate Study**

A certificate of graduate study is a course of study, not linked to the pursuit of a degree, consisting of a coherent set of courses, fewer than for a major, addressing a specific theme. Completion of the requirements for a certificate of graduate study will result in an appropriate notation on the student's academic record.

See "Directory for Correspondence" in the following section to ascertain to whom inquiries should be directed and from whom additional information may be sought.

The certificates of graduate study offered by the university are listed below.

Adapted Physical Education  
 Adult Continuing Education  
 Advanced Qualitative Methodology in Education  
 Advanced Quantitative Methodology in Education  
 Advanced Teaching Practices  
 Applied Mechanics  
 Applied Statistics  
 Assistive Technology Specialist  
 Behavior Specialist  
 Bioinformatics  
 Career Development  
 Children's and Young Adult Literature/Media  
 College Teaching  
 Computer-Aided Design and Computer-Aided Manufacturing  
 Curriculum Adaptations Specialist  
 Design of Thermal Systems  
 Digital Image Processing  
 Digital Signal Processing  
 Digital Systems  
 Director of Special Education  
 Earth Science Education  
 Eating Disorders and Obesity  
 Elementary Mathematics Teaching  
 English Education  
 Environmental Education  
 Family Nurse Practitioner  
 Foreign Language Instructional Technology  
 Foundations of Education  
 Geographic Information Analysis  
 German Language, Literature, and Culture  
 Gerontology  
 Health Education  
 Higher Education  
 Homeland Security  
 Industrial Control  
 Industrial Workplace Design Systems

## 12 THE GRADUATE SCHOOL

Integrated Manufacturing Systems  
Lean Six Sigma  
Lesbian, Gay, Bisexual, and Transgender Studies  
Management Information Systems  
Medical Family Therapy and Counseling  
Managerial Leadership  
Multiple Disabilities Specialist  
Museum Studies  
Nursing Education  
Oncology Nurse Practitioner  
Outdoor Education  
Problem-Based Learning in Educational Psychology  
Public Health  
Public Management  
Quality Control of Manufacturing Processes  
Response to Intervention  
Semiconductor Devices  
Semiconductor Fabrication  
Spanish Language, Literature, and Culture  
Systems Management  
Teaching English as a Second Language and Bilingual Education  
Technical Writing  
Technical Logistics  
Traffic Safety Education  
Vibration and Control System Design  
VLSI Design  
Women's Studies  
Workplace Learning and Performance

# Directory for Correspondence

Inquiries concerning the graduate degree programs, specializations, concentrations, and certificates of graduate study shown on the previous pages should be addressed according to the following lists, using the name of the individual and the individual's department, school, or center at Northern Illinois University, DeKalb, IL 60115. Prospective students seeking information on assistantships and fellowships should also direct their inquiries to the persons whose names appear below or to other offices that appoint graduate assistants.

## Graduate Degree Programs, Specializations, and Departments

- Accountancy: John R. Simon, C.P.A., Ph.D., departmental program director for M.A.S.
- Acting: See Theatre Arts
- Adapted Physical Education: See Kinesiology and Physical Education
- Adult and Higher Education: See Counseling, Adult and Higher Education
- Advanced Special Education Practices: See Teaching and Learning
- Allied Health and Communicative Disorders; Sue E. Ouellette, Ph.D., chair of school
- Anthropology: Judy Ledgerwood, Ph.D., chair of department
- Apparel Studies: See family, Consumer and Nutrition Sciences
- Applied Family and Child Studies: See Family, Consumer, and Nutrition Sciences
- Applied Probability and Statistics: See Statistics
- Art: Yale Factor, M.F.A., graduate coordinator of school
- Audiology: See Allied Health and Communicative Disorders
- Bioinformatics: See Biological Sciences.
- Biological Sciences: Thomas L. Sims, Ph.D., departmental director of graduate studies
- Blind Rehabilitation: See Teaching and Learning
- Business Administration: Paul R. Prabhaker, Ph.D., associate dean of graduate programs and research
- Chemistry: Jon W. Carnahan, Ph.D., departmental director of graduate studies
- Communication Studies: Kathleen Valdel, Ph.D., departmental director of graduate studies
- Communicative Disorders: See Allied Health and Communicative Disorders
- Comparative and Developmental Administration: See Public Administration
- Computational Mathematics: See Mathematical Sciences
- Computer Science: Robert Zerwekh, Ph.D., departmental director of graduate studies
- Counseling: See Counseling, Adult and Higher Education
- Counseling, Adult and Higher Education: Lemuel W. Watson, Ed.D., chair of department
- Criminology: See Sociology
- Curriculum and Instruction: See Teaching and Learning
- Curriculum Leadership: See Teaching and Learning
- Design and Technology: See Theatre Arts
- Directing: See Theatre Arts
- Early Childhood Education: See Teaching and Learning
- Early Childhood Special Education: See Teaching and Learning
- Economics: Ardashir J. Dalal, Ph.D., departmental director of graduate studies
- Educational Administration: See Leadership, Educational Psychology and Foundations
- Educational Psychology: See Leadership, Educational Psychology and Foundations
- Educational Research and Evaluation: See Educational Technology, Research and Assessment
- Educational Technology, Research and Assessment: Jeffrey B. Hecht, Ph.D., chair of department
- Electrical Engineering: Ibrahim M. Abdel-Motaleb, Ph.D., acting chair of department
- Elementary Education: See Teaching and Learning
- English: Betty Birner, Ph.D., departmental director of graduate studies
- Exercise Physiology/Fitness Leadership: See Kinesiology and Physical Education
- Family and Consumer Sciences Education: See Family, Consumer, and Nutrition Sciences
- Family, Consumer, and Nutrition Sciences: Laura S. Smart, Ph.D., chair of school
- Finance: Marc W. Simpson, Ph.D., chair of department
- Fiscal Administration: See Public Administration
- Foreign Languages: Anne L. Birberick, chair of department
- Foundations of Education: See Leadership, Educational Psychology and Foundations
- French: Christopher Nissen, Ph.D., departmental coordinator of specialization
- Geography: Michael Konen, Ph.D., departmental coordinator of graduate studies
- Geology: James A. Walker, Ph.D., departmental director of graduate studies
- Health Promotion: See Nursing and Health Studies
- Health Services Management: See Nursing and Health Studies
- History: Anne Hanley, Ph.D., departmental director of graduate studies
- Human Anatomical Sciences: Christopher J. Hubbard, Ph.D., Department of Biological Sciences
- Human Services Administration: See Public Administration
- Industrial Engineering: Dennis V. Stoia, M.B.A., interim chair of department
- Industrial Management: See Technology
- Instructional Technology: See Educational Technology, Research and Assessment
- Kinesiology and Physical Education: Laurice Zittel, Ph.D., departmental director of graduate studies
- Leadership, Educational Psychology and Foundations, Wilma R. Miranda, Ph.D., chair of department
- Learning Behavior Specialist I: See Teaching and Learning
- Literacy Education: Norman A. Stahl, Ph.D., chair of department
- Management: Sarah J. Marsh, Ph.D., chair of department
- Management Information Systems: See Operations Management and Information Systems
- Marketing: Tanuja Singh, D.B.A., chair of department
- Marriage and Family Therapy: See Family, Consumer, and Nutrition Sciences
- Mathematical Sciences: Bernard J. Harris, Ph.D., departmental director of graduate studies
- Mechanical Engineering: Abhijit Gupta, Ph.D., departmental director of graduate studies
- Music: Tim Blickhan, D.M.A., graduate coordinator of school
- Nursing: See Nursing and Health Studies
- Nutrition and Dietetics: See Family, Consumer, and Nutrition Sciences
- Operations Management and Information Systems: Daniel R. Wunsch, Ph.D., interim chair of department
- Orientation and Mobility: See Teaching and Learning

Pedagogy and Curriculum Development in Physical Education: See Kinesiology and Physical Education  
 Performer's Certificate: See Music  
 Philosophy: departmental graduate adviser  
 Physical Education: See Kinesiology and Physical Education  
 Physical Therapy: See Allied Health and Communicative Disorders  
 Physics: Suzanne Willis, Ph.D., departmental director of graduate studies  
 Political Science: Kurt Thurmaier, Ph.D., departmental director of graduate studies  
 Psychology: James Corwin, Ph.D., departmental director of graduate studies  
 Public Administration: Kurt M. Thurmaier, Ph.D., director of division  
 Public Health: See Nursing and Health Studies  
 Public Management and Leadership: See Public Administration  
 Rehabilitation Counseling: See Allied Health and Communicative Disorders  
 School Business Management: See Leadership, Educational Psychology and Foundations  
 Secondary Education: See Teaching and Learning  
 Sociology: Bill Minor, Ph.D., chair of department  
 Spanish: Eloy Merino, Ph.D., departmental coordinator of specialization  
 Special Education: See Teaching and Learning  
 Speech-Language Pathology: See Allied Health and Communicative Disorders  
 Sport Management: Rodney Caughron, Ph.D., program coordinator  
 Statistics: director of division  
 Taxation: Katrina L. Mantzke, Ph.D., department program director for M.S.T.  
 Teaching and Learning: chair of department  
 Technology: Clifford Mirman, Ph.D., chair of department  
 Theatre Arts: Terry McClellan, M.F.A., director of school  
 Urban Management: See Public Administration  
 Visual Impairments: See Teaching and Learning

## Graduate Concentrations and Certificates of Graduate Study

Adapted Physical Education: Chair, Department of Kinesiology and Physical Education  
 Advanced Quantitative Methodology in Education: Chair, Department of Educational Technology, Research and Assessment  
 Advanced Teaching Practices: Chair, Department of Teaching and Learning  
 Applied Mechanics: Chair, Department of Mechanical Engineering  
 Applied Statistics: Director, Division of Statistics  
 Assistive Technology Specialist: Chair, Department of Teaching and Learning  
 Behavior Specialist: Chair, Department of Teaching and Learning  
 Biochemistry: Director, Center for Biochemical and Biophysical Studies  
 Bioinformatics: Mitriok A. Johns, Ph.D., Department of Biological Sciences  
 Biophysics: Director, Center for Biochemical and Biophysical Sciences  
 Career Development: Chair, Department of Counseling, Adult and Higher Education  
 Computer-Aided Design and Computer-Aided Manufacturing: Chair, Department of Mechanical Engineering  
 Curriculum Adaptations Specialist: Chair, Department of Teaching and Learning  
 Design of Thermal Systems: Chair, Department of Mechanical Engineering  
 Digital Image Processing: Chair, Department of Electrical Engineering  
 Digital Signal Processing: Chair, Department of Electrical Engineering  
 Digital Systems: Chair, Department of Electrical Engineering  
 Earth Science Education: Teacher Certification Coordinator, Department of Geology and Environmental Geosciences

Eating Disorders and Obesity: Chair, School of Family, Consumer, and Nutrition Sciences  
 Elementary Mathematics Teaching: Chair, Department of Mathematical Sciences  
 English Education: Director of Graduate Studies, Department of English  
 Environmental Education: Chair, Department of Teaching and Learning  
 Family Nurse Practitioner: Chair, School of Nursing and Health Studies  
 Foreign Language Instructional Technology: Chair, Department of Foreign Languages and Literatures  
 Foundations of Education: Chair, Department of Leadership, Educational Psychology and Foundations  
 Geographic Information Analysis: Chair, Department of Geography  
 German Language, Literature, and Culture: Chair, Department of Foreign Languages and Literatures  
 Gerontology: Director, Gerontology Program, College of Health and Human Sciences  
 Health Education: Chair, School of Nursing and Health Studies  
 Higher Education: Chair, Department of Counseling, Adult and Higher Education  
 Historical Administration: Director of Graduate Studies, Department of History  
 Homeland Security: See Inter-College Interdisciplinary Certificates  
 Industrial Control: Chair, Department of Electrical Engineering  
 Industrial Project Management: Chair, Department of Technology  
 Industrial Workplace Design Systems: Chair, Department of Technology  
 Integrated Manufacturing Systems: Chair, Department of Industrial Engineering  
 Latin American Studies: Director, Center for Latino and Latin American Studies  
 Lesbian, Gay, Bisexual, and Transgender Studies: Coordinator, Diana Swanson (Women's Studies Program and Department of English); and Sarah Conklin (Public Health and Health Education)  
 Management Information Systems: Chair, Department of Operations Management and Information Systems  
 Managerial Leadership: Director, Office of M.B.A. Program  
 Multiple Disabilities Specialist: Chair, Department of Teaching and Learning  
 Museum Studies: Director, School of Art  
 Nursing Education: Chair, School of Nursing and Health Studies  
 Problem-Based Learning in Educational Psychology: Chair, Department of Leadership, Educational Psychology and Foundations  
 Public Health: Chair, School of Nursing and Health Studies  
 Public Management: Director, Division of Public Administration  
 Quality Control of Manufacturing Processes: Chair, Department of Industrial Engineering  
 Semiconductor Devices: Chair, Department of Electrical Engineering  
 Semiconductor Fabrication: Chair, Department of Electrical Engineering  
 Southeast Asian Studies: Director, Center for Southeast Asian Studies  
 Spanish Language, Literature, and Culture: Chair, Department of Foreign Languages and Literatures  
 Strategic Industrial Management: Chair, Department of Technology  
 Teaching English as a Second Language and Bilingual Education: Chair, Department of Literacy Education  
 Technical Writing: Director of Graduate Studies, Department of English  
 Technology of Quality: Chair, Department of Technology  
 Traffic Safety Education: Chair, Department of Technology  
 Vibration and Control System Design: Chair, Department of Mechanical Engineering  
 VLSI Design: Chair, Department of Electrical Engineering  
 Women's Studies: Director, Women's Studies Program

# Admission to Graduate Study

## General Requirements for Admission to the Graduate School

To be admitted as a graduate student, an applicant must have obtained a baccalaureate or higher degree, prior to the start of the NIU term for which the student is admitted, from an accredited U.S. college or university or the equivalent degree from a recognized foreign institution. (See “Definitions of Terms Used in This Catalog” for definitions of “accredited institution” and “recognized institution.”) Applicants must have the approval of the department in which they plan to major and either must have a minimum 2.75 overall grade point average (GPA), based on a 4.00 system, in their baccalaureate program or must have completed 15 or more semester hours of graduate work at an accredited institution with a GPA of 3.20 or higher. The overall baccalaureate GPA is here defined as the GPA as reflected on the official transcript of the institution granting the baccalaureate degree; if the institution specifies none, or uses other than a 4.00 system, NIU will compute the GPA for course work at that institution, when possible. To be admitted to a program beyond the master’s degree, students must have at least a 3.20 GPA in all graduate work taken.

Applicants whose GPA is below the required level may, at the discretion of the major department, be recommended for admission if they satisfy one of the following criteria.

- Demonstrated ability to conduct graduate work at an accredited college or university.

- Exceptional performance on required graduate-level admission tests (GRE or GMAT).

- Presentation of other relevant evidence acceptable to the department, such as a portfolio in art or an audition in music of notably high quality.

The above are minimum academic requirements for admission to the Graduate School. The applicant’s character, integrity, and general fitness to practice a particular profession may also be considered in the admissions process. Departments reserve the right, in consultation with the Graduate School, to establish additional standards and criteria for admission. It is the responsibility of the applicant to ascertain the nature and extent of these requirements. In addition, limited resources may indicate a need for limited enrollments, requiring departments to restrict admissions and to entertain special admissions only under exceptional circumstances. Admission of any student failing to meet admissions criteria as set forth in the *Graduate Catalog* requires the approval of the office of the dean of the Graduate School.

A student-at-large must be in good academic standing to be admitted to the Graduate School; see “Enrollment for Graduate Study as a Student-at-Large.”

## Application for Admission

In order to pursue a graduate degree, one must apply and be admitted to the Graduate School, as well as be accepted for admission by the faculty of the particular program one wishes to pursue.

Students who wish to take graduate course work but not pursue a degree program should refer to the section “Enrollment for Graduate Study as a Student-at-Large” in this catalog.

Applications are available online at [www.grad.niu.edu/apply/index.shtml](http://www.grad.niu.edu/apply/index.shtml). Graduate School and program deadlines for the completion of the application dossier are available online at [www.grad.niu.edu/application.deadlines.pdf](http://www.grad.niu.edu/application.deadlines.pdf). The completed application form, *with the required application fee*, must be received by the Graduate School no later than June 1 for admission to the fall semester, November 1 for the spring semester, and April 1 for the summer session. All remaining application materials—official transcripts, required test scores, and letters of recommendation—must be received by August 1 for the fall semester, January 1 for the spring semester, and June 1 for the summer session. These application deadlines are waived for a student already enrolled in a graduate program at NIU who wishes to apply for admission to another graduate program, or an NIU undergraduate seeking early admission to the Graduate School. See also “International Students” for application deadlines applicable to such students. For any of these dates occurring on a Saturday, Sunday, or university holiday, the deadline becomes the next day on which university offices are open.

Payment for the application fee *must* accompany the submission of the application, unless the applicant is exempt from the fee. The following individuals are exempt from payment of the application fee: NIU operating and supportive professional staff, employed and retired NIU faculty, individuals who received a GRE fee waiver, McNair Scholars, and qualified veterans under the Illinois Veterans’ Grant (IVG) Program. Also exempt are students who have been enrolled in NIU graduate programs within one year prior to the start of the term for which they are seeking admission. Exempt applicants should contact the Graduate School to learn how to receive a fee-waiver code.

The applicant must arrange to have letters of recommendation submitted directly to the Graduate School in support of the application. At least three such letters are required for applicants to doctoral programs, at least two for applicants to all other programs. Some departments require additional letters, as indicated in the corresponding departmental section of this catalog. Care should be exercised in selecting persons to write letters of recommendation. These should be persons in a position to write analytically about the applicant’s academic qualifications to pursue graduate studies, and/or professional competence and ability to benefit from advanced study. For an applicant currently pursuing a graduate program, at least one of the letters should be from a faculty member in the department in which the student is enrolled. Applicants uncertain of the suitability of particular individuals as writers of recommendations should consult with the head of the department or program to which they are applying.

Applicants for admission to the Graduate School assume all responsibility for the completion of their admission files; the Graduate School assumes no obligation to inform them about erroneous or missing credentials.

Graduate 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 and all application materials well in advance of June 1. This application should be submitted directly to the department or other unit in which the applicant wants to work, and not to the Graduate School.

An applicant who holds a baccalaureate degree from a college or university other than Northern Illinois University, or who has engaged in graduate study elsewhere, must submit official

transcripts showing each such degree and all graduate work as part of the application materials. The applicant should request that the appropriate institution(s) send one official copy of each required transcript directly to the Graduate School. Degree transcripts must be from the institution conferring each degree; transcripts of graduate work must be from the institution(s) at which the student was enrolled for such work. Graduate credit is not accepted in transfer from U.S. institutions that are not accredited or from foreign institutions that are not recognized (see “Definitions of Terms Used in This Catalog” for definitions of “accredited institution” and “recognized institution”); therefore, transcripts are not required for work done at such institutions. Some graduate programs may require additional transcripts (such as for associate’s degrees), as indicated in the departmental sections of this catalog.

Students submitting credentials written in languages other than English are also required to submit an official English translation. Copies of either originals or translations, even if notarized, are not considered official.

An applicant whose native language is not English must present a satisfactory score for the *Test of English as a Foreign Language* (TOEFL), as indicated below under “Examinations Required for Admission.”

A student whose application for admission to a graduate program is denied may request reconsideration at any time prior to the close of admissions for the term for which application was made. If the admission deadline for that term is past, the student must submit a new application form by the deadline applicable to the next term for which admission is sought. At the discretion of the department or program to which the student desires admission, additional materials may be required in support of a reapplication or reconsideration request, and such a request will not normally be considered unless the student presents additional academic information not previously available to the faculty.

## Admission Procedures for International Students

For international students, all application material—the application for admission, letters of recommendation, diplomas, mark sheets, and test scores—must be received by the Graduate School no later than May 1 for admission for the fall semester or October 1 for the spring semester. Normally, new international students will not be admitted to begin a degree program in the summer session. The application deadlines are waived for a student already enrolled in a graduate degree program at NIU who wishes to apply for admission to another graduate program. An international student residing in the U.S. may meet the application deadlines specified for domestic students if seeking admission for the fall semester; if seeking admission for the spring semester, such a student must submit the application form by November 1 and all supporting materials by December 1. An international student who is enrolled as an undergraduate at NIU or who has permanent resident alien status in the U.S. is required to meet only the application deadlines specified for domestic students, and may be considered for admission for the summer session. For any deadline date occurring on a Saturday, Sunday, or university holiday, the deadline becomes the next day on which university offices are open. A permanent resident must provide her or his alien registration number on the application form; an international student residing in the U.S. may be required to provide verification of this status.

A student seeking an F-1 or J-1 visa must also submit the financial statement and demonstrate adequate financial resources before an I-20 or IAP-66 form will be issued.

International students must submit either IELTS or TOEFL test scores. The International English Language Testing Services test can be taken at most British Consulates. For information

regarding the IELTS, applicants should visit <http://www.ielts.org/contactus/default.aspx>. The TOEFL *Bulletin of Information* and registration form can be obtained in a number of cities outside the United States. They are often 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 to: TOEFL Services, P.O. Box 6151, Princeton, New Jersey 08541-6151, U.S.A., or contact [www.toefl.org](http://www.toefl.org).

A comprehensive orientation program is provided by the International Student and Faculty Office for new international students. This begins when the student is granted admission to the university, and continues after the student’s arrival on campus. The program includes dissemination of information and materials concerning the university, the university community, and U.S. immigration rules and regulations; a week of intensive orientation activities at the beginning of the first semester of attendance; and follow-up activities during the remaining period of residency and study. A one-time orientation fee is charged for this program. As part of this orientation program, new international students may be given further tests of their English language skills.

## Examinations Required for Admission

An applicant should plan to take the required tests early enough so that scores can reach the Graduate School before the final application deadline for a given term. Up to eight weeks may be required for the Graduate School to receive scores after the administration of the tests.

### Graduate Record Examinations (GRE)

In order to be admitted to the Graduate School, all applicants, other than those applying to programs in the College of Business, the M.F.A. or the M.A. with a specialization in studio art in the School of Art, the M.M. degree or Performer’s Certificate programs in the School of Music, the M.F.A. with a specialization in acting or in design and technology in the School of Theatre and Dance, or the M.S. in the School of Nursing, must have provided official scores on all sections of the General Test of the Graduate Record Examinations (GRE) to the Graduate School.

Applicants to graduate programs in adult and higher education, curriculum and instruction, early childhood education, educational psychology, elementary education, foundations of education, instructional technology, and literacy education may submit Miller Analogies Test (MAT) scores in lieu of GRE scores. Applicants to the graduate program in school business management may submit Graduate Management Admission Test (GMAT) scores in lieu of GRE scores. With approval of the Department of Technology, the GRE scores requirement may be waived for applicants to the M.S. in industrial management on the basis of significant work experience. Applicants to the M.S. in sport management may submit either the GRE or the GMAT scores to the Graduate School.

Occasionally an applicant’s prospective major department may approve waiving the requirement to submit official scores on the GRE for an applicant who has already earned a graduate degree from an accredited institution or for an applicant who is pursuing or has completed a baccalaureate degree at NIU with a major in that department with a cumulative NIU undergraduate GPA of at least 3.00. In special cases, if an applicant who has already taken the Graduate Management Admission Test (GMAT) is applying for admission to a program that requires the GRE, the department may agree to accept the scores on the GMAT.

The Educational Testing Service (ETS), which administers the Graduate Record Examinations program on behalf of the Graduate Record Examinations Board, does not normally report scores more than five years old. Students who are unable to obtain their GRE scores from ETS because of this policy should contact the Graduate School about possible alternative means to satisfy the GRE requirement.

For GRE information, testing dates, and locations, contact [www.gre.org](http://www.gre.org). For MAT, contact [www.MillerAnalogies.com](http://www.MillerAnalogies.com)

### Graduate Management Admission Test (GMAT)

Applicants for graduate study in business must submit official scores on the GMAT to the Graduate School. With the approval of the applicant's prospective major department, the requirement to submit official scores on the GMAT may be waived for an applicant who has already earned a graduate degree from an accredited institution. With the approval of the applicant's prospective major department, the requirement to submit official scores on the GMAT may be waived for the Executive M.B.A. format for an applicant who has ten or more years of professional managerial experience. With the approval of the Department of Accountancy, the GMAT score requirement may be waived for applicants to the M.S.T. program who present satisfactory scores on the LSAT or who provide evidence of passing all parts of the C.P.A. examination. Applicants to programs in the College of Business are not required to take the General Test of the GRE. In special cases, however, if an applicant who has already taken the Graduate Record Examinations (GRE) is applying for admission to a program that requires the GMAT, the department may agree to accept the scores on the GRE. The M.S. in sport management will accept the GMAT or the GRE scores.

For GMAT information, contact the Graduate Management Admission Council at [www.gmac.com](http://www.gmac.com).

### Language Test Requirements (IELTS and TOEFL)

An applicant whose native language is not English must present an IELTS score of 6.5 or alternatively, a TOEFL score of at least 80 on the TOEFL iBT, 213 on the scale of 0-300, or at least 550 on the older scale of 310-677 where applicable (in certain countries). The score must be for an examination administered no more than 24 months prior to the beginning of the academic term for which admission is sought. At the discretion of the intended major department, possession of a baccalaureate or higher degree from an accredited institution in the U.S., the U.K., Ireland, Canada, Australia, or New Zealand, at which the language of instruction was English, may serve in lieu of the TOEFL score. The TOEFL requirement is waived for a student already enrolled and in good academic standing in a degree program at NIU. In special circumstances, a department may seek a waiver of this requirement for a student who has demonstrated success in graduate course work at an accredited institution in the U.S.

For IELTS information, contact [www.ielts.org](http://www.ielts.org). For TOEFL information, contact [www.toefl.org](http://www.toefl.org).

### Notification of Admission

Admission decisions may be made within a few weeks following the receipt of all credentials. For programs in which space is limited, however, admission decisions may be made only at certain times during the academic year. Accordingly, notification of decisions may not be mailed until some time after the formal deadline for applications has passed.

The official notification of admission is a letter sent to the applicant by the Graduate School. Correspondence from individual departments or programs does not constitute official notice of admission.

A student must be admitted by the close of the first week of an academic term in order for the admission to be effective for that term.

### Regular Admission

Regularly admitted graduate students meet all program-level and Graduate School requirements for admission.

A regularly-admitted student, who must complete a baccalaureate or a master's degree prior to matriculation as a graduate student at NIU, but who has not yet provided an official transcript verifying completion of that degree, shall do so within one month of matriculation. Students who fail to provide an official transcript proving receipt of the prior degree will have their admission terminated and their enrollment cancelled.

### Conditional Admission

Students are admitted conditionally either because they lack the academic background to ensure completion of a program or because they do not meet program-level or Graduate School admission requirements. Conditional admission can be awarded only by the dean of the Graduate School upon the recommendation of the program.

Students must complete all requirements to remove the conditional admission within the first nine hours of course work enrolled at NIU as a graduate student. Failure to do so will result in termination from the program and the Graduate School.

While classified as conditionally-admitted, master's students must achieve a minimum 3.00 grade point average in graduate course work; specialists students must achieve a minimum 3.25 GPA in graduate course work; and doctoral students must achieve a 3.50 GPA in graduate course work.

Programs may impose other requirements that conditionally-admitted students must meet, including completion of undergraduate course work at a specified level of competency. Programs must inform the student and the Graduate School in writing of any such requirements. Responsibility for enforcing additional requirements resides solely with programs.

Conditionally-admitted students may be required to complete undergraduate deficiency courses. Deficiency courses may be taken only at NIU. Graduate students enrolled in undergraduate classes must be aware of potential consequences upon their eligibility to receive financial aid.

Once a conditionally-admitted student meets requirements to lift the condition of his or her enrollment, the Graduate School will reclassify the student as regularly admitted.

Conditionally-admitted students may not ordinarily receive an assistantship. No student can complete requirements to graduate while admitted conditionally.

Conditionally-admitted students must meet the same requirement for providing official transcripts for previously awarded degrees as those admitted regularly (see above).

### Early Admission of NIU Undergraduates

Early admission to the Graduate School is available to seniors in their final term of undergraduate enrollment at NIU. Students who apply for and receive early admission may take courses for graduate credit. The student granted early admission must be enrolled for all courses necessary to complete the baccalaureate degree (as determined by the undergraduate graduation-evaluations area in the Office of Registration and Records).

Application for early admission is made through the Graduate School. A student applying for early admission must have applied to graduate from the baccalaureate program at the end of the term for which early admission is sought. No student may enroll more than one term under early-admission status. If a student is granted early admission and fails to graduate from the baccalaureate program at the end of the term for which early admission was granted, admission to the Graduate School will be terminated.

## Matriculation; Deferral of Admission

In order to establish their admission, graduate students must enroll in the semester or summer session for which they are admitted, indicated in the letter of admission from the Graduate School. At the discretion of the office of the dean of the Graduate School and with permission of the major department, matriculation may be deferred up to but not beyond two calendar years. The request for deferral of admission must be submitted to the Graduate School, in writing, no later than the end of the academic term for which admission has been granted. If students do not request a deferral of admission, and fail to matriculate (enroll in the term of admission) as required, their admission to that program is canceled. If the student was not already admitted to another graduate program, admission to the Graduate School is also canceled as a result. Provisional admission may not be deferred; the student should instead arrange to provide the missing credentials to permit consideration for unconditional admission in a subsequent term.

U.S. Social Security numbers are required for registration purposes. New international students, and any students who cannot initially provide a U.S. Social Security number, are assigned temporary identification numbers by the Graduate School, but should obtain a permanent number from a Social Security office as soon as possible. New international students may obtain Social Security numbers as part of the orientation program prior to the start of the semester.

## Change of Major/Specialization

A student who wishes to change degree level within a given major or from one specialization to another within the same major must submit a change of major/specialization form to the Graduate School. The faculty of the new degree level or specialization will be given the opportunity to approve the specialization or level change requested. The Graduate School will grant a request once it is approved by the department, provided that the student is in good academic standing.

A matriculated student in good standing who wishes to change degree programs must submit a new application for admission within established application deadlines. The student must inform the Graduate School if he or she wishes to cancel enrollment in the degree program to which previously admitted. Likewise, the student must inform the Graduate School that he or she desires previously submitted supporting materials to be forwarded to the admissions committee of the new degree program.

## Concurrent Pursuit of Multiple Graduate Programs

A student may be admitted to two (or more) degree programs concurrently. A new application form must be completed for each degree program to which the student desires admission. Each intended program may review the student's existing Graduate School academic file and may require letters of recommendation pertinent to the particular program. A graduate student must be in good academic standing in order to be admitted to an additional graduate degree program. When a student already enrolled in the Graduate School is admitted to an additional graduate degree program, the department(s) to which the student is already admitted will be notified of the new admission. A student admitted to more than one degree program is considered to be pursuing each one independently in the sense that each degree can be awarded as all requirements for it are satisfied. See also "Dual Credit for Graduate Course Work."

## Termination of Admission; Retention

A student failing to maintain good academic standing may be academically dismissed from the Graduate School, as described under "Academic Standing" in the "General Regulations" section of this catalog. Graduate students who are academically dismissed lose their status as graduate students, even if they have previously earned a graduate degree at NIU. In addition, a student in good academic standing may be dismissed from a graduate program for various academic reasons, including falsification of application materials, failure to satisfy stipulations imposed upon admission to the program, and failure to satisfy other program or Graduate School requirements in timely fashion according to established policies.

A student previously enrolled in a graduate degree program at NIU who did not graduate from that program, and who has not been enrolled for 12 consecutive months, will have that admission canceled. See "Readmission/Reentry."

If a student has been admitted to a graduate degree program, and does not complete any course work applicable to that program for 12 consecutive months, then, at the discretion of the department, the student's admission to that program may be terminated. Similarly, if a student is enrolled in a given term, but not in any course work applicable to his or her degree program, then, at the discretion of the department, the student's admission to her or his program may be terminated.

Satisfactory academic progress in a program also involves maintaining the standards of academic and professional integrity expected in a particular discipline or program; failure to maintain these standards will, on recommendation of the student's department, result in termination of the student's admission to the program.

Admission to the Graduate School is contingent on admission to a particular degree program. Therefore, when admission to a program is terminated, the student's admission to the Graduate School is also terminated (unless the student was already admitted to another graduate degree program). A student whose admission to the Graduate School is terminated because of dismissal from or termination of admission to a program may apply for admission to another degree program (if in good academic standing overall), or may apply for permission to register as a student-at-large, in order to continue graduate-level study.

A student who has been academically dismissed while a graduate student or student-at-large at NIU is not eligible for admission or reentry but must petition the Graduate Council Appeals Committee for academic reinstatement.

## Readmission/Reentry

If a student who was previously enrolled in a graduate degree program at NIU but whose admission has been canceled wishes to resume study in the same degree program, she or he must submit a reentry application to the Graduate School and secure permission from the program to re-enter. A previously enrolled degree-seeking student who wishes to change programs must submit an application for admission. A degree-seeking student who does not register for course work in a 12-month period must submit a reentry application and obtain permission from the program to reenter. If the student no longer wishes to pursue a degree, but does wish to undertake further graduate course work, she or he should apply as a student-at-large.

Students-at-large who interrupt their studies for 12 consecutive months must submit a reentry application to the Graduate School prior to registration. The reentry application serves as a notice of the student's intention to resume registration, so that institutional records can be brought up to date.

Graduate students and students-at-large who have been academically dismissed are not eligible for admission or reentry; they should see the section entitled “Academic Reinstatement” elsewhere in this catalog.

## Enrollment for Graduate Study as a Student-at-Large

Persons who have not applied for admission to the Graduate School, who have applied but have not yet been admitted, who were previously admitted but whose admission lapsed or was terminated prior to the completion of a degree, or who have been denied admission may be permitted to register for graduate work as students-at-large. In order to receive permission to register as a student-at-large, an individual must

submit to the Graduate School a completed application for permission to register as a student-at-large ([http://www.xap.com/applications/niu\\_student\\_at\\_large/apply.html](http://www.xap.com/applications/niu_student_at_large/apply.html)), and

provide documentation (e.g., unofficial transcripts) that the applicant holds a baccalaureate or higher degree from an accredited institution (or the equivalent from a recognized institution outside the United States). An official transcript documenting the completion of a baccalaureate or higher degree must be submitted within one month of matriculation as a student-at-large.

A graduate student who has been academically dismissed from the Graduate School may not enroll as a student-at-large unless granted academic reinstatement for this purpose by the Graduate Council Appeals Committee.

A student permitted to register as a student-at-large who fails to provide an official transcript as described above will not be permitted to enroll for more than one term. The student will remain ineligible for further registration, or for issuance of NIU transcripts, until the required degree transcript is received, and cannot expect any credit for work undertaken during the period of ineligibility for registration. If it is subsequently discovered that the necessary degree was not earned prior to the start of the term for which the student enrolled as a student-at-large, the student will lose any graduate credit earned during that term and, unless the student has an undergraduate status at NIU, will have all enrollment for that term dropped.

The student-at-large classification is primarily for the purpose of taking *graduate-level* classes; persons with a baccalaureate degree wishing to take only undergraduate classes or to pursue another baccalaureate degree at NIU should do so through one of the student categories designed for that specific purpose (e.g., the “postgraduate” classification). Information about such categories is available from the Undergraduate Admissions Office.

Permission to register as a student-at-large should not be confused with admission to the Graduate School. Students-at-large are not considered to be admitted to a degree program until they have been formally admitted by the Graduate School and relevant department. A person seriously considering pursuing an advanced degree should apply for admission to the Graduate School as early as possible. Advice should be sought through the appropriate academic department or the Graduate School.

A student-at-large is not eligible for appointment to a graduate assistantship. A student-at-large must complete a re-entry application to the Graduate School if registration is discontinued for more than one year.

A student-at-large may apply for admission to the Graduate School. However, even if admission is achieved, the graduate credit accumulated as a student-at-large will not necessarily be counted toward an advanced degree at this university, and certain programs have limits on the number of student-at-large hours that

can be applied toward a specific degree. Therefore, a student at-large who intends to pursue a graduate degree should apply for admission as soon as possible. Students-at-large are normally prohibited from registering for graduate business courses.

Students-at-large are under the administrative jurisdiction of the office of the dean of the Graduate School. Inquiries concerning regulations and policies and requests for waivers or exceptions should be addressed to that office.

Unless otherwise indicated, the general provisions of the *Graduate Catalog* apply to students-at-large. In particular, a student-at-large is subject to the same regulations governing probation and dismissal as a student admitted to the Graduate School. These regulations, described under the heading “Academic Standing,” include the requirement that a student-at-large must maintain a minimum 3.00 GPA in all graduate-level work undertaken at NIU in order to remain in good standing. Students-at-large who are placed on academic probation and fail to regain good standing within the prescribed period of further enrollment, or who accumulate 6 or more semester hours of D, F, U, or WF in graduate-level work, are subject to academic dismissal.

A student-at-large who is on academic probation or has been academically dismissed shall not be considered for admission to the Graduate School. Also, if a student-at-large is admitted to the Graduate School but is placed on academic probation prior to matriculation as a graduate student, then that student’s admission to the Graduate School is canceled and good academic standing must be regained before the student can again be considered for admission to the Graduate School.

## Postbaccalaureate Classification

A postbaccalaureate is a student who has an earned baccalaureate degree and wishes to take additional undergraduate courses or to pursue a second undergraduate degree. Admission as a postbaccalaureate student is granted through the Undergraduate Admissions Office.

A postbaccalaureate is not eligible to enroll in any course for graduate credit. However, postbaccalaureate students may enroll in a limited number of graduate-level courses for undergraduate credit; see “Undergraduates in Graduate Courses for Undergraduate Credit.”

Credit earned while a postbaccalaureate is undergraduate credit and, therefore, may not be applied later toward a graduate degree. Conversely, graduate credit earned as a graduate-level student may not be applicable toward an undergraduate degree; the evaluations staff of the Office of Registration and Records should be contacted for further information.

Whether postbaccalaureate or a graduate-level (graduate student or student-at-large) classification is the more appropriate will depend on the student’s educational objectives, and students are encouraged to consult with appropriate departmental or other academic advisers in making their choice. The student’s classification may also affect eligibility for certain types of financial assistance; students should contact a financial aid counselor in the Student Financial Aid Office for more information. A student wishing to change from postbaccalaureate to a graduate-level classification, or vice versa, must formally resign the original classification before the new classification is granted, and must have the approval of both the appropriate undergraduate college office (determined by the postgraduate major) and the office of the dean of the Graduate School. The change of classification must be requested not later than the first regularly scheduled class day of the academic term for which it is to be effective.

# General Regulations

## Student Responsibility

It is the responsibility of students to know and observe all regulations and procedures relating to the program they are pursuing, as well as those of the university and Graduate School. In no case will a regulation be waived or an exception granted because students plead ignorance of, or contend that they were not informed of, the regulations or procedures. Questions on regulations and their interpretation pertaining to studies at the graduate level should be addressed to the office of the dean of the Graduate School.

Students planning to graduate should familiarize themselves with the dates relating to application for graduation and other pertinent deadlines. (See the *Graduate School Calendar*, copies of which may be obtained from the Graduate School, [www.grad.niu.edu](http://www.grad.niu.edu)) It is necessary to apply for graduation by the specified deadline in order to graduate in a particular term, whether or not the student plans to attend the commencement ceremonies, if any.

Students must satisfy the degree requirements of the catalog in force during the term for which they have been admitted to and begin course work in the degree program; or they may, with the consent of their advisers, meet graduation requirements by complying with the degree requirements of a later catalog. Students readmitted to a degree program must meet degree requirements of the catalog in force at the time of the later admission (or of a subsequent catalog, as provided above). Aside from degree requirements, all students are subject to the regulations and policies stated in the catalog currently in force. Exceptions to regulations and requirements contained in the *Graduate Catalog* require the written approval of the office of the dean of the Graduate School, unless otherwise stated in the catalog.

## Student Responsibility for Obtaining Current University Information

The university reserves the right to make changes in admission requirements, fees, degree requirements, and other specifications set forth in this catalog. Such changes may take precedence over catalog statements. While reasonable effort is made to publicize such changes, students should remain in close touch with departmental advisers and appropriate offices, because responsibility for complying with all applicable requirements ultimately rests with the student. The office of the dean of the Graduate School is the authoritative office for verifying deviations from provisions in this catalog.

## Advisory System

Each student is assigned by his or her major department an adviser or advisory committee whose purpose is to guide the student's studies and recommend him or her for the degree when the student is properly qualified. The departmental adviser(s) may be indicated in the student's letter of admission from the Graduate School, or assigned later.

The official program of courses is formulated by the student in consultation with the assigned adviser or advisory committee. See "The Official Program of Courses" for details on the preparation and submission of the program of courses.

Departmental advisers can assist students in understanding and satisfying departmental and university requirements. However, they are not responsible for informing students of published regulations, such as those in this catalog, nor, except as explicitly provided in this catalog, do they have the authority to modify those requirements. See "Student Responsibility" above.

## Academic Integrity

Good academic work must be based on honesty. The attempt of any student to present as his or her own work that which he or she has not produced is regarded by the faculty and administration as a serious offense. Students are considered to have cheated, for example, if they copy the work of another or use unauthorized notes or other aids during an examination or turn in as their own a paper or an assignment written, in whole or in part, by someone else. Students are guilty of plagiarism, intentional or not, if they copy material from books, magazines, or other sources without identifying and acknowledging those sources or if they paraphrase ideas from such sources without acknowledging them. Students guilty of, or assisting others in, either cheating or plagiarism on an assignment, quiz, or examination may receive a grade of F for the course involved and may be suspended or dismissed from the university.

A faculty member has original jurisdiction over any instances of academic misconduct that occur in a course which the faculty member is teaching. The student shall be given the opportunity to resolve the matter in meetings with the faculty member and the department chair. If the facts of the incident are not disputed by the student, the faculty member may elect to resolve the matter at that level by levying a sanction no greater than an F for that course. The faculty member shall notify the student in writing whenever such action is taken, and the University Judicial Office shall receive a copy of the *Academic Misconduct Incident Report* indicating final disposition of the case, which will be placed in the student's judicial file. In all matters where the charge of academic misconduct is disputed by the student or if the faculty member feels a sanction greater than an F in the course is appropriate (such as repeated offenses or flagrant violations), the faculty member shall refer the matter to the University Judicial Office, making use of the *Academic Misconduct Incident Report*. Additional sanctions greater than an F in a course can be levied only through the University Judicial System or through the university's research misconduct procedures noted below. Suspension or dismissal from the university for academic misconduct will result in a notation of that action on the transcript of a graduate-level student.

The university has adopted additional policies and procedures for dealing with research misconduct among its students, faculty, and staff. The guidelines, entitled *Research Integrity at Northern Illinois University*, are available in department offices, in the office of the dean of the Graduate School, and online at [www.niu.edu/provost2/facpers/appm/l2.htm](http://www.niu.edu/provost2/facpers/appm/l2.htm), and pertain to the intentional commission of any of the following acts: falsification of data, improper assignment of authorship, claiming another person's work as one's own, unprofessional manipulation of experiments or of research procedures, misappropriation of research funds.

If a graduate student fails to maintain the standards of academic or professional integrity expected in his or her discipline or program, the student's admission to the program may be terminated on recommendation of the student's major department. A statement on students' rights to the products of research is available in department offices, in the office of the dean of the Graduate School, and online at [www.niu.edu/provost2/facpers/appm/l11.htm](http://www.niu.edu/provost2/facpers/appm/l11.htm).

## Registration

Students will not receive credit for any course for which the registration is not completed according to university procedures. Conversely, it is not legitimate to attend or participate in a course in which one is not registered.

Students who have any obligation to the university (such as unpaid fines, tuition, fees, or residence-hall charges, or missing admission documents) will not be allowed to register for classes in subsequent terms until all obligations are met and should not expect retroactive enrollment for a period of time during which they were not eligible to register. (See "Encumbrances.")

Individuals who have not paid tuition and fees by the applicable deadlines may have their registration canceled. However, nonpayment of tuition and fees does not necessarily result in cancellation of registration, nor is it an appropriate means by which to effect withdrawal. A student wishing to drop or withdraw from a course must do so by following established procedures and by the applicable deadline. Failure to do this by specified deadlines may result in continued registration and/or financial liability.

Registration may also be canceled for students who fail to satisfy admission or registration requirements or requirements for permission to enroll as a student-at-large.

## Class Time Conflicts

A graduate-level student wishing to enroll in two courses for which the scheduled class meeting times overlap must obtain, in advance, the written approval of both course instructors and the office of the dean of the Graduate School.

## Immunization Policy

The Illinois College Student Immunization Act (110-ILCS 20) and university policy require that all students born on or after January 1, 1957, who are assessed on campus fees, provide written evidence of current immune status with respect to certain communicable diseases, or evidence of exemption from this requirement, by the tenth calendar day of the first term enrolled.

Failure to provide the required documentation and be in compliance with the state law by the tenth calendar day of the first term enrolled will result in a late processing fee. A registration encumbrance will also be placed on the records of students who are not in compliance. You will be notified at your NIU e-mail account if any additional information is required.

Immunization information may be obtained from the Health Services web page at [www.niu.edu/healthservices/immunizations/](http://www.niu.edu/healthservices/immunizations/) or by calling 815-753-9585.

## Meningococcal Meningitis

The Center for Disease Control's Advisory Committee on Immunization Practices (ACIP) recommends that college freshman living in residence halls be immunized against meningococcal disease. The ACIP recommendation further states that other college students under 25 years of age who wish to reduce their risk for the disease may choose to be vaccinated.

Meningitis is an inflammation of the linings of the brain and spinal cord that is caused either by viruses or bacteria. Viral meningitis is generally less severe and resolves without specific treatment. Bacterial meningitis, especially meningococcal meningitis, is more serious and can result in permanent neurologic damage or death.

Meningococcal meningitis commonly begins with high fever, headache, and stiff neck that develop over a period of several hours to two days. Other symptoms may include nausea, vomiting, confusion, drowsiness and discomfort looking at bright lights. Meningococcal meningitis is spread through exchange of oral and respiratory secretions (i.e., coughing, kissing, and sharing eating utensils), not through casual contact. Individuals who live in the same household or have direct contact with an infected person's oral secretions are at an increased risk of acquiring the infection.

Two vaccines are available that protect against four of the five strains (or types) of the bacterium that cause meningococcal disease. While both vaccines provide immunity for a number of years to approximately 90% of those who are vaccinated, neither medication confers lifelong immunity to meningococcal meningitis.

Health Services provides meningococcal vaccinations for NIU students on request. There is a charge for this vaccination. For more information, please contact Preventive Medicine at 815-753-9759.

## Encumbrances

A record encumbrance is a restriction placed on a student's official academic record. Academic records may be encumbered under a number of circumstances, examples of which include past-due obligation to the university (such as unpaid tuition, fees, fines, or residence-hall charges); incomplete admission requirements (such as missing transcripts or other academic credentials); and a disciplinary action by the university or the Student Judicial Office.

Students may not be allowed to register or to have transcripts or diplomas issued after an encumbrance has been placed on their academic record. Students who have had an encumbrance placed on their record may direct inquiries to the office that requested the encumbrance or to the Office of Registration and Records. Only the office placing an encumbrance may authorize its removal. Students who are ineligible to register by reason of an encumbrance should not participate in courses and should not expect registration in course work to be effected retroactively for a period during which they were ineligible to register.

For immediate release of monetary encumbrances, all past-due obligations to the university must be paid with a cashier's check, certified check, or money order.

## Written English Proficiency

The university expects a reasonable level of English competency in its graduate students, regardless of their discipline. Those students who hold a baccalaureate or higher degree from an accredited institution in the U.S., or a recognized institution in the U.K., Ireland, Canada, Australia, or New Zealand at which the language of instruction was English are considered to have met this requirement. In special circumstances, a student's department may seek a waiver of this requirement based on the student's demonstration of appropriate written English proficiency in other ways (e.g., through employment). Other graduate students are required to take either the standardized Test of Written English (essay portion of the TOEFL), the written portion of the International English Language Testing Services (IELTS) exam, the GRE Analytical Writing Assessment, the

GMAT Writing Assessment, or the examination administered for this purpose by the NIU Department of English, to test their written English language competency level. Those whose English appears deficient or marginal for purposes of graduate study and scholarly communication on the basis of their score on one of the aforementioned examinations will be required to improve their competence in the language. They will then be required to take and pass either the two-course sequence of ENGL 451 and ENGL 452, or the single course ENGL 453, depending on the score achieved.

A student who believes that the results of one of these examinations did not accurately reflect his or her English writing proficiency may repeat the test or may take one of the other tests, not later than the student's second semester of Graduate School enrollment, and the score on the second test will determine the student's English course placement. Submission of scores from no more than two attempts will be permitted. If none of these examinations is taken by the end of the student's second semester of Graduate School enrollment, then both ENGL 451 and ENGL 452 will be required. A student's major department may require completion of additional course work in English it deems pertinent to graduate study in the student's chosen field.

ENGL 451. ESL RHETORIC AND COMPOSITION I (3). Only for graduate students whose native language is not English. Exploration of academic discourse in a cross-disciplinary context. The writing and revising of essays with special support for grammar and mechanics. Reading of academic prose. Weekly writing assignments. Not available for graduate credit. PRQ: Placement by testing and consent of department.

ENGL 452. ESL RHETORIC AND COMPOSITION II (3). Only for graduate students whose native language is not English. Exploration of critical strategies and documented writing in the disciplines. Documented writing required in all sections. Special support for grammar and mechanics. Not available for graduate credit. PRQ: ENGL 451 and consent of department.

ENGL 453. ESL RHETORIC AND COMPOSITION (3). Only for graduate students whose native language is not English. A concentrated approach to disciplinary writing with special support for grammar and mechanics. Reading of academic prose. Documented writing required in all sections. Not available for graduate credit. PRQ: Placement into ENGL 453 and consent of department.

## Removal of Deficiencies

Courses may be listed as deficiencies either in the letter of admission to the Graduate School or on the program of courses. Students are encouraged to remove such deficiencies as early in the program of study as possible. A schedule for completing courses identified as deficiencies may be established by the adviser or advisory committee.

## Course Load

A graduate-level student's course load includes all courses for which the student is registered, graduate or undergraduate, whether taken for credit or audited. A course from which the student has officially withdrawn is no longer part of that student's course load. A full-time load for a graduate student or student-at-large in a fall or spring semester is 9 semester hours, and in summer session is 6 semester hours. A graduate-level student on academic probation may not enroll for an overload. A student in good academic standing considering an overload should seek academic advice and must obtain approval to carry more than 12 semester hours in the fall or spring semester or 9 hours in the summer session. For a graduate student in a degree program, this approval must be obtained, in advance, from the student's major department; for a student-at-large, or a graduate student not in a degree program, the prior written approval of the office of the dean of the Graduate School is required.

Graduate students holding assistantships during a fall or spring semester are to carry 9 semester hours of course work throughout the semester. In the summer session, students on such appointments are to carry 6 semester hours. Reductions of up to 3 semester hours in the expected course load, and any overload, must be approved in advance by the appointee's major department. Any greater reduction must be approved in advance, in writing, by the appointee's department chair and the office of the dean of the Graduate School. Graduate students holding fellowships, internships, or similar appointments are bound by the above regulations unless the conditions of their appointments specify otherwise and the exception has the written approval of the Graduate School.

An international graduate student in F-1 or J-1 student status is required to carry 9 semester hours in the fall and spring semesters. Such a student is not required to be enrolled in the summer session to be in compliance with immigration regulations, but may be required to be registered in the summer under other university regulations, such as these pertaining to graduate assistants; see also "Continuous Enrollment." International graduate students not appointed to an assistantship, fellowship, or internship may take fewer than 9 semester hours in the fall or spring with advance permission from the student's major department and the office of the dean of the Graduate School. Permission can be granted only in circumstances defined by U.S. government regulations.

For the purposes of full-time enrollment certification to the U.S. Citizenship and Immigration Services of the United States Department of Homeland Security, international students in F-1 and J-1 status pursuing doctoral degrees registered for 3 semester hours will be considered full-time once a program of courses is received by the Graduate School confirming that all course work except 799 (dissertation) is complete and that continuous enrollment in 799 has begun. Students holding graduate assistantships must register for a minimum of 9 semester hours during fall and spring semesters and 6 semester hours during summer term (if a student has a graduate assistantship during the summer).

Students may obtain certification that they are pursuing their studies full-time only if they are enrolled in a full course of study as defined above for their particular situation. A student with an approved underload is, by definition, not enrolled for a full course load. Therefore, such a student cannot expect to obtain official verification of full-time status, for purposes such as deferment of educational loans, for example.

## Eligibility to Enroll in Courses Numbered 699 and 799

Thesis and dissertation research, and other scholarly and creative activities offered under courses numbered 699 and 799, are intended as culminating academic experiences in the respective graduate programs. Therefore, in order to be eligible to enroll in a course numbered 699 or 799 a student must be admitted to the corresponding degree program; students-at-large are not eligible to enroll in such courses. Students may enroll in courses numbered 699 (thesis) and 799 (dissertation) during any semester and up to the maximum number of hours noted in the course description. Students subject to the continuous enrollment requirement must enroll in courses numbered 699 and 799 for credit, not audit. Only the required number of hours required by the program for 699 and 799 will count toward degree.

## Auditors

With permission of the instructor, a student may enroll in a class as an auditor. A student who enrolls as an auditor cannot expect to submit assignments to be graded by the instructor unless those assignments are part of the audit requirements established when permission to audit was granted. A student enrolled for credit who

wishes to change that enrollment from credit to audit after the drop deadline must do so prior to the mid-point of the semester, term, or session, or as specified on the Graduate School website, and must have the approval of the instructor, the department, and the office of the dean of the Graduate School.

Tuition and fees are charged for audit hours on the same basis as for hours taken for credit. Audit hours are included in the calculation of the total course load, but a student who enrolls as an auditor will not receive credit for the course. A student enrolled as an auditor who wishes to change that enrollment to registration for credit must do so prior to the mid-point of the semester, term, or session, or as specified on the Graduate School website.

## Graduate Students in Undergraduate Courses

Graduate students and students-at-large may enroll in undergraduate courses. Students admitted with undergraduate deficiencies are encouraged to remove these deficiencies at the earliest possible date in their course of study. Tuition for such classes is charged at the same rate as for graduate-level classes.

While undergraduate course grades are not included in the GPA, they are a part of the permanent record of the graduate student or student-at-large and appear on the transcript. However, no quality points are assigned to the course. Consequently, graduate students, who plan to pursue licensing or certification by external bodies, should carefully consider the ramifications of completing undergraduate courses to fulfill requirements.

Undergraduate hours are included in the calculation of academic load by the university but not by the Department of Education, which establishes regulations for award of federal financial aid. Graduate students and students-at-large, therefore, should understand the potential ramifications on their financial aid before enrolling in undergraduate classes. For graduate students and students-at-large the deadlines and other conditions of enrolling in, dropping, or withdrawing from an undergraduate class are the same as those pertaining to a graduate class, as they are determined by the student's level, not the class level.

## Undergraduates in Courses for Graduate Credit

Seniors in their final term at NIU who want to take courses for graduate credit must apply for and receive early admission to the Graduate School. No student may enroll more than one term under early-admission status. (See "Early Admission of NIU Undergraduates.")

## Undergraduates in Graduate Courses for Undergraduate Credit

Northern Illinois University undergraduate students may complete a maximum of 6 semester hours of graduate-level course work for undergraduate credit, if they have completed 90 semester hours of credit towards their baccalaureate degree with a GPA of at least 3.00 or have previously completed a baccalaureate degree. They must also obtain, in advance, written approval from the instructor and from the office of the dean of the Graduate School to enroll in the course for undergraduate credit. In addition, for a 600- or 700-level course, the approval of the department offering the course is required.

## Law Students in Graduate Courses

A student in the Northern Illinois University College of Law may enroll in graduate courses, provided that he or she has earned a baccalaureate or graduate degree from an accredited institution and has obtained all necessary approval of the College of Law. A law student not also admitted to the Graduate School must obtain permission to register as a student-at-large. Enrollment of a law student in graduate courses will be for graduate credit.

## Graduate Students in Law Courses

With the approval of the student's major department and the office of the dean of the Graduate School, up to 9 semester hours of course work from the Northern Illinois University College of Law may be applied toward a graduate degree program. A graduate student not simultaneously pursuing a degree in the College of Law must petition the dean of the College of Law for permission to enroll in any law course. Such permission will only be granted in special circumstances. Credit hours in NIU law courses will be counted as transfer credit in the context of transfer-credit limits in, and time limits for completion of, graduate degree programs and will not contribute to the student's graduate GPA.

With the approval of the office of the dean of the Graduate School, up to 9 semester hours of law courses taken at other institutions may be accepted toward meeting the requirements of the M.B.A. program, with approval of the College of Business; the M.A.S. and M.S.T. degrees, with approval of the Department of Accountancy; the M.P.A. program, with approval of the Division of Public Administration; and the Ph.D. in political science, with the approval of the Department of Political Science. These institutions must be regionally accredited, with their law schools accredited by the American Bar Association. Law courses are not graduate courses, and therefore law courses taken at institutions other than NIU are not accepted toward meeting the requirements of any other graduate degree at NIU.

## Variable Course Hours; Repeatability of Courses

Following the title of each course is a number in parentheses denoting the number of semester hours of credit available for the course. Where a range is given—e.g., "(1-3)"—the course is a variable-hour course. In such a case the department may offer the course for a fixed number of hours, within that range, in a given academic term or may allow students to select any number of hours within that range. A student enrolling in a variable-hour course should ascertain at the start of the term the number of hours of credit for which that particular offering of the course is available that term.

A course description may indicate that the course may be repeated to a specified maximum number of semester hours. There may be a lower or upper limit to the number of hours in a particular course that may be applied toward meeting the credit-hour requirements for a graduate degree. Unless otherwise specified in this catalog, graduate courses may be repeated for credit only under the following circumstances.

If the student meets the requirements for the special repeat option, the course may be retaken under that option.

In a case where, to satisfy a program requirement, a student must achieve a certain grade as specified in the *Graduate Catalog*, and the student fails to do so, the course may be repeated once. If the student again fails to achieve the required grade, the student's admission to that program will be terminated.

If a course taken to complete the requirements for a graduate degree does not fall within the period of time allowed for that degree, the course may be retaken for credit with approval of the student's major department.

The department in which authority for an approved teacher certification program resides may determine that credit in a course required for that program was obtained too long ago to be acceptable in meeting current requirements for certification. In such a case, that department may approve retaking the course for credit.

A student who has taken a course at the 400 level, may take the same titled course at the 500-level under the following circumstances:

A graduate student in a degree program must secure permission from his or her major department prior to enrollment in the course; or

A student-at-large must obtain approval of the department offering the course and of the office of the dean of the Graduate School; or

A student pursuing teacher certification who needs to take such a course for graduate credit to meet a certification requirement may do so with the approval of the department in which authority for that certification resides.

A variable-hour course may be taken only once for credit, unless the catalog description specifies that it may be repeated or unless one of the conditions listed immediately above is met.

Where a course is repeatable, maximum credit limits are stated in the course description. The statement "May be repeated to a maximum of [number] semester hours," means that the semester hours earned both from the initial enrollment and any permitted subsequent enrollments cannot exceed that maximum. For the College of Liberal Arts and Sciences, unless otherwise prohibited, enrollments in such a course may take place in any combination of semesters, including multiple enrollments during a single semester.

These limitations on repeatability of courses do not restrict which courses may be taken under the special repeat option described below, for under the special repeat option credit is granted for only one of the two times the course is taken. Restrictions on repeatability of courses apply only to registration for credit, not registration for audit.

If a graduate-level student wishes to repeat an undergraduate course for credit, the student must have the approval of the department offering the course. In addition, if the course is a deficiency for the student's major program, whether specified in this catalog or in the student's letter of admission or program of courses, the student must also obtain the approval of the major department to repeat the course.

## Special Repeat Option

The special repeat option is available only for graduate courses in which a grade below B was attained. In order to repeat a course using this option, a student in a graduate program other than a doctoral program must have written approval of the student's major department; students-at-large and others not in degree programs must have written approval of the office of the dean of the Graduate School. When a course is repeated on this basis, only the second of the two grades earned for the course is computed in the GPA. Enrollments resulting in recorded grades of IN, NG, NR, WF, or WP, which are not instructor-assigned, and enrollments for audit (no credit), cannot be counted as "repeats" under this policy. No student may repeat more than 6 semester hours of course work on this basis; no course may be repeated more than once under this option. The special repeat option is not available to a student admitted to a doctoral degree program.

## Drop of or Withdrawal from a Course

All drops of or withdrawals from courses must be accomplished before the applicable deadlines. Schedule-change deadlines and drop and withdrawal procedures available on the Graduate School website.

It is possible for a student to drop a course prior to the start of or early in the course. When a course is dropped, no record of the enrollment appears on the student's record. After the drop deadline, a period is specified during which the student may withdraw from the course with the course remaining on the student's record with a grade. A student who withdraws from all courses in which he or she enrolled in a given term is considered to have withdrawn from the university for that term. For each graduate course in which a student is doing passing work (C or better in a graduate course) at the time of withdrawal, as assessed by the instructor, a WP will be received; for any course in which the instructor determines that the student is not doing passing work, a WF will be received. If the instructor does not make an assessment of whether the student is passing or failing, a WP will be received. Transcript entries of WP and WF are not included in the computation of the graduate GPA. Transcript entries made in connection with withdrawals from undergraduate courses will be W or F in accordance with the undergraduate grading system; the withdrawal procedures and deadlines, however, will be those applicable to graduate-level students and courses.

Students who fail to notify the Graduate School in writing of their intent to withdraw from the university, or who fail to withdraw from a course or from the university in accordance with established procedure and by the established withdrawal deadlines, may receive an F in any affected course(s). If withdrawal is accomplished early enough in the term, there may be reduced liability for tuition and fees under the university's refund policies. Later withdrawal may leave the student wholly liable for tuition and fees. Questions about billing and refund policies should be directed to the Bursar's Office.

## Continuous Enrollment

Most students, both 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 sections entitled "Limitation of Time" elsewhere in this catalog.)

Students availing themselves of the services of the academic staff or the facilities of the university in any way that directly or indirectly relates to fulfilling degree requirements or receiving course credit must be enrolled. For example, a student must be enrolled in the term in which a comprehensive examination is taken. Also, once a student has begun work on a thesis, dissertation, or other activity under course number 699 or 799, it is expected that such work progress each academic term, and enrollment must be continuously maintained in course number 699 or 799 until a final grade is received for the activity and the required documentation of the activity is formally approved by the Graduate School (if applicable), unless a leave of absence is obtained, as described in the section "Requirements for Graduate Degrees." If such continuous enrollment in courses numbered 699 or 799 is not maintained, and a leave of absence is not granted, then the student's admission to the program will be canceled. (See "Readmission/Reentry" in this catalog.)

A student is not required to be registered in the term of graduation simply in order to graduate, if the student is not otherwise required to enroll under the policies of the previous paragraph. However, in order to make use of academic or nonacademic services of the university, a student is required to be enrolled for the corresponding term.

## Grading System

The Graduate School grading system applies to all graduate students taking courses for graduate credit.

The graduate grade point average (GPA) is computed by dividing the total number of grade points earned by the total number of credit hours that a student has taken in NIU courses earning grade points. In no case are NIU courses taken for undergraduate or law credit or transfer courses included in the computation of the graduate GPA. Grades and their grade point values are as follows.

<i>Grades Earning Graduate Credit</i>	<i>Level of Grade Performance</i>	<i>Points Per Semester Hour</i>
A	Superior	4.00
B	Satisfactory	3.00
C	Marginal	2.00
S	Satisfactory	–
	for courses graded S/U	

<i>Grades Not Earning Graduate Credit</i>	<i>Level of Performance</i>	<i>Grade Points Per Semester Hour</i>
D	Deficient	1.00
F	Seriously deficient	0.00
U	Unsatisfactory	
	for courses graded S/U	0.00

Other transcript entries, with their definition, include the following.

- I–Incomplete (see also following section on “Incompletes”)
- IP–In Progress
- WP–Passing at time of withdrawal
- WF–Failing at time of withdrawal
- O–Audit; no grade and no credit

Students doing less than satisfactory work will be assigned the grade of D, F, or U. Graduate credit is given only for those courses in which a grade of S, or C or better, is earned.

### S/U and IP Grading

Certain graduate courses are graded on an S/U basis; such grading, however, is restricted to courses titled externship, independent study/research, institute, internship, practicum, seminar, or workshop. Individual students may not elect S and U grading. Other graduate courses are graded on an S/U/IP (Satisfactory/Unsatisfactory/In Progress) basis. Thesis and dissertation courses, as well as similar project courses that require completion of work over multiple semesters and that are designated as 699 or 799, are graded on an S/U/IP basis. IP is a neutral grade—that is, the grade does not carry quality points—but IP grades awarded for 699 and 799 count toward the completion of a degree, as stipulated by the program of courses. While a student is working on the thesis, dissertation, or continuing project, a grade of U or IP will be awarded. In the final semester in which the thesis, dissertation, or project is successfully completed, a grade of S will be awarded. Grades of IP previously awarded will remain on the transcript, except in the case of on-going internships or similar courses, as designated in the catalog. In those cases, IP grades must be changed to an appropriate letter grade by the instructor in order for the course to count toward degree. No student may graduate with a U on his or her transcript in such courses.

### Incompletes

When a student is passing a course yet special circumstances prevent a student's completing the requirements of a course, the instructor may, at her or his discretion, direct that the symbol I (indicating incomplete) be entered in the student's record. When the I is assigned, the instructor will file in the departmental office

and in the Graduate School an Incomplete/Reversion Grade Form outlining the work to be completed, the deadline for completion of the work, and the grade that will be awarded if the student fails to meet the deadline. In no case may the deadline be later than 120 days after the last day of final examinations during the term for which the incomplete is assigned. The incomplete must be removed within 120 days.

If the instructor does not change the incomplete within the period allowed for resolution, the incomplete (I) will be converted to an F or to the stipulated reversion grade. If no reversion grade is recorded, a grade of F will be awarded at the conclusion of 120 days. An administratively awarded grade, like one assigned by an instructor, may be changed at the discretion of the instructor of record prior to a student's graduation. A student may not graduate with a transcript entry of “I” on his or her record.

### Grade Appeals

A graduate-level student may formally appeal a course grade alleged to have been assigned capriciously. The definition of capricious grading is limited to (a) the assignment of a grade to a particular student on some basis other than performance in the course, (b) the assignment of a grade to a particular student by more exacting or demanding standards than were applied to other students in that course, or (c) the assignment of a grade by a substantial departure from the instructor's standards announced during the first fourth of the course. A grade appeal may not be based upon disagreement with the judgment of an instructor in assessing the quality of a student's work. The student must submit a formal written appeal to the departmental Grade Review Board, through the chair of the department offering the course, by the end of the fourth week of the fall or spring semester immediately following the term for which the course grade was assigned. A full description of procedures governing the appeal of allegedly capricious semester grades for graduate-level students may be obtained from the ombudsman, department offices, college offices, and the office of the dean of the Graduate School and online at [www.niu.edu/provost2/facpers/appm/1118.htm](http://www.niu.edu/provost2/facpers/appm/1118.htm); and this should be consulted before appealing a grade.

### Instructor Responsibility

An instructor of a graduate course shall inform the enrolled students of the basis for assigning final grades in the course, within the first fourth of the course. In courses other than those involving one-to-one mentorship, this information should be provided in writing and should include a brief description of those assignments, examinations, and other required academic activities that will contribute to the course grade, and the weight to be given to each activity's contribution to that grade. Where possible, the instructor may also indicate the level of academic performance that will earn specific course grades. If, this early in the course, there is uncertainty in the assignments to be given, this should be clearly indicated.

In courses where the academic activity is individually arranged between a student and an instructor—such as thesis or dissertation research, independent study, or individual instruction in music performance or studio art—course expectations should be explained to the student within the first fourth of the course.

### Faculty Office Hours

Faculty members who teach maintain regular office hours or provide other means to promote student-faculty consultation, in accordance with department policy. These office hours are included in course syllabi and are posted publicly each academic term. Arrangements more convenient to students than office visits (e.g., e-mail or online chat groups) may be substituted for office hours where provided for by department policy.

## Academic Standing

To remain in good academic standing a graduate student must maintain a minimum GPA of 3.00 in all graduate courses required on the student's program of courses (excluding deficiency courses taken for graduate credit) as well as in all graduate courses taken. The GPA is computed on a cumulative basis, by dividing the total number of grade points by the total number of credit hours that a student has taken in courses earning grade points. The GPA includes any course work taken at NIU for which a student earned graduate credit, but not graduate work taken at other institutions that is accepted toward meeting the requirements of an NIU graduate degree or certificate. Courses in which a student has received I, IN, NG, NR, O, OW, S, WF, or WP are not included in this computation.

Following any academic term at the end of which the cumulative graduate GPA falls below 3.00, the student will be considered on academic probation. A student on academic probation who fails to bring the GPA to the required level of 3.00 upon the completion of an additional 9 semester hours of graduate work, excluding S/U course work but including course work for which a grade of IN or NG has been recorded, or upon enrollment in any course work in 3 subsequent terms, will be academically dismissed from the Graduate School. A student on probation who has registered for but not completed 9 or more such additional semester hours, or has enrolled in three terms following the term for which the student was placed on probation, will not be permitted further registration until all grades of I and NR have been removed and the student has achieved good academic standing.

A graduate student or student-at-large who is on academic probation may not carry an overload. A graduate student who has been academically dismissed from the Graduate School may not register as a student-at-large unless granted academic reinstatement as described in the following section.

A graduate-level student who has accumulated 6 or more semester hours of grades of D, F, U, or WF in graduate course work at NIU will be academically dismissed from the Graduate School, regardless of the student's GPA. If a course is repeated, whether under the special repeat option or otherwise, the grades in both attempts will be considered in determining whether this 6-semester-hour total has been reached.

A graduate student who fails to maintain a GPA of 3.00 in his or her required program of courses for a particular degree may, upon recommendation of the department or program, be subject to termination of admission to that degree program.

A student-at-large must maintain a GPA of at least 3.00 in all graduate course work to be in good academic standing and is subject to the provisions of probation and dismissal as described above.

Although undergraduate course work is not included in the computation of the graduate GPA, it is also expected that graduate students achieve certain levels of competence in undergraduate courses pertinent to their graduate studies at NIU. If a graduate student fails to earn a grade of C or better in an undergraduate course specified as a deficiency course for the student's program, or in course work in English that is required as a consequence of the mandatory testing of English-language proficiency, then upon the recommendation of the department, the student's admission to the corresponding degree program will be terminated. Some programs have higher performance expectations for undergraduate deficiency courses, which may be specified in this catalog or in the student's letter of admission to the Graduate School.

Graduate assistants shall be graduate students in good academic standing on the effective dates of their appointments. Assistants will have their appointments terminated if during the term of their appointments they (1) are academically dismissed or (2) fail to

achieve good standing after one semester (excluding summer session) on probationary status. If a graduate student is placed on academic probation during the period of appointment, the employing unit may terminate the assistantship at that time.

A student must be in good academic standing in all graduate work taken at NIU at the start of the term for which admission is sought in order to be admitted to any graduate degree program (major) or specialization. A student must be in good academic standing overall and in the degree program in question to be eligible for graduation from the program.

## Academic Reinstatement

A graduate student or student-at-large who has been academically dismissed may petition for academic reinstatement. Such petitions are acted upon by the Graduate Council Appeals Committee. To submit a request for reinstatement, or for more information about the appeals process, the dismissed student should contact the office of the dean of the Graduate School.

Graduate students or students-at-large who have been academically dismissed from NIU, and who have been absent from the university for ten years or longer, may request consideration for reinstatement under the returning graduate student/student-at-large reinstatement policy. The cumulative GPA of a student reinstated under this policy will be based only on course work attempted after the date of reinstatement. The reinstated student will be considered to be on final academic probation. If upon completion of 9 or more semester hours of graduate-level course work (exclusive of course work graded on an S/U basis but including course work in which a grade of IN or NG has been recorded), or upon enrollment in any course work in three subsequent terms, the new cumulative GPA is below 3.00, a final academic dismissal will be issued to the student.

The student's status upon reinstatement will be governed by that held at the time of dismissal (i.e., graduate student or student-at-large) and prevailing Graduate School policy on reentering graduate students. A former graduate student reinstated to the Graduate School under this reinstatement policy must apply, or reapply, for admission to a desired degree program. All university regulations and program requirements in force at the time of reinstatement will apply to the reinstated student.

## Graduate Council Appeals Committee

The Graduate Council Appeals Committee is authorized to review requests for exceptions to certain rules and certain kinds of appeals. The committee does not hear grade appeals, for which a separate procedure exists. Its primary authority lies in the sphere of Graduate School regulations—for example, admission, matriculation, and retention—but in special cases it may serve as an appellate body for academic matters deriving from the rules and practices of the departments and colleges. One major function of the committee is to review petitions for academic reinstatement from graduate students and students-at-large who have been academically dismissed. It will not review academic decisions that are based upon the disciplinary expertise of faculty in a particular field—for example, judgments of whether or not a student has passed a comprehensive examination, or whether or not a student who meets the university's minimum requirements should be admitted to the Graduate School to pursue a particular program. However, it may examine the equitability of the process(es) by which such academic decisions have been arrived at. Similarly, if a student has requested an exception to a regulation (e.g., policy, procedure, deadline) at the appropriate level (departmental, college, etc.) and the request has been denied, the Appeals Committee may be asked to review the case only to the extent that the denial is alleged to be "capricious"—that the appellant's request was handled in a fashion substantially different from those of other students in similar situations.

A student wishing to bring some matter before the Graduate Council Appeals Committee should address a written request to the office of the dean of the Graduate School. A student whose petition has been denied by the appeals committee may request reconsideration only upon presentation, in writing, of additional relevant evidence not previously available to the committee. There is no further authority to which a decision of the Graduate Council Appeals Committee may be appealed, as it acts on behalf of the Graduate Council, which is the university's policymaking body in matters relating to graduate study.

## Dual Credit for Graduate Course Work

For a student completing a doctoral degree at NIU after completing one or more master's degrees and/or an Ed.S. degree in educational administration at NIU, an unlimited number of semester hours of graduate work from those prior NIU programs may be applied to meeting the credit-hour requirements of the doctoral program, provided that the NIU course work was not applied to meeting requirements of a graduate degree at another institution. However, any NIU graduate work already applied toward two graduate degrees (whether at NIU or elsewhere) may not be applied also toward doctoral program requirements. Also, a maximum of 9 semester hours of NIU course work that has been applied toward meeting graduate degree requirements at another institution may be used in an NIU doctoral program. The doctoral program in any case must conform to all other applicable requirements, including approval of the department and the Graduate School. For limitations on graduate transfer work acceptable in doctoral programs, see "Study-Abroad and Transfer Credit" in the doctoral requirements section of this catalog.

Any other student who pursues two distinct graduate degrees at NIU, either simultaneously or consecutively, may have up to 9 semester hours of graduate course work accepted for credit in both degree programs, with the exception of students who have permission for simultaneous pursuit of the M.P.H. and M.S. program in nursing, who may apply a specified 15 semester hours for credit in those two degree programs. A student who pursues a master's or Ed.S. degree at NIU after completing a graduate degree at another accredited institution may have up to 9 semester hours of graduate course work used in that other degree program accepted for credit in the NIU degree program, whether the courses were taken at NIU or at the other institution.

Students pursuing the Master of Music degree and the Performer's Certificate, either simultaneously or consecutively, may have up to 6 semester hours of graduate course work accepted for credit in both programs.

A student who pursues two certificates of graduate study at NIU, either simultaneously or consecutively, may have up to 4 semester hours of graduate course work accepted for credit in both certificate programs.

With the approval of the major department, courses used to satisfy requirements of a concentration or a certificate of graduate study may also be applied toward a graduate degree unless specified otherwise in the catalog description of the degree program.

In taking advantage of these dual-use provisions, the student must complete all the stated requirements for each degree or certificate of graduate study. Further, the provisions concerning limitation of time for degree or certificate completion as described in "Requirements for Graduate Degrees" and "Certificates of Graduate Study" apply independently to each degree or certificate, and the written approval of the office of the dean of the Graduate School is required. In no case may a course be accepted for credit in more than two graduate degree programs or in acquiring more than two certificates of graduate study.

## Transfer Credit

With the approval of the student's department and the office of the dean of the Graduate School, some graduate courses taken at other accredited ( U.S. ) or recognized (foreign) institutions may be accepted toward meeting the credit-hour requirements of a graduate degree at NIU. The student must have earned graduate credit in the course according to the institution at which the course was taken (so, for example, courses in which undergraduate credit, medical-school credit, or other professional postbaccalaureate credit was earned cannot be accepted in transfer).

No transfer credit accepted from another institution may be in correspondence courses, which are defined as courses other than independent-study courses, delivered via any medium, that do not involve significant real-time interaction between students and faculty.

A grade of B- or better must have been earned in each graduate course accepted in transfer toward meeting NIU graduate degree requirements, and the overall GPA in all graduate transfer courses thus accepted must be 3.00 or higher. Courses for which grades of S, Pass, Credit, or the like have been earned will be accepted in transfer only if the Graduate School can officially verify that the student's performance was at a level equivalent to a grade of B or better.

To receive consideration for graduate work done elsewhere, the student must submit to the Graduate School an official transcript showing the course work in question. Transfer credit is considered to be accepted toward meeting degree requirements only at the time a student is cleared to graduate from the program.

In transfer, three quarter hours are considered to be equivalent to two semester hours. Therefore, if the graduate credit earned in a course accepted in transfer from another institution was reported in quarter hours, the transfer credit will be granted at the ratio of two semester hours per three quarter hours.

Students should consult the "Requirements for Graduate Degrees" section of this catalog for more specific information on limitations on transfer credit and the combined total of transfer and other courses applicable to individual degree programs.

## Program of Study

Upon receiving the official letter of admission to the Graduate School, students should plan their course selection for their first term at NIU. Care should be taken that such selections conform with the requirements of the specific program they wish to pursue in their major department.

Students are urged to consult early in or prior to their first term with their academic advisers to plan a program of study. Prior to registering each term, students should consult with their advisers for the purpose of review and approval of all course selections.

The *Graduate Catalog* outlines the minimum course requirements for each degree program, for a student fully prepared to begin that program. Departments may, and often do, require additional course work of individual students as necessary to address deficiencies of background or other specific needs for proper academic or professional preparation. And, a department is not obligated to accept any particular course for inclusion in a student's program of courses, whether it was taken at NIU as a graduate student or as a student-at-large, or was taken at another institution. Some degree programs also have a limitation on the amount of credit from courses taken at NIU as a student-at-large, and/or on the combined total of student-at-large and transfer hours, that may be applied toward meeting degree requirements; such limitations are described below or in individual program descriptions in this catalog.

At least 50 percent of the credit for graduate course work must be in the student's major. Individual degree programs may require a program even more closely focused on the major field. For a student in a doctoral program who has a master's degree, the requirement of 50 percent of graduate work in the major applies only to courses beyond the master's degree.

## Assessment at Northern Illinois University

Northern Illinois University engages in assessment processes to answer important questions about the quality of students' graduate experiences. Assessment is one of the techniques the university uses to measure the extent to which it fulfills its educational mission, and information from assessment helps the university improve courses, degree programs, and support services. Additionally, assessment activities provide information that is required at the state and national levels for certification and accreditation purposes. Most importantly, assessment processes tell us how well the university is meeting students' needs.

Many assessment activities at NIU occur as a part of instruction within the degree program. Other assessment activities, including surveys and projects, occur with the goal of measuring students' abilities by evaluating performance at selected points in time. As students progress through degree programs, they will be expected to participate in assessment measures, which they should complete to the best of their abilities. Students' performances on these measures reflect on the quality of the university and its graduate and professional programs. All student performance data are aggregated; no individual student information is reported.

Questions regarding assessment should be directed to Assessment Services, 815-753-7120. Assessment Services is located in the Campus Life Building, Room 111.

## Graduate Concentrations

The university offers a limited number of graduate concentrations, which are listed in this catalog under "Graduate Concentrations and Certificates of Graduate Study." A concentration is a course of study, typically interdisciplinary, linked to the pursuit of a specific graduate degree. Completion of the requirements for a concentration will result in an appropriate notation on the student's academic record. The "Directory for Correspondence" in this catalog indicates which academic unit administers each concentration. Unless otherwise stated, the time period for the completion of course work for a concentration is the same as that for the degree to which it is linked.

See the individual concentration for other specific requirements.

## Certificates of Graduate Study

The university offers several certificates of graduate study, which are listed in this catalog under "Graduate Concentrations and Certificates of Graduate Study." A certificate of graduate study is a course of study, not linked to the pursuit of a degree, consisting of a coherent set of courses addressing a specific theme. Completion of the requirements for a certificate of graduate study will result in an appropriate notation on the student's academic record. The "Directory for Correspondence" in this catalog indicates which academic unit administers each certificate of graduate study.

To pursue a certificate of graduate study, a student must be admitted to the Graduate School or to the graduate-level classification of student-at-large, and must have the approval of the individual responsible for administration of that certificate. Only courses taken at NIU for graduate credit may be applied toward a certificate, and a GPA of at least 3.00 must be earned in the course work used toward the certificate, all of which must be completed within the six years immediately preceding awarding of the certificate. With the approval of the student's major

department, courses used to satisfy requirements of a certificate may also be applied toward a graduate degree, unless this catalog indicates otherwise under the description of the specific degree or certificate.

See the individual certificate for other specific requirements.

## Attendance, Religious Observances, and the Academic Schedule

Students are encouraged to attend classes regularly, but individual instructors determine attendance policies for their own classes. The university recognizes that on occasion examinations or other scheduled academic activities may conflict with the religious observances of some members of the academic community, and accordingly encourages the instructional and administrative staff to make reasonable accommodations to minimize the resulting difficulties for individuals concerned. Students faced with such conflicts should notify the appropriate instructor or administrative area as much in advance of the examination or other activity creating the conflict as possible. Students believing that they have been unreasonably denied an educational benefit due to their religious beliefs or practices may bring the matter to the attention of the department chair for resolution; if for any reason this route would not be appropriate, the matter may be brought to the college dean or dean's designee.

## Accommodations for Students with Disabilities

A student who believes that special accommodations with respect to course work or other academic requirements may be appropriate in consideration of a disability must (1) inform the faculty in charge of the academic activity either at the start of the course or as soon as the student becomes aware of the activity or requirement in connection with which accommodation is sought, (2) provide the required verification of the disability to the Center for Access-Ability Resources, and (3) inform the latter office from which faculty member accommodations have been requested. If contacted by the faculty member, the staff of the Center for Access-Ability Resources will provide advice about accommodations that may be indicated in the particular case.

A wide range of services can be obtained by students with disabilities, including housing, transportation, adaptation of printed materials, and advocacy with faculty and staff. Students with disabilities who need such services or want more information should contact the Center for Access-Ability Resources, University Health Service, at 815-753-1303.

## Protective Standards in Research

### Protection of Human Subjects

Any Northern Illinois University student or faculty or staff member who proposes to undertake research involving human subjects is required by federal and university regulations to seek approval for the project from the Graduate School's research compliance office. Examples of human-subject research include collection of data from humans or their body tissues or fluids (e.g., data from muscle, hair, saliva; or on height, weight, or pulse); collection of data on human behavior, emotional conditions, or responses, including data from questionnaires, tests, interviews, or observations; use of human-subjects data previously collected that now reside in private records or public sources. All such research must be reviewed by the Institutional Review Board or its chair. Each research project involving human subjects must receive formal approval or exemption from the Board or its chair, even if other persons have received approval for the same or a similar project.

The student must submit a completed departmental review form to the chair of the academic department under whose jurisdiction the research would be undertaken. The student should also ascertain from the department whether completion of the longer Application for Approval to Use Human Subjects in Research form is required. The department chair, or a designee, will review the submitted human-subjects form to determine if the project falls into a category requiring the approval of the NIU Institutional Review Board on the Protection of Human Subjects.

Departmental review forms and the Application for Approval to Use Human Subjects in Research may be obtained from most departmental offices or from the research compliance office within the Graduate School. Applicants are responsible for providing the information requested on the forms, for securing the required approval signatures, and for seeing that the completed, signed forms are received by the Graduate School. If research involving human subjects is part of a student's degree requirements, then to ensure eligibility for graduation, the student is urged to complete these required forms as soon as possible after the topic and protocols of the research have been determined. *In no case should research involving human subjects begin before all necessary institutional approvals have been given.* Questions concerning human subjects review may be directed to the student's faculty adviser or department chair, or to the research compliance office in the Graduate School.

### **Facilities for Experimental Animals or Recombinant DNA**

A student or member of the faculty or staff who proposes to engage in research utilizing living animals or recombinant DNA should consult first with her or his academic department or the research compliance office in the Graduate School to determine the federal and university requirements for facilities in which such research subjects are to be housed and to obtain the approval forms required by the Institutional Animal Care and Use Committee or the Institutional Biosafety Committee, respectively.

### **Use of Radioactive Substances**

A student who proposes to use substances emitting ionizing radiation must be supervised by a faculty member and must use such materials in a facility approved by the University Radiation Safety Committee; and such radioactive substances may be purchased only with the approval of the University Radiation Safety Officer.

## **Graduation**

A student who intends to graduate at the end of a particular term must apply through MyNIU by the graduation-application deadline for that term. This deadline is available online at [www.grad.niu.edu/audience/current\\_students.shtml](http://www.grad.niu.edu/audience/current_students.shtml).

All requirements for a graduate degree must be completed according to the schedule listed at the above website. It is the student's responsibility to be aware of these deadlines.

If a student applies for graduation in a particular term but realizes that degree requirements will not be met or otherwise fails to graduate at the end of that term, the student must submit a "Deferral of Graduation Request" available on the Graduate School website. That form must be received in the Graduate School at least two months prior to the student's intended commencement date.

After a student has applied for graduation and it has been verified that all degree requirements have been completed, an official "certificate of completion" can be issued by the Graduate School to the student or to another party designated in writing by the student. Such a certificate is commonly accepted as proof of completion in advance of issuance of the diploma and degree transcript.

# Requirements for Graduate Degrees

The following are general university requirements for the various degree programs as established by the graduate faculty. Individual departments and programs may have established additional or more restrictive requirements, which are described in the corresponding departmental sections of this catalog. Students should consult those sections to determine such requirements and must meet all requirements specific to their own major/specialization in addition to the general requirements of the university.

## Graduation

See the Graduation section on the General Regulations page.

## Requirements for the Degrees

**Master of Accounting Science**

**Master of Arts**

**Master of Arts in Teaching**

**Master of Music**

**Master of Physical Therapy**

**Master of Public Administration**

**Master of Public Health**

**Master of Science**

**Master of Science in Education**

**Master of Science in Sports Management**

**Master of Science in Taxation**

**Master of Science in Teaching**

The following regulations apply to students in programs leading to the degrees listed above. Detailed requirements for specific degrees appear in the departmental sections of this catalog. Regulations for the Master of Business Administration are in the College of Business section of this catalog, and regulations for Master of Fine Arts degrees are in the School of Art and School of Theatre and Dance 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." The admission requirements for graduate programs in the College of Business are described in that college's section of this catalog.

There are additional admission requirements and earlier application dates for several programs; the catalog sections for individual programs should be consulted.

## Credit Requirements

Students in master's degree programs must earn a minimum of 30 semester hours of graduate credit with a minimum GPA of 3.00. This average must be earned over all NIU graduate courses. The minimum number of required semester hours is greater than 30 in some programs, as indicated in the respective major department sections.

## Limitation of Time

The student must fulfill all requirements for a degree within the six consecutive years immediately preceding the date of the student's graduation from that degree program. This time limit applies to enrollment in all graduate course work in the student's program including work for which transfer credit is allowed.

If an NIU course taken to complete the requirements for the master's degree does not fall within the six-year period allowed for the degree program, the student's major department may require the student to retake the course for credit or may allow the student to demonstrate current knowledge of the subject matter. In the latter case, currency must be demonstrated to the satisfaction of the department offering the course through successful completion of an appropriate examination or other assessment if available from the department. Transfer courses falling outside the limitation of time cannot be used in a graduate program.

In the College of Business, the six-year time limitation for course work applies only to Phase Two courses.

## Courses for Which Graduate Credit is Allowed

At NIU only courses which are numbered 500-798 carry credit toward the master's degree.

Northern Illinois University does not offer correspondence courses, which are courses other than independent-study courses that do not involve significant real-time interaction between students and faculty, when such interaction would normally be a part of the same course offering on campus.

## Student-at-Large, Study-Abroad, and Transfer Credit

With the approval of the student's major department and the office of the dean of the Graduate School, a maximum combined total of 15 semester hours of credit for courses taken for graduate credit that are accepted in transfer from other accredited or recognized institutions may be counted toward meeting the requirements for an advanced degree. Some degree programs also have limitations on the amount of credit from courses taken at NIU as a student-at-large, and/or on the combined total of student-at-large, study-abroad, and transfer hours, that may be applied toward meeting degree requirements; such limitations are described below or in individual program descriptions in this catalog.

In the Department of Operations Management and Information Systems, no more than 9 semester hours of transfer course work plus credit earned as a student-at-large may be applied to the master's degree. In the School of Nursing no more than 9 semester hours earned from courses taken as a student-at-large and no more than 6 semester hours of transfer credit may be applied to the master's degree. In the School of Art no more than 9 semester hours of transfer credit may be counted toward meeting the requirements for a master's degree. In the Department of English no more than 15 semester hours of transfer course work and/or credit earned as a student-at-large may be applied toward a graduate degree.

## Language and Research-Tool Requirement

Certain departments require proficiency in a foreign language or a research tool for the master's degree. The departmental sections of this catalog should be consulted for such requirements. Proficiency in these skills is determined in the same fashion as described under "Requirements for Doctoral Degrees," unless specified otherwise in the program descriptions in this catalog.

## Comprehensive Examination

Successful completion of a comprehensive examination is required in all master's degree programs described in this section except the M.A.S., the Master of Science in Taxation, the Master of Science in Teaching (Specialization in Middle School Mathematics Education), the M.S.Ed. in counseling, M.S.Ed. in physical education, the M.S. programs in industrial and systems engineering, in industrial management, in management information systems, in nursing, and in sport management. The comprehensive examination may be either written or oral, or both, at the option of the department. These examinations are given by the major department. The number of semester hours of course work which a student must complete before taking this examination shall be determined by the department. A student planning to take a comprehensive examination may be required to file a letter of intent with his or her department, and should consult the department concerning applicable procedures and deadlines for such notification.

A student must be enrolled in the term in which a comprehensive examination is taken. A student must be in good academic standing, and must have departmental approval, to be eligible to take this comprehensive examination. The department may allow a student who fails this examination to repeat it after a period of time determined by the department. A student who fails this examination a second time, or is not permitted a second attempt, will not be permitted to continue work toward the master's degree in that program, and admission to that program will be terminated.

If the comprehensive examination is to be given to a group of students rather than being scheduled individually for each student, the department should post notices of the date, time, and place for each examination at least two weeks before it is to be administered.

## Thesis

The thesis will be a scholarly contribution to knowledge. Its subject must be in the area of the student's major and be approved by the student's thesis director and, ultimately, by the thesis committee. The thesis presents research that has been conducted under the supervision of a graduate faculty member from the student's major department approved as the thesis director. The document may not have been published previously, and the research must be successfully defended in an oral examination.

In special situations, and only with the approval of the faculty director(s) and committee(s), students may collaborate on some aspects of the work contributing to their theses. However, each thesis submitted to the Graduate School for approval must be a unique product with the degree candidate as the sole author and with due acknowledgment of the contributions of collaborators; and the author must demonstrate to his or her committee satisfactory command of all aspects of the work presented.

A student intending to write a thesis should identify a prospective faculty director for the thesis, who must be willing to serve as thesis director, meet Graduate School qualifications, and be approved by the department (department chair or designee). The thesis director and thesis committee will judge the acceptability of the work. A faculty member may decline to serve as director of any particular thesis project, in which case the department will assist the student in seeking a thesis director. If a student,

with department approval, changes thesis director, the student may need to undertake additional work, or to change research projects, in accordance with the expectations and expertise of the new thesis director.

When thesis research involves human subjects, experimental animals, recombinant DNA, or the use of radioactive substances, special approval is required before the research is undertaken, as explained under the heading "Protective Standards in Research."

A student following a thesis program shall submit an electronic copy of the thesis in PDF format according to the *Guidelines for Preparing and Submitting Theses and Dissertations*, found on the Thesis and Dissertation page of the Graduate School website.

After the thesis has been reviewed and approved by the Graduate School, the approved version will be deposited electronically with UMI Dissertation Publishing to be made available through their digital library of dissertations and theses. The student is required to pay the applicable fees.

## Course Number 699

A student who has formally begun the thesis or its equivalent must register in course number 699 in each subsequent term until the thesis or equivalent is submitted to and formally approved by the Graduate School. Registration for this purpose may be in absentia. If circumstances prohibit continuing progress on the work, a graduate student may request a leave of absence from the office of the dean of the Graduate School. If a student interrupts registration in a course numbered 699 without obtaining a leave of absence, then the student's admission to the degree program will be terminated. After a student has registered for the maximum number of hours of credit that can be earned in a course numbered 699, he or she should register as an auditor in 699 each term until the thesis receives final Graduate School approval.

## Composition of Examination and Thesis Committees

The thesis committee and the final comprehensive examination committee shall each consist of at least three voting members approved by the department (department chair or designee). The majority of the voting members of the committee must be regular faculty members at Northern Illinois University; a majority of the voting members must be members of the graduate faculty; and ordinarily at least one-half of the voting members, including the committee chair, must be graduate faculty members in the student's major.

## Application for Graduation

When nearing completion of requirements for a graduate degree, a student must submit an application for graduation to the Graduate School. See "Graduation."

## Requirements for the Degree Master of Business Administration

See "Master of Business Administration" in the College of Business.

## Requirements for the Educational Specialist Degree

See "Educational Specialist in Educational Administration" in the Department of Leadership, Educational Psychology and Foundations.

## Requirements for the Performer's Certificate

See "Performer's Certificate" in the School of Music.

## Requirements for the Degree Master of Fine Arts

See “Master of Fine Arts in Art” in the School of Art and “Master of Fine Arts in Theatre Arts” in the School of Theatre and Dance.

## Requirements for the Degree Doctor of Audiology

See “Doctor of Audiology” in the School of Allied Health and Communicative Disorders.

## Requirements for the Degree of Physical Therapy

See “Doctor of Physical Therapy” in the School of Allied Health and Communicative Disorders.

## Requirements for the Degrees Doctor of Education Doctor of Philosophy

The research 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 and the ability to conduct independent research.

Doctor of Education (Ed.D.) degrees are offered in adult and higher education, counseling, curriculum and instruction, educational administration, educational psychology, and instructional technology through various departments in the College of Education. Doctor of Philosophy (Ph.D.) degrees are offered in biological sciences, chemistry, economics, English, geology, history, mathematical sciences, physics, political science, and psychology, through the corresponding departments.

### Admission

Normally a student applying for admission to a doctoral program will be expected to have completed both baccalaureate and master's degrees. A student with a baccalaureate degree may, with the approval of the department, be admitted directly into a doctoral program unless otherwise specified in the appropriate departmental section of this catalog. No student will be admitted to doctoral work unless the undergraduate and graduate records indicate ability to do work of high quality in the field chosen. See also “General Requirements for Admission to the Graduate School.”

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. Some programs have earlier application dates than those of the Graduate School; consult the sections of this catalog describing the individual programs.

### Credit Requirements

Graduate students working for a doctoral degree must complete at least 90 semester hours of graduate work beyond the baccalaureate degree. Departments may waive 30 semester hours for students holding a master's degree in the same field or related one, allowing the doctoral degree to be completed with 60 semester hours. The hour requirement for a doctoral degree includes formal course work, independent study, research, and the dissertation. Some doctoral programs require more than 90 semester hours.

The minimum GPA requirement applies to all graduate courses at NIU and applicable to the degree. Transfer credit will be allowed at the discretion of the department concerned and the office of the dean of the Graduate School. For a student applying graduate work from another institution toward the semester-hour requirements of a doctoral degree, the sum of the transfer credit may not exceed 24 semester hours. Although most of the work will be in the student's major field, at the discretion of the major department some course work may be taken in related fields. The departmental sections of this catalog should be consulted for other requirements.

### Limitation of Time

Except as indicated below, the student must fulfill all requirements for a doctoral degree within nine consecutive years immediately preceding the date of the student's graduation from that degree program.

At the discretion of the department, Ph.D. language/tool requirements may be satisfied with course work and/or examinations falling outside the limitation of time for the doctoral degree.

The time limit applies to enrollment in all graduate course work on the student's program of courses for the doctoral degree, excluding deficiency courses, but including work for which transfer credit is allowed. If any such NIU course does not fall within the time limit defined above, the student's major department may require the student to retake the course for credit or may allow the student to demonstrate current knowledge of the subject matter. In the latter case, currency must be demonstrated to the satisfaction of the department offering the course through successful completion of an appropriate examination or other assessment if available from the department. Otherwise, the outdated course work must be deleted from, and other course work must be substituted in, the program of courses. Transfer courses falling outside the limitation of time cannot be used in a graduate program unless exempted by the department as part of the earliest 30 semester hours under the provision above.

### Transfer Credit

With the approval of the student's committee chair, major department, and the office of the dean of the Graduate School, up to 15 semester hours of credit for courses, plus courses taken subsequent to the master's degree and completed with grades of B or better from departments offering graduate programs above the master's level at other accredited institutions, may be accepted as credit toward a doctoral degree at NIU.

### Ph.D. Language and/or Research-Tool Requirements

Specific language and/or research-tool requirements for the Ph.D. degree vary by department. These requirements may be found in the description of the doctoral program under each departmental heading.

The general Graduate School requirement for proficiency in foreign language(s) and/or research tool(s) for the Ph.D. degree may be met by one of the following.

- Two foreign languages with average reading proficiency.

- One foreign language with a high level of proficiency.

- One foreign language with average reading proficiency and one research tool with average proficiency.

- Two research tools with average proficiency.

- One research tool with a high level of proficiency.

Students wishing to demonstrate average proficiency in French, German, Italian, or Spanish may do so by achieving a grade of S (satisfactory) in FLFR 382, Reading Expository French II;

FLGE 382, Reading Expository German II; FLIT 382, Reading Expository Italian II; or FLSP 382, Reading Expository Spanish II, respectively. These courses and their prerequisite courses are described at the end of this section.

Translation examinations in these and other languages are arranged through the Office of Testing Services. Such examinations are available for languages taught by the faculty of the NIU Department of Foreign Languages and Literatures. Details on the nature of the foreign language examination and how it is administered are available from the Office of Testing Services.

Average proficiency in a foreign language may also be demonstrated by the possession of a degree from a college or university at which that language was the language of instruction.

Course work to be used to satisfy research-tool requirements must be approved by the student's major department and the office of the dean of the Graduate School. Unless the major department specifies a higher grade, an undergraduate grade of C or better, or a graduate grade of B or better, must be received in each such course. If course work from another university is to be applied toward meeting research-tool requirements, an official transcript showing satisfactory completion of the course(s) must be provided to the Graduate School.

Students should work closely with their advisers in coordinating efforts to satisfy the Graduate School and departmental language and research-tool requirements with their doctoral research objectives.

FLFR 381. READING EXPOSITORY FRENCH I (3). Development of reading skills through the study of grammar and vocabulary. Translation and discussion of representative texts in the humanities, sciences, and social sciences as appropriate. Open only to graduate students with no prior knowledge of French. S/U grading.

FLFR 382. READING EXPOSITORY FRENCH II (3). Continuation of FLFR 381. Open only to graduate students with credit for FLFR 381. S/U grading.

FLGE 381. READING EXPOSITORY GERMAN I (3). Development of reading skills through the study of grammar and vocabulary. Translation and discussion of representative texts in the humanities, sciences, and social sciences as appropriate. Open only to graduate students with no prior knowledge of German. S/U grading.

FLGE 382. READING EXPOSITORY GERMAN II (3). Continuation of FLGE 381. Open only to graduate students with credit for FLGE 381. S/U grading.

FLIT 381. READING EXPOSITORY ITALIAN I (3). Development of reading skills through the study of grammar and vocabulary. Translation and discussion of representative texts in the humanities, sciences, and social sciences as appropriate. Open only to graduate students with no prior knowledge of Italian. S/U grading.

FLIT 382. READING EXPOSITORY ITALIAN II (3). Continuation of FLIT 381. Open only to graduate students with credit for FLIT 381. S/U grading.

FLSP 381. READING EXPOSITORY SPANISH I (3). Development of reading skills through the study of grammar and vocabulary. Translation and discussion of representative texts in the humanities, sciences, and social sciences as appropriate. Open only to graduate students with no prior knowledge of Spanish. S/U grading.

FLSP 382. READING EXPOSITORY SPANISH II (3). Continuation of FLSP 381. Open only to graduate students with credit for FLSP 381. S/U grading.

## Qualifying Examination

The student may be required, at the discretion of the major department, to take a qualifying examination. This may be written or oral, or both, testing the competence of the student in the major and related fields. The department may allow a student who fails this examination to repeat it after a period of time determined by the department. A student who fails this examination a second time, or is not granted permission for a second attempt, will not be permitted to continue work toward the doctorate, and admission to that doctoral program will be terminated. A student must be registered in the term in which the qualifying examination is taken.

## Candidacy Examination

When students have completed most or all of the doctoral course work (except dissertation research), they will take written candidacy examinations. Departments may also require an oral examination. These examinations will cover work in the student's major department and related fields. The examining committee may allow a student who fails a candidacy examination to repeat it after a period of time determined by the committee. A student who fails a candidacy examination a second time, or is not granted permission for a second attempt, will not be permitted to continue work toward the doctorate, and admission to that doctoral program will be terminated.

A student must be admitted to the doctoral program and must be enrolled in the term in which the candidacy examination is taken. A student must be in good academic standing, both overall and in the degree program, to be eligible to take the candidacy examination. Some departments have alternative formats for the candidacy examination; see the departmental sections in this catalog.

## Admission to Doctoral Degree Candidacy

A student must be admitted to doctoral degree candidacy before the doctoral degree can be awarded. The student is admitted to candidacy by the Graduate School following successful completion of the candidacy examination in the student's major department and upon the recommendation of that department, which may have established additional requirements that must be satisfied before admission to candidacy is recommended.

## Dissertation Requirements

The dissertation will be a substantial contribution to knowledge in which the student exhibits original scholarship and the ability to conduct independent research. Its subject must be in the area of the student's major and be approved by the student's dissertation director and, ultimately, by the dissertation committee. The dissertation presents research that has been conducted by the student under the supervision of a senior member of the graduate faculty from, and nominated by, the major department and approved as the dissertation director by the dean of the Graduate School. The document may not have been published previously, and the research must be successfully defended in an oral examination. The author must demonstrate to his or her committee satisfactory command of all aspects of the work presented.

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 the *Guidelines for Preparing and Submitting Theses and Dissertations*, available on the Thesis and Dissertations page of the Graduate School website.

A student intending to write a dissertation should identify a prospective faculty director for the dissertation, who must be willing to serve as dissertation director and must be approved by the department, college, and Graduate School. The dissertation director and dissertation committee will judge the acceptability of the work. A faculty member may decline to serve as director of any particular dissertation project, in which case the department will assist the student in seeking a dissertation director. If a student, with department approval, changes dissertation director, the student may need to undertake additional work, or to change research projects, in accordance with the expectations and expertise of the new dissertation director.

When dissertation research involves human subjects, experimental animals, recombinant DNA, or the use of radioactive substances, special approval is required, as explained under the heading "Protective Standards in Research."

A student who has formally begun the dissertation or its equivalent must register in course number 799 (doctoral dissertation). Once a student has begun registration in course number 799, the student must continue to register in course number 799 in each subsequent term until the dissertation is submitted to and formally approved by the Graduate School. Students must complete a minimum total of 6 semester hours of course number 799 for the doctoral degree. Registration for this purpose may be in absentia. The designation of a dissertation adviser should be approved by the conclusion of the term in which a student first registers for 799. A student who fails to complete this procedure will, upon recommendation of the department, have all accumulated hours in the dissertation course converted to audit (no credit).

If circumstances prohibit continuing progress on the dissertation, a graduate student must request a leave of absence from the office of the dean of the Graduate School. If a student interrupts registration in course number 799 without obtaining a leave of absence then the student's admission to the degree program will be terminated.

After the dissertation has received final Graduate School approval, the approved version will be deposited electronically with UMI Dissertation Publishing to be made available through their digital library of dissertations and theses. The abstract is also published in ProQuest Digital Dissertations, formerly *Dissertation Abstracts International*. This facilitates wide dissemination of the scholarship to interested parties. The student is required to pay the applicable fees.

### Oral Defense of Dissertation

After the student has completed all other requirements for the doctorate, including the writing of a dissertation, an oral defense of the dissertation will be scheduled. The defense will consist of two parts, in either order in accordance with department policy: a public presentation with opportunity for questions from any interested parties, and a restricted examination session with the dissertation defense committee. At the discretion of the department, members of the university's graduate faculty and/or graduate students from the candidate's department may be permitted to be present at the restricted session. The examining committee will inform the dean of the Graduate School, at least two weeks in advance, of the date, time, place, and dissertation title for the public presentation, and the dean will publicize this on campus, inviting attendance of interested persons.

The presentation and defense of the dissertation are culminating scholarly activities of the doctoral program. They provide the candidate with the opportunity to present, and other interested parties the opportunity to examine and respond to, the results of the finished dissertation research. Therefore, the dissertation presentation and defense should be scheduled only when both the student and the dissertation committee are satisfied that the

scholarly work and its analysis are substantially complete, and believe that they reflect a level of rigor appropriate to a doctoral degree. Further research, analysis, or rewriting may be required by the committee as a result of discussions arising during the defense.

A student must be registered in the term of the oral defense of the dissertation. A student must be in good academic standing, both overall and in the degree program, to be eligible to submit a dissertation to the Graduate School or to have a dissertation defense.

### Composition of Committees

Committees to conduct the candidacy examination and the oral defense of the dissertation will be nominated by the chair of the student's major department and appointed by the dean of the Graduate School. Membership of candidacy and dissertation examining committees will include representatives of major and minor fields. The number of voting members on such committees normally will be three to five, and at least three are required. The majority of the voting members of the committee must be regular faculty members at Northern Illinois University; a majority of the voting members must be members of the graduate faculty; ordinarily at least one-half of the voting members, including the committee chair, must be graduate faculty members in the student's major; and at least one-half of the voting members, including the committee chair, must be senior members of the graduate faculty. A person who is not a member of the Northern Illinois University faculty may be a member, but no more than one voting member may be without NIU graduate faculty status. In addition, the dean of the Graduate School will serve as an ex officio, nonvoting member of all committees to conduct the oral defense of the dissertation. The dean or a dean's designee is to participate in both parts of the defense.

### Application for Graduation

When nearing completion of requirements for a degree, a student must submit an application for graduation to the Graduate School. See "Graduation."

# Teacher Certification Information

The following information is provided as a service to students; teacher certification requirements and procedures are not under the jurisdiction of the Graduate School. Students seeking initial teacher certification should contact the academic department offering the certification program (see below). NIU's Office of the University Coordinator of Teacher Certification answers general questions about state certification requirements and refers students to the appropriate academic department for specific advising. General NIU teacher certification information is available at [www.teachercertification.niu.edu](http://www.teachercertification.niu.edu).

To teach in a public school in the state of Illinois an individual must possess an Illinois teaching certificate. NIU offers initial teacher certification entitlement programs which are approved by the Illinois State Board of Education (ISBE). NIU is accredited by the National Council for Accreditation of Teacher Education (NCATE).

Requirements for NIU teacher-certification programs are developed by the faculty in the context of state, national, disciplinary standards and requirements. Because students must meet the requirements of state law to be recommended for certification, a student may find his or her certification requirements changed for reasons beyond the university's control.

A student pursuing certification should meet with his or her adviser to develop a plan of study that will satisfy the certification requirements as they then exist. Once that plan of study is formally approved by the adviser, the requirements that that student must meet in order to be recommended for certification will not be changed by the adviser except to the extent that it may be necessary to satisfy changes in state certification requirements. However, if other aspects of applicable departmental or university requirements are changed, the student may, with the approval of the adviser, modify the plan of study to conform to the new requirements. Because there may be delays in physical publication of new requirements as they are developed, departments and programs will make efforts to disseminate information about changes in requirements by other, more immediate means, including electronic media. A student who becomes aware of discrepancies between an approved certification plan of study and other published descriptions of certification requirements is responsible for contacting his or her adviser to ascertain whether there have been changes in state requirements that will necessitate changes in the plan of study.

Following is a list of ISBE-approved initial teacher certification entitlement programs together with the academic department (or departments) at NIU with responsibility for administering each program.

Entitlement Program	Academic Department/School
<i>Early Childhood Certificate (birth through grade 3)</i>	Family, Consumer, and Nutrition Sciences; Teaching and Learning
<i>Standard Elementary Certificate (K-9)</i>	Teaching and Learning

## *Standard High School Certificate (6-12)*

Biological Science	Biological Sciences
Chemistry	Chemistry and Biochemistry
English	English
Family and Consumer Sciences	Family, Consumer, and Nutrition Sciences
Health Education	Nursing and Health Studies
History	History
Mathematics	Mathematical Sciences
Physical Education	Kinesiology and Physical Education
Physics	Physics
Social Science including economics, geography, political science, psychology, sociology, and anthropology	History

## *Standard Special Certificate (K-12)*

Art <sup>1</sup>	Art
Blind and Partially Seeing	Teaching and Learning
Deaf and Hard of Hearing	Literacy Education
French	Foreign Languages and Literatures
German	Foreign Languages and Literatures
Learning Behavior Specialist I	Teaching and Learning
Music	Music
Physical Education	Kinesiology and Physical Education
Spanish	Foreign Languages and Literatures

Students who wish to pursue more than one teaching certificate must complete the NIU program requirements for each certificate. Endorsements (see "Definitions of Terms Used in This Catalog") are available for persons interested in broadening their qualification as teachers in conjunction with certain initial teacher certification programs.

## Admission to Teacher Certification Programs

Each department has determined whether enrollment in a degree program is necessary to pursue the teacher certification program(s) administered by that department.

Admission to the university or to a degree program in an academic department, school, or college does not necessarily constitute acceptance into a certification program. Candidates for admission to a teacher certification program should apply directly to the academic department responsible for administering the program regarding information about admission.

<sup>1</sup> Students with an undergraduate degree must be admitted to the M.S. program in art with a specialization in art education to enter the certification program.

All candidates for admission to teacher certification programs must demonstrate competence in reading, communication, and mathematical skills. Candidates should contact the department responsible for administering the certification program regarding specific procedures for demonstrating this competence.

### University Requirements for Teacher Certification

These are the minimum university-wide requirements for teacher certification. See also the individual academic departments, because some programs exceed these requirements. Departmental coordinators for teacher certification may require additional course work of individual students to address identified deficiencies in the students' preparation for teaching.

### Common Requirements for Teacher Certification

Upon satisfactory completion of one or more of the above initial teacher certification programs, students will be recommended for certification. In order to be certified to teach or supervise in Illinois public schools, a person must be of good character, in sound health, a citizen of the United States, and at least 19 years of age. The following general requirements must be satisfied by all candidates for certification. (See the academic department for specific information on other requirements.)

An overall GPA of 2.50 or above in all course work taken at NIU for admission to and retention in a certification program. A passing grade is required in all course work taken for teacher certification. Some programs have higher GPA and/or course grade requirements. (See the academic department about specific requirements.)

Successful completion of designated clinical experiences, including a minimum of 100 clock hours of approved clinical experience prior to student teaching. These experiences must be gradual and sequential throughout the preparation period.

Completion of the requirements for the Illinois State Board of Education approved "Major Area of Specialization" for which the certificate is sought.

An earned baccalaureate degree from a recognized institution.

Successful completion of a basic skills test and a test of subject matter knowledge administered by the Illinois Certification Testing System.

Successful completion of course work and/or experience which contributes directly to an awareness of cultural diversity. (See the academic department about meeting this requirement.)

### General Education Requirements for Teacher Certification

The university's general education requirements for teacher certification are met when the general education requirements for an NIU baccalaureate degree have been met. A student who already holds a baccalaureate degree from an accredited institution, or the equivalent from a recognized foreign institution, is considered to have met the university's general education requirements for certification.

### Professional Education Requirements for Teacher Certification

Each type of certificate requires the student to complete professional education courses.

#### Early Childhood Certificate Standard Elementary Certificate Standard High School Certificate Standard Special Certificate

The course requirements for the Early Childhood, the Standard Elementary, the Standard High School, and the various Standard Special Certificates are listed in the department sections of this catalog.

### Endorsements

#### Middle Grades Endorsements

Students seeking an elementary or secondary teaching certificate who wish to teach in the middle school grades (5-8) must have a middle grades endorsement on their certificates. Depending on a student's major, this could mean additional courses or a specific course sequence. Students should see the discipline coordinator in the area of the intended endorsement for specific information on how to become eligible for the middle grades endorsement upon being recommended for certification.

#### Secondary Endorsements

Students seeking a secondary teaching certificate who wish to be endorsed to teach additional subjects must have secondary subject-matter endorsements on their certificates. Students will be required to take additional course work. Students should see the discipline coordinator in the area of the intended endorsement for specific information on how to become eligible for secondary endorsements upon being recommended for certification.

### Student Teaching

Students must apply in advance for student teaching. (See the department adviser regarding the time to apply for placement.) Transportation to the student teaching site is the responsibility of the student. In addition to having completed the NIU certification program requirements, prior to student teaching the graduate student or student-at-large must (a) have earned a minimum of 14 semester hours at NIU and (b) make all arrangements for student teaching through the appropriate department. Students may not make their own arrangements for student teaching sites nor may they request a change once an assignment has been confirmed by the cooperating school. For additional requirements students should see the appropriate department adviser.

### Retention in Teacher Certification Programs

Admission to teacher certification programs does not guarantee continued acceptance unless the student maintains satisfactory grades and other qualifications. A candidate for a student teaching assignment or certification must have good character, sound mental and physical health, and must demonstrate the skills, attitudes, and behaviors necessary for working with children and/or adolescents, as applicable.

Specific requirements for retention in an initial teacher certification program are determined by the faculty offering that program; students should consult the academic department for information.

## **Appeals**

A graduate student or student-at-large who wishes to appeal a grade or grades should utilize the current NIU Procedures for Use in Appealing Allegedly Capricious Semester Grades of Graduate-Level Students (Grade Appeal Policy). A student who wishes to appeal a decision regarding admission to, retention in, or completion of an initial teacher certification program should consult with the appropriate college advising office regarding the procedures to be followed.

## **Criminal Background Check**

Illinois law requires Illinois school boards to conduct a criminal background investigation on applicants for employment. This law also prohibits the employment of any person who has been convicted of committing or attempting to commit any one or more of a number of offenses. At present, offenses include first degree murder; any Class X felony; juvenile pimping; soliciting for a juvenile prostitute; exploitation of a child; obscenity; child pornography; harmful material; criminal sexual assault; aggravated criminal sexual assault; criminal sexual abuse; aggravated criminal sexual abuse; offenses set forth in the Cannabis Control Act; and crimes defined in the Illinois Controlled Substances Act. Employment must be denied whether the offenses and/or conviction occurred inside or outside the state of Illinois.

All candidates for Illinois teacher certification through programs under the purview of NIU's Committee on Initial Teacher Certification are required to submit to a criminal background check by the Illinois State Police prior to their initial field experience in the schools. A student convicted of an aforementioned offense may not be placed in any schools, and NIU will not recommend for certification a person convicted of an aforementioned offense.

Persons whose criminal background check reveals an offense other than the foregoing may be recommended for clinical placement if, in the judgment of the discipline coordinator, the offense should not disqualify the individual from such placement. In making this judgment, the discipline coordinator will consult with the college certification office, and will take into account the nature and circumstances of the offense, the lapse of time since it occurred, whether there are repeated offenses, and the nature of the certification program and of the students that it prepares candidates to teach. An adverse decision may be appealed through the appeal procedure approved by the Committee on Initial Teacher Certification.

## **Out-of-State Employment in Public Schools**

Other states have similar or additional certification, licensing, or employment requirements. NIU is not responsible for informing any student of statutes, rules, or regulations which might affect the future certification or employment of teachers. Students wishing admission to any NIU teacher certification program are responsible for determining their own eligibility for eventual certification in another state.

# Tuition and Fees

Tuition and fees are subject to change at any time. The official charges are those billed by the Bursar's Office for each term. For the most recent tuition and fee rates, see the Bursar website at [www.niu.edu/bursar](http://www.niu.edu/bursar).

## General Student Fees

Activity and athletic fees may be used to support services and privileges such as the use of the University Health Service; use of gymnasium facilities and participation in intramural activities; admission to athletic events, concerts, dramatic productions, lectures, and speeches; and subscriptions to certain student publications. Additional charges for such services and privileges may be imposed as necessary.

## Special Fees

Application fee (nonrefundable): \$40.00  
 Enrollment certification fee: \$3.50  
 Examination fees  
   Miller Analogies Test: \$75.00  
   Foreign language translation examinations  
     Average proficiency: \$45.00  
     High proficiency: \$65.00  
 Graduation fee (nonrefundable): \$35.00  
   New international student fee: \$125.00  
 Regional site course delivery fee: \$50.00-\$315.00 per semester hour  
 Replacement identification card (after the first is issued): \$15.00  
 Technology surcharge  
   \$75.00 for 6 or fewer semester hours  
   \$150.00 for more than 6 semester hours  
 Transcript fee: \$5.00

The following fees are established by outside agencies; in the case of microfilming fees or examinations administered through NIU, the fee is collected by NIU for transmission to the agency.

Doctoral dissertation (microfilming) fee: \$65.00  
 Masters thesis (microfilming) fee: \$45.00  
 Examination fees  
   Graduate Record Examinations  
     General Test (computer-based): \$200.00  
     Subject Test (paper and pencil): \$130.00  
     Writing Assessment (computer-based): \$50.00  
 Graduate Management Admission Test (computer-based) \$200.00  
 Class material fees, where applicable, will be billed as part of the total billing.

## Room and Board Rates

Costs for housing for 2010-11 will vary from \$4333 per semester for a gold meal plan in a double room in one of the "low rise" residence halls to \$6268 for a single room and a titanium meal plan in a recently renovated "high rise" residence hall. Charges for the 2008-09 academic year are expected to increase. (See "Payment of Fees.")

## Regional and Workshop Courses

Courses taught at regional sites are included in the calculation of tuition charges, but are excluded from total hours in the assessment of general student fees. Workshop hours are included in the assessment of general student fees. Tuition charges are applicable to the total enrolled hours, with an additional delivery fee for each regional course. (See "Special Fees.")

## Tuition Waivers for Senior Citizens

Anyone 65 years of age or older whose annual income is under \$21,218 is eligible to take credit courses tuition free. The student must pay all general university fees and any course-related fees. Available classroom space must exist and tuition-paying students enrolled must constitute the minimum number of required students for the particular class except for credit courses designed specifically for senior citizens. Interested senior citizens should contact the Student Financial Aid Office.

## Payment of Fees

Payment of all charges on the student's account is due seven days prior to the start of the term to which they apply. Any additional expenses incurred after this initial payment due date for the term will be due by the due date indicated on the student's My NIU account. Any student who pays less than the total amount due on the payment due date will be assessed a 1.08% late payment fee on the unpaid balance.

Any student with a past due balance remaining at mid term will have a hold placed on the student's account records. This hold will prohibit the student from registering for classes and obtaining official transcripts until the account balance is paid in-full.

**Financial Responsibility:** By registering for courses at Northern Illinois University the student is accepting financial responsibility for the costs of and related to the student's registration at the university including choosing to reside in the university's residence halls, selecting a meal plan, or other university services. In the event a student's account is past due, late payment fees will be applied to past-due amount. Continued failure to pay a past due debt may result in the debt being listed with credit bureaus, the State Comptroller's Offset Program and, if necessary, referred to a collection agency and/or authorize legal action for the collection of this debt. The student is then responsible for all fees and costs incurred by the University in the collection of the past due debt, including collection fees and/or attorney's fees.

## Refund Policies

In the following discussion of policies governing refunds of tuition and fees it should be understood that "refund" refers to "refund of monies paid" only in cases in which a student has already paid the full balance due. Where payment in full has not yet been made, an equivalent adjustment may be made on the total amount due. If only a partial reduction in tuition or fee liability occurs, a student who had a balance due may still owe an additional amount beyond that already paid. If no reduction in liability occurs, not only will funds paid not be refunded, but the student will be liable for the unpaid balance.

Tuition and fees, due at the time of registration, include tuition, general student fees, material fees, the technology surcharge, outreach delivery fees, regional course fees, and health insurance fees. The following provisions govern refunds of tuition and fees.

A student who has registered and officially withdraws from the university may receive a refund of tuition and fees including any advance deposit thereon, according to the following schedule.

*If withdrawal is prior to the first regularly scheduled class day—all tuition and fees.*

*If withdrawal is prior to the end of the add/drop period for the courses in which the student is registered—all tuition and fees.*

*If withdrawal is within the period following add/drop and before 60 percent point in time of the period of enrollment—a refund equal to the portion of the period of enrollment remaining.*

*If withdrawal is after the 60 percent point in time of the period of enrollment—no refund shall be made.*

The university may designate shorter refund periods for special courses, short courses, and other enrollments of a limited nature.

Students may receive a refund of tuition and fees if the university declares them ineligible for enrolled status prior to the first day of regularly scheduled classes.

Students who reduce the number of semester hours carried prior to the end of the add/drop period may receive a refund of tuition and all fees not applicable to their new status, excluding student medical insurance. If the number of semester hours is reduced to fewer than 6, the student medical insurance may be refunded.

Part or all of a student's tuition and fees may be refunded because of a student's death, disability, or extreme hardship. The student, or in the event of a student's death, his or her family, must contact the Vice President for Student Affairs to request an adjustment of charges for tuition and fees and to receive a partial or full refund when university withdrawal is the consequence of one of the aforementioned circumstances. The student or his or her family will be required to provide documentation supporting the request. In the event of disability (medical withdrawal), medical documentation is to be sent to the University Health Service. In the event of a student's death or extreme hardship, documentation should accompany the request sent to the Vice President for Student Affairs. (Note that university withdrawal, i.e., withdrawal from courses, is an academic procedure that must be completed by the student's college advisement office. Contact with the Vice President for Student Affairs should be only for the purpose of seeking an adjustment of tuition and fees charges.)

Students who have paid tuition and fees may receive a refund if they later receive scholarships which cover tuition and fees.

Students enrolled in courses of study over 15 miles from the campus which require their absence from the campus for the entire semester and who are residing over 15 miles from the campus may receive refunds of activity, student bus, health service, and athletic fees. To receive such a refund, students must apply to the Bursar within the first 15 calendar days beginning with the first regularly scheduled class day. Refunds will be processed after the sixth week of the semester.

Students who receive financial assistance and withdraw from the university or reduce the number of credit hours carried may be required to repay a portion of their award(s) from any university refunds which they may have been eligible to receive. The exact amount to be repaid to financial aid accounts will be determined by the amount of aid received, the educational costs incurred, and the length of time attended during the semester.

Students enrolled in foreign study programs must adhere to the refund regulations stipulated by the Division of International Programs.

For answers to questions on tuition and fee payment refunds call 815-753-1885, 8:15 a.m. to 4 p.m., or e-mail [bursar@niu.edu](mailto:bursar@niu.edu).

**The above refund policies are subject to change.**

## Illinois Residence Regulations

The tuition fee for in-state students is charged according to the definitions of residence below. Length of university attendance or continued presence in DeKalb during vacation periods is not considered proof of Illinois residence.

Students who take exception to the residence 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 residence 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 the term in question.

The following is based on Regulations of the Board of Trustees, a copy of which is available on the Internet at [www.niu.edu/board/regs/sectionIV.html](http://www.niu.edu/board/regs/sectionIV.html).

**Adult students.** Students 18 years of age and over are considered residents for tuition purposes, if they have been bona fide residents of the state for at least six consecutive months preceding the first class day of the term and continue to maintain that residence. 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.

**Minor students.** The residence of a student under 18 years of age is considered to be and follow that of the parents. Self supporting minors are subject to the same regulations as adults.

### Exceptions

**Marriage.** If a nonresident student marries a resident, the nonresident can request reclassification as a resident.

**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 that service and station. Spouses and dependent children who live in the state are also eligible for waivers.

**University staff and faculty members.** Staff members of the university and faculty members of Illinois state-supported institutions of higher education, employed at least one-quarter time, and their spouses and dependent children are considered residents. The term "staff members" does not include graduate assistants or student hourly workers.

**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.

**International students.** To be considered a resident, a student who is not a United States citizen must have "Permanent Resident" status or "Refugee" status with the U.S. Immigration and Naturalization service and must also comply with all other requirements of these regulations.

# Financial Support

## Assistantships

Graduate assistantships supplement students' graduate studies with experiences appropriate to their academic pursuits. Graduate teaching assistantships, graduate research assistantships, and graduate staff assistantships are available to qualified graduate students. Teaching assistants aid in the instructional mission of the university. Research assistants participate in projects that advance the institution's research mission. Staff assistants perform professional duties in roles other than teaching or research. To be eligible for a graduate assistantship, students must be admitted to the Graduate School and be in good academic standing. Assistantship stipends vary among the units offering them, but they all are accompanied by a full tuition-waiver scholarship. Assistantships may be extended through the summer session with additional remuneration. Application forms are available from the Graduate School and online at [www.grad.niu.edu/pdf/apgradast.pdf](http://www.grad.niu.edu/pdf/apgradast.pdf).

The 1986 Immigration Reform and Control Act mandates that any person beginning employment at Northern Illinois University after November 6, 1986, must either be a U.S. citizen or Lawful Permanent Resident, or possess current employment authorization from the Bureau of Citizenship and Immigration Services (BCIS). Graduate assistants in F-1 (student) status are eligible to accept the assistantship without BCIS authorization but must be maintaining the conditions of their status in order to continue to be eligible. All such employees, including graduate assistants, must be prepared to present original documentation to the employing department/cost center within three days of the reporting date on their employment contract or risk cancellation of the contract. Specific terms of employment and verification procedures must be included in the assistantship offering letter. Further information is available from the Graduate School.

In accordance with State statute, teaching assistants engaged in oral instruction in the classroom shall be persons who possess adequate competence in spoken English (unless the language of instruction is not English). For students whose native language is not English, this competence may be demonstrated by achieving a score of at least 50 on either the Speaking Proficiency English Assessment Kit (SPEAK) administered at Northern Illinois University or on the Test of Spoken English (TSE). Alternatively, non-native speakers of English meet the competency standard if they score at least 7 on the speaking portion of the IELTS or 24 on the speaking portion of the TOEFL iBT. Employing departments may require a higher score.

State law also prohibits a person from accepting or retaining a graduate assistantship if that person is in default on the repayment of any educational loan from any public source for a period of six months or more and in the amount of \$600 or more, unless a satisfactory loan repayment arrangement is made no later than six months after the start of employment.

The Rhoten A. Smith Assistantship Program has been established at Northern Illinois University to help provide graduate assistantships to minorities and white women enrolled in graduate programs in which these groups are underrepresented. The program, named in honor of the university's sixth president, represents part of the institution's commitment to increasing access to graduate education. A Rhoten A. Smith assistantship typically pays a stipend and provides a full waiver of tuition. Only U.S. citizens and permanent residents are eligible.

Assistantships are normally awarded to begin in the fall semester. Prospective students wishing to be considered for assistantships are urged to complete their applications for admission to the Graduate School and submit the "Application for Graduate Assistantship" form well in advance of the June 1 deadline, preferably prior to February 15, since many departments make their assistantship offers early in the spring for the following academic year. Further information should be sought from the department in which students wish to major or from any other area in which they wish to work. Students who have received provisional admission to the Graduate School, or tentative admission, early admission, or admission with stipulation, may hold an assistantship during the time of that admission status. Consult the section of this catalog on academic standing for information on how academic probation and dismissal affect assistantship appointments.

Tuition is waived, via a tuition-waiver scholarship, for students during the period of their appointment to assistantships. In addition, tuition is waived for the summer session adjacent to (immediately preceding or following) the assistantship appointment period providing the student is an admitted graduate student during that summer.

Assistantships do not provide payment of students' fees. Students who hold assistantship appointments should be prepared to pay the full amount of fees in accordance with published university procedures.

A graduate assistant is obligated to provide up to 20 hours per week of service if appointed full time, up to 15 hours per week if three-quarter time, and up to 10 hours per week if half time. A student may hold two graduate assistantships for which the terms of appointment overlap only if each of the assistantships is a halftime appointment during the period of overlap.

A student who accepts and later resigns a graduate assistantship (whether or not the term of appointment has begun) may accept another assistantship only if its term of appointment begins no sooner than the start of the academic term following the effective date of the resignation or at least one month after the effective date of the resignation, whichever is the later date, unless the written consent of the former employing unit is submitted to the Graduate School. A resignation should be submitted in writing to the employing unit and to the Graduate School. The effective date of resignation is considered to be the date on which the written resignation is received by the Graduate School. For purposes of this policy the fall term is considered to begin on August 16; the spring term is considered to begin on January 1; and the summer term is considered to begin on May 16.

An appointment to a graduate assistantship shall be for a specified period of time and is accepted by the graduate assistant with the understanding that such an appointment entails no assurance or implication that it will be renewed or extended. The employing unit or the Graduate School may terminate a graduate assistantship appointment for cause, in which case it will then notify the student of this action in writing. Failure to report for work on the reporting date specified in the offering letter constitutes grounds for immediate termination of the assistantship by the employing unit, unless that unit has agreed, in writing, to a later starting date. If an assistantship appointment is terminated during an academic term, the student should expect that there will be a prorated

any associated tuition waiver scholarship with a concomitant tuition payment liability. Detailed procedures for the termination of a graduate assistantship, and for appealing such termination, are available from the office of the dean of the Graduate School.

All employees of the university must conform with the ethics policies as set forth in the university's "Conflict of Interest Document" available in department offices and at the Graduate School. This document requires that all employees of the university, including students employed on a part-time basis or as graduate assistants, report on specified forms all real, potential, and apparent conflicts of interest.

## Fellowships and Other Awards

*Graduate School Fellowships* are available to a limited number of outstanding students. They pay stipends of \$6000 over ten months. Full tuition (whether in-state or out-of-state) is waived for recipients via a tuition-waiver scholarship. Selection is based on academic achievement and departmental recommendation—not financial need. Recipients must enroll for at least 9 semester hours each semester. Students in programs other than doctoral programs are eligible. A student seeking nomination for one of these awards must apply through her or his major department and should contact the chair of the major department. NIU Graduate School Fellowships are awarded in the spring for the following academic year.

The *Graduate School Minority/Jeffrey T. Lunsford Fellowships* are awarded to superior minority students fully admitted to the Graduate School. (Provisionally admitted students, students admitted with stipulation, and students-at-large are ineligible.) These fellowships enable minority students to pursue a degree other than a doctoral degree. The stipend for this fellowship is \$6000, and the fellowship includes a tuition-waiver scholarship. Support is available only to U.S. citizens and permanent residents who are members of the following underrepresented groups: African Americans, Latinos, and Native Americans. Awards are made by the Graduate School with the concurrence of the students' major departments.

*Dissertation Completion Fellowships* are available for a limited number of doctoral students finishing their dissertations. For full-time students, these nine-month awards carry a stipend plus a tuition-waiver scholarship. For part-time students, the awards carry a tuition-waiver scholarship funds, but no stipend. A student applies for one of these awards by submitting a dissertation research proposal to her or his major department, which may recommend the student to the Graduate School for this support.

*Carter G. Woodson Scholars* are outstanding minority students enrolled in full-time study in doctoral programs in which minorities are underrepresented. The *Carter G. Woodson Scholars Program* enables current minority teachers/scholars to undertake study for doctoral degrees and in the process achieve greater recognition in their fields and develop professional associations for more effective and productive academic careers. The stipend for these scholars is \$14,300 per year plus a one-time \$500 travel and relocation allowance; and a full tuition-waiver scholarship is granted for the duration of the award. Renewal for a second year of funding is based on academic progress toward degree completion. A student may not hold a Carter G. Woodson scholarship for more than two academic years. Support is available only to U.S. citizens and permanent residents. Awards are made by the Graduate School with the concurrence of the students' major departments.

For information on externally funded fellowships, the graduate student should contact the Office of Sponsored Projects' Grants and Fellowships Office which has organized files on hundreds of federal, state, and private funding programs, as well as on each of the internally funded programs listed above; detailed

synopses of these have been compiled into a grants and fellowship directory. Individual descriptions include the name, type of support, purpose, eligibility requirements, award amounts, application information, and deadline dates of the granting institution or agency. Directories are currently available for review in the Graduate School and in each department and college office. Staff members of the Grants and Fellowships Office are available to assist students in using the directory and in preparing and submitting applications for externally based fellowships. In addition, some academic departments maintain information on external fellowship and student grant support in their specific fields of study.

## Loans

Information on student loan programs may be obtained from the Student Financial Aid Office. Students should particularly be aware that their classification (graduate, student-at-large, or postgraduate) and the nature of their course load (graduate or undergraduate courses, and whether courses are taken for credit or audited) may affect their eligibility for certain types of financial assistance, and are encouraged to seek advice about their individual situation prior to enrolling each term.

### Federal Direct Stafford Loan Program

Federal Direct Stafford Loans (DL) are low interest loans that are borrowed through the U.S. Department of Education by the student. Eligibility for the Federal Direct Subsidized Stafford Loan Program is based on financial need as determined through application to the Federal Student Aid Programs. Eligible students may borrow from \$100 to \$8500 per year, up to a \$65,500 combined undergraduate and graduate maximum.

A student applicant must be a citizen of the United States or eligible non-citizen; attending school at least half-time in graduate level courses per semester not including audits (graduate student-4.5 hours, eligible student-at-large-6 hours, law student-9 hours (as determined by the law school); capable of recognizing and accepting the responsibility of ultimate repayment of any loan indebtedness; not in default on any previous loans and not owing a refund on any Title IV financial aid.

All applicants must file the Free Application for Federal Student Aid (FAFSA) each year, preferably by NIU's March 1st priority due date, and submit it via the internet at <http://fafsa.ed.gov> to determine their eligibility. You can also obtain a paper application by contacting the Federal Student Aid Information Center at 1-800-433-3243. If you are hearing-impaired and have questions, please contact the TTY line at 1-800-730-8913.

Students will be sent an award notification to their student Z-ID email account notifying them of their loan eligibility. Loan funds will be disbursed each semester to students enrolled at least half-time in graduate level courses at the beginning of each semester.

### Federal Direct Unsubsidized Stafford Loan

A Federal Direct Unsubsidized Stafford Loan has been established, with the same terms and conditions as the Federal Stafford Loan Program except that the borrower is responsible for paying interest which accrues during the in-school period. This program is open to students who do not qualify for fully subsidized Federal Stafford Loans. Borrowers may receive both subsidized and unsubsidized Federal Stafford Loans, totaling up to the applicable Federal Stafford Loan limit (if they do not qualify for the full amount permitted under the subsidized Federal Stafford Loan).

The maximum loan amount that can be borrowed per year through both Subsidized and Unsubsidized Federal Stafford Loan programs is \$20,500 up to a total borrowing of \$138,500 (including undergraduate loans) for a graduate student. The amount of the loans and all other financial aid cannot exceed the cost of education. Interest on loans must be paid every quarter while the student is in school.

## Graduate Student Standards of Satisfactory Academic Progress for Financial-Aid Purposes

In accordance with the Higher Education Act of 1965, as amended by Congress, NIU has established a satisfactory academic progress policy for graduate students.

Federal and state financial aid programs covered by this policy are the following: Perkins Loan, Federal Work Study (FWS), Stafford Loan (subsidized and unsubsidized), and certain alternative loans.

Students will be considered to be making satisfactory academic progress if they meet all of the following requirements. Failure to comply with any one may result in a loss of financial-aid eligibility.

### Rate of Completion Requirement

A student must successfully complete 67 percent of the credit hours attempted. NIU courses resulting in withdrawals, incompletes, and courses being repeated, along with previously awarded grades of NR and NG will be counted in the calculation of hours attempted. Undergraduate courses (except audits) count in hours attempted; they may be counted as completed hours only if the courses are required (for example, as deficiencies) to meet degree requirements. Courses in which grades of A, B, C, P, S, or IP have been earned are considered successfully completed. Previously awarded grades (IN, NR, NG,) as well as current enrollments resulting in withdrawals, incompletes, audits, and courses in which grades of D, F, and U have been received are not considered successfully completed.

### Grade Point Average Requirement

A student must maintain a cumulative graduate GPA of 3.00 or higher.

### Maximum Time Frame Requirement

Graduate students are expected to complete degree requirements after having attempted not more than 150 percent of the number of hours of course work required for the degree program, including required deficiency courses. Student-at-large hours and credit accepted in transfer courses are part of the hours attempted, as are all terms of enrollment at NIU, whether or not financial aid was received. Example: A master's degree in political science requires 30 semester hours. Students may receive financial aid for no more than 45 attempted semester hours if they are pursuing this degree.

*Students who exceed this 150 percent credit-hour limit are immediately ineligible for financial aid. Such students may formally appeal their ineligibility for financial aid by following the guidelines under the "Appeals Procedures" section of this policy.*

### Graduate Change of Major

In the appeal process one change of graduate major will be considered. No appeal will be considered for additional graduate major changes.

### Graduate Additional Degree

In the appeal process pursuit of a second master's degree will be considered. No appeal will be considered for additional master's degrees.

No appeal will be considered for more than one Ph.D.

### Evaluation

The satisfactory academic progress policy is in effect for each academic year of a student's enrollment. Satisfactory academic progress is evaluated after the completion of the spring semester. Students who have an unsuccessful term or terms will receive written notification of their current status.

### Failure to Meet the "Rate of Completion Requirement" or "Grade Point Average Requirement"

Students who are not making satisfactory academic progress at the end of the spring semester will be placed on financial aid warning and will be sent a letter notifying them of their financial aid warning status. Students on financial aid warning may continue to receive financial aid for the next term of enrollment.

If the deficiency is not remedied by the end of the next spring semester, the student becomes ineligible for financial aid; the student's awards are placed on hold and he or she will receive a second written notification of lack of progress.

Students may formally appeal their ineligibility for financial aid. If the appeal is approved, the student will then be awarded financial aid for another term of enrollment. If an appeal is required, the student's SAP status will be monitored every term of enrollment.

### Appeals Procedures

Appeals must be submitted in writing to the Graduate School and must include a written review from the student's graduate academic adviser. Note that federal regulations restrict those circumstances that may enable an appeal to be successful; the university does not have full discretion in this regard. The Graduate School considers the student's written appeal, the written evaluations, and these regulations when making a recommendation to the Student Financial Aid Office.

### Scholarships

The Student Financial Aid Office supervises the awarding of a limited number of scholarships for graduate students, many of which have specific requirements for major academic classification and grade point average. Information for private scholarships can be obtained in the Student Financial Aid Office (SFAO). Scholarship funds are disbursed in two equal amounts, half for the fall semester and the other half for the spring semester, unless the donor indicates in writing that the funds should be disbursed differently. To qualify for NIU awarded endowment scholarships, an applicant must be currently admitted as an NIU student and have a minimum 3.00 GPA. An NIU Financial Aid Application must be submitted to SFAO, and a Free Application for Federal Student Aid (FAFSA) must be mailed to the address listed on the application by March 1. Students must also submit an individual scholarship card to the SFAO (which is available from the SFAO) by April 1 prior to the academic year for which the scholarship is desired. Students will be notified by mail in June.

## **Veterans' Educational Benefits**

The Veterans Assistance Office provides a liaison between the Veterans Administration and student veterans and the dependents of deceased veterans regarding their educational benefits. The office assists veterans, their widows or widowers, and their minor dependents in the processing of their applications and certification of their enrollment. Assistance is also provided when difficulties arise concerning receipt of the benefits for which students are eligible. Applications are also available for the Illinois Veteran Grant, the Illinois National Guard Grant, and the Illinois MIA/POW Scholarship.

Incoming veterans are advised to contact the Veterans Assistance Office 60 days prior to the start of the semester to complete paperwork to receive their benefits. Veterans receiving benefits must complete a program card each semester and notify the Veterans Assistance Office of all changes in enrollment. Inquiries concerning educational benefits for veterans and their dependents may be directed to the Veterans Assistance Office, Northern Illinois University, DeKalb, Illinois 60115-2872. Telephone: 815-753-0691. Office hours are Monday through Friday, 8:30-4:00 p.m.

# Scholarly Activities at Northern Illinois

## Creative Work: Research and Artistry

Original research and artistic endeavors are integral to the intellectual life at Northern Illinois University. Members of the graduate faculty are scholars who are expected to engage in research or artistry as part of their regular responsibilities, and thus be aware of, and contribute to, advancements in their fields of expertise. Graduate students, through theses, dissertations, and other independent studies, become introduced to the processes of scholarly inquiry and expression in their academic disciplines. These activities continually confirm the university as an institution dedicated to the pursuit and transmission of knowledge, both basic and applied. The Graduate School is responsible for the general encouragement of research and artistry.

## Presidential Research Professorships and Distinguished Research Professorships

The NIU Presidential Research Professorships were established in 1982 in recognition and support of the research and artistic mission of the university. Recipients of this award are selected on the basis of significant and sustained scholarly or creative work, including the achievement of national or international reputation in their individual fields. Up to three such professorships are granted each year, providing budgetary support and released time for research or artistic activities. After four years as a Presidential Research Professor, each of these eminent faculty members is designated a Distinguished Research Professor. Distinguished Research Professors and Presidential Research Professors are identified in the faculty listings of their respective academic departments.

## Presidential Teaching Professorships and Distinguished Teaching Professorships

The NIU Presidential Teaching Professorships were established in 1991 to recognize and support faculty who excel in the practice of teaching. Recipients of this award have demonstrated over time their commitment to and success in the many activities associated with outstanding teaching. Up to three such professorships are granted each year, providing budgetary support and released time for the enhancement of their teaching activities. After four years as a Presidential Teaching Professor, each of these eminent faculty members is designated a Distinguished Teaching Professor. Distinguished Teaching Professors and Presidential Teaching Professors are identified in the faculty listings of their respective academic departments.

## External Support for Research and Development

The Office of Sponsored Projects provides a wide range of assistance in the development of proposals for external project funding. The office staff is available by appointment to discuss research projects and to advise applicants concerning strategies and procedures for obtaining grant or contract support. A Graduate Student Grants and Fellowships Office website specifically provides information on external support available for graduate students. See [www.grad.niu.edu/gsgfo/index.html](http://www.grad.niu.edu/gsgfo/index.html).

The Technology Transfer Office (TTO) promotes the development and protection of university-owned intellectual property (IP) for public use and benefit. University-owned IP is generated by faculty, staff, students, and non-employees while teaching, researching, or working on scholarship projects using university resources, which includes external monies funded to the university, as well as during the course of daily responsibilities to the university. The office protects proprietary information, original works, tangible research property, and know-how via administering nondisclosure agreements, material transfer agreements, etc., and by managing patents, trademark, and copyright filings. The TTO facilitates third-party negotiations for agreements granting rights to use, develop, and commercialize university-owned IP thereby generating income to further research and education as well as benefiting the inventors. The TTO also coordinates invention reporting and IP related obligations with external research funding sponsors. To learn more visit <http://www.tto.niu.edu/to/>.

## Resources for University Research and Public Service

The university maintains a wide range of research facilities, offices, and resources to facilitate a variety of research and public service activities. These include the following.

### Econ Illinois

The Econ Illinois coordinates the continuing education activities of seven university centers for economic education throughout the state. The council's activities involve inservice and preservice teacher training in economics and personal finance and the development, distribution, and evaluation of economic education materials. The council also offers services for students, adults, employee groups, and other interested community and professional groups.

The NIU regional Office for Economic Education is one of seven centers in the Illinois Council network. The NIU office provides services, materials, and consultation to school systems throughout 15 counties in northern Illinois. Thirty-six school systems in this region are formally committed to economic literacy through the Economics America Schools Program. Graduate-level courses for teachers, workshops and awareness programs, curriculum review, and classroom materials for teaching economics are among the offerings available through the Office for Economic Education.

### Information Technology

At NIU students can access more than 1,500 computers for research, instruction, and individual use in academic departments, classrooms, and student computing labs. The many platforms represented include Windows, Macintosh, NetWare, Linux, and Unix. The Information Technology Services and ResTech helpdesks provide end-user support for many technologies and assistance with access to NIU's network and student systems.

General access computing labs feature PIV 1.8 GHz or faster computers, CD ROM, and/or CD burners, networked laser printers, and full-color scanners with document feeders and optical character recognition (OCR) software. All feature front/

side USB, headphone, and microphone access. Most student computing labs feature Windows XP, office productivity software, Internet browsers, and various adaptive technologies for students with disabilities. In addition, statistical analysis packages such as SAS and SPSS are provided. Macintosh computers running OSX are available in labs that support the graphic arts programs. Volume purchasing of software extends savings to the university community.

NIUNet is Northern Illinois University's state-of-the-art network that provides students and faculty with access to advanced research and academic networks. Students can use NIUNet through both wired and wireless network connections on any of NIU's campuses. Maintained by ITS, NIUNet is a fiber optic network providing high speed broadband connectivity to Internet2, the world's foremost advanced networking consortium. NIUNet is designed to provide flexibility in meeting the communications and data processing demands of research projects requiring ultra-high speed connectivity. Through Internet2, NIUNet connects to the Metropolitan Research and Education Network (MREN), allowing NIU students and faculty to develop peer relationships with researchers at other universities, as well as prominent research facilities such as Argonne National Labs and Fermilab. NIUNet is continually expanding into hospitals, schools, and local government in the northern Illinois region, creating opportunities for collaboration in education, health services, the sciences, the arts, business and other disciplines.

NIU's telephone systems include standard and advanced calling features and services such as roaming authorization codes, caller ID, voice mail, plus many more. Call tracing and caller ID blocking are offered for enhanced security.

For more information, call ITS at 815-753-8100, or visit [www.its.niu.edu](http://www.its.niu.edu).

### **Interdisciplinary Academic Centers and Institutes**

Several centers encourage and coordinate multidisciplinary research and graduate study. The following are described in the "Interdisciplinary Academic Centers and Courses" section in the back of this catalog.

- Center for Biochemical and Biophysical Studies
- Center for Burma Studies
- Center for Governmental Studies
- Center for Latino and Latin American Studies
- Center for Southeast Asian Studies
- Institute of Nanoscience, Engineering, and Technology (INSET)
- Plant Molecular Biology Center

### **Inter-University Consortium for Political and Social Research (ICPSR)**

Northern Illinois University is a member institution in the Inter-University Consortium for Political and Social Research (ICPSR). The Consortium was founded in 1962 as a partnership between the Center for Political Studies of the University of Michigan and some 190 other universities, colleges, and nonprofit research organizations in the United States and abroad. It is committed to interdisciplinary inter-university research and training for the social sciences. Its objectives are to maintain archives of machine-readable social and political data sets that will serve a variety of research and training needs; to develop and distribute computerbased systems for the analysis of these data sets; and to conduct training in the use of quantitative methods for social science investigations.

ICPSR is based at the Institute for Social Research at the University of Michigan. A liaison office in the Social Science Research Institute (SSRI) at NIU provides a link for the campus to Consortium archives and other services. Research areas are

international in scope. The data sets range from U.S. election returns and U.S. Census data to public opinion surveys. A substantial number of data files on social structure, public policy, economics, health, and political life in over 130 other countries are also available. These data sets lend themselves to comparative research, particularly on modernization processes and social change in many nations. Access to these data is generally via Superwylbur; however, some data files are now available for PC use. For detailed holdings of data available from ICPSR, faculty and students are encouraged to consult copies of the ICPSR Guide to Resources and Services that the SSRI provides to chairs of all social sciences departments on campus or the ICPSR home page at [www.icpsr.umich.edu](http://www.icpsr.umich.edu).

### **The Roper Center**

Established in 1946, the Roper Center is the oldest and largest archive of sample survey data in the world. The raw data and supporting documentation from thousands of individual studies, carried out in more than 70 countries, have been deposited in the center through the cooperative efforts of the world's major survey research organizations. Center services include data set duplication, information retrieval, and computer data analysis.

Northern Illinois University is a member institution of the International Survey Library Association, which is an active partnership between the Roper Center and the academic community. This affiliation provides NIU faculty and students with access to center data services.

Included in the center's holdings are surveys by Gallup, Harris, Roper, Yankelovich Clancy Shulman, the National Opinion Research Center (NORC), the Opinion Research Corporation, CBS News/*New York Times*, ABC News/*Washington Post*, NBC News/*Wall Street Journal*, CNN/*USA Today*, *Los Angeles Times*, Canadian Gallup, Social Surveys LTD (Gallup) in the UK, and Brule Ville Associes in France. Questions and marginals from the surveys archived at the center can be accessed on-line and frequently the data sets themselves can be obtained.

### **Regional History Center and University Archives**

The Regional History Center has as its basic goal to acquire, preserve, and make available to the public the most significant historical records of the northern Illinois region. The center actively collects historical material from the 18 northernmost counties of Illinois, excluding Cook County. Since 1964 the center has evolved from a small university archival unit to a multifaceted research center containing three related sets of historical records available to researchers: Regional Collections, University Archives, and Local Government Records.

Holdings in the Regional Collections include original manuscripts and records generated by private individuals, institutions, and organizations from throughout the area, with particular emphasis on several major themes in the region's history: agriculture, politics, ethnic heritage, commerce and industry, the role of women, and urban expansion. University records that have permanent historical or administrative value are housed in the University Archives. These materials include Illinois Board of Higher Education and governing board proceedings, records of university administrative offices, faculty papers, records of student government and organizations, a range of publications, and extensive photographs of campus life. The Local Government Records collection, as part of the Illinois Archives Depository system administered by the Illinois State Archives, has the responsibility of preserving local public records and making them available to researchers.

## **University Libraries**

The Northern Illinois University Libraries system consists of Founders Memorial Library and branch libraries which include Faraday Library, the Music Library, NIU Hoffman Estates Library, NIU Naperville Library, and the NIU Rockford Library. The University Libraries collections contain over 2 million volumes as well as numerous periodicals, government publications, microforms, maps, recordings, audiovisual materials, and electronic databases.

Founders Memorial Library, the main library, has six levels with 327,000 square feet of space and seating capacity for 1,600 students. Faraday Library serves faculty and students in the disciplines of chemistry and physics. Similarly, the Music Library serves the music curriculum, NIU Hoffman Estates Library, NIU Naperville Library, and NIU Rockford Library service the information needs of library users at those sites.

For further information, see "University Libraries" in the "Other Academic Units" section of this catalog.

## **University Press**

Founded in 1965, the Northern Illinois University Press publishes scholarly work and books of general interest. Most of its books are in the humanities and social sciences, but it also publishes in various fields of science and the arts. Regional topics are a special focus. Seeking to advance knowledge about its region, the press has published a wide range of books on the archaeology, history, literature, and culture of northern Illinois and Chicago. At present, there are about 350 titles in print.

The publication of any book through the NIU Press must be approved by the University Press Board, a faculty committee made up of representatives of the colleges and chaired by the vice president for research and graduate studies. The main function of the board is to assure high standards of quality in all the publications of the university press.

One of three state-supported presses in Illinois, the NIU Press has been a member of the Association of American University Presses since 1972.

## **SummerNITE**

SummerNITE [Northern Illinois Theatre Ensemble] is the professional Equity company of NIU's School of Theatre and Dance which performs in Chicago, throughout the northern Illinois region, and internationally. The goals of the company are to produce new works of distinction, to present Chicago-area premieres, to bring quality professional theatre to northern Illinois, and to provide an opportunity for Northern Illinois University theatre arts students to work with Equity artists, on and off stage, while working toward full membership in Actor's Equity.

# University Services

## University Office Hours

Most administrative offices are open Monday through Friday from 8 a.m. to 12 noon, and from 1 to 4:30 p.m. University office hours are subject to change. All offices are closed on legal holidays.

## Holmes Student Center

The Holmes Student Center provides recreational facilities, informal gathering places, eating places, meeting and conference rooms, and an 76-room hotel for members of the university community and their guests. Included are the Duke Ellington Ballroom and Sandburg Auditorium for major performances and lectures; Diversions, a multipurpose facility for coffeehouse and club-style live entertainment; the Center Gallery, which displays art works of many student artists; the University ID Office; two computer laboratories, which are available for use by all NIU students; the Huskies Den, which offers electronic games, billiard tables, and a 16-lane bowling center; and the University Bookstore, which sells textbooks, general books, school and art supplies, and personal items.

Tickets to most campus events may be acquired or purchased in the center. The facility provides copy machines, a full-service bank, and Automatic Teller Machines. Students can cash checks, study in the gallery lounge, or relax in the television lounge. Free open wireless is available on all main floors.

## Housing

### Campus Living

NIU offers accommodating living arrangements for graduate students in its university residence halls and apartments. Living on campus gives students quick access to the Huskie Bus line, hot meals seven days a week, a variety of living options, as well as a supportive academic environment.

The university residence halls are an affordable option for graduate students. The residence halls include every utility, including cable, Internet, heat, gas, water, garbage, electric, and a university-wide phone (caller ID, voice mail). Each residence hall has a computer lab open 24/7 to meet the needs of students. Lobbies and common areas are equipped with wireless Internet and each residence hall room has its own high-speed Internet connection. Other amenities available to hall residents include quiet study lounges, 24-hour security, on-site laundry, vending machines, and photocopiers.

A contract to live in the residence halls comes complete with a meal plan for the semester in three incremental weekly amounts. Residents can choose to eat in any of the dining units in the halls, including à la carte food courts, all-you-care-to-eat buffets, and grab-'n-go stores. There is a dining option available to residents from 7:00 a.m. until 11:00 p.m. five days a week, with weekend hours varying. Each residence hall room also comes equipped with a refrigerator/freezer/microwave for in-room meal preparation.

Residence hall contracts cover the entire academic year with optional interim contracts available during the winter and spring break periods. Summer housing is also available. Applications

are available from Housing and Dining, located in East Neptune Hall. Housing and Dining can be reached at 815-753-1525 or online at [www.housing-dining.niu.edu](http://www.housing-dining.niu.edu).

NIU also provides housing options at University Apartment Complex, located at 501 North Annie Glidden Road, near Lincoln Hall. The University Apartments are an excellent alternative to the residence halls without the hassle of a third-party landlord. There are 80 units—40 efficiency and 40 one-bedroom units—available for graduate students, nontraditional-aged undergraduates, married students, and single parents.

The University Apartments offers a 9-month lease, which begins in August, with an option to extend it through the summer. Rent includes gas, water, electricity, TV/FM cable, stove, refrigerator, and air conditioner. A telephone is also provided at each unit but the tenant is responsible for all incurred telephone charges. For more details, please contact the Residential Administration Office, 815-753-1525.

### Off-Campus Housing Services

The Office of Off-Campus Housing Services, East Neptune Hall lobby, acts as a clearinghouse for information on rental properties in the DeKalb area. Staff is available from 12-4 p.m. weekdays to assist in locating a roommate or a place to live. Rental listings are also available on the Internet at [www.niu.edu/comnontrad/housing/index.shtml](http://www.niu.edu/comnontrad/housing/index.shtml), or call 815-753-9999.

## Health Services

Health Services offers a wide variety of high quality outpatient health care services to NIU students to assist with maintaining and improving their health. Health Services physicians, nurses, and other professional and support staff have extensive experience in college health and are sensitive to the special needs of the college community. Health Services physicians are trained and experienced in primary care specialties. The high quality of care provided by Health Services is recognized through accreditation by the Accreditation Association for Ambulatory Health Care.

Health Services is available to all full- and part-time students who have been assessed on-campus student fees. There are no charges for physician services, X-rays, most laboratory tests, and most other services. There are charges for medications, immunizations, specialized medical procedures and supplies, selected laboratory tests, and missed appointments. Students may use Health Services without being enrolled in the university's Student Health Insurance Plan or a private health insurance plan.

Health Services provides the following:

**Acute and Chronic Medical Care** – evaluation, consultation, and treatment for a wide variety of medical concerns including injury care, mental health, and sports medicine as well as acute medical conditions such as upper respiratory infections, sinusitis, and cough

**Allergy Injections** – administered by a nurse using the schedule and serum provided by the student's private allergist

**Laboratory** – laboratory testing ordered by Health Services, and limited testing ordered by outside health care providers

**Men's Health** – screening and treatment for sexually transmitted infections and other men's health issues with an emphasis on prevention and personal responsibility

**Pharmacy** – fills prescriptions from Health Services and outside health care providers, and provides several over-the-counter medications such as Plan B One-Step (emergency contraception), allergy and cold preparations, and fever/pain relievers

**Physical Therapy** – referral for evaluation and treatment of non-surgical musculoskeletal injuries or impairments upon practitioner's referral. (Located at the NIU Family Health, Wellness, and Literacy Center, 3100 Sycamore Road in DeKalb. Access by the NIU Huskie Bus or NIU permit and metered parking is available.)

**Preventive Medicine** – immunizations (including HPV, Hepatitis B, and meningitis vaccines, as well as state-required immunizations), HIV testing, travel immunizations and information, and tuberculosis testing

**Psychiatry** – Psychiatric assessment, medication, and/or referral is provided on a full-time basis at Health Services by the psychiatrist from the Counseling and Student Development Center

**Radiology** – general diagnostic X-rays, including fluoroscopic and sports medicine X-ray examinations, and electrocardiograms when ordered by Health Services

**Women's Health** – care and treatment for women's health concerns including annual exams, breast exams, Pap smears, sexually transmitted infections, contraception and counseling, vaginal infections, and menstrual irregularities with an emphasis on education and prevention

Appointments are required for most services. Fees are charged for missed appointments. To schedule or cancel an appointment, call 815-753-1311. For Preventive Medicine appointments, call 815-753-9759.

Students are responsible for the cost of all health care services received outside Health Services, including referrals. The university offers an affordable Student Health Insurance Plan that assists students with paying these medical expenses. For more information regarding the Student Insurance Plan, visit their website at [www.studentinsurance.niu.edu](http://www.studentinsurance.niu.edu) or call 815-753-0122. For additional information regarding Health Services, visit the website at [www.niu.edu/healthservices](http://www.niu.edu/healthservices) or call 815-753-1311.

## Student Health Insurance

Students who register for 9 or more on-campus semester hours by the 15th calendar day of the semester are automatically assessed the fee for student insurance on their tuition account through the Bursar's Office. The student insurance plan provides coverage for hospitalization and/or medical treatment for injury and sicknesses 24 hours a day anywhere in the world.

Students who register for at least 6 semester hours on or off campus may enroll in the student insurance plan. These students must return an enrollment form to the Student Insurance Office by the 15th calendar day of the semester. Enrollment forms are available at the website: [www.studentinsurance.niu.edu](http://www.studentinsurance.niu.edu).

International students and students studying abroad are required to carry the NIU student insurance. These students are automatically charged the fee for student insurance if they register for at least 1 semester hour by the 15th calendar day of the semester.

Eligible dependents of insured students, including spouse and unmarried children under the age of 26, may also be insured. The insured student may apply for dependent coverage on or before the 15th calendar day of the semester. Applications for dependent coverage are available at the website: [www.studentinsurance.niu.edu](http://www.studentinsurance.niu.edu).

Students who have been assessed the student insurance fee and have comparable health insurance coverage may apply for a waiver by completing the on-line Waiver Process at the Student Insurance website on or before the 15th calendar day of the semester. Students who successfully complete the waiver process are not assessed or covered by student insurance for the following spring semester.

Reinstatement to the NIU plan is available during open enrollment periods or within 60 days of being removed from alternate coverage. Please contact the Student Insurance office for more information.

Students (and their dependents) who are insured for the spring semester, are automatically covered through the summer whether or not they enroll in the summer session. New students entering the university for summer session who are registered for 6 or more semester hours may elect to purchase the student insurance for themselves and their dependents during the first 5 days of summer session. Applications are available at the website: [www.studentinsurance.niu.edu](http://www.studentinsurance.niu.edu).

Students who withdraw from the university due to medical reasons will not receive a refund of the student insurance fee and will continue to be insured through the student health insurance plan for the remainder of the policy term. This provision is available for one academic term only.

Information concerning the NIU student health insurance may be obtained from the Student Insurance Office, Health Services, Room 201, 815-753-0122, or e-mail to [studentinsurance@niu.edu](mailto:studentinsurance@niu.edu).

## Service Centers, Offices, and Agencies

### Asian American Center

NIU's Asian American Resource Center provides student-centered services to a growing Asian American student population, which is comprised of many ethnicities including, but not limited to, Burmese, Cambodian, Chinese, Filipino, Hmong, Indian, Indonesian, Japanese, Korean, Laotian, Malaysian, Pakistani, Taiwanese, and Vietnamese. In support of the academic missions of NIU and the Division of Student Affairs, the center assists in the recruitment and retention of Asian American students and provides diverse educational, cultural, and social activities designed to raise awareness about Asian American heritage and culture. In particular, the center offers a Peer Mentor Program for first-year students designed to assist with their transition to college. The center creates an inclusive and welcoming environment that intentionally enhances students' learning experiences, leadership development, and career preparation. It also provides students with computer access, a resource library, meeting rooms, and extended hours during final examinations.

### Campus Child Care

Campus Child Care is a licensed facility which offers NIU students, faculty, and staff full- and part-time child care for their children ages 2 months - 5 years. In addition, school-age childcare is available during the summer session. The center is accredited by the NAEYC Academy for Early Childhood Program Accreditation. The center is staffed with qualified teachers along with student workers who serve as teacher aides in the classrooms. The center is open Monday through Friday, 7:15 a.m. to 5:45 p.m. during the fall, spring, and summer sessions. Full-time child care is also available between semesters for those who need year-round child care. For more information, contact Campus Child Care at 815-753-0125 or visit the website at [www.ccc.niu.edu/cc/ccchome.shtml](http://www.ccc.niu.edu/cc/ccchome.shtml).

## Campus Transportation

NIU maintains the largest student-run university bus system in Illinois. The 13-bus system, governed by the Student Association Mass Transit Board, provides free transportation for all fee-paying students to campus and the DeKalb community. The Huskie buses are in operation seven days a week while school is in session during the fall and spring semesters, during winter and spring break, and for limited hours during summer school. Most Huskie buses are equipped with chair lifts to provide all students easy access to and from campus, shopping, and entertainment areas. For more information, call the Student Association at 815-753-9922.

In conjunction with the University Police, the Mass Transit Board runs Late Nite Ride Service, which provides free safe passage home for students. The service operates on a daily basis from 10 p.m. to 6 a.m. and can be reached at 815-753-2222.

Through the Mass Transit Board and the Center for Access-Ability Resources, the NIU Student Association operates the FreedomMobile which provides transportation around the campus and vicinity for students with disabilities. During winter months class-to-class transportation is available for students with a qualifying disability. For more information, call the Center for Access-Ability Resources at 815-753-1303.

## Career Services

Career Services helps graduate students secure internships and full-time employment through a centralized department serving all the colleges, departments, and majors. Career counselors are available to assist NIU graduate students make career decisions, discuss career transitioning and develop plans to build "experience" into their educational program through internships, and search for full-time employment.

Besides offering individual career counseling about career and job-related concerns, the following services are offered through Career Services.

- Help with career decision making including a website for majors, with corresponding career options, at [www.niu.edu/careerservices/Weblinks/](http://www.niu.edu/careerservices/Weblinks/)
- Online postings for internships and full-time positions through Victor eRecruiting at [www.niu.edu/careerservices](http://www.niu.edu/careerservices)
- Walk-in and online resume and cover letter reviews
- Career testing
- University-wide job fairs, internship fairs, and Educators' Job Fair
- Assistance in the application process for graduate/professional school
- Permanent credential files for students in the field of education
- A Career Resource Center containing a library of books, brochures, and directories describing various careers, as well as computers that can be used in job search and resume/cover letter preparation

Career Services is located in the Campus Life Building, Room 220, and is open all year from 8:00 a.m. to 4:30 p.m., Monday through Friday. Staff members are available for graduate students on an individual basis during these hours. More information about Career Services may be obtained online at [www.niu.edu/careerservices](http://www.niu.edu/careerservices) or by calling 815-753-1641.

## Center for Access-Ability Resources

In concordance with Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act, the university provides support services for students with a variety of disabilities. A wide range of services can be obtained including, but not limited to, housing, transportation, adaptation of printed materials, testing

accommodations, sign language interpreters, and advocacy with faculty and staff. Students wishing to request services or who want more information should contact the Center for Access-Ability Resources, fourth floor, Health Services Building, 815-753-1303 (voice) or 815-753-3000 (TTY). Verification of disability and the request for service need to be received in a timely manner so that services may be arranged and provided.

Students desiring consideration of special accommodations with respect to course work or other academic activities should see "Accommodations for Students with Disabilities."

## Center for Black Studies

The Center for Black Studies is an academic and research center that collects and analyzes data on all aspects of minority experiences, particularly those of people of African descent. The center also coordinates an interdisciplinary undergraduate minor in black studies. In addition, the center seeks to stimulate students' professional and career interests through the sponsorship of various distinguished speakers and cultural events.

## Counseling and Student Development Center

The Counseling and Student Development Center supports the academic, emotional, social, and cultural development of students. The student-centered programs include counseling, assessment, crisis response, outreach, consultation, training, and educational services. The center's staff help students address personal challenges and develop the skills, abilities and knowledge to empower them to take full advantage of their college experience.

An atmosphere that is welcoming for all individuals is valued and diversity of race, gender, ethnicity, age, sexual orientation, religion, socioeconomic status, citizenship, and ability is embraced. The center strives to foster and promote awareness, empathy, and cultural competence within a multicultural environment.

Services include:

- Individual and group counseling
- Crisis intervention and referral
- Substance abuse assessments
- Eating disorder assessments
- Anger interventions
- Psychiatric services
- Coaching for Academic Success (learning and study skills assistance)
- Workshops on various topics (in residence halls, classes and other settings)
- Consultation (regarding mental health issues, programming, and organizational development)
- Training for graduate students

## International Student and Faculty Office

The International Student and Faculty Office provides a variety of services for international (foreign) students and faculty. For further information see "International Programs."

## Latino Resource Center

The Latino Resource Center (LRC) offers a variety of services to assist, encourage, and inspire NIU Latino students to engage and succeed in their pursuit of learning and to grow as campus and community leaders. Some of the services available include retention programs such as De Mujer a Mujer: Latina Assistance Program (LAP), Supporting Opportunities for Latinos (SOL) and Mentoring for Academic Success (MAS). The LRC also provides cultural and social programming and makes referrals to appropriate offices for information and assistance with academic,

social and career opportunities. The Center houses a top-of-the-line computer laboratory, library, and meeting rooms for student use. For more information, visit [www.niu.edu/lrc](http://www.niu.edu/lrc) or contact Dr. Emily Prieto, Director at 815-753-1986.

### **Lesbian, Gay, Bisexual, Transgender Resource Center**

The Lesbian, Gay, Bisexual, Transgender (LGBT) Resource Center serves as a central resource for increasing campus and community awareness and understanding about sexual orientation and gender identity. The Resource Center provides educational materials and programs on lesbian, gay, bisexual, and transgender life and culture. In collaboration with other groups on campus, the resource center offers speakers, films, panel discussions, theatrical performances, and much more for the entire campus. Resource Center staff offer confidential information, support, and referral for students, faculty, and staff whose lives are impacted by issues related to sexual orientation and/or gender identity, including LGBT and questioning individuals, as well as their family members, friends, and allies. The center's resource room offers a relaxing place to meet people, study, research, and get connected. A lending library of books, films, and magazines on LGBT topics, computer stations for student use, and a variety of free brochures and handouts are also available.

### **Meningococcal Meningitis**

The Center for Disease Control's Advisory Committee on Immunization Practices (ACIP) recommends that college freshman living in residence halls be immunized against meningococcal disease. The ACIP recommendation further states that other college students under 25 years of age who wish to reduce their risk for the disease may choose to be vaccinated.

Meningitis is an inflammation of the linings of the brain and spinal cord that is caused either by viruses or bacteria. Viral meningitis is generally less severe and resolves without specific treatment. Bacterial meningitis, especially meningococcal meningitis, is more serious and can result in permanent neurologic damage or death.

Meningococcal meningitis commonly begins with high fever, headache, and stiff neck that develop over a period of several hours to two days. Other symptoms may include nausea, vomiting, confusion, drowsiness and discomfort looking at bright lights. Meningococcal meningitis is spread through exchange of oral and respiratory secretions (i.e., coughing, kissing, and sharing eating utensils), not through casual contact. Individuals who live in the same household or have direct contact with an infected person's oral secretions are at an increased risk of acquiring the infection.

Two vaccines are available that protect against four of the five strains (or types) of the bacterium that cause meningococcal disease. While both vaccines provide immunity for a number of years to approximately 90% of those who are vaccinated, neither medication confers lifelong immunity to meningococcal meningitis.

Health Services provides meningococcal vaccinations for NIU students on request. There is a charge for this vaccination. For more information, please contact Preventive Medicine at 815-753-9759.

### **Off-Campus and Non-Traditional Student Services**

Off-Campus and Non-Traditional Student Services at Northern Illinois University was established in order to support and enhance the educational, interpersonal, and social experiences of non-traditional and off-campus students. The office has a lounge for students to come and relax between classes, have lunch, study,

or chat with other non-traditional, or off-campus students. The lounge space includes comfortable furniture, a microwave, a full-sized refrigerator, a television, and computers and printers for students to use. The staff assists students with getting connected with necessary services or navigating particular issues. There is a computer lab adjacent to the office that meets students' computing needs. Off-Campus and Non-Traditional Student Services is located in the Holmes Student Center, Room 023J (basement level near the Orientation Office). For further information, visit the Off-Campus and Non-Traditional Student Services website at [www.niu.edu/commontrad](http://www.niu.edu/commontrad), phone 815-753-9999, or e-mail at: [CommNonTrad@niu.edu](mailto:CommNonTrad@niu.edu).

### **Office of the Ombudsman**

The Office of the Ombudsman provides members of the university community neutral and confidential assistance and advice regarding university-related concerns. Any type of concern may be discussed: academic, financial, housing, consumer, work related, or personal. Members of the office staff will listen to concerns, discuss options, and offer suggestions and advice from a neutral and objective point of view that may assist in the resolution of the concern. Distinctive services of the office include clarification of university policies and procedures, advice regarding appropriate strategic approaches, and specific direction and referral to appropriate individuals and offices on campus.

As designated neutrals, staff members in the office are prohibited from advocating on behalf of any individual but can suggest others who can serve as potential advocates if necessary. Due to the strictly confidential nature of communications with the Office of the Ombudsman, disclosures to the office do not constitute notice to the university.

Mediation services, direction and referral to appropriate individuals and offices, and clarification of university policies and procedures are distinctive services of the office. All communications with the Office of the Ombudsman are held in strict confidence.

The Office of the Ombudsman is located in the Holmes Student Center, Room 601. Appointments may be made by calling 815-753-1414.

### **Office of Support & Advocacy**

The Office of Support and Advocacy (OSA) was newly created in April, 2008, as a response to centralize university resources and provide assistance to a priority population of students and their families, the families of the deceased, and faculty and staff who were directly impacted by the tragic shootings in Cole Hall on February 14, 2008. The OSA offers direct and indirect counseling, academic assistance, and a variety of activities that are geared to help individuals establish social support amongst the group. Additionally, the OSA serves as a liaison and advocate between the priority population and services provided by the university to help address academic, financial, legal, and personal concerns. The OSA is open five days a week in Gilbert Hall (B123) and can be reached at 815-753-0940 or by visiting our web site at <http://www.niu.edu/osa/index.shtml>.

### **Office of Testing Services**

The Office of Testing Services, located in Adams Hall, provides a variety of services to students and faculty. This office administers many of the tests associated with course placement, departmental qualification requirements, university graduation requirements, and admission to graduate and professional schools. Testing Services maintains files of test scores and serves as the campus location to which scores on tests taken at other institutions or test centers may be directed.

## Other Campus Human Service Agencies

The School of Family, Consumer and Nutrition Sciences Child **Development Laboratory** (Gabel Hall, Rooms 169-170, 815-753-1150) is accredited by the National Association for the Education of Young Children and provides high quality child care programs for children ages 6 weeks to 7 years. Enrollment in all programs is open to the university and DeKalb communities, with half-day and full-day enrollments during academic terms. Children are enrolled based on available space, time of request, and their age. Assessment of each child's readiness for a group experience is made in early contacts. The facility is licensed by the Illinois Department of Children and Family Services for 47 children, and is a research and training facility for students in the child development emphasis offered by the School of Family, Consumer, and Nutrition Sciences. For more information, contact the Child Development Laboratory.

The **Counseling Laboratory** (Graham Hall, Room 416; 815-753-9312) offers counseling services to persons who want assistance improving their personality development, modifying self-defeating behavioral characteristics, or resolving personal, career, or educational dilemmas. Counselors are advanced graduate students in counseling. Services are free, except that a nominal fee may be charged for some psychological or career interest testing.

The **Family Center** (Wirtz Hall, Room 146, 815-753-1684) provides individual, couple, family, and group therapy services to students of NIU, and to all residents of DeKalb and the greater northern Illinois area. Therapists are advanced graduate students under the direct supervision of licensed marriage and family therapist faculty, who are also Approved Supervisors through the American Association for Marriage and Family Therapy. The graduate program in marriage and family therapy is accredited by the Council on Accreditation for Marriage and Family Therapy Education. The facility and program are part of the School of Family, Consumer, and Nutrition Sciences in the College of Health and Human Sciences.

The **Psychological Services Center** (Psychology Building, Room 86, 815-753-0591) offers a wide variety of psychological evaluation and psychotherapy. Clients range in age from young children to older adults. Therapy is free of charge to full-time NIU students. NIU students pay a reduced flat rate for psychological evaluations. A sliding fee scale for therapy and evaluations is available for clients from the local community. The center is staffed by faculty and doctoral students in clinical psychology in the Department of Psychology.

The **Speech-Language-Hearing Clinic** (Family Health, Wellness and Literacy Center, 3100 Sycamore Road, 815-753-1481, TTY 815-752-2000) offers a comprehensive program of evaluation, rehabilitation, and counseling services for any student with a hearing loss and/or speech-language disorder. Hearing aids, accessories, and repairs are available. The clinic is a program of the School of Allied Health and Communicative Disorders.

## Parking

Parking permits are required on campus unless pay parking is utilized. Parking facilities are limited and controlled. Parking lots are color-coded; all vehicles, including motorcycles and mopeds, must display an appropriate permit. Special parking privileges are extended to handicapped persons and to individuals who are temporarily disabled. For further information, contact Campus Parking Services, located on the corner of Normal Road and Lincoln Terrace, at 815-753-1045.

Fifteen-minute loading and unloading spaces are scattered throughout campus and require no special identification other than the use of the vehicle's emergency flashers.

## Recreation Services

The Student Recreation Center and Chick Evans Field House offer a variety of programs and services. The main office is located in the Student Recreation Center, 815-753-0231, [www.rs.niu.edu](http://www.rs.niu.edu).

The Student Recreation Center is a 125,000 square foot facility that offers a 6,000 square foot cardiovascular and weight selector exercise room, 11 racquetball courts, and 8 multipurpose courts used for basketball, volleyball, tennis, and badminton. Two weight rooms offer a complete line of free weight training stations. A three lane jogging track and table tennis is available in the main multipurpose area.

The Chick Evans Field House is a 95,000 square foot facility and is shared with academics and athletics and offers 2 multipurpose courts for basketball and volleyball, 2 indoor soccer/hockey courts, a cardiovascular exercise room including treadmills, elliptical trainers, recumbent bikes, stretch trainers, and a 12 station multi-trainer for strength training. Two activity rooms are used for martial arts activities and group fitness classes. A three lane jogging track surrounds the main multipurpose area.

Each semester students can sign up to compete in a variety of individual, dual, and team sports such as flag football, basketball, volleyball, racquetball, tennis, badminton, and more. Students may choose the fun or more competitive level of league and tournament play.

The Fitness/Wellness Program provides a variety of services. Certified personal trainers are available to assist students in designing a work out program that will meet their needs. Developing healthy eating habits is critical to achieving wellness. Nutrition interns help determine calorie requirements needed to achieve an individual's weight goal and assist with menu and food planning. Trained fitness instructors coordinate a variety of group fitness classes such as step, kickboxing, yoga, Pilates, and spin. A unique balance of strength and conditioning exercises are incorporated into group fitness classes to give participants a workout that creates results. Certified Massage Therapists are available to help relieve muscle tension and stress. Acupressure therapists offer an ancient Chinese healing method that involves applying pressure to certain meridian points on the body to relieve pain.

The Outing Centre has a complete line of outdoor gear rentals such as canoes, kayaks, life jackets, cross country skis, ice skates, tents, sleeping bags, roller blades, outdoor sport equipment, and more. Trip leaders coordinate a variety of outdoor pursuits such as hiking, canoeing, backpacking, rock climbing, and caving.

Sport Clubs are registered student organizations who compete in league play with other universities in sports and martial arts which include: Aikido, baseball, Brazilian Jiu-Jitsu, equestrian, fencing, Hapkido, ice hockey, Kodokon-Judo, Kyuki-Do, lacrosse, rugby, Shotokan Karate, men's soccer, swimming, table tennis, triathlon, ultimate frisbee, men's volleyball, water polo, water ski and wakeboard.

Recreation Services employs over 200 student employees annually. Recreation Services staff is interested in employing students who are interested in helping to provide excellent services and programs while learning teamwork and skills that will prepare them for their future careers. Positions include building staff, group fitness instructors, personal trainers, outdoor trip leaders, Outing Centre staff, intramural supervisors, and officials. For more information contact the Recreation Services main phone number at 815-753-0231.

## Students' Legal Assistance Office

Two Illinois attorneys and their staff provide legal information and assistance to eligible fee-paying NIU students. The office handles

a large variety of cases including landlord-tenant, criminal misdemeanor, traffic, consumer, discrimination, tort, public benefits, employment, and domestic relations. It is preferred that appointments be made. The offices are located in the Holmes Student Center and can be reached by calling 815-753-1701.

The office is funded by the NIU Student Association. The attorneys are prevented by their contracts and the Code of Professional Ethics from handling matters relating to NIU and matters between NIU students. Persons able to procure private counsel are not eligible for litigational representation.

In addition to direct legal services, the lawyers have instituted a mediation service to handle problems between students and have developed an extensive "preventative-law" program designed to prevent problems through community education. Handout materials include a Dispute Resolution Handbook, Tenant/Landlord Handbook, Roommate Survival Guide, Preventing Sexual Assault Handbook, Used Car Buyer's Guide, Traffic Ticket Handbook, and legal forms including subleases, room condition reports, and roommate agreements.

### Women's Resource Center

The Women's Resource Center staff is dedicated to gender equity and enhancement of the campus climate for women through advocacy, personal development, and social justice programming. The Women's Resource Center provides a central space on campus where faculty, staff, students, and community can come together around issues of inclusiveness and activism. For more information on programs or services or to find out how to get involved, visit the office, located at 105 Normal Road, or call 815-753-0320.

### Regional Programs

Graduate credit courses are offered at regional sites by the Colleges of Business, Education, Engineering and Engineering Technology, Health and Human Sciences, Liberal Arts and Sciences, and Visual and Performing Arts. For a list of regional course locations, students should consult the "campuses and courses" quick link off the NIU home page ([www.niu.edu](http://www.niu.edu)). In addition, the Illinois Board of Higher Education has authorized several NIU graduate degree programs to be offered in their totality in Chicago and in the Hoffman Estates, DuPage, and Rockford areas.

Graduate School: M.A.T. (teaching), and M.S.T. (teaching)

College of Business: M.A.S., M.B.A., M.S.T., and M.S. in management information systems

College of Education: M.S.Ed. in adult and higher education, counseling, curriculum and instruction, early childhood education, educational administration, elementary education, instructional technology, literacy education, school business management, and special education; Ed.S. in educational administration; and Ed.D. in instructional technology

College of Engineering and Engineering Technology: M.S. in electrical engineering, industrial management, and mechanical engineering

College of Health and Human Sciences: M.P.H. and M.S. in nursing

College of Liberal Arts and Sciences: M.P.A. and M.S. in computer science

Students admitted to the NIU Graduate School or accepted as students-at-large may enroll in courses offered at regional sites for graduate credit. Adult students who are exploring various disciplines before formal commitment to a degree program may enroll under the student-at-large status in these courses. Students

should consult with graduate advisers in their chosen field, and should become familiar with the regulations in this catalog, to determine the amount of credit earned as a student-at-large that may be applied to their graduate degree programs.

The university also provides experiences for personal and professional development in a variety of appropriate formats, such as one-day workshops, seminars, conferences, training programs, short courses, distance-learning courses, guided individual study courses, and consultations. Enlisting the instructional and research expertise of a diverse faculty, the university matches these resources with the articulated needs of practicing professionals. Many of these short courses are tailored to meet the professional needs of a particular agency or business. Others are offered more broadly, attracting participants from across professions, communities, and employers.

### NIU Hoffman Estates, NIU Naperville, and NIU Rockford

The NIU Outreach Centers at Hoffman Estates, Naperville, and Rockford function both as after-hours locations for NIU programs for adult learners and as facilities for corporate clients. As regional sites, the Hoffman Estates, Naperville, and Rockford centers provide evening and Saturday classroom and computer laboratory space for NIU's academic programs. The credit courses typically available at the centers are offered at the graduate level with a few at the upper-division, undergraduate level. All three facilities provide daytime space to businesses, organizations, and associations in a professional environment ideal for training sessions, meetings, and special events.

Offices on NIU's DeKalb campus handle all admissions, registration, advising, class scheduling, class materials, and specific information regarding classes offered at all regional locations.

### University Advancement

The Division of University Advancement is responsible for increasing interest in and awareness and support of NIU. Programs within the division are responsible for building strong relationships with NIU alumni and friends, managing philanthropy to benefit the university, and marketing the university through print communications.

The Office of the Vice President for University Advancement provides administrative direction for the Offices of Alumni Relations, Development, and Publications, as well as being the ex officio liaison from the university to its two major volunteer boards: the NIU Alumni Association and the NIU Foundation.

Each year, alumni and friends of NIU make gifts that benefit scholarships, academic programs, facilities, libraries, athletics, and Northern Public Radio, as well as other endeavors. This support is in the form of direct gifts, bequests, insurance plans, trust funds, or property. Gifts to the university from private sources are channeled through the Office of Development and the Northern Illinois University Foundation.

### Alumni Association

The mission of the NIU Alumni Association is to build lifelong relationships with NIU alumni and friends by communicating the message of excellence and creating opportunities for alumni and friends of the university to connect and interact with the university community. Alumni Association programs and activities include publication of Northern Lights and Northern Now; Alumni Scholarship Programs for current and incoming students which are funded by Alumni Association gifts and endowments; Homecoming; the NIU Student Alumni Association; the Senior Challenge fundraising program; the Alumni Awards Program;

alumni travel programs; the alumni web pages and Internet portal page ([www.myniu.com](http://www.myniu.com)); Alumni Weekend and class reunions, the Huskie-2-Huskie mentoring program; alumni chapter and outreach programs; pre-game alumni receptions; new student Move-In Day activities; and Commencement Kick Off activities for graduating seniors.

For further information, contact the Alumni Association at 815-753-1452, [www.myniu.com](http://www.myniu.com).

### **Northern Illinois University Foundation**

The NIU Foundation seeks, receives, and administers gifts of cash, property, works of art, and other items of educational or historical value. Through the Foundation, donors direct their gifts to students, faculty, and programs. Select NIU faculty and programs also receive support for innovative research and projects through the Foundation's Venture Grant program.

As an independent, nonprofit organization chartered in 1949, the Foundation is governed by a board of directors comprised of talented and dedicated NIU alumni and friends, who are also donors themselves. The mission of the Foundation is to build the financial resources necessary to advance excellence at NIU and enhance the university's capacity to transform lives.

For further information, contact the NIU Foundation at 815-753-1048, [www.niufoundation.org](http://www.niufoundation.org).

# College of Business

**Dean: Denise D. Schoenbachler, Ph.D.**  
**Associate Dean: Beth R. Towell, Ph.D.**  
**Associate Dean: Paul R. Prabhaker, Ph.D.**  
**Interim Associate Dean: Daniel R. Wunsch, Ph.D.**

Department of Accountancy  
 Department of Finance  
 Department of Management  
 Department of Marketing  
 Department of Operations Management and Information Systems

## College Mission Statement

The College of Business provides higher education and professional outreach in northern Illinois, participates in relevant activities at the national level, and is committed to raising students' awareness about the implications of international and global business operations. The college offers outstanding educational programs and academic services to students, faculty, business, and other stakeholders. The college endorses a balance between teaching and research while engaging in partnerships with the business community. The college focuses its efforts to continually improve the quality of instruction and scholarship to advance its disciplines and the success of all learners.

## Admission to Graduate Programs in Business

Admission to the various graduate programs in business is competitive and limited to those candidates who can demonstrate high promise of success in a graduate business degree program. In addition to compliance with the policies of the Graduate School, the College of Business considers several indicators of potential for success in graduate business studies including, but not limited to, the following.

A minimum cumulative GPA of 2.75 (based on a 4.00 system) at the baccalaureate institution, or a minimum cumulative GPA of 2.75 in the last 60 hours of the baccalaureate program, or the completion of 15 or more semester hours of graduate work at an accredited institution with a minimum GPA of 3.20.

The total score and verbal and quantitative percentiles, and where available the analytical writing assessment (AWA) score, on the GMAT standards set by the individual graduate programs in business.

Work experience at the post-baccalaureate level, where applicable.

Leadership and communication skills as documented in a goals statement and resume.

A minimum of two letters of recommendation.

Submission of results on the Test of English as a Foreign Language (TOEFL) for all applicants whose native language is not English.

At the discretion of the respective program directors, candidates may be required to come in for an interview or to submit additional materials deemed important in assessing potential for success in graduate business studies.

## Graduate Study in Business

The College of Business offers the Master of Business Administration (M.B.A.), the Master of Accounting Science (M.A.S.) with an area of study, the Master of Science in Taxation (M.S.T.), and the Master of Science (M.S.) in management information systems. These programs are accredited by AACSB International—The Association to Advance Collegiate Schools of Business.

All master's degree programs consist of two phases. Phase One course work is considered to be the foundation for Phase Two graduate course work. All students must have access to business library material and a personal computer with World Wide Web, spreadsheet, and word processing software.

### Limitation of Time

All Phase Two requirements must be met within six consecutive years. This time limitation commences with entry into the first Phase Two course, including work for which transfer credit is allowed. If a course taken to complete the requirements for Phase Two does not fall within the six-year period allowed for the degree, the student must demonstrate currency by examination or by repeating the course.

### Students-at-Large

Students-at-large are normally prohibited from registering for graduate business courses.

### Phase One

The Phase One foundations consist of nine 2-semester-hour courses. Phase One foundation courses will be included in a student's program of study unless she or he has earned a C or better in corresponding undergraduate courses or a B or better in equivalent graduate courses elsewhere, or has passed the first and only attempt of the Phase One exemption examination. The student's program director will determine which Phase One graduate courses will be included in each student's program of courses. Phase One courses may not be used as Phase Two electives; credit earned in Phase One will not count toward the Phase Two requirements.

Phase One consists of 18 semester hours.

ACCY 505 - Financial Accounting Concepts (2)  
 FINA 500 - Survey of Business Economics (2)  
 FINA 505 - Fundamentals of Financial Management (2)  
 MGMT 505 - Principles of Management (2)  
 MGMT 511 - Legal Aspects of Business (2)  
 MKTG 505 - Graduate Survey of Marketing (2)  
 OMIS 505 - Principles of Operations Management (2)  
 OMIS 507 - Business Information Systems (2)  
 OMIS 524 - Business Statistics (2)

The Phase One prerequisite of finite mathematics or a first course in calculus should be completed prior to entering a graduate program in business.

## Phase Two

See the master's degree program requirements in the appropriate department section for specific Phase Two requirements. Students must file and follow an approved program of courses.

## Master of Business Administration

The M.B.A. program is designed to serve business and other organizations by preparing students to be leaders. The themes of a global view of business, leadership, ethics, and communication are important and integral parts of the program. Students are encouraged to integrate these themes into term papers, case presentations, and classroom discussions.

### Admission

Admission to the M.B.A. program is competitive and limited to those who can demonstrate high promise of success. The College of Business considers several indicators of success including, but not limited to, previous academic accomplishments, demonstrated leadership, communication skills, letters of recommendation, and scores on the verbal and quantitative sections of the GMAT. All candidates are expected to have some minimal competencies in computer, mathematics, and communications skills. The College of Business requires other material in addition to that required by the Graduate School for the admission process. Contact the Office of M.B.A. Programs at (866) 648-6221 for details.

### Credit Requirements

For those with the minimum competencies mentioned above but without prior preparation in the business area, the M.B.A. may require a maximum of 48 semester hours. However, an individual student's program may require fewer semester hours depending on the student's previous education in business and economics.

In addition to maintaining a minimum GPA of 3.00 in all graduate course work completed in the program at NIU, the student must maintain a minimum GPA of 3.00 in all graduate course work completed in Phase Two.

### Limitation of Time

The student must fulfill all Phase Two requirements for the M.B.A. within the six consecutive years immediately preceding the date of the student's graduation from that degree program. This time limit applies to all Phase Two graduate course work in the student's program including work for which transfer credit is allowed.

If an NIU course taken to complete the requirements of Phase Two does not fall within the time limitation indicated in the preceding paragraph, the student may be required to retake the course for credit or may be allowed to demonstrate current knowledge of the subject matter. In the latter case, currency must be demonstrated to the satisfaction of the department offering the course through successful completion of an appropriate examination or other assessment if available from the department. Otherwise, the outdated course work must be deleted from, and other course work must be substituted in, the program of courses. Transfer courses falling outside the limitation of time cannot be used in a graduate program.

### Courses for Which Graduate Credit is Allowed

At NIU only courses which are numbered 500-798 carry credit toward the master's degree.

## Student-at-Large, Study-Abroad, and Transfer Credit

Students-at-large are normally prohibited from registering for graduate business courses.

The total Phase Two credit accepted in transfer from other accredited institutions may not exceed 9 semester hours. The total Phase Two credit earned from NIU graduate study-abroad courses may not exceed 9 semester hours. The Phase Two combination of transfer credit and credit earned from NIU graduate study-abroad courses may not exceed 15 semester hours. These semester-hour limits may be exceeded on a program of courses only by the use of transfer courses and only if the total number of semester hours required on the program of courses exceeds the minimum requirements for that major by at least the same number of hours.

### Phase One Requirements

See Phase One requirements listed under "Graduate Study in Business" above.

### Phase Two Requirements

Phase Two consists of a total of 30 semester hours. Students are required to take a minimum of 24 semester hours of Phase Two course work in classes reserved exclusively for admitted graduate students.

Attendance in three College of Business colloquia as designated by the Office of M.B.A. Programs is required prior to graduation. Exception to this requirement may be approved by the Office of M.B.A. Programs.

### Course Requirements

ACCY 630 - Managerial Accounting Concepts (3)  
 FINA 607 - Financial Analysis (3)  
 MGMT 635 - Organizational Behavior (3)  
 MGMT 672 - Strategic Management and Policy (3)  
 MKTG 654 - Marketing Management (3)  
 OMIS 627 - Operations Analysis (3)  
 OMIS 640 - Management of Information Systems Technology (3)

Elective courses may be selected from among the graduate course offerings in the College of Business, or elsewhere in the university with the prior approval of the student's M.B.A. academic adviser, and should be used to meet particular career objectives.

### Course Sequencing

All Phase One course work must be completed prior to enrollment in FINA 607, MGMT 635, MKTG 654, and OMIS 627.

FINA 607, MGMT 635, MKTG 654, and OMIS 627 must be completed prior to enrollment in MGMT 672.

### Application for Graduation

When nearing completion of requirements for a degree, a student must file an application for graduation with the Graduate School. See "Graduation."

## **Executive Master of Business Administration**

The executive M.B.A. program is designed to meet the needs of working executives who desire to earn the degree while continuing to work full time in an organization. Students must have had five or more years of previous managerial experience and be sponsored by their employer. While participating in the executive M.B.A., students continue working full time. Courses are offered on Saturdays for four semesters. Students may begin the executive M.B.A. only in the fall semester. For further information contact the executive M.B.A. office, 815-753-0257.

## **Professional Master of Business Administration**

The one-year professional M.B.A. is designed for working professionals who desire to earn the degree in an accelerated evening format while continuing to work full time in an organization. Students must have completed an undergraduate degree in business and have post-undergraduate work experience prior to starting the professional M.B.A. Courses are offered in the evening, meeting two nights per week. Students may begin the professional M.B.A. only in the spring semester. For further information contact the office of M.B.A. programs at (866) 648- 6221.

## **International Business**

The College of Business, through its courses dealing with international marketing, international finance, international management, travel seminars, and similar topics, is prepared to meet the needs of students who have interest and aptitude in the broad area of international business.

## **Certificate of Graduate Study**

### **Managerial Leadership (12)**

This certificate will provide graduate students with a set of courses focused on leadership. This certificate is designed to help students develop the ability to lead and change themselves, others, and organizations to enhance their leadership abilities in business organizations.

Students must achieve a B or better in each of the courses applied toward the certificate and complete all certificate course work within six years immediately preceding awarding of the certificate. Some courses may have prerequisites that are not part of the certificate curriculum.

Applications are available in the College of Business Office of MBA Programs. Students must be in good academic standing to be eligible.

#### **Requirements:**

- MGMT 615 - Seminar in Managerial Leadership (3)
- MGMT 625 - Coaching and Mentoring in Business (3)
- MGMT 635 - Organizational Behavior (3)
- MGMT 655 - Change Management (3)

## **Interdisciplinary Courses Offered by the College of Business (UBUS)**

585. BUSINESS CONSULTING PROJECT (3). Supervised student team projects conducted with selected business organizations. Emphasis on collaborative efforts among students, faculty, and business representatives in a project management setting and the delivery of cross-functional business solutions. Implications for further research are also considered. PRQ: Consent of college.

590. TOPICS IN BUSINESS (1-3). Selected topics from the various business disciplines. Course content includes an integration of the functional areas of business administration and topics of current importance. May be repeated to a maximum of 6 semester hours. PRQ: Consent of instructor.

595. INTERNSHIP IN BUSINESS (3-6). Designed primarily for students lacking full-time business experience. Full-time work for a summer or a semester as an intern in a business firm under the supervision of a coordinator from the College of Business. No more than 3 semester hours may be applied to Phase Two program requirements. The only grades awarded are S, U, and I. PRQ: Consent of department.

# Department of Accountancy (ACCY)

Chair: James C. Young

## Graduate Faculty

Steven D. Blanc, instructor, C.P.A., J.D., University of San Francisco  
Meghann A. Cefaratti, assistant professor, Ph.D., Virginia Polytechnic Institute and State University

Natalie T. Churyk, associate professor, Caterpillar Professor of Accountancy, C.P.A., Ph.D., University of South Carolina

B. Douglas Clinton, professor, Alta Via Consulting Professor of Management Accountancy, C.P.A., Ph.D., University of Texas at Arlington

Bradrick M. Cripe, assistant professor, C.P.A., Ph.D., University of Nebraska-Lincoln

Ann C. Dzurainin, assistant professor, C.P.A., Ph.D., University of South Florida

Chih-Chen Lee, associate professor, Michael and Patricia Strachan Professor of Accountancy, C.P.A., Ph.D., Southern Illinois University at Carbondale

Katrina L. Mantzke, associate professor, Kieso Professor of Accountancy, C.P.A., Ph.D., University of Wisconsin

Linda J. Matuszewski, assistant professor, C.P.A., Ph.D., University of Cincinnati

Mark E. Riley, assistant professor, C.P.A., Ph.D., Texas Tech University

Rebecca T. Shortridge, associate professor, Gaylen and Joanne Larson Professor of Accountancy, C.P.A., Ph.D., Michigan State University

David H. Sinason, professor, PricewaterhouseCoopers Professor of Accountancy, C.P.A., C.F.E., C.F.S.A., C.I.A., Ph.D., Florida State University

Pamela A. Smith, professor, KPMG Professor of Accountancy, Board of Trustees Professor, C.P.A., Ph.D., University of North Texas

Donald Tidrick, professor, Deloitte Professor of Accountancy, C.I.A., C.M.A., C.P.A., Ph.D., Ohio State University

Tammy R. Waymire, assistant professor, C.P.A., Ph.D., University of Arkansas

Timothy D. West, associate professor, C.P.A., Ph.D., University of Tennessee

James C. Young, Presidential Teaching Professor, Crowe Horwath Professor of Accountancy, C.P.A., Ph.D., Michigan State University

S. Carol Yu, assistant professor, C.P.A., Ph.D., University of Texas

The Department of Accountancy offers two graduate programs. The Master of Accounting Science (M.A.S.) is a broad-based degree, integrating accounting knowledge with other business disciplines to prepare candidates for a professional accountancy career. The Master of Science in Taxation (M.S.T.) is an evening program that provides advanced study in taxation to prepare professionals for a career in taxation.

## Internship in Accountancy

The internship (ACCY 673) consists of full-time work experience in an accounting function for 10 to 13 weeks and the completion of written and oral reports. Applications are reviewed by the internship coordinator and approved on the basis of professional promise, instructor recommendation, and credit in specified courses. Permanent employment may not be used for ACCY 673, and ACCY 673 may not be taken as the last course in the program. The Department of Accountancy coordinates all academic internships. More detailed information is available in the departmental office.

## Master of Accounting Science

The objective of the M.A.S. program is to provide its graduates with the professional skills, knowledge, and competencies necessary to be successful, professional accountants in today's complex business environment.

The program focuses on broad-based accounting knowledge; knowledge in other business disciplines that complements a professional accounting career; the ability to integrate this knowledge to make business decisions; the development of research, communication, technology and team-building skills; and an understanding of ethical issues and expectations for professional conduct.

In addition to the College of Business standards listed under "Graduate Study in Business," the admission standard for the Department of Accountancy is a minimum 3.00 GPA in undergraduate accountancy courses. Candidates may also be asked by the department graduate adviser to complete an interview either in person or by phone.

The Institute of Internal Auditors (IIA) has approved NIU as a participant in IIA's Endorsed Internal Auditing Program. To receive a IIA certificate of completion, a student must have either a B.S. in accountancy from NIU or an M.A.S. degree from NIU. As part of the certificate requirements students must complete ACCY 562, an approved business elective, and an academic internship (ACCY 473 or ACCY 673) in an internal audit position. A student completing the internal audit course work will have "Completion of internal audit course work as endorsed by the Institute of Internal Auditors" on the official NIU transcript.

## Phase One

See Phase One Requirements listed under "Graduate Study in Business."<sup>1</sup>

The Phase One foundation courses will be included in a student's program of study unless she or he has earned a C or better in corresponding undergraduate courses or a B or better in equivalent graduate courses elsewhere, or has passed the first and only attempt of the Phase One exemption examination. The M.A.S. program director will determine which Phase One graduate courses will be included in each student's program of courses. Phase One courses must be completed before enrolling in Phase Two M.A.S. requirements. Phase One courses may not be used as Phase Two electives or requirements.

<sup>1</sup> ACCY 310, or its equivalent, will be accepted as meeting the Phase One requirement of OMIS 507 for entering M.A.S. students.

**Required Accountancy Courses**

ACCY 510A - Accounting Information Systems (3),  
 ACCY 510S - Accounting Information Systems Laboratory (1)  
 ACCY 520<sup>1</sup> - Intermediate Cost Management (3)  
 ACCY 531 - Financial Reporting I (4)  
 ACCY 532 - Financial Reporting II (3)  
 ACCY 550 - Principles of Taxation (3)  
 ACCY 560 - Assurance Services (3),

The graduate Phase One requirements must be included in the student's program unless a grade of C or better has been earned in corresponding undergraduate courses, or the student has passed the first and only attempt of the Phase One exemption examination. A student with a baccalaureate degree in accountancy and acceptable undergraduate grades may have already satisfied Phase One requirements.

A student must have a C or better in each Phase One accountancy course. A student enrolled in Phase One courses may take Phase Two courses at the discretion of the graduate adviser provided the student has successfully completed all prerequisites for the Phase Two courses and has maintained a 3.00 GPA in Phase One courses. However, any student who has not completed all Phase One courses must maintain a 3.00 GPA or above in all Phase One accountancy courses in order to register for any Phase Two course.

None of the required Phase One accountancy courses may be counted as accountancy electives in Phase Two.

The writing of a thesis is optional. It is recommended that calculus be taken in addition to finite math (equivalent to MATH 210).

**Phase Two**

The M.A.S. student must select specific courses leading to either the leadership or professional area of study. All M.A.S. students must complete ACCY 670, Accounting Research, or ACCY 645, Professional Tax Research; and ACCY 690, Accountancy Capstone/Financial Statement Analysis and Business Valuation. Students may focus their studies (as noted below) or may work with an adviser to tailor a program of study for the student's specific academic and career goals.

The student is required to complete a minimum of 30 semester hours of work beyond Phase One and the baccalaureate degree. Of these 30 semester hours, at least 15 semester hours must be in accounting. At least six of the 30 semester hours must be in graduate-level courses in related areas outside the Department of Accountancy with the approval of the adviser. The total Phase Two credits accepted in transfer from other institutions may not exceed 9 semester hours.

The student must maintain a minimum of 3.00 in all graduate course work completed in Phase Two.

**Leadership Area of Study**

Students pursuing the Leadership area of study must also complete ACCY 679, Seminar in Accounting, MGMT 615, Seminar in Managerial Leadership, and complete appropriate activities related to the coaching and mentoring aspects of the Leadership area of study. The tracks within the Leadership area of study include financial reporting and assurance, managerial accounting systems, and taxation.

**Financial Reporting and Assurance Track**

ACCY 633 - Advanced Financial Reporting (3)  
 ACCY 650 - Advanced Issues in Taxation (3)  
 ACCY 664 - Financial Statement Auditing (3)  
 ACCY 670 - Accounting Research (3)  
 ACCY 679 - Seminar in Accounting (3)

ACCY 690 - Accountancy Capstone/Financial Statement Analysis and Business Valuation (3)  
 MGMT 615 - Seminar in Managerial Leadership (3)  
 Nine College of Business elective hours, with at least three of these hours outside the Department of Accountancy (9)  
 Complete required coaching and mentoring activities

**Managerial Accounting Systems Track**

ACCY 611 - Advanced Accounting Information Systems (3)  
 ACCY 622 - Managerial Accounting Information Systems (3)  
 ACCY 650 - Advanced Issues in Taxation (3)  
 ACCY 670 - Accounting Research (3)  
 ACCY 679 - Seminar in Accounting (3)  
 ACCY 690 - Accountancy Capstone/Financial Statement Analysis and Business Valuation (3)  
 MGMT 615 - Seminar in Managerial Leadership (3)  
 Nine College of Business elective hours, with at least six of these hours in Operations Management and Information Systems courses (9)  
 Complete required coaching and mentoring activities

**Taxation Track**

ACCY 645 - Professional Tax Research (3)  
 ACCY 647 - Corporate Taxation (3)  
 ACCY 649 - Partnership Taxation (3)  
 ACCY 656 - Tax Concepts and Property Transactions (3)  
 ACCY 679 - Seminar in Accounting (3)  
 ACCY 690 - Accountancy Capstone/Financial Statement Analysis and Business Valuation (3)  
 MGMT 615 - Seminar in Managerial Leadership (3)  
 Nine College of Business elective hours, with at least three of these hours outside the Department of Accountancy (9)  
 Complete required coaching and mentoring activities

**Professional Area of Study**

The Professional area of study is designed for working professionals who desire to earn the degree in an evening format while continuing to work full time in an organization.

ACCY 633 - Advanced Financial Reporting (3)  
 ACCY 650 - Advanced Issues in Taxation (3)  
 ACCY 664 - Financial Statement Auditing (3)  
 ACCY 670 - Accounting Research (3)  
 ACCY 690 - Accountancy Capstone/Financial Statement Analysis and Business Valuation (3)  
 Fifteen College of Business elective hours, with at least six of these hours outside the Department of Accountancy (15)

**Master of Science in Taxation**

The M.S.T. program provides advanced study in taxation to prepare students for the challenges of the practice of professional taxation. The program is designed to meet the needs of working professionals who desire to earn the degree while continuing to work full time. The program provides opportunities to develop knowledge related to federal, state, and local, and international tax laws. The program also focuses on the development of communication, research, and technology skills and an understanding of ethical issues and expectations of the business community and regulators for professional conduct.

**Admission**

An applicant is required to have a baccalaureate degree or a master's degree from an accredited institution with at least 15 semester hours in accounting (including a course equivalent to ACCY 450) or department approval (prior work experience will be given consideration); or a law degree (J.D.) from an institution accredited by the American Bar Association (ABA).

<sup>1</sup> ACCY 207 is a prerequisite for ACCY 320.

If applicants do not have a law degree from an ABA-accredited institution or a graduate business degree from an AACSB-accredited institution, they must have a minimum GPA of 2.75 (on a 4.00 scale) in the last 60 semester hours of the baccalaureate program or a minimum cumulative GPA of 2.75 (on a 4.00 scale) at the baccalaureate institution. These applicants must also present satisfactory scores on the GMAT or LSAT unless they have passed all parts of the C.P.A. examination (applicants must attach appropriate documentation to their application materials).

A maximum of 9 semester hours earned as a student-at-large at NIU may be applied toward the M.S.T. degree.

## Requirements

ACCY 645 - Professional Tax Research (3)  
 ACCY 647 - Corporate Taxation (3)  
 ACCY 649 - Partnership Taxation (3)  
 ACCY 651 - Federal Estate and Gift Taxation (3)  
 ACCY 656 - Tax Concepts and Property Transactions (3)

Course work from the following (15)

ACCY 605 - Independent Study in Taxation (1-3)  
 ACCY 646 - Tax Administration and Practice (3)  
 ACCY 648 - Advanced Corporate Taxation (3)  
 ACCY 652 - Taxation of Estates and Trusts (3)  
 ACCY 653 - Accounting for Income Taxes (3)  
 ACCY 654 - Special Tax Topics (1-6)  
 ACCY 655 - International Taxation (3)  
 ACCY 657 - Taxation of Compensation and Benefits (3)  
 ACCY 658 - State and Local Taxation (3)  
 ACCY 659 - Tax Accounting Methods and Periods (3)  
 ACCY 660 - Advanced Partnership Taxation (3)  
 ACCY 661 - Advanced State and Local Taxation (3)  
 ACCY 673 - Internship in Accountancy (3)

## Course List (ACCY)

505. FINANCIAL ACCOUNTING CONCEPTS (2). Introduction to the nature, uses, and limitations of financial accounting information. Financial accounting concepts presented from the viewpoint of the user. Problems and cases used to emphasize the kinds of financial accounting information relevant for decision making. Open to students with fewer than 6 semester hours in accounting, or by consent of department. A student may not receive credit for both ACCY 206 and ACCY 505.

509. FEDERAL TAXATION: PLANNING AND CONTROL (3). Study of the basic rules of federal income taxation as they relate to the planning and control opportunities that exist in the conduct of business and nonbusiness transactions. Not open to students with credit in either ACCY 309 or ACCY 455. A student must earn a grade of B or better in a financial accounting concepts course completed within the five years immediately prior to enrollment.

510A. ACCOUNTING INFORMATION SYSTEMS (3). Examination of organizational accounting information systems that capture information from the major business processes and transaction cycles. Emphasis on how these information systems serve as the basis for the functional areas of accounting and business. Internal controls, information technologies including databases, and reporting methodologies are stressed through applied projects and case studies. Must be taken concurrently with ACCY 501S. Not available for Phase Two credit in the M.A.S., M.B.A., or M.S.T. programs. A student may not receive credit for ACCY 310A/ACCY 310S and ACCY 510A/510S. A student must earn a grade of C or better in both a financial accounting concepts course and a managerial accounting concepts course prior to enrollment.

510S. ACCOUNTING INFORMATION SYSTEMS LABORATORY (1). Basic instruction in skills and techniques necessary to identify, collect, analyze, and report accounting information. Must be taken concurrently with ACCY 510A. A student may not receive credit for both ACCY 310S and ACCY 510S. A student must earn a grade of C or better in both a financial accounting concepts course and a managerial accounting concepts course prior to enrollment.

520. INTERMEDIATE COST MANAGEMENT (3). Continuation of the study of the information required in management planning and control systems. Theory and application of product costing, operational control, cost allocation, and performance evaluation for manufacturing, merchandising, and service organizations. Topics include budgeting, cost management for factory automation and just-in-time environments, activity-based costing, ethics, cost of quality, target costing, and life-cycle costing. A student may not receive credit for both ACCY 320 and ACCY 520. A student must earn a C or better in a managerial accounting concepts course prior to enrollment.

521. ADVANCED COST MANAGEMENT (3). Advanced study of the information required in management planning and control systems. Theory and application of product costing, operational control, cost allocation, and performance evaluation for manufacturing and service organizations. Topics include transfer pricing, competitive costing, division performance measurement, regression analysis, statistical quality control, activity-based costing, automation and cost management, target costing, and Japanese cost management. A student may not receive credit for both ACCY 421 and ACCY 521. A student must earn a grade of C or better in an intermediate cost management course prior to enrollment.

531. FINANCIAL REPORTING I (4). In-depth study of financial reporting standards including the contemporary economic and political forces that lead to the development of standards relating to statement of cash flows, financial statement analysis, foreign currency translation, conceptual framework, revenue recognition, conversion from cash to accrual basis, time value of money, monetary assets, inventories, plant assets, research and development costs, current liabilities, and long-term debt. Use of databases in researching accounting issues and in analyzing and preparing financial statement disclosures. Not available for Phase Two credit in the M.A.S., M.B.A., or M.S.T. programs. A student may not receive credit for both ACCY 331 and ACCY 531. A student must earn a grade of C or better in a financial accounting concepts course prior to enrollment.

532. FINANCIAL REPORTING II (3). In-depth study of financial reporting standards including the contemporary economic and political forces that lead to the development of standards relating to accounting for income taxes, pension and other benefit plans, leases, earnings per share, accounting changes, stockholders' equity, and investments including equity method; and an introduction to consolidated financial statements. Use of databases in researching accounting issues and in analyzing and preparing financial statement disclosures. Not available for Phase Two credit in the M.A.S., M.B.A., or M.S.T. programs. A student may not receive credit for both ACCY 432 and ACCY 532. A student must earn a grade of C or better in an intermediate financial reporting I course prior to enrollment.

533. FINANCIAL REPORTING III (3). In-depth study of financial reporting standards including the contemporary economic and political forces that lead to the development of standards relating to business combinations and for consolidated financial statements, for companies operating internationally, for interim financial reporting, and the disclosure standards for disaggregated operations. Study and evaluation of the special accounting and reporting required for entities going through corporate insolvency, including the restructuring and impairment of financial instruments, for partnership forms of business entities, for publicly held companies that must meet SEC reporting standards, and for specialized industrial reporting. Research projects include the use of accounting data and literature bases; electronic bases such as the Internet. Team projects used throughout the course. A student may receive credit for only one of the following: ACCY 433, ACCY 533, ACCY 633. A student must earn a grade of C or better in an intermediate financial reporting II course prior to enrollment.

550. PRINCIPLES OF TAXATION (3). Study of the principles of federal income taxation with focus on learning taxation concepts related to income, deductions, and property transactions for businesses and individuals. These concepts applied to common transactions and issues encountered by individuals, corporations, partnerships, S corporations, and limited liability companies. Not available for Phase Two credit in the M.A.S., M.B.A., and M.S.T. programs. A student may not receive credit for both ACCY 450 and ACCY 550. A student must earn a grade of C or better in an intermediate financial reporting I course prior to enrollment.

555. INDIVIDUAL TAXATION (3). Comprehensive study of the concepts of federal income taxation and the tax rules that apply to individuals. Examination of the principles that provide the framework for the federal income tax system, including income, deductions, basic business operations, and property transactions. Not available for Phase Two credit in the M.A.S., M.B.A., or M.S.T. programs. A student may not receive credit for both ACCY 455 and ACCY 555. A student must earn a grade of C or better in an intermediate financial reporting I course prior to enrollment.

556. ADVANCED FEDERAL TAXES (3). Study of federal taxes imposed on business entities with emphasis on corporations, partnerships, and S corporations. Also includes an overview of tax research techniques. A student may receive credit for only one of the following: ACCY 456, ACCY 556, ACCY 644, ACCY 650. A student must earn a grade of C or better in an income tax concepts course prior to enrollment.

557. ACCOUNTING FOR PUBLIC ADMINISTRATION (3). *Crosslisted as PSPA 657X*. Survey of governmental and other public sector accounting for non-accounting majors. Topics include an introduction to accounting, budgeting, auditing, and financial statement analysis as applied to state and local governments, hospitals, colleges, universities, and other nonprofit organizations. Designed for M.P.A. students, but other graduate students may be admitted with consent of the Division of Public Administration or the Department of Accountancy.

560. ASSURANCE SERVICES (3). Study of the accumulation and evaluation of information and data in order to provide assurance to decision-makers. Overview of the variety of assurance services including auditing, attestation, operational, and compliance services. Practices and procedures of assurance services including planning, assessing risk, testing controls, and obtaining and documenting evidence. Focus on analysis of business processes and decisions (both financial and nonfinancial) and analytical skills needed to evaluate evidence, develop recommendations, and communicate findings. Not available for Phase Two credit in the M.A.S., M.B.A., and M.S.T. programs. A student may not receive credit for both ACCY 360 and ACCY 560. A student must earn a grade of C or better in an accounting information systems course prior to enrollment.

562. INTERNAL AUDITING (3). Topics include internal audit standards, internal controls, risk assessment, evidence and documentation, and communications. Auditing techniques including sampling and use of systems-based audit techniques. Review of ethics, emerging issues, and industry specific matters. A student may not receive credit for both ACCY 462 and ACCY 562. A student must earn a grade of C or better in an assurance services course prior to enrollment.

565. FORENSIC ACCOUNTING/FRAUD EXAMINATION (3). Focus on fraud detection and control from the perspective of public, internal, and private accountants. This course covers areas such as principles and standards for fraud-specific examination; fraud-specific internal control systems; and proactive and reactive investigative techniques. Implications for further research are also considered. A student may not receive credit for both ACCY 465 and ACCY 565. A student must earn a grade of C or better in an intermediate financial reporting I course and an assurance services course prior to enrollment.

580. GOVERNMENTAL AND NOT-FOR-PROFIT ACCOUNTING (3). In-depth study of accounting and financial reporting for the federal government, state and local governments, and not-for-profit organizations. Financial statement oriented approach. Unique aspects of governmental auditing, including GAO Audit Standards and the Single Audit. Unique ethical situations arising in governments. Students may not receive credit for both ACCY 480 and ACCY 580. A student must earn a grade of C or better in an intermediate financial reporting I course prior to enrollment.

604. INDEPENDENT STUDY IN ACCOUNTING (1-3). Open to students qualified to do individual study in accounting. Not for credit on the thesis. May be repeated to a maximum of 6 semester hours. Not available for S/U grading. PRQ: A grade of C or better in a graduate accounting research course, 21 semester hours of accounting, and consent of department.

605. INDEPENDENT STUDY IN TAXATION (1-3). Independent study and writing under supervision of a member of the graduate taxation faculty in an area (or areas) of special interest to students. May be repeated to a maximum of 6 semester hours. Not available for S/U grading. PRQ: A grade of C or better in a graduate tax research course and consent of department

611. ADVANCED ACCOUNTING INFORMATION SYSTEMS (3). In-depth study of advanced accounting information system concepts and applications with emphasis on impact of database systems and advanced technology in accounting systems. Hands-on individual and small group projects with accounting applications in real-world settings. Students may not receive credit for both ACCY 411 and ACCY 611. A student must earn a grade of C or better in an accounting information systems course prior to enrollment.

622. MANAGERIAL ACCOUNTING INFORMATION SYSTEMS (3). Study of concepts and practice related to management planning and control systems. Examination of systems that integrate financial and managerial accounting information. Emphasis on enterprise resource planning systems and related issues. A student must earn a grade of C or better in an intermediate cost management course and complete 6 semester hours of accountancy course work prior to enrollment.

630. MANAGERIAL ACCOUNTING CONCEPTS (3). 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. Not open to students with more than 9 semester hours of accounting except by consent of department. A student must earn a grade of C or better in a financial accounting concepts course prior to enrollment.

633. ADVANCED FINANCIAL REPORTING (3). Study and evaluation of special accounting and reporting requirements for entities going through business combinations and restructurings, and of financial reporting relating to consolidated entities, international operations, interim financial reporting, and disaggregated disclosures. Analysis of effect of financial instruments and hedging activities on financial statements. Research and team projects requiring use of literature databases and the Internet. A student may receive credit for only one of the following: ACCY 433, ACCY 533, ACCY 633. A student must earn a grade of C or better in an intermediate financial reporting II course prior to enrollment

634. FINANCIAL ACCOUNTING THEORY (3). Study of the conceptual and theoretical aspects of financial accounting and the economic environment of accounting. Students analyze the existing conceptual framework of accounting and apply that framework to current significant accounting problems. PRQ: 21 semester hours of accounting or consent of department.

640. 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. Not available for credit in the M.A.S. program. PRQ: ACCY 630 or consent of department.

644. **ADVANCED TAXATION (3).** Study of the federal income taxation of business entities. Emphasis on corporations, partnerships, and S corporations and includes an introduction to tax research. A student may receive credit for only one of the following: ACCY 456, ACCY 556, ACCY 644, ACCY 650. Not available for credit in the M.A.S. in taxation track. A student must earn a grade of C or better in an income tax concepts course prior to enrollment.

645. **PROFESSIONAL TAX RESEARCH (3).** Examination of tax research methodologies with emphasis on the legal research methodology. Includes several independent research projects designed to emphasize the evaluation of various tax authorities. A student must earn a grade of C or better in an income tax concepts course prior to enrollment.

646. **TAX ADMINISTRATION AND PRACTICE (3).** Study of the structure, powers, and procedures of the Internal Revenue Service, including the IRS audit process. Examination of rules governing tax practice and professional ethics. A student must earn a grade of C or better in an income tax concepts course prior to enrollment.

647. **CORPORATE TAXATION (3).** Study of federal income taxation of corporations and shareholders with emphasis on transactions between the corporation and its shareholders. Topics include corporate contributions, distributions to shareholders, stock redemptions, corporate liquidations, penalty taxes, and special rules for S corporations. A student must earn a grade of C or better in an income tax concepts course prior to enrollment.

648. **ADVANCED CORPORATE TAXATION (3).** Study of the federal income taxation of corporate reorganizations, including mergers, acquisitions, corporate divisions, carryover of tax attributes, and tax rules concerning consolidated tax returns. PRQ: A grade of C or better in a graduate corporate taxation course or consent of department

649. **PARTNERSHIP TAXATION (3).** Study of the federal income taxation of partnerships, with emphasis on the tax laws related to the formation, operation, and liquidation of partnerships. A student must earn a grade of C or better in an income tax concepts course prior to enrollment.

650. **ADVANCED ISSUES IN TAXATION (3).** Continuation of ACCY 450. Study of advanced concepts of federal taxation as it applies to a broad range of taxpayers. Application of advanced concepts of taxation to individuals and business entities including corporations, partnerships, and S corporations. Introduction to international and state tax issues, gift and estate tax, fiduciary tax accounting, and tax issues for not-for-profit organizations. A student may receive credit for only one of the following: ACCY 456, ACCY 556, ACCY 644, ACCY 650. A student must earn a grade of C or better in an income tax concepts course prior to enrollment.

651. **FEDERAL ESTATE AND GIFT TAXATION (3).** Study of the federal estate and gift tax laws with emphasis on tax-planning techniques designed to minimize transfer taxes and ensure the orderly transfer of assets to succeeding generations. A student must earn a grade of C or better in an income tax concepts course prior to enrollment.

652. **TAXATION OF ESTATES AND TRUSTS (3).** Study of federal taxation of income from estates and trusts, and the use of trusts in tax planning to minimize income, estate, and gift taxes. A student must earn a grade of C or better in an income tax concepts course prior to enrollment.

653. **ACCOUNTING FOR INCOME TAXES (3).** Study of the accounting for and reporting of income taxes in financial statements. Discussions focus on issues that arise in practice due to uncertainty in the underlying tax law as it relates to domestic, international, multistate, and acquisition-related activities. A framework for exercising judgment to appropriately address such uncertainties is also provided. A student must earn a grade of C or better in an income tax concepts course prior to enrollment.

654. **SPECIAL TAX TOPICS (1-3).** Intensive study of selected topics of current interest. May be repeated to a maximum of 6 semester hours when topic varies. A student must earn a grade of C or better in an income tax concepts course prior to enrollment.

655. **INTERNATIONAL TAXATION (3).** Study of U.S. laws that have tax implications for international transactions. Emphasis on U.S. taxation of multinational operations and taxation of foreign persons in the U.S. A student must earn a grade of C or better in an income tax concepts course prior to enrollment.

656. **TAX CONCEPTS AND PROPERTY TRANSACTIONS (3).** Conceptual foundations of the federal income tax system, focusing on key federal tax statutes, regulations, rulings, and cases. Property transactions with emphasis on real estate transactions (e.g., like-kind exchanges, involuntary conversions, installment sales, passive loss rules, and depreciation). A student must earn a grade of C or better in an income tax concepts course prior to enrollment.

657. **TAXATION OF COMPENSATION AND BENEFITS (3).** Study of tax rules and reporting requirements related to current compensation; fringe benefits; qualified plans, including pension plans, profit-sharing plans, and stock bonus plans; nonqualified deferred compensation; stock options; individual retirement accounts; and retirement plan distributions. A student must earn a grade of C or better in an income tax concepts course prior to enrollment.

658. **STATE AND LOCAL TAXATION (3).** Nature and purpose of state and local taxation including examination of income, property, and excise taxes imposed at the state level. Covers constitutional, jurisdictional, apportionment, multistate, and other issues. A student must earn a grade of C or better in an income tax concepts course prior to enrollment.

659. **TAX ACCOUNTING METHODS AND PERIODS (3).** Timing issues related to federal income taxation including adoption of changes in accounting periods, cash and accrual methods of accounting, and tax consequences of changing accounting methods. Examination of accounting methods on an overall basis along with specific methods (e.g., inventory accounting, installment sales, long-term contracts, and original issue discount/time value of money). Planning techniques integrated throughout course. A student must earn a grade of C or better in an income tax concepts course prior to enrollment.

660. **ADVANCED PARTNERSHIP TAXATION (3).** Study of advanced topics and planning issues related to federal income taxation of partnerships and partners. Advanced issues related to the operation of and distributions from partnerships; investigation of limited liability companies, section 704(c) allocations, family partnerships, disguised sales, payments to retiring partners, and the use of partnerships by corporations in joint ventures. PRQ: A grade of C or better in a graduate partnership taxation course ACCY 649 or consent of department.

661. **ADVANCED STATE AND LOCAL TAXATION (3).** Study of advanced state and local tax issues affecting business organizations. Topics include nexus, constitutional standards, computation of state taxable income, sales tax base and exemptions, and credits and incentives, with a focus on identifying issues and opportunities for the reduction of state taxes. PRQ: A grade of C or better in a graduate state and local taxation course.

664. **FINANCIAL STATEMENT AUDITING (3).** In-depth analysis of financial statement auditing topics with attention to audit theory and professional standards. Topics include professional responsibilities of financial statement auditors, impact of the SEC on auditing, objectives in planning an audit, and preparation of the final audit report. A student must earn a grade of C or better in an intermediate financial reporting I course, an intermediate financial reporting II course, and an assurance services course prior to enrollment.

667. **INFORMATION SYSTEMS AUDITING (3).** Study of the practical aspects of information systems auditing (ISA). Includes assurance services, internal control assessments, and evidence-gathering activities in advanced accounting information systems. A student must earn a grade of C or better in an assurance services course prior to enrollment.

670. ACCOUNTING RESEARCH (3). 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. Major paper required. PRQ: 18 semester hours of accounting or consent of department.

673. INTERNSHIP IN ACCOUNTANCY (3). Full-time work during the fall, spring, or summer, in the accountancy/financial function of a sponsoring organization. Students submit periodic reports to the Department of Accountancy internship coordinator. No more than 3 semester hours may be applied to Phase Two requirements. PRQ: Completion of both college and department Phase One requirements and consent of department.

679. SEMINAR IN ACCOUNTING (3). Study of theories, principles, practices, and procedures in all areas of accounting. Independent and group investigation of problems of special interest in the field of accounting. May be repeated to a maximum of 6 semester hours with departmental approval. PRQ: 21 semester hours of accounting or consent of department.

680. ADVANCED GOVERNMENTAL AND NOT-FOR-PROFIT ACCOUNTING (3). Designed for students interested in careers in federal, state, or local governmental units, or in not-for-profit organizations. Internal management of government and not-for-profit organizations, budgeting/financial management, systems applications, internal controls, GNP audit issues, not-for-profit tax issues, and financial statement analysis. A student must earn a grade of C or better in a governmental and not-for-profit accounting course prior to enrollment.

682. INTERNATIONAL ACCOUNTING (3). An examination of the aspects of accounting which apply to multinational business and to practice outside of the United States. Topics included in the course are: patterns of accounting practice in other nations; the promulgation of international accounting standards and the harmonization of standards; accounting problems associated with multinational operations; and a comparison of auditing, corporate governance, and regulation issues around the world. A student must earn a grade of C or better in both an intermediate cost management course and an intermediate financial reporting II course prior to enrollment.

690. ACCOUNTANCY CAPSTONE/FINANCIAL STATEMENT ANALYSIS AND BUSINESS VALUATION (3). Study of the theoretical framework for financial statement analysis and business valuation. Examination of the use of financial statement ratios and other financial information in a valuation context to develop business strategies and to make business decisions. Requires synthesis and integration of knowledge and skills learned throughout M.A.S. program. PRQ: Completion of both college and department Phase One requirements or consent of department.

699. MASTER'S THESIS (1-6). Open to students writing a thesis under the M.A.S., M.S., or M.B.A. program. The student enrolls with the faculty member directing the thesis. May be repeated to a maximum of 6 semester hours.

# Department of Finance (FINA)

Chair: Marc W. Simpson

## Graduate Faculty

Diane S. Docking, associate professor, C.P.A., Ph.D., University of Kansas

Gerald R. Jensen, professor, Ph.D., University of Nebraska at Lincoln

James M. Johnson, professor, Ph.D., Ohio State University

Marc W. Simpson, associate professor, Ph.D., Fordham University

## Course List (FINA)

500. SURVEY OF BUSINESS ECONOMICS (2). 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.

505. FUNDAMENTALS OF FINANCIAL MANAGEMENT (2). For graduate students with little formal background in finance. Financial theory and activities connected with the organization and operation of a business enterprise. 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. PRQ: ACCY 505 and OMIS 524, or consent of department.

530. TREASURY AND CREDIT MANAGEMENT (3). Application of major issues in working capital and short-term financial management. Integration of financial concepts and financial models through electronic spreadsheets and other relevant technology to provide expertise in the area of short-term financial management while enhancing the student's analytical skills. Topics include cash budgeting, pro forma statements, and other techniques of analyzing current assets and liabilities. PRQ: Consent of department.

555. ANALYSIS OF DERIVATIVE SECURITIES (3). Risk allocation function of options and futures markets from the perspective of market users. Hedging strategies and equilibrium pricing models. Roles of government regulation and international developments. PRQ: Consent of department.

560. FINANCIAL MARKETS AND INVESTMENTS (3). Emphasis on the behavior and determinants of interest rates, valuation and hedging concepts of fixed-income securities, common instruments of money and capital markets, equity valuation and portfolio theory, and introduction to the valuation of derivative securities. PRQ: FINA 500 and FINA 505, or consent of department.

565. INTERNAL REVIEW FOR FINANCIAL INSTITUTIONS (3). Introduction to the methodology of internal auditing for financial institutions. Topics include monitoring and verification of financial, operational, and control procedures. PRQ: Consent of department.

575. FINANCIAL DATA ANALYSIS (3). Uses and limitations of financial data bases including CRSP, COMPUSTAT, DISCLOSURE, MorningStar, and various resources available through the Internet and the World Wide Web. Application of contemporary statistical methodology in analyzing this data for decision making purposes. PRQ: Consent of department.

595. INTERNSHIP IN FINANCE (1-6). Designed primarily for students lacking full-time experience in finance. Student works for a summer or a semester as an intern in a business firm. No more than 3 semester hours may be applied to Phase Two program requirements. S/U grading. PRQ: Consent of department.

603. SEMINAR IN FINANCIAL RESEARCH (3). Review and evaluation of current research in finance giving consideration to the implication of findings for the improvement of business practices. Not for thesis credit. PRQ: OMIS 524 or consent of department.

604. INDEPENDENT STUDY IN FINANCE (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 3 semester hours. Not available for S/U grading. PRQ: Consent of department.

607. FINANCIAL ANALYSIS (3). Analysis of current and future financial position that serves as the foundation for decision making by creditors, managers, and owners. 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. A problem-oriented course, but cases and readings may be utilized. PRQ: FINA 320, FINA 505, or UBUS 310, taken within five years of enrolling in FINA 607, or consent of department.

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 6 semester hours. PRQ: Consent of department.

620. INVESTMENT FUNDAMENTALS (3). Conceptual foundations and strategies for investment analysis and management. Focus on functions, structure, and efficiency of securities markets; an overview of risk and return; introduction to analysis and valuation of common stocks, fixed-income securities, and other alternative investments; and an introduction to the portfolio management process. PRQ: FINA 607 or consent of department.

622. SECURITY ANALYSIS (3). Detailed study of the methods utilized in analyzing the major types of securities. Emphasis on equities. Due consideration given to economic, corporate, financial, and management factors. PRQ: FINA 620 or consent of department.

623. INVESTMENT MANAGEMENT (3). Investment management decision-making process from the viewpoint of individual and institutional investors. Topics include forecasting trends in the stock and bond markets, formulating objectives for various types of investors, applying modern portfolio theory, analyzing active and passive investment strategies, selecting specific classes of investment, analyzing the effectiveness of investment management organizations including pension and mutual funds, and evaluating portfolio performance. Attention given to theories and their practical application to problem situations. PRQ: FINA 620 or consent of department.

630. ANALYSIS OF FIXED INCOME SECURITIES (3). Exploration of the fixed income securities markets, institutions and instruments. Valuation of fixed income securities and derivatives. Analysis of risks and risk management of fixed income securities. Portfolio management of fixed income securities. PRQ: FINA 607 or consent of department.

650. FUNDAMENTALS OF FINANCIAL MARKETS (3). Structure, operations, goals, and strategies of banking and nonbanking financial intermediaries. Attention given to the financial markets with emphasis directed to financial instruments including futures contracts. PRQ: FINA 607 or consent of department.

651. SEMINAR IN FINANCIAL INSTITUTION MANAGEMENT (3). Topics include contemporary developments in the management of financial institutions; management problems of different classes of institutions including banks, thrift institutions, insurance companies, investment banks and companies; and effects of increased concentration of government regulation. PRQ: FINA 350 or FINA 650, or consent of department.

662. FINANCIAL MANAGEMENT STRATEGIES (3). Current developments in financial management, including critical evaluation of selected topics dealing with theoretical and applied aspects of the decision-making process in business finance. PRQ: FINA 607 or consent of department.

664. NEW PRODUCT AND SERVICE INNOVATION (3). Perspectives and frameworks on how new product and service innovation can generate growth and economic value in organizations. Issues addressed pertain to the stages of idea generation, screening, and selection, business development, market testing and commercialization, as well as the design of strategies and practices that lead to organizational success. PRQ: MKTG 505 or consent of department.

685. INTERNATIONAL BUSINESS FINANCE (3). 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. PRQ: FINA 607 or consent of department.

695. SEMINAR IN FINANCE TOPICS (3). Critical analysis and discussion of financial topics, empirical research, and applications. Review of evolving topics in the scholarly literature, including contemporary issues and controversies. May be repeated to a maximum of 6 semester hours. PRQ: Consent of department.

699. MASTER'S THESIS (1-6). Open to students writing a thesis under the M.S. or M.B.A. program. Student enrolls with the faculty member directing the thesis. May be repeated to a maximum of 6 semester hours. PRQ: Consent of department.

# Department of Management (MGMT)

Chair: Sarah J. Marsh

## Graduate Faculty

Terrence R. Bishop, associate professor, Ph.D., University of Iowa  
 Jon P. Briscoe, associate professor, D.B.A., Boston University  
 Paula E. Brown, associate professor, Ed.D., Northern Illinois University  
 James P. Burton, assistant professor, Ph.D., University of Washington, Bothell  
 Luis G. Flores, associate professor, Ph.D., Texas Tech University  
 Charles R. Gowen, professor, Ph.D., Ohio State University  
 Stephanie C. Henagan, assistant professor, Ph.D., Louisiana State University  
 Sarah J. Marsh, associate professor, Ph.D., University of North Carolina  
 C. Lynn Neeley, professor, Ph.D., University of Tennessee  
 Devaki Rau, associate professor, Ph.D., University of Minnesota  
 David R. Wade, associate professor, J.D., University of Iowa  
 Daniel R. Wunsch, professor, Ph.D., University of California, Los Angeles

## Course List (MGMT)

505. PRINCIPLES OF MANAGEMENT (2). Introduction to the role of manager in interaction with superiors, subordinates, associates, and staff; theories of leading, organizing, planning, and controlling; and skills in communicating, coordinating, and directing.
511. LEGAL ASPECTS OF BUSINESS (2). Seminar in legal problems affecting business in the areas of contracts, personnel, taxation, property, and government regulation of business.
512. ADVANCED TOPICS IN BUSINESS LAW (3). Study of law relating to contracts, sales, negotiable instruments, bankruptcy, and related topics. Students are required to critically analyze cases and apply legal principles. PRQ: MGMT 217 or MGMT 511 and graduate standing or consent of department.
528. EQUAL OPPORTUNITY AND EMPLOYMENT (3). In-depth presentation of management, union, and individual perspectives of the causes and remedies of employment-based discrimination. Topics discussed include recruiting, promoting, seniority, discrimination, affirmative action, and testing. Students may not receive credit for both MGMT 498 and MGMT 528. PRQ: MGMT 505 or consent of department.
538. EMPLOYMENT LAW (3). Review, analysis, and evaluation of the National Labor Relations Act as amended. Emphasis on in-depth analysis of employment law; rights to organize and undertake concerted activity; legal framework of labor-management relations; selection and representation of unions; and union member rights. Current legislative and judicial developments as well as an extensive review and analysis of court and NLRB decisions. PRQ: MGMT 505 or consent of department.
601. INTERNATIONAL STUDY IN MANAGEMENT (3). Short-term study abroad experience to study cultural differences, problems, issues, trends, and practices in management within the international environment. Activities include visits to foreign organizations, presentations by organizational managers and executives, and discussions with foreign and domestic international faculty. Supervised by department faculty member. PRQ: All Phase One courses or consent of department.
604. INDEPENDENT STUDY IN MANAGEMENT (1-3). Available to graduate students of demonstrated capability for specialized independent study in management. May be repeated to a maximum of 6 semester hours. Not available for S/U grading. PRQ: MGMT 505 and consent of department.
611. CORPORATE SOCIAL RESPONSIBILITY (3). Responses of organizations to environmental expectations and analysis of external and internal variables affecting the legal and ethical implications of strategic decisions. Role of general managers as mediators between organizational and societal interests and study of the firm as a corporate citizen. PRQ: All Phase One courses or consent of department.
615. SEMINAR IN MANAGERIAL LEADERSHIP (3). Examination of new ideas and current trends in leadership and its role in a rapidly changing business environment. Discussion focused on leadership as it is recognized, developed, and applied in current business situations. PRQ: All Phase One courses and MGMT 635, or consent of department.
619. NEGOTIATION AND CONFLICT MANAGEMENT (3). Examination of negotiation techniques and strategies relevant to managerial positions. Application of negotiation as a principled method of achieving fair and mutually satisfying agreements with specific applications to resolving personal and professional conflicts. PRQ: All Phase One courses and MGMT 635, or consent of department.
620. HUMAN RESOURCE MANAGEMENT (3). Management's problems, opportunities, and policy alternatives in personnel management and labor relations. Examination of recruiting, selection, compensation, training, and career development and day-to-day personnel issues. PRQ: All Phase One courses or consent of department.
625. COACHING AND MENTORING IN BUSINESS (3). Identifying, understanding, and developing the skills needed to develop and change others through effective coaching and mentoring and thereby enhancing one's own leadership in the process. Topics include developmental coaching and mentoring, the basics of feedback and other concepts that influence the development of effective coaching and mentoring abilities. CRQ: MGMT 615. PRQ: MGMT 635.
630. PROFESSIONAL BUSINESS COMMUNICATION (3). Development of skills necessary to be an effective communicator within the business environment. Emphasis on oral and written presentation skills using state-of-the-art technology and presentation software, interpersonal skills, and problem solving skills. PRQ: All Phase One courses or consent of department.
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. PRQ: All Phase One courses or consent of department.
635. ORGANIZATIONAL BEHAVIOR (3). Identifying, understanding, and managing individual and group behavior in organizational settings. Topics include motivation, teamwork, culture, leadership, and other concepts that influence individual, group, and organizational effectiveness. PRQ: All Phase One courses or consent of department.

637. ENTREPRENEURSHIP AND VENTURE MANAGEMENT (3). Entrepreneurship creation and problems faced by entrepreneurs in the early growth stages of business ventures. A systemic problem-solving approach with an emphasis on live studies and plans for new business ventures. PRQ: All Phase One courses or consent of department.

638. SEMINAR IN HUMAN RESOURCE MANAGEMENT (3). Synthesis of existent diverse philosophies relating to the growth of organized labor, with focus on the patterns of relationships between labor and management and the impact of these relationships on the sociopolitical environment of the community and the nation. Emphasis on research and the use of current literature. PRQ: All Phase One courses or consent of department.

645. SEMINAR FOR EXECUTIVES (1-3). Offers executives the opportunity to broaden their interest in general problems of management as well as to enrich the background of participants. May be repeated to a maximum of 3 semester hours. PRQ: Consent of department.

647. INTERNATIONAL MANAGEMENT (3). Identifying, understanding, and managing the cultural components of organizational and business dynamics present in global business enterprises. Focus on strategic issues involved in international expansion, international competition, international organizational relationships, and international human resource utilization. PRQ: All Phase One courses or consent of department.

648. STRATEGIC HUMAN RESOURCE MANAGEMENT (3). Management of organizational human resources in the context of comprehensive strategic planning. Coverage of critical strategic human resource management topics, including strategic human resource planning, managing organizational change and adaptation, strategic compensation, management of organizational culture, identifying requisite human resource competencies for long-term success, and managerial succession planning. PRQ: All Phase One courses and MGMT 635, or consent of department.

650. STRATEGIC ENVIRONMENTAL ANALYSIS (3). Concepts, analytical tools, and research methods for analyzing the external environments of firms. Examination of general, industry, and specific environments. Industry and competitor analysis, dynamics of industry structure, competitive interaction, and industry evolution. PRQ: All Phase One courses or consent of department.

655. CHANGE MANAGEMENT (3). Study of approaches and responses to various levels of change, diagnostic tools, intervention strategies, and individual and organizational factors that create support for or resistance to change. Application of diagnostic tools and development of customized plan for an organization. PRQ: MGMT 635.

661. STRATEGIC MANAGEMENT PROCESSES (3). Development and analysis of the strategic management function. Analytical, informational, and behavioral characteristics of the strategic processes. Design and organization of strategic planning systems. Design of strategic organizational structures and processes for proper strategy formulation and implementation. Coordination and integration of strategic management processes and systems. Study of the main concepts and methodologies that could help to manage strategic change in business organizations. PRQ: MGMT 505 or consent of department.

670. SEMINAR IN MANAGEMENT (1-3). Study of current issues in management or recent developments in knowledge and skills for managers. May be repeated to a maximum of 6 semester hours when topic varies. PRQ: Consent of department.

672. STRATEGIC MANAGEMENT AND POLICY (3). Capstone course to develop strategic thinking skills necessary to identify strategic issues, analyze key internal and external factors influencing firm performance, develop strategic alternatives, and identify critical implementation issues. Integrates functional knowledge, behavioral and ethical concepts, and analytical tools for effective formulation and implementation of strategies and policies. Must be taken in final semester or last 9 semester hours of master's program. PRQ: All Phase One courses, FINA 607, MGMT 635, MKTG 654, and OMIS 627, or consent of department.

# Department of Marketing (MKTG)

Chair: Geoffrey L. Gordon

## Graduate Faculty

Timothy W. Aurand, associate professor, Ed.D., Northern Illinois University

Debra Z. Blatz, associate professor, Ph.D., University of Illinois

Elisa Fredericks, associate professor, Ph.D., University of Illinois, Chicago

Geoffrey L. Gordon, professor, OTA/Off the Record Research Professor of Investment Research, Ph.D., University of Kentucky

Vijaykumar Krishnan Palghat, assistant professor, Ph.D., University of Cincinnati

Robert M. Peterson, associate professor, Ph.D., University of Memphis

Paul R. Prabhaker, professor, Ph.D., University of Rochester

Rick E. Ridnour, Distinguished Teaching Professor, Enterprise Rent-A-Car Professor of Sales, Ph.D., Iowa State University

Denise D. Schoenbachler, professor, Ph.D., University of Kentucky

Dan C. Weilbaker, professor, McKesson Pharmaceutical Group Professor of Sales, Ph.D., University of South Carolina

## Course List (MKTG)

505. GRADUATE SURVEY OF MARKETING (2). Comprehensive survey of marketing functions, institutions, policies, and problems designed specifically to serve the needs of graduate students with no previous formal marketing education.

525. SERVICES MARKETING (3). Analysis of how services marketing differs from goods marketing and how services marketers can effectively manage the elements of service delivery to enhance service quality and customer satisfaction. Topics include the distinct elements of services marketing, service quality determination, understanding customer expectations, designing service standards to meet customer expectations, managing contact personnel's delivery to service standards, and matching service communications with service delivery. PRQ: MKTG 310 or UBUS 310, or consent of department.

550. PERSONAL SELLING FOR MANAGERS (3). Includes basic theories and strategies for the selling of self, ideas, and proposals within the firm as well as externally to major customers and prospects; selling skills for both dyadic and group situations; and presentations by students in a variety of business related selling situations. PRQ: MKTG 505 and consent of department.

567. GLOBAL MARKETING MANAGEMENT (3). Examination of the strategic aspects of global marketing, with focus on developing and analyzing marketing strategies for multinational corporations using an experiential learning approach. PRQ: UBUS 310 and UBUS 311, or consent of department.

595. INTERNSHIP IN MARKETING (3). Designed primarily for students lacking full-time marketing experience. Student works for a summer or a semester as an intern in an organization. No more than 3 semester hours may be applied to M.B.A. Phase Two program requirements. S/U grading. PRQ: Completion of M.B.A. Phase One requirements and consent of department.

601. INTERNATIONAL STUDY IN MARKETING (3). Short-term study abroad experience to study cultural differences, problems, issues, trends, and practices in marketing within the international environment. Includes visits to foreign organizations, presentations by marketing managers and executives, and discussions with foreign and domestic international faculty. Supervised by a faculty member. PRQ: MKTG 505 or consent of department.

603. MARKETING RESEARCH AND ANALYSIS (3). Review, evaluation, and analysis of current marketing research. Development of research design, data collection, and analysis methods, and using research results to improve managerial decisions. Ethical issues involving marketing research. PRQ: MKTG 505 and OMIS 524, or consent of department.

604. INDEPENDENT STUDY IN MARKETING (1-3). Available to graduate students of demonstrated capability for intensive independent study in marketing. May be repeated once to a maximum of 6 semester hours when the topic varies. Not available for S/U grading. PRQ: MKTG 505 and consent of department.

625. BUYER BEHAVIOR (3). Examination of factors that influence the consumer decision-making process for purchase, use, and disposition of goods and services. Emphasis on how concepts from psychology, sociology, economics, and related social sciences influence design and development of marketing strategies. PRQ: MKTG 505 or consent of department.

626. BRAND MANAGEMENT (3). Comprehensive survey of strategies and tactics that enhance corporate brand equity. Topics include brand equity valuation, internal branding, co-branding, brand communication, and brand leveraging. Successful and unsuccessful applied brand initiatives. PRQ: MKTG 654 or consent of department.

646. SALES ADMINISTRATION (3). Strategic planning, analysis, policy development, implementation, and coordination of corporate-level sales responsibilities. Topics include sales organizational structures and supervision of the recruiting, selecting, testing, training, and managing of salespersons. Emphasis on considerations at the field sales manager, sales director, and vice president level. PRQ: MKTG 505 or consent of department.

654. MARKETING MANAGEMENT (3). Analysis of the strategic marketing problems confronting managers in the evaluation of marketing opportunities, selection of target markets, development of marketing strategies, planning of marketing tactics, and implementation and control of the marketing effort. PRQ: All Phase One courses or consent of department.

655. PROMOTIONAL STRATEGY (3). Design, implementation, and control of promotional policies, including the elements of personal selling, sales management, advertising, sales promotion, publicity, public relations, and direct marketing. Planning and coordinating complete marketing campaigns. PRQ: MKTG 505 or consent of department.

656. GLOBAL MARKETING STRATEGY (3). Role of global marketing operations in a firm's overall competitive strategy. Integration of global marketing responsibility with other functions of the firm. Emphasis on current issues in global competitive environment as they pertain to marketing strategy. PRQ: MKTG 505 or consent of department.

660. MARKETING SEMINAR (3). Topics vary but usually focus on current issues in managing marketing functions or recent developments in knowledge or skills for marketing professionals. May be repeated to a maximum of 6 semester hours. PRQ: MKTG 505 or consent of department.

664. NEW PRODUCT AND SERVICE INNOVATION (3). Perspectives and frameworks on how new product and service innovation can generate growth and economic value in organizations. Issues addressed pertain to the stages of idea generation, screening, and selection, business development, market testing and commercialization, as well as the design of strategies and practices that lead to organizational success. PRQ: MKTG 505 or consent of department.

665. MARKETING STRUCTURES AND PRICE POLICIES (3). Comprehensive guidance for formulating pricing strategy. Emphasis on the actual pricing decision process and the procedures used for pricing consistent with the economics of profit maximization. Incorporates the psychological aspects of price sensitivity and acknowledges that managers have only limited, imprecise information as a basis for their pricing decisions. PRQ: MKTG 505 or consent of department.

699. MASTER'S THESIS (1-6). Open to students writing a thesis under the M.S. or M.B.A. program. Student enrolls with the faculty member directing the thesis. May be repeated to a maximum of 6 semester hours.

# Department of Operations Management and Information Systems (OMIS)

Interim Chair: Chang Liu

## Graduate Faculty

Gerald R. Aase, associate professor, Ph.D., Indiana University  
 Robert C. Beatty, associate professor, D.B.A., Mississippi State University  
 Charles E. Downing, professor, Ph.D., Northwestern University  
 Chang Liu, professor, D.B.A., Mississippi State University  
 Brian G. Mackie, associate professor, Ph.D., University of Iowa  
 Jack T. Marchewka, professor, Ph.D., Georgia State University  
 Kathleen L. McFadden, professor, Ph.D., University of Texas, Arlington  
 Charles G. Petersen II, professor, Ph.D., Indiana University  
 Nancy L. Russo, professor, Ph.D., Georgia State University

## Master of Science in Management Information Systems

The M.S. program in management information systems prepares students to assume leadership roles in the area of business information systems. The program effectively integrates the technical area of computer technology with business processes. The purpose of the program is to expose students to current information technologies and the application of contemporary information management theories.

### Phase One

See requirements listed under "Graduate Study in Business."

### Phase Two

The student is required to complete a minimum of 30 semester hours of approved graduate work beyond Phase One and the baccalaureate degree. Of these 30 semester hours, 21 must be in classes reserved exclusively for admitted graduate students. Students-at-large are prohibited from registering for graduate business courses without departmental approval. The total credit from courses taken for graduate credit at other accredited institutions which are accepted in transfer plus credit earned at NIU as a student-at-large may not exceed 9 semester hours.

### Required Courses

With approval of the academic program coordinator, other courses may be substituted for a maximum of 9 semester hours of Phase Two course work.

OMIS 640 - Management of Information Systems Technology (3)  
 OMIS 643 - Enterprise Process Improvement (3)  
 OMIS 651 - Business Systems Analysis and Design (3)  
 OMIS 652 - Business Applications of Database Management Systems (3)  
 OMIS 660 - Business Computing Environments and Networks (3)  
 OMIS 675 - Internet Computing Applications (3)  
 OMIS 690 - Information Technology Project Management (3)

### Electives (9)

Electives may be selected with the approval of the academic program coordinator from among relevant graduate offerings in the department or elsewhere in the university.

## Certificate of Graduate Study

### Management Information Systems (12)

This certificate is designed to provide working professionals and non-MIS graduate students with a set of courses focused on the application of information technology. Information technology plays an important role for competitive advantage as a differentiator in many products and services. A certificate in MIS will enhance a student's understanding of the role of information technology and how it must be managed effectively as an organizational resource.

Students must maintain good academic standing within the university, achieve a minimum grade of a B in each course applied toward the certificate, and complete all certificate course work within a period of six calendar years. Only courses taken at NIU may be applied toward the certificate. Courses used to satisfy the requirements for the certificate may also be applied toward a graduate degree with approval of the major department. All courses have Phase One prerequisites that are not part of the certificate curriculum.

Students interested in the certificate should apply no later than the beginning of their final semester prior to graduation, but they are urged to apply as soon as they begin their course work so the coordinator may advise students regarding course scheduling. Applications are available in the Department of Operations Management and Information Systems.

Select four of the following graduate courses:

OMIS 640 - Management of Information Systems Technology (3)  
 OMIS 643 - Enterprise Process Improvement (3)  
 OMIS 651 - Business Systems Analysis and Design (3)  
 OMIS 652 - Business Applications of Database Management Systems (3)  
 OMIS 660 - Business Computing Environments and Networks (3)  
 OMIS 675 - Internet Computing Applications (3)  
 OMIS 690 - Information Technology Project Management (3)

## Course List (OMIS)

505. PRINCIPLES OF OPERATIONS MANAGEMENT (2). Examination of the issues, problems, and possible solutions for operations managers in the manufacturing and service environments. Topics include product planning, facility location, process design, capacity planning, quality management, inventory management, and operations planning and control systems. Students may not receive credit for OMIS 505 if credit was previously received for either UBUS 310 or OMIS 338. A student must earn a grade of C or better in a business statistics course prior to enrollment.

507. BUSINESS INFORMATION SYSTEMS (2). Introduction to business information systems concepts, uses, and issues, including functional management information systems, end-user computing, technology, platforms, and systems analysis and design. Emphasis on the effective utilization of information system technology by business professionals. Students may not receive credit for OMIS 507 if credit was previously received for OMIS 351.

524. BUSINESS STATISTICS (2). Descriptive statistics: probability, random variables, and probability distributions; sampling and sampling distributions; estimation and hypothesis testing; simple regression and correlation analysis. Applications to industry and business. Students may not receive credit for OMIS 524 if credit was previously received for UBUS 223. A student must earn a grade of C or better in a college algebra course prior to enrollment.

525. BUSINESS INFORMATION SYSTEMS TECHNOLOGIES (3). Study of current information systems technologies used by business professionals responsible for managing business transaction processing systems. Emphasis on selection of hardware platforms, operating systems, application development solutions, and integration of these areas to maximize organizational effectiveness. A student must earn a grade of C or better in an information systems concepts course prior to enrollment.

600. INTERNATIONAL STUDY IN MANAGEMENT INFORMATION SYSTEMS (3). Short-term study-abroad experience to study significant concepts, tools, and methodologies of management information systems in the international environment. Analysis of global information systems issues through visitation and study of foreign organizations under supervision of a department faculty member. S/U grading. PRQ: Consent of department.

604. INDEPENDENT STUDY IN OPERATIONS MANAGEMENT (1-3). Available to graduate students who have demonstrated the capability for specialized independent study in operations management. May be taken a maximum of two times. Not available for S/U grading. PRQ: Consent of department.

605. INDEPENDENT STUDY IN INFORMATION SYSTEMS (1-3). Available only to candidates for the M.S. degree in management information systems who have demonstrated the capability for specialized independent study in information systems. May be taken a maximum of two times. Not available for S/U grading. PRQ: Consent of department.

621. COMPUTER SIMULATION IN BUSINESS (3). Concepts and techniques of computerized models. Emphasis on practical application of computer simulation to business problem solving. Laboratory exercises and projects focusing on the design, construction, documentation, and application of computer simulation models. Students may not receive credit for OMIS 621 if credit was previously received for OMIS 421. A student must earn a grade of C or better in both an operations management principles course and a business statistics course prior to enrollment.

624. EXPERT SYSTEMS IN BUSINESS (3). Examination of the new generation of expert systems and their impact on management information technologies and business applications. Topics include a review of expert systems in use, the application of these expert systems to business decision making, and the structure of an expert system in business. Students design and program a prototype expert system for business decisions. CRQ: OMIS 651 or consent of department.

627. OPERATIONS ANALYSIS (3). Analysis of the conceptual and analytical approaches to the solution of significant operations problems. Emphasis on case analyses and quantitative solutions within a global competitive environment. PRQ: All Phase One courses or consent of department.

628. MANAGEMENT SCIENCE TECHNIQUES FOR MANAGERIAL ANALYSIS (3). Development and application of quantitative methods such as linear programming, inventory, waiting line theory, simulation, and model building to provide a basis for rational decision-making in the allocation of resources within the various functional areas of the firm, with emphasis on production. A student must earn a grade of C or better in both an operations management principles course and a business statistics course prior to enrollment.

640. MANAGEMENT OF INFORMATION SYSTEMS TECHNOLOGY (3). Applications of information systems in strategic decision making and organizational leadership, management of information as an organizational resource, and global and ethical issues relating to information systems technology. PRQ: All Phase One courses.

642. QUALITY MANAGEMENT (3). Detailed examination of the issues, techniques, and methodologies for planning and controlling continuous quality improvement in manufacturing and service organizations. A student project in quality is required. PRQ: All Phase One courses, or consent of department.

643. ENTERPRISE PROCESS IMPROVEMENT (3). Focus on continuous improvement in both service and manufacturing firms, with emphasis on quality improvement and business process reengineering. Topics include continuous improvement methodologies, business process analysis, business process redesign, and process change implementation. PRQ: All Phase One courses, or consent of department.

649. BUSINESS COMPUTING ENVIRONMENTS (3). Includes client/server, peer-peer, and Internet-based. Review of key literature in the area and analysis of current problems and trends. Laboratory experience with a variety of business computing environments. Emphasis on collaborative work. A student must earn a grade of C or better in an information systems concepts course prior to enrollment.

651. BUSINESS SYSTEMS ANALYSIS AND DESIGN (3). Comparison of various methodologies and techniques used in the analysis and design of business systems with emphasis on selecting appropriate techniques for evolving development contexts. Projects utilize these analysis and design techniques to identify business problems and design appropriate solutions. Emphasis on teamwork and communication skills. A student must earn a grade of C or better in an information systems concepts course prior to enrollment.

652. BUSINESS APPLICATIONS OF DATABASE MANAGEMENT SYSTEMS (3). Critical examination of the design, implementation, and management of database systems. Topics include the relational database model, entity-relationship modeling, normalization, the logical implementation of databases, transaction management, distributed databases, object-oriented databases, client/server systems, data warehousing, database administration, and the use of databases in Website design. Laboratory experience with current database software. A student must earn a grade of C or better in an information systems concepts course prior to enrollment.

660. BUSINESS COMPUTING ENVIRONMENTS AND NETWORKS (3). Examination of the field of business telecommunications from the perspective of business applications. Evaluation of hardware needed for effective business telecommunication. Includes projects that require examination of communications systems requirements and selection of techniques suitable for meeting the system requirements. A student must earn a grade of C or better in an information systems concepts course prior to enrollment.

661. BUSINESS DECISION TECHNOLOGIES (3). In-depth study of the major components used to create and manage information systems to support business decisions: the human decision-making process; data access and analysis; decision algorithms; and relevant hardware and software. Focus on development and use of decision support systems, expert systems, executive information systems, and group decision support systems. A student must earn a grade of C or better in an information systems concepts course prior to enrollment.

671. BUSINESS FORECASTING (3). Principles, techniques, and applications of forecasting for the business enterprise. Topics include ARIMA (Box-Jenkins) models, exponential smoothing models, and regression models. PRQ: All Phase One courses, or consent of department.

675. INTERNET COMPUTING APPLICATIONS (3). In-depth examination of application of electronic commerce technology and development tools to support business-to-business and business-to-consumer commerce. Focus on the strategic impact of technology decisions in the electronic commerce marketplace. Extensive computer laboratory work required to design advanced electronic commerce applications. A student must earn a grade of C or better in an information systems concepts course prior to enrollment.

679. BUSINESS GEOGRAPHICS (3). Examination of geographic information systems development and use from the perspective of contemporary business. Extensive computer laboratory work designing business geographic systems using commercially available software. Students may not receive credit for OMIS 679 if credit was previously received for OMIS 379.

680. SUPPLY CHAIN MANAGEMENT (3). Examination of concepts, issues, and methodologies related to design and administration of supply chain systems. Emphasis on executive-level decision making and the impact of supply chain management on organizational performance. Includes supply chain strategy, strategic alliances, supplier and customer relationships, use of technology, and the integration of logistical operations in the attainment of organizational objectives in a global competitive environment. PRQ: OMIS 627 or consent of department..

682. ADVANCED BUSINESS NETWORKING (3). Complete examination of the design, implementation, and management of network systems for business communications. In-depth analysis of current business telecommunications hardware and software in the Intranet and Internet environments with emphasis on hands-on laboratory experience with design, implementation, configuration, and management of business network systems using multiple technologies. PRQ: OMIS 660 or consent of department.

684. ADVANCED DATABASE MANAGEMENT (3). In-depth examination of the database administration function, including advanced SQL statements. Laboratory experience in database administration and data mining, with emphasis on creating database applications in the Web environment. Opportunity to take a database administration certification examination at conclusion of course. PRQ: OMIS 652 or consent of department.

685. OPERATIONS STRATEGY (3). Study of operations strategy within the context of manufacturing and service organizations. Emphasis on the use of case analysis in strategy development and policy formulation. PRQ: OMIS 627 or consent of department.

687. OBJECT-ORIENTED BUSINESS APPLICATIONS DEVELOPMENT (3). Object-oriented analysis and design techniques used to develop Webbased business applications. Laboratory experience including development with object-oriented technologies. PRQ: OMIS 651 or consent of department.

690. INFORMATION TECHNOLOGY PROJECT MANAGEMENT (3). Application and integration of the project management body of knowledge areas to managing information technology projects. Focus on project management tools and techniques for defining and managing the project goal, scope, schedule, and budget. Other topics include quality management, risk management, and knowledge management as they relate to information technology projects. A student must earn a grade of C or better in an information systems concepts course prior to enrollment.

694. ADVANCED TOPICS IN INFORMATION SYSTEMS (3). In-depth study of some of the advanced topics of contemporary interest related to management information systems including alternative business systems design methodologies, advanced database systems, architectures, and systems quality. May be repeated to a maximum of 6 semester hours provided no repetition of topic occurs. PRQ: Consent of department.

695. INTERNSHIP IN MANAGEMENT INFORMATION SYSTEMS (3). Designed primarily for students lacking full-time business experience. Full-time work for a summer or a semester as an intern in a business firm under the supervision of a coordinator from the Department of Operations Management and Information Systems. Should not be permanent employment or taken as last course in program. PRQ: Consent of department.

697. STRATEGIC INFORMATION SYSTEMS (3). Study of issues related to the leadership of the information systems function. Emphasis on strategic thinking and alignment of information technology with business objectives. Models and techniques of strategic information management illustrated through case studies. Topics include strategies for application portfolios, technical infrastructure, redesign of business processes, change management, information economics, and other organizational issues related to information systems. A student must earn a grade of C or better in an information systems concepts course prior to enrollment.

698. PROJECTS IN MANAGEMENT INFORMATION SYSTEMS (3). Instruction focused on supervised student team projects conducted within the information systems area of selected business organizations. PRQ: Consent of department.

# College of Education

**Dean: Lemuel W. Watson, Ph.D.**

**Associate Dean: Jeffrey B. Hecht, Ph.D.**

**Associate Dean: Connie Fox, Ed.D.**

Department of Counseling, Adult and Higher Education  
Department of Educational Technology, Research and Assessment

Department of Kinesiology and Physical Education  
Department of Leadership, Educational Psychology and Foundations

Department of Literacy Education

Department of Teaching and Learning

## Admission

Specific admission requirements are described in the departmental and program sections in the following pages. To be assured of consideration for admission, a prospective student must submit an application to the Graduate School no later than June 1 for the fall semester, November 1 for the spring semester, and April 1 for the summer session. Only complete applications containing all required data (application forms, official transcripts, GRE General Test Scores, and letters of recommendation) are considered.

Applicants denied admission may request reconsideration on the basis of additional evidence and/or information not previously submitted. Such requests shall be in writing and directed to the appropriate program admissions committee. Decisions of program admissions committees may be appealed to the Admissions, Retention, and Professional Standards Committee of the department. Such appeals shall be in writing and should explain the basis for the appeal.

## Retention

Students are responsible for meeting the professional standards of the College of Education and its respective departments and programs of study. The following requirements apply to all students.

Students must remain in good academic standing in the Graduate School, are required to maintain high ethical standards, and must demonstrate evidence of functional competency in fulfilling the professional roles required by the discipline.

Doctoral students must pass a candidacy examination which requires an ability to deal with more than individual course content. Satisfactory completion of comprehensive examinations requires analysis, synthesis, and integration of the content within a discipline. Doctoral students must also develop, complete, and defend an acceptable dissertation following the guidelines of the Graduate School and the program in which they are enrolled.

Consult specific program sections of this catalog for additional requirements.

## Basic Skills Testing

Successful completion of the Illinois Certification Testing System (ICTS) Basic Skills Test is required for entry into most teacher certification programs and is listed as a prerequisite for many professional courses. The PPST and Praxis I bulletins and applications are available at the Office of Testing Services.

Students who intend to enter a teacher certification program and need to take this test should register for and take the ICTS Basic Skills Test as soon as possible.

## Teacher Certification

In order to be certified to teach or supervise in the public schools of the state of Illinois, a person must be of good character, in sound health, a citizen of the United States, and at least 19 years of age. The Illinois certification law also requires that an individual complete an approved teacher preparation program at a recognized institution.

The dean of the College of Education, as the university's certification officer, is responsible for reviewing the record of each graduate of an approved teacher education program and for recommending or withholding recommendation of that individual for certification by entitlement and endorsement. Certification is not an automatic procedure. In order to qualify for certification, each student in an entitlement program must complete an application for certification and provide evidence of having completed the general requirements; courses in professional education appropriate to the program being followed, including a minimum of 100 clock hours of approved pre-student-teaching clinical experience prior to student teaching; and a teacher education approved field of study: early childhood, elementary, special education, secondary (6-12), or special (K-12—art, music, physical education).

The following certification and endorsement programs are available at the graduate level only and are approved by the Illinois State Board of Education.

Special K-12  
Media  
Reading  
School Service Personnel  
Guidance  
Administrative  
General Administrative  
Superintendent  
Chief School Business Official

Questions about these endorsement programs should be addressed to the appropriate department.

Also see "Teacher Certification Information."

## Student Teaching in the College of Education

### Regulations Governing Student Teaching Assignments

All assignments are limited by the programs and facilities available in the cooperating schools, and the amount of credit given is determined by the type of assignment. Students must be recommended for an assignment by the chair of their department or the designated departmental representative. Graduate applicants must be approved by the department offering their graduate degree and the department in which they will be doing their student teaching.

Graduate students must have been admitted to the Graduate School, have earned a minimum of 12 semester hours at NIU, and have an overall NIU minimum 3.00 GPA.

A student must have been admitted to teacher education, have satisfactorily completed pre-student-teaching clinical experiences, and apply for a student teaching assignment in advance. A student must also have met the specific requirements in the subject matter department and maintained the required departmental GPA or better.

A student may not request a change once an assignment is confirmed by the cooperating school.

## Retention

Admission to the program does not guarantee continued acceptance unless the student maintains satisfactory grades and other qualifications. In recognition of its responsibility to the schools in which its graduates teach, the university maintains a program of selective retention of candidates for the teaching profession. Thus, the university seeks to avoid recommending a candidate for a student teaching assignment or certification unless the candidate has good character, sound mental and physical health, and academic competence in his or her overall studies, teaching field(s), and professional studies. Instructors involved in any of the professional sequence of courses may request that a student be dropped from teacher education for deficiencies in grades, attitudes, or professional skill.

Retention in a student teaching assignment depends on the student teacher's ability to demonstrate those competencies associated with effective teaching, including factors such as organization of materials, motivational techniques, classroom management, interpersonal relationships, and professional ethics. Assessment will be made by the student teacher's supervisors through observation and conferences with the student teacher in a clinical situation.

## Certificates of Graduate Study

### Children's and Young Adult Literature/Media (19)

The purpose of this interdisciplinary certificate is to prepare educators and librarians to select and use high quality children's and young adult literature across genres and across the curriculum. A student who wishes to pursue this certificate must receive approval and advisement from the coordinator of the certificate program. Students must complete 19 semester hours in approved course work at NIU, including the required four core courses, the 1 semester hour workshop at the annual Children's Literature Conference, and the internship/practicum, with prior approval of the program coordinator.

#### Requirements (13)

- LTLA 538 - Evaluating Children's Literature (3),  
OR ETT 527 - Library Materials for Children (3)
- LTLA 541 - Teaching Young Adult Literature (3),  
OR ETT 523 - Media for Young Adults (3)
- LTLA 539 - Children's Literature in a Multicultural Society (3),
- LTCY 590 - Workshop in Literacy Education (1),  
OR ETT 590 - Workshop in Instructional Technology (1)  
Only when taken in conjunction with the annual Children's Literature Conference, and with prior approval of the program coordinator.
- LTCY 586 - Internship in Literacy Education (12),  
OR ETT 569 - Practicum: Instructional Design (3)

#### Select two of the following:

- LTLA 542 - Design and Production of Picture Books for Children and Young Adults (3)
- LTLA 733 - Children's Literature Research in Elementary Education (3)
- LTCY 592 - Special Topics in Literacy Education (3)
- ETT 540 - Seminar in Library/Information Studies (6)
- ETT 541 - Library Services for Children and Young Adults (3)

### Director of Special Education (20)

This certificate is designed for school leaders seeking the Director of Special Education endorsement on the administrative (Type 75) certificate. It is available to students who hold a Type 10 Special Education certification, have a minimum of four years of teaching experience at the time of application, and who attained a GPA of at least 3.20 in their most recent degree program. Individuals who do not have a master's degree at the start of the program must have completed a master's degree prior to recommendation for the Type 75 with Director of Special Education endorsement. Application materials for this certificate are available through the Department of Teaching and Learning or the Department of Leadership, Educational Psychology and Foundations.

- LEEA 577 - Administration and Supervision of Special Education (3)
- LEEA 726 - Special Education: Leadership and the Law (3)
- TLSE 592 - Seminar in Special Education (3)
- TLSE 660 - Director of Special Education (3)
- TLSE 765 - Seminar: Professional Collaboration in Schools (3)
- TLSE 786 - Internship in Special Education (5)

### Museum Studies (Education)

This certificate is jointly administered by the the College of Education, College of Liberal Arts and Sciences, and the College of Visual and Performing Arts. See the section on Inter-College Interdisciplinary Certificates for a complete description of this certificate.

### Workplace Learning and Performance (18)

The certificate of graduate study in workplace learning and performance is available to any graduate-level student in good standing. This certificate is designed to prepare professionals to analyze, design, implement, and evaluate practices and systems that promote individual, group, and organizational learning, creativity, and performance through training and development, organization development, and career development.

- CAHA 533 - Learning How to Learn: Applied Theory for Adults (3)
- CAHE 561/ETT 561X - Human Resource Development (3),  
OR CAHE 715/ETT 715X - Strategic Human Resource Development (3)
- ETT 560 Instructional Design I (3),  
OR ETT 562 - Instructional Design II (3)
- ETT 564 - Training and Performance Technology (3)
- Two of the following (6)
  - CAHA 530 - Instructional Theory and Practice in Teaching Adults (3)
  - CAHA 540 - Curriculum and Program Development in Adult Continuing Education (3)
  - CAHA 710 - Evaluating Adult Continuing Education Programs (3)
  - CAHA 716 - Adult Learning in the Workplace (3)
  - CAHE 715/ETT 715X<sup>1</sup> Strategic Human Resource Development (3)
  - CAHE 765/ETT 765X - Consultation in Human Services (3)
  - ETT 562<sup>1</sup> - Instructional Design II (3)

<sup>1</sup> If not taken to fulfill requirements above.

# Department of Counseling, Adult and Higher Education (CA--)

Chair: Barbara J. Johnson

## Graduate Faculty

Lisa Baumgartner, associate professor, Ed.D., University of Georgia  
Phyllis M. Cunningham, Distinguished Teaching Professor, emeritus,  
Ph.D., University of Chicago

Teresa A. Fisher, associate professor, Ph.D., University of Illinois  
Francesca Giordano, professor, Ph.D., University of Virginia  
LaVerne Gyant, professor, Ed.D., Pennsylvania State University  
Karen Haley, assistant professor, Ed.D., North Carolina State  
University

Brian Hemphill, assistant professor, Ph.D., University of Iowa  
Jorge Jeria, professor, Ph.D., Iowa State University  
Laurel Jeris, professor, Ed.D., Northern Illinois University  
Barbara J. Johnson, associate professor, Ph.D., Vanderbilt  
University

Carole W. Minor, Distinguished Teaching Professor, Ph.D., University  
of Maryland

Charles E. Myers, assistant professor, Ph.D., University of North  
Texas

Richard A. Orem, Presidential Teaching Professor, Ed.D., University  
of Georgia

Allen J. Ottens, professor emeritus, Ph.D., University of Illinois  
Carol Logan Patitu, professor, Ph.D., Bowling Green University  
Jane E. Rheineck, assistant professor, Ph.D., University of Arkansas  
Amy D. Rose, professor, Ed.D., Columbia University Teachers  
College

Gene L. Roth, Distinguished Teaching Professor, Ph.D., Southern  
Illinois University

Lee Covington Rush, assistant professor, Ph.D., Ohio State  
University

Toni R. Tollerud, Presidential Teaching Professor, Ph.D., University  
of Iowa

Lemuel W. Watson, professor, Ed.D., Indiana University  
Scott Wickman, associate professor, Ph.D., Southern Illinois  
University

Wei Zheng, assistant professor, Ph.D., University of Minnesota

The Department of Counseling, Adult and Higher Education offers graduate courses leading to the degree Master of Science in Education and the degree Doctor of Education. The department advances scholarly activity for faculty and students and supports individual and collaborative efforts in institutional and noninstitutional settings.

Students interested in teacher certification should also see "Teacher Certification Information."

## Master of Science in Education<sup>1</sup>

Adult and higher education  
Counseling

## Doctor of Education<sup>1</sup>

Adult and higher education  
Counseling

## Admission

The faculty in the Department of Counseling, Adult and Higher Education selects the best-qualified applicants for admission to its programs. When the number of applicants exceeds a program's capacity, qualified applicants may be denied admission and encouraged to reapply at a later date. Decisions about admissions are ordinarily made each academic term.

Any applicant who is denied admission to a program in the department may submit to the appropriate program admissions committee a written request for reconsideration that includes information not previously submitted. Final decisions of program admissions committees may be appealed to the department's Committee on Admissions, Retention, and Professional Standards. Appeals to this committee must be in writing and must explain the basis for the appeal.

## Master of Science in Education in Adult and Higher Education

This 36-semester-hour program offers theoretical and methodological bases for professional development, while providing comprehensive preservice education for persons seeking careers in this field. A required core of learning experiences is supplemented by course work in areas of instruction, administration, and research to prepare both generalists and specialists. The program provides opportunities for individualization to take into account the student's goals and needs and usually includes a faculty-supervised internship in programming, teaching, counseling, or evaluating. It prepares professionals in adult continuing education, community education, international and popular education, human resource development, student affairs and higher education, to work in contexts such as adult education organizations, higher education institutions, business and industry, and social agencies concerned with community problem solving.

## Admission

Applicants may submit scores on the Miller Analogies Test (MAT) in lieu of GRE scores. Two letters of recommendation are required from professors or supervisors who can provide supportive evidence of an applicant's professional qualifications and potential for success in graduate study.

## Student-at-Large, Study-Abroad, and Transfer Credit

A maximum of 15 student-at-large and transfer semester hours in combination may be applied toward the master's degree in adult and higher education. See "Requirements for Graduate Degrees" for limitation on study-abroad credit. The faculty adviser and the office of the dean of the Graduate School have final authority in determining course credit applicable toward the master's degree in adult and higher education.

## Requirements

Students may focus their study in several professional areas such as human resource development, community education, adult English as a second language, and student affairs in higher education. In each case, students must work with an adviser to

<sup>1</sup> All courses with the CAHE designator may be counted toward a student's program in adult and higher education or in counseling.

make sure that they have completed an acceptable program. Ordinarily, students without a sufficient background in adult and higher education will be required to complete an internship as part of their program of study.

In no case will a master's degree student be allowed to register for CAHA 598, Issues in Adult and Higher Education, or CAHA 699, Master's Thesis, or write the comprehensive examination without an official program of courses on file with the department and the Graduate School.

#### **Non-Thesis Option**

CAHA 500 - The Nature of Adult and Higher Education (3)

CAHA 501 - Adult Learning: Maturity Through Old Age (3)

CAHA 502 - Educating Culturally Diverse Adults (3)

A research course approved by adviser (3)

Course work approved by adviser (24)

#### **Thesis Option**

Same as the non-thesis option except that 6 semester hours of program course work must be in CAHA 699, Master's Thesis.

#### **Comprehensive Examination**

Students in the non-thesis option fulfill the comprehensive examination requirement by successfully completing either a comprehensive writing assignment while enrolled in CAHA 598 or an essay examination. Students in the thesis option fulfill this requirement in conjunction with the thesis defense.

### **Master of Science in Education in Counseling**

The M.S.Ed. in counseling is a nationally accredited (CACREP) program, requiring a minimum of 60 semester hours, that provides preparation in the theory, techniques, and information needed by the professional counselor. The academic requirements as set forth by the Illinois State Board of Education and the National Board for Certified Counselors are fully met by graduates of this program. Through individualized planning, a program may be designed to focus on one of the following areas of professional counselor preparation: school counseling, and clinical mental health counseling.

#### **Admission**

An applicant must demonstrate satisfactory academic and professional progress as indicated by data included in the application for admission to the Graduate School.

Applicants to the program in counseling must attend a preadmission workshop and be selected by the faculty on the basis of aptitude, ability, and personal qualifications requisite for the field. Prior to the pre-admission workshop, applicants must complete the supplementary data forms and take the required tests. Applicants are to obtain the forms from the department office, Gabel Hall 200, 815-753-1448. Applications and the other required material must be received by the Graduate School by February 15 for summer and fall admissions and by October 1 for spring admission. Applicants are usually notified of an admission decision within three weeks of the pre-admission workshop.

Prospective students who fail to satisfy either the Graduate School's GPA requirement or the department's GRE score expectation may request special consideration of their applications. Such a request must be in writing, must include compensatory evidence related to the deficiencies, and should accompany the application for admission to the Graduate School.

Any applicant who is denied admission to the program may submit to the admissions committee a written request for reconsideration that includes information not previously submitted. Final decisions of program admissions committees may be appealed

to the department's Committee on Admissions, Retention, and Professional Standards. Appeals to this committee must be in writing and must explain the basis for the appeal.

#### **Student-at-Large and Transfer Credit**

A combined maximum of 9 student-at-large and transfer semester hours may be applied toward the master's degree in counseling. Candidates are encouraged to apply to the counseling program and to attend the Pre-Admission Workshop as soon as possible. After admitted, students will be assigned an advisor who assists in course selection.

#### **Retention**

Students are responsible for meeting the professional standards of the College of Education and undergo periodic evaluation by the counseling faculty.

#### **Advisement**

A student is assigned an adviser when admitted to the program. The adviser is a faculty member in the area of interest which the student intends to pursue. Courses of study are developed for each student. It is always the responsibility of the student to be aware of university policies and regulations affecting his or her program.

#### **Requirements**

Students are required to take a minimum of 45 semester hours in common requirements and 15 semester hours in an area of professional preparation as follows.

#### **Non-Thesis Option**

CAHC 500 - Professional Identity and Ethics in Counseling (3)

CAHC 501 - Diagnosis of Mental Health Issues in Counseling (3)

CAHC 511 - Career Counseling (3)

CAHC 525 - Counseling Skills and Strategies (3)

CAHC 530 - Counseling Theories and Practices (3)

CAHC 533X - Standardized Testing (3)

CAHC 540 - Group Counseling Theories and Procedures (3)

CAHC 550 - Practicum in Counseling (3)

CAHC 565 - Multicultural Counseling (3)

CAHC 567 - Substance Abuse Issues in Counseling (3)

CAHC 586 - Internship in Counseling (6)

CAHC 593 - Crisis Intervention (3)

ETR 520 - Introduction to Educational Research (3)

One of the following:

EPS 505 - Issues in Human Development in the Elementary through High School Years (3)

EPS 507 - Issues in Human Development and Learning in the Middle School and High School Years (3)

EPS 510 - Adult Educational Psychology (3)

Course chosen in consultation with adviser (3)

One of the following areas of professional preparation (18)

#### **Clinical Mental Health Counseling**

CAHC 524 - Clinical Mental Health Counseling: Programs, Issues, and Practices (3)

CAHC 532 - Evidence Informed Practices in Clinical Mental Health (3)

CAHC 766 - Human Sexuality Counseling (3)

CAHC 784X - Theoretical Foundations of Family Therapy (3)

One elective chosen with adviser's approval (3)

#### **School Counseling**

CAHC 513 - Postsecondary College Counseling for School Counselors (3)

CAHC 521 - Counseling with Children (3)

CAHC 523 - School Counseling: Programs, Issues and Practices (3)

CAHC 570 - Consultation and Management in Developmental School Counseling Programs (3)

Elective chosen in consultation with adviser (3)

### Thesis Option

In addition to the requirements above, a thesis is required, with enrollment in CAHC 699, Master's Thesis, for the number of semester hours specified on the student's official program of courses. Doctor of Education in Counseling

## Doctor of Education in Adult and Higher Education

The Ed.D. program in adult and higher education provides a flexible system of professional study with course work in areas of instruction, administration, and research to prepare both generalists and specialists in the field. Doctoral students in adult and higher education prepare for leadership roles in a variety of adult and higher education endeavors. Adult and higher education can be formal or informal, traditional or nontraditional, and embraces such areas as adult basic education, adult English as a second language, human resource development, continuing professional education, community education, and higher education.

### Application Deadlines

To be assured of consideration for admission to the doctoral program in adult and higher education completed applications and all supporting credentials must be received by the Graduate School no later than June 1 for admission for the fall semester, November 1 for admission for the spring semester, and April 1 for admission for the summer session.

### Admission

Admission to the doctoral program requires a master's degree either in adult and higher education or in another discipline acceptable to the admissions committee. Three letters of recommendation are required from professors, employers, or supervisors who can provide supportive evidence of an applicant's professional qualifications and potential. Each applicant must complete a writing sample to be administered by the adult and higher education faculty office. Ordinarily, an interview with the adult and higher education admissions committee is required. The faculty reserves the right to request additional evidence of potential such as assessment letters from adult and higher education faculty. Applicants must contact the admissions committee chair about additional requirements.

An applicant may submit MAT scores in lieu of the GRE scores. Students who have successfully completed a master's degree at an accredited institution may have the GRE requirement waived upon successfully completing two NIU adult and higher education courses and having an assessment letter written by each instructor.

### Student-at-Large, Study-Abroad, and Transfer Credit

A maximum of 15 student-at-large semester hours of post-master's course work taken at NIU or at another university may be transferred into a student's doctoral degree program. See "Requirements for Graduate Degrees" for limitation on study-abroad credit.

### Deficiencies

Students whose master's degree is in a field other than adult and higher education will be required to take CAHA 500 and CAHA 501 as deficiency courses. These courses do not count toward the 63 semester hour minimum required in the doctoral program of study.

### Requirements

Upon admission, a student is expected to form a doctoral program advisory committee. In general, this committee will consist of a chair from the adult and higher education faculty and at least two other faculty members, one of whom must be from outside the faculty of adult and higher education.

The doctoral program in adult and higher education requires a minimum of 93 semester hours of graduate work beyond the baccalaureate degree, including the dissertation. With the approval of the department and the office of the dean of the Graduate School, a master's degree may be accepted in lieu of 30 of the 93 semester hours. Ordinarily a student's program will consist of the following.

Course work constituting the common requirements in research methodology, learning and development, and sociocultural analyses (15). These requirements may not be met through independent study. At least 9 semester hours must be in research methodology, not including ETR 520 or its equivalent.

Adult and higher education (CAHA/CAHE) course work (minimum 18), excluding dissertation hours.

A cognate area outside of adult and higher education in a professional area such as human resource development, community education, English as a second language, gerontology, or higher education.

CAHA 799, Doctoral Research and Dissertation (15-30)

A typical doctoral program includes study in a variety of disciplines within the university. Ordinarily, a minimum of 9 semester hours of course work is pursued in other colleges within the university. These credits may be taken within the common requirements or the cognate.

### Examinations

*Qualifying examination.* Before attempting the candidacy examination, students pursuing the Ed.D. in adult and higher education are required to pass a qualifying examination. This examination must be taken after completion of at least 15, but not more than 30, semester hours of an approved official program of courses, not including deficiency courses or courses taken as part of a master's program.

*Candidacy examination.* A written candidacy examination is scheduled and administered at least twice each year. This is offered in several formats, to be decided in conjunction with the program committee. A graduate student eligible to take this examination, with the permission of the chair of the doctoral committee, will have completed at least two-thirds of his or her courses, exclusive of dissertation research, but including the common requirements. This examination encompasses major areas of professional knowledge.

Once a student has successfully completed all examinations and is admitted to candidacy, she or he must assemble a dissertation committee. This committee ordinarily includes a chair from the adult and higher education faculty with at least two other members, one of whom is from outside the adult and higher education faculty. The committees must also meet all Graduate School requirements.

## Doctor of Education in Counseling

The doctoral program in counseling offers advanced professional preparation for those intending to become university professors of counseling and advanced-level clinical counselors and/or supervisors. This program is nationally accredited by the Council for the Accreditation of Counseling and Related Educational Programs (CACREP).

## Admission

An applicant for admission must have

a master's degree in counseling or the equivalent.

a GPA of at least 3.20 in previous graduate work; 3.50 or higher preferred.

GRE General Test scores with a minimum of 500 verbal and 500 quantitative preferred.

three letters of recommendation from individuals holding a doctoral degree which provide supportive evidence of an applicant's academic and professional qualifications. All letters must be dated no more than one year prior to the application deadline.

satisfactory academic and professional progress as indicated by data included in the application for admission to the Graduate School.

a minimum of one year of work experience as a counselor preferred.

demonstration of writing competencies as prescribed by the department and submission of a scholarly paper or professional report of which the applicant is sole author.

evidence of potential for professional leadership.

following screening based on the above criteria, a preadmission interview.

Prospective students who fail to satisfy either the GPA or the GRE criterion may request special consideration of their applications. Such a request must be in writing, must include compensatory evidence related to the deficiencies, and should accompany the application for admission to the Graduate School. Final decisions regarding admissions are made by program committees of the department on the basis of a total profile of an individual's qualifications. Where deficiencies exist, the department's Doctoral Admissions Committee may prescribe additional courses and recommend admission with stipulation.

Admission to the doctoral program in counseling is competitive and takes place twice a year. To be considered for admission in the summer session or fall semester, all materials must be received by the Graduate School by February 15; to be considered for spring semester admission, all materials must be received by October 1.

## Advisement

As soon as possible after admission, the graduate student should make an appointment with the interim faculty adviser in counseling, who assists the student in selecting a program advisory committee. This committee consists of a chair and two other graduate faculty members, who advise the student in program planning. Advisement is given regarding courses in the major area of study, additional courses, prerequisites, and the comprehensive examinations. The student's departmentally approved program of courses is forwarded to the Graduate School for approval.

## Course Requirements

The Ed.D. in counseling requires a minimum of 105 semester hours including a maximum of 30 semester hours from the master's degree plus a minimum of 75 additional semester hours normally distributed as follows.

CAHC 592<sup>1</sup> - Special Topics in Counseling (3),  
OR CAHC 595<sup>2</sup> - Women and Careers (3),  
OR CAHC 766<sup>2</sup> - Human Sexuality Counseling (3)

CAHC 700 - Professional Seminar in Counseling (3)  
CAHC 730 - Theories of Counseling (3)  
CAHC 740 - Group Leadership (3)  
CAHC 750 - Advanced Practicum in Individual Counseling (3)  
CAHC 752 - Supervision in Counseling (3)  
CAHC 764<sup>2</sup> - Personality Testing (3)  
CAHC 765 - Multicultural Counseling (3)  
CAHC 786 - Internship in Counseling (12)  
CAHC 790 - Seminar on Research in Human Services (3)  
CAHC 799 - Doctoral Research and Dissertation (15)  
CAHE 561 - Human Resource Development (3),  
OR CAHE 765 - Consultation in Human Services (3)  
EPS 705 - Advanced Seminar in Child Development (3),  
OR EPS 708 - Advanced Research Seminar in Adolescent Development (3),  
OR EPS 710 - Seminar in Lifespan Human Development (3)  
OR other course in human development approved by adviser (3)  
ETR 521 - Educational Statistics I (3)  
ETR 525 - Qualitative Research in Education (3)  
One research course with the consent of student's program committee (3)  
Area of study<sup>3</sup> (6)

In addition, prior to approval of the dissertation proposal, the student must present evidence and/or documentation of computer technology competence, professional association involvement, submission of an article for publication, a presentation at a professional conference, and research-team involvement. Details regarding this requirement are available from the student's adviser.

## Internship

An approved internship is a required part of the doctoral program. Opportunities exist for internships in a wide variety of settings. The internship is planned in consultation with the chair of the student's program advisory committee and approved by the internship coordinator. It consists of a minimum 1200 clock hours, including one semester full time (600 hours) or two semesters half time (300 hours each); and an additional 600 hours.

## Examinations

All doctoral students in counseling are required to pass two examinations prior to admission to candidacy.

The general examination includes the basic competencies in counseling theories; human development, learning, and behavior; research; cultural diversity; group counseling; consultation; supervision; assessment; and professional issues, including ethics. A student may apply to the program director to take this examination as soon as course work in the basic competencies is completed. This examination must be successfully completed prior to the candidacy examination.

The candidacy examination includes the student's selected area of study and, where applicable, the cognate area. A student may apply to the program advisory committee chair to take this examination on the completion of most or all of the course work in the area of study. A student has eight weeks to provide a 25-page typewritten response to student- and faculty-generated questions prior to an oral examination related to the contents of the paper.

Satisfactory completion of the candidacy examination admits the student to candidacy for the doctoral degree. A student who fails the candidacy examination may be granted the opportunity to retake it. Failure on the second attempt denies the student admission to candidacy.

A final oral examination related to the dissertation is required and is conducted in accordance with the general requirements of the Graduate School.

<sup>1</sup> Only if topic is counseling women or counseling men.

<sup>2</sup> Or other course work with the consent of the student's program committee.

<sup>3</sup> Course work selected in consultation with the student's program committee.

## Dissertation

The dissertation represents a substantial contribution to knowledge in the candidate's major field of study. Candidates are expected to conduct original scholarship and independent research appropriate to their major and communicate the results of their research effectively.

The student's dissertation committee is selected by the student in consultation with the faculty chair. The committee represents graduate faculty of the university with knowledge in the area of the candidate's topic. The number of committee members, including the chair, is normally three to five. At least two members of the committee must be senior members of the graduate faculty; no more than one member may be without graduate faculty status.

## Certificates of Graduate Study

### Adult Continuing Education (18)

The certificate of graduate study in adult continuing education is designed for professionals in adult education settings in higher education (community colleges, four-year colleges, and universities), community agencies, and government agencies who currently or desire to work with adults in continuing education, community education, basic education, and other related areas. It is available to any graduate-level student in good standing. Students who want to pursue this certificate must file an application with the certificate coordinator and develop a plan of studies with that coordinator.

CAHA 500 - The Nature of Adult and Higher Education (3)  
 CAHA 501 - Adult Learning: Maturity through Old Age (3)  
 CAHA 502 - Educating Culturally Diverse Adults (3)  
 CAHA 540 - Curriculum and Program Development in Adult Continuing Education (3)

Two of the following (6)

CAHA 530 - Instructional Theory and Practice in Teaching Adults (3)  
 CAHA 575 - Policy Studies in Adult Continuing Education (3)  
 CAHA 581 - Community Project Development and Adult Education (3)  
 CAHA 700<sup>4</sup> - Seminar in Adult and Higher Education (may be taken twice for up to 6 credit hours)  
 CAHA 710 - Evaluating Adult Continuing Education Programs (3)  
 CAHA 761 - Adult Learning in Social Movements: Building Civil Society (3)  
 CAHE 572 - Assessment Methods in Higher Education (3)

### Career Development (18)

This certificate is designed to prepare professionals in educational settings, public service agencies, and the private sector to assist individuals of all ages with career planning, decision making, changes, and development. It is available to any graduate-level student in good standing. Students who want to pursue this certificate must file an application with the certificate coordinator and develop a plan of studies with that coordinator.

CAHC 512 - Organization and Administration of Career Counseling Programs (3)

CAHC 575 - Assessment in Career Counseling (3)

CAHC 710 - Theory in Career Development (3)

Three of the following (9)

CAHE 544 - Alternatives in the Counseling and Placement of Adults (3)

CAHC 595 - Women and Careers (3)

CAHC 586 - Internship in Counseling (3),

OR CAHC 786 - Internship in Counseling (3),

Career development elective approved by coordinator (3)

### College Teaching (18)

The certificate of graduate study in college teaching is available to any graduate-level student in good standing. This certificate is designed to prepare or enhance professionals relative to the role of faculty in various postsecondary institutional contexts. Courses focus on understanding higher education institutions and the expected roles of faculty in different institutional contexts, developmental and learning theories for various student populations, online technologies, and assessment practices in student learning.

CAHA 501 - Adult Learning: Maturity through Old Age (3)

CAHA 530 - Instructional Theory and Practice in Teaching Adults (3)

CAHE 522 - Student Development in Higher Education: Programs, Issues, and Practices (3)

Three of the following (9)

CAHA 502 - Educating Culturally Diverse Adults (3)

CAHA 533 - Learning How to Learn: Applied Theory for Adults (3)

CAHA 540 - Curriculum and Program Development in Adult Continuing Education (3)

CAHA 555 - Seminar in the Community College (3)

CAHA 586 - Internship in Adult and Higher Education (3)

CAHA 590<sup>1</sup> - Workshop in Adult and Higher Education (3)

CAHE 509 - Culture of the College Student (3)

CAHE 770 - The Administration of Higher Education (3)

EPFE 723 - History of Higher Education (3)

ETT 510 - Instructional Media and Technology (3)

ETT 535 - Distance Education: Design and Delivery (3)

### Higher Education (18)

The certificate of graduate study in higher education allows students seeking professional careers in higher education to pursue graduate-level study in one or more of the following areas related to two- and four-year institutions of higher education: higher education administration, student personnel services, curriculum development, and teaching.

This certificate of graduate study is available to any graduate-level student in good standing. Students who are enrolled in a master's, educational specialist, or doctoral degree program at NIU may pursue additional study in the area of higher education by enrolling in 18 semester hours of prescribed higher education course work as part of, or in addition to, their department's graduate degree program or required studies.

Students who wish to pursue this certificate of graduate study must complete an application with the coordinator of the certificate of graduate study in higher education specifying those 18 semester hours from the list below which will comprise the course work for the certificate. Graduate students enrolled in a degree program should consult with their major adviser before completing an application with the higher education certificate coordinator.

CAHA 757 - Seminar in Higher Education (3)

CAHE 702 - Student Development in Higher Education: Theory and Practice (3),

OR CAHE 770 - The Administration of Higher Education (3)

EPFE 723 - History of Higher Education (3)

Three of the following (9)

CAHA 555 - Seminar in the Community College (3)

CAHA 560 - Nontraditional Adult Higher Education (3)

CAHA 568 - Continuing Higher Education (3)

CAHA 590<sup>1</sup> - Workshop in Adult and Higher Education (3)<sup>1</sup>

CAHE 509 - Culture of the College Student (3)

CAHE 522 - Student Development in Higher Education: Programs, Issues, and Practices (3)

CAHE 572 or ETR 572X - Assessment Methods in Higher Education (3)

CAHE 701 - Personnel Services in Higher Education (3)

<sup>1</sup> Workshop must be directly related to higher education and approved by the higher education certificate coordinator.

<sup>2</sup> If not taken to fulfill requirements above.

<sup>3</sup> Students may take up to 3 semester hours of individualized study toward the certificate with the approval of the higher education certificate coordinator. These hours should be compatible with the student's career goals and must be directly related to higher education and may not include thesis or dissertation hours.

<sup>4</sup> Seminars must be directly related to adult continuing education and approved by the adult continuing education certificate coordinator.

- CAHE 702<sup>2</sup> - Student Development in Higher Education: Theory and Practice (3)  
 CAHE 751 - Community College Student Personnel Services (3)  
 CAHE 770<sup>2</sup> - The Administration of Higher Education (3)  
 CAHE 771 - Legal Aspects of Higher Education Administration (3)  
 CAHE 772 - Business Management in Higher Education (3)  
 LTRE 719 - Principles and Methods of Teaching Postsecondary Reading (3)  
 Individualized study (3)<sup>3</sup>

### Workplace Learning and Performance (18)

This certificate is jointly administered by the Department of Counseling, Adult and Higher Education and the Department of Educational Technology, Research and Assessment. See the College of Education Certificates of Graduate Study for a complete description of this certificate.

### Post-Master's Certificate in Medical Family Therapy and Counseling

This certificate is jointly administered by the College of Education and the College of Health and Human Sciences. The certificate has been designed to provide career enhancement for licensed mental health professionals to enable them to provide, within a variety of medical settings, family therapy and counseling services to patients and their families. See the section on Inter-College Interdisciplinary Certificates for a complete description of this certificate.

### Certification in School Counseling

As of June 1, 2004, a teaching certificate is no longer required in order to become a school counselor in Illinois. At NIU, students must still complete the accredited master's degree in school counseling. Students who are not teacher credentialed must complete the master's degree in school counseling and additional course work in education including the following.

- the structure, organization, and operation of the educational system, with emphasis on P-12 schools;
- the growth and development of children and youth, and their implications for counseling in schools;
- the diversity of Illinois students and the laws and programs that have been designed to meet their needs; and
- the effective management of the classroom and the learning process.

Students work with their adviser to determine appropriate courses. Candidates who successfully fulfill the program requirements are eligible to receive faculty recommendation for State of Illinois school counseling certification.

### Course List

#### General (CAHE)

509. CULTURE OF THE COLLEGE STUDENT (3). Concepts of culture, subculture, and societal participation with reference to college students.
522. STUDENT DEVELOPMENT IN HIGHER EDUCATION: PROGRAMS, ISSUES, AND PRACTICES (3). Focus on current programs, issues, practices, research, and trends in student development programming in higher education. Exploration of historical, philosophical, and theoretical foundations of student development related to practice.
544. ALTERNATIVES IN THE COUNSELING AND PLACEMENT OF ADULTS (3). Examination and identification of promising alternatives in the facilitation of adult career development through guidance, counseling, and vocational placement.

561. HUMAN RESOURCE DEVELOPMENT (3). *Crosslisted as ETT 561X*. Nature and function of programs for developing human resources in business, education, industry, government, social services, and voluntary organizations.

572. ASSESSMENT METHODS IN HIGHER EDUCATION (3). *Crosslisted as ETR 572X*. Basic concepts and procedures in the assessment of applicants for admission and retention and use of assessment methods for counseling to support retention in institutions of higher education.

701. PERSONNEL SERVICES IN HIGHER EDUCATION (3). Comprehensive study of the organizational structure and administrative relationships of personnel services in the collegiate setting. Includes admission, testing, records, housing, scholarships and loans, health and counseling, student activities, discipline, student government, and placement.

702. STUDENT DEVELOPMENT IN HIGHER EDUCATION: THEORY AND PRACTICE (3). Theories of late adolescent and adult development in relation to their usefulness and application in designing student development programs and environments that support and are interactive with academic disciplines.

715. STRATEGIC HUMAN RESOURCE DEVELOPMENT (3). *Crosslisted as ETT 715X*. Advanced study emphasizing complex skills, concepts, and strategies relating to the adult teaching/learning component of human resource development in business, industry, government, and voluntary organizations.

751. COMMUNITY COLLEGE STUDENT PERSONNEL SERVICES (3). 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.

765. CONSULTATION IN HUMAN SERVICES (3). *Crosslisted as ETT 765X*. Application of consultation strategies in working with individuals and groups. Topics and problems taken from the fields of counseling, adult education, and instructional technology. PRQ: Consent of department.

770. THE ADMINISTRATION OF HIGHER EDUCATION (3). Various executive roles common to higher education administration. Decision theory, role analysis, accountability models, and principles of organizational behavior as applied to the administration of higher education institutions.

771. LEGAL ASPECTS OF HIGHER EDUCATION ADMINISTRATION (3). Legal principles, legislation, and court rulings in such areas as employment, dismissal, contracts, tenure, civil rights, due process, student rights, and other issues of concern to higher education administrators.

772. BUSINESS MANAGEMENT IN HIGHER EDUCATION (3). Analysis of issues and problems of business management in colleges and universities.

### Adult and Higher Education (CAHA)

500. THE NATURE OF ADULT AND HIGHER EDUCATION (3). Overview of adult and higher education with an introduction to philosophy, sociology, and history of the field. Significant trends and issues in diverse settings are examined.

501. ADULT LEARNING: MATURITY THROUGH OLD AGE (3). 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.

502. EDUCATING CULTURALLY DIVERSE ADULTS (3). Analysis and critique of economic, educational, sociological, cultural, and professional issues having an impact on the education of culturally diverse adults. Focus on the development of educational programs and classes which address these issues.

530. INSTRUCTIONAL THEORY AND PRACTICE IN TEACHING ADULTS (3). Development of methods, techniques, and strategies for the instruction of adults.

533. LEARNING HOW TO LEARN: APPLIED THEORY FOR ADULTS (3). Understandings and skills that enable adults to learn effectively in classrooms, small groups, and individually. Participation training and self-directed education in a laboratory setting. Implications for adult education agencies.

540. CURRICULUM AND PROGRAM DEVELOPMENT IN ADULT CONTINUING EDUCATION (3). Application of curriculum development and program planning principles to education and training programs designed specifically for the adult learner.

545. PLANNING AND PROMOTING NONCREDIT ADULT CONTINUING EDUCATION (1-3). Strategies for needs assessment and marketing for noncredit adult continuing education; program models and techniques for reaching specific target audiences. Student-identified programming concerns considered through a practicum-workshop approach. May be repeated to a maximum of 3 semester hours.

550X. TEACHING ORAL SKILLS TO ADULT ENGLISH LANGUAGE LEARNERS: METHODS AND MATERIALS (3). *Crosslisted as LTIC 550*. Examination and application of methods and materials used to teach oral communication skills (listening and speaking) to English-language learners in adult education settings.

551X. TEACHING LITERACY SKILLS TO ADULT ENGLISH LANGUAGE LEARNERS: METHODS AND MATERIALS (3). *Crosslisted as LTIC 551*. Examination and application of methods and materials used to teach literacy skills (reading and writing) to English-language learners in adult education settings.

552X. CURRICULUM DEVELOPMENT FOR ADULT ENGLISH LANGUAGE LEARNERS (3). *Crosslisted as LTIC 552*. Examination of current practices in teaching English-language learners in adult education settings with focus on issues in program and curriculum design, including the curriculum as process, student and teacher assessment, teaching methodology, and professional development.

553X. CROSSCULTURAL ISSUES IN THE ADULT ESL CLASSROOM (3). *Crosslisted as LTIC 553*. Examination of cultural differences and their influences on adults learning English language skills and acquiring general perceptions of their social environment.

555. SEMINAR IN THE COMMUNITY COLLEGE (3). Development of the community college, its present status, purposes, functions, organization, and curriculum; and emerging issues in the community college.

560. NONTRADITIONAL ADULT HIGHER EDUCATION (3). Historical background, conceptual base, and literature of alternative approaches to the education of adults within higher education settings. Includes nontraditional approaches such as open learning systems, the free university, portfolio development and experiential learning, folk schools, and field studies of current nontraditional adult higher education programs, their structure and content.

565. CONTINUING EDUCATION FOR PROFESSIONAL GROUPS (3). Explication and critique of frameworks for understanding the goals, processes, and outcomes of continuing education. Exploration of the design and development of continuing education programs for adults in professional roles.

568. CONTINUING HIGHER EDUCATION (3). Analysis and critique of the current practices of continuing education in institutions of higher education with application to organization and administration, programmatic thrusts and intended audiences, financial management, marketing and promotion, delivery systems, and collaboration among higher education institutions.

570. ORGANIZATION AND ADMINISTRATION OF ADULT CONTINUING EDUCATION (3). Organizing, financing, staffing, promoting, and evaluating programs of adult education. Teaching resources and the role of the adult education administrator.

575. POLICY STUDIES IN ADULT CONTINUING EDUCATION (3). Critical analysis of the formation and implementation of adult continuing education policy within educational and other social institutions. Use of a variety of theoretical perspectives to examine selected case studies from the comparative adult continuing education literature and the students' own work experience, as well as alternative adult continuing education policies.

581. COMMUNITY PROJECT DEVELOPMENT AND ADULT EDUCATION (3). Role of philosophical, theoretical, and methodological bases in people's participation, empowerment, and transformation in community-based project development. Relationship of these bases to social change in adult education settings.

586. INTERNSHIP IN ADULT AND HIGHER EDUCATION (3-9). Work individually or in small groups in a practical situation under the guidance of a staff member from that setting and a university supervisor. May be repeated to a maximum of 15 semester hours, although typically only 9 semester hours may be applied to the program of study. S/U grading.

590. WORKSHOP IN ADULT AND HIGHER EDUCATION (1-3). Designed for teachers, counselors, and administrators to study contemporary issues in adult and higher education. May be repeated to a maximum of 12 semester hours when content varies. Enrollment in more than one section of this course during a semester is permitted. PRQ: Consent of department.

597. INDEPENDENT RESEARCH IN ADULT AND HIGHER EDUCATION (1-6). Independent research at the master's degree level under faculty supervision. May be repeated to a maximum of 18 semester hours but no more than 6 hours can be applied to a degree. PRQ: Admission to master's degree program and consent of faculty member who will direct research.

598. ISSUES IN ADULT AND HIGHER EDUCATION (3). Integration and synthesis of the concepts, principles, trends, and issues in adult and higher education. Not open to doctoral students in the field of adult and higher education. PRQ: Completion of 24 semester hours in an approved master's level program, or consent of department.

699. MASTER'S THESIS (1-6). Open only to students who elect to write a thesis for the M.S.Ed. degree. Student enrolls with the faculty member directing the thesis. May be repeated to a maximum of 6 semester hours. PRQ: Consent of department. Recommended: ETR 520.

700. SEMINAR IN ADULT AND HIGHER EDUCATION (1-6). Advanced study and discussion of important issues relating to the field of adult and higher education. Group and individual interests contribute to the design of the course. May be repeated to a maximum of 21 semester hours when topic varies. Enrollment in more than one section of this course during a semester is permitted. PRQ: Consent of department.

701. PROFESSIONAL PRACTICES IN ADULT AND HIGHER EDUCATION (3). Examines research trends within adult and higher education including the historical and systemic roots, career options and professional practices, and current initiatives and future directions.

703. HUMOR AND ADULT LEARNING (3). Analyses of theory and practice of humor in adult continuing education. Exploration of methods and techniques for integrating humor into adult teaching and learning transactions.

710. EVALUATING ADULT CONTINUING EDUCATION PROGRAMS (3). Advanced study of program design and evaluation methods necessary to analyze and improve programs in adult continuing education effectively.

716. ADULT LEARNING IN THE WORKPLACE (3). Research, theory, and practice. Exploration of adult learning theory as it applies to workplace learning of individuals, teams, and organizations. Global issues relating to formal, informal, and incidental learning in the workplace.

720. REVIEW OF RESEARCH IN ADULT AND HIGHER EDUCATION (3). Comprehensive study of research literature in adult and higher education and related social science fields.

722. ADULT AND HIGHER EDUCATION IN SOCIAL CONTEXT (3). *Crosslisted as EPFE 722X*. Critical analysis of the relationships existing between adult and higher education and its various social contexts. Clarification of present and future purposes and practices of adult and higher education in light of trends in social science research.

733. THEORY BUILDING FOR LEARNING HOW TO LEARN IN ADULT EDUCATION (3). Analyses of theory building for learning how to learn with emphasis on understanding theories and the application of learning how to learn in varied adult education contexts. PRQ: CAHA 533.

757. SEMINAR IN HIGHER EDUCATION (3). Overview of American higher education and analysis of selected problems and issues.

759. CRITICAL AND FEMINIST PEDAGOGIES IN ADULT AND HIGHER EDUCATION (3). Analysis of critical practice in the education of adults leading to personal and social transformation from the perspective of critical and feminist/womanist pedagogical theory.

760. INTERNATIONAL ADULT EDUCATION (3). 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.

761. ADULT LEARNING IN SOCIAL MOVEMENTS: BUILDING CIVIL SOCIETY (3). Examination of social movements, with focus on adult learning; grassroots participation in creating public policy through adult education.

770. LEADERSHIP IN ADULT CONTINUING EDUCATION (3). Administrative theory and research related to current practice of leadership in the field of adult continuing education. Additional emphases include strategic planning; the development of public, institutional, or agency support; and the evolving roles of the adult education leader.

786. INTERNSHIP IN ADULT AND HIGHER EDUCATION (3-12). Work individually or in small groups in a practical situation under the guidance of a staff member from that setting and a university supervisor. Open only to doctoral students, or by consent of department. May be repeated to a maximum of 18 semester hours, although typically only 12 semester hours may be applied to the program of study. S/U grading.

797. INDEPENDENT RESEARCH IN ADULT AND HIGHER EDUCATION (1-6). Independent research at post-master's degree levels under faculty supervision. May be repeated to a maximum of 18 semester hours but no more than 6 hours can be applied to a degree. PRQ: Consent of faculty member who will direct research.

798. RESEARCH SEMINAR IN ADULT AND HIGHER EDUCATION (1-3). Designed for the advanced doctoral student interested in planning and conducting research studies in adult and higher education. Research project may be an exploratory or pilot study related to the doctoral dissertation. May be repeated to a maximum of 6 semester hours. S/U grading. PRQ: Consent of department.

799. DOCTORAL RESEARCH AND DISSERTATION (1-15). May be repeated to a maximum of 60 semester hours, but no more than 30 semester hours may be applied toward the Ed.D. degree in adult and higher education. PRQ: Candidacy for the doctoral degree and consent of chair of doctoral committee.

## Counseling (CAHC)

500. PROFESSIONAL IDENTITY AND ETHICS IN COUNSELING (3). The profession of counseling occurs in a variety of settings. Focus is on understanding professional counselor identity, study of current trends and practices, ethics, and a survey of developmental needs and current problems of clients within a changing society in various contexts.

501. DIAGNOSIS OF MENTAL HEALTH ISSUES IN COUNSELING (3). Study of the use of diagnosis of mental health disorders in counseling, research, and the dynamics of human behavior with emphasis on the use of these data by counselors.

511. CAREER COUNSELING (3). Career theory and counseling techniques for those intending to be counselors in schools, agencies, colleges and universities, and organizational settings.

512. ORGANIZATION AND ADMINISTRATION OF CAREER COUNSELING PROGRAMS (3). Development, organization, management, and evaluation of career counseling programs in educational, work, and community settings. Field visits and individualized projects. PRQ: CAHC 511 or consent of department.

513. POST SECONDARY AND COLLEGE COUNSELING FOR SCHOOL COUNSELORS (3). Principles and practices for school counseling programming to prepare youth for college and post secondary options.

521. COUNSELING WITH CHILDREN (3). Principles, assessment, and methods of counseling pertinent to working with children in schools, mental health facilities, and hospitals. PRQ: CAHC 500 or consent of department.

523. SCHOOL COUNSELING: PROGRAMS, ISSUES, AND PRACTICES (3). Effective school counseling programming to include developmental curriculum, academic program planning, motivation, retention, consultation, and referral. Current issues and practices related to the concerns of K-12 students. PRQ or CRQ: CAHC 500 or consent of department.

524. CLINICAL MENTAL HEALTH COUNSELING: PROGRAMS, ISSUES, AND PRACTICES (3). Principles of service delivery in clinical mental health including roles and functions of counselors, trends and problems, and specialized settings and populations.

525. COUNSELING SKILLS AND STRATEGIES (3). *Crosslisted as AHRC 605X*. Clinical preparation in counseling skill development. Overview of role of counselor and counseling process. Emphasis on practice in counseling skills and techniques. Admission to the master's program in counseling.

530. COUNSELING THEORIES AND PRACTICES (3). Constructs, principles, and techniques of major counseling theories.

532. EVIDENCE INFORMED PRACTICES IN CLINICAL MENTAL HEALTH (3). Critical evaluation of research findings that guide contemporary mental health counseling practices. Review of research practices and principles, identification of best practices in client engagement, and treatment of mental health disorders. PRQ: Core courses in master's degree in counseling program completed or consent of department.

533X. STANDARDIZED TESTING (3). *Crosslisted as ETR 533*. 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.

534. EVIDENCE INFORMED PRACTICES IN SCHOOL COUNSELING (3). Designed for professional school counselors to study, develop, and implement strategic methods for the assessment and evaluation of school counseling programs. Focuses on identifying evidence informed practices, which improve student outcomes in academic, career, and personal/social/emotional development.

540. GROUP COUNSELING THEORIES AND PROCEDURES (3). Constructs, principles, and techniques of major group counseling theories. Group dynamics and developmental programming. Practice with selected techniques.

550. PRACTICUM IN COUNSELING (1-6). The practice of counseling in laboratory and field settings. Cases, tapes, role playing, and analysis of counseling process and counselor responses. May be repeated up to a maximum of 6 semester hours. S/U grading. PRQ: Consent of department.

551. SUPERVISED PRACTICE IN GROUP COUNSELING (3). The practical aspects of group counseling and developmental programming. Leadership and participatory experiences in the formation, maintenance, development, and closing stages of groups. S/U grading. PRQ: Consent of department.

565. MULTICULTURAL COUNSELING (3). Exploration of the social, psychological, cultural, economic, and environmental influences that affect various client populations, including the special counseling needs of women, men, racial and ethnic minorities, and the disabled.

567. SUBSTANCE ABUSE ISSUES IN COUNSELING (3). The pharmacologic and psychosocial effects of potentially addictive substances. Emphasis on psychoeducational methods, counseling skills and intervention models for addressing substance based use, abuse, and dependence. PRQ: CAHC 501 or consent of department.

570. CONSULTATION AND MANAGEMENT IN DEVELOPMENTAL SCHOOL COUNSELING PROGRAMS (3). Role of the school counselor as a consultant and manager in the design, implementation, and evaluation of a comprehensive developmental school counseling program.

575. ASSESSMENT IN CAREER COUNSELING (3). Individual and group assessment techniques and instruments used in career counseling and development activities with individuals over the lifespan. PRQ: CAHC 511 or consent of department.

586. INTERNSHIP IN COUNSELING (1-15). Work individually or in small groups in a practical situation under guidance of a staff member of that setting and a university supervisor. May be repeated to a maximum of 15 semester hours. Enrollment in more than one section of this course during a semester is permitted. S/U grading. PRQ: Consent of department.

590. WORKSHOP IN COUNSELING (1-3). Study of contemporary issues and problems in the provision of human services. May be repeated to a maximum of 30 semester hours when subject varies, but no more than 9 semester hours may be applied toward the Ed.D. degree in counseling.

592. SPECIAL TOPICS IN COUNSELING (1-3). Topics announced. May be repeated to a maximum of 30 semester hours when subject varies, but no more than 9 semester hours may be applied toward the Ed.D. degree in counseling.

593. CRISIS INTERVENTION (3). Role and responsibilities of counselors in crisis intervention. Assessment and case management for crisis situations.

595. WOMEN AND CAREERS (3). Examination of the psychological, demographic, sociocultural, and interpersonal influences on the career development of women.

597. INDEPENDENT RESEARCH IN COUNSELING (1-3). Independent research at the master's degree level under faculty supervision. May be repeated to a maximum of 3 semester hours. PRQ: Admission to master's degree program and consent of faculty member who will direct research.

699. MASTER'S THESIS (1-6). Open only to students who elect to write a thesis for the M.S.Ed. degree. Student enrolls with the faculty member directing the thesis. May be repeated to a maximum of 6 semester hours. PRQ: Consent of department. Recommended: ETR 520.

700. PROFESSIONAL SEMINAR IN COUNSELING (3). Philosophical and historical roots of the counseling profession, systems which affect its functioning, and ethical and legal standards which guide it. Orientation to the expectations of advanced graduate study in counseling and the responsibilities of professionals in the field. PRQ: Admission to the doctoral program in counseling or consent of department.

705X. INTRODUCTION TO MEDICAL FAMILY THERAPY AND COUNSELING (3). *Crosslisted as FCNS 705*. Introduction to a biopsychosocial/family systems approach to assessment and intervention with patients and families experiencing a physical illness, trauma, or disability. Examination of issues involved in providing mental health services in medical settings. Open only to students admitted to the Medical Family Therapy and Counseling Post-Masters Certificate Program.

706X. MEDICAL FAMILY THERAPY AND COUNSELING: FAMILIES, DISABILITY AND CHRONIC ILLNESS (3). *Crosslisted as FCNS 706*. Exploration of the major forms of disability and chronic illness, the impact of these conditions on individuals and family members experiencing them, and resources for those who are impacted by them. Implications for medical family therapy and counseling. PRQ: CAHC 705X or consent of department.

707. MEDICAL FAMILY THERAPY AND COUNSELING: FAMILIES STAYING WELL AND COPING WITH ILLNESS (3). *Crosslisted as FCNS 707X*. Examination of medical family therapy and counseling approaches for maintaining family wellness and facilitating family responses to illness across the developmental life cycle. PRQ: CAHC 705X or consent of department.

708. CULTURAL AND SPIRITUAL DIMENSIONS OF MEDICAL FAMILY THERAPY AND COUNSELING PRACTICE (3). *Crosslisted as FCNS 708X*. Impact of individual and family beliefs, narratives, and meanings, with particular emphasis on cultural and spiritual contexts, upon the experience of illness and medical treatment, pain, and grieving and acceptance of death. Techniques for eliciting patient and/or family beliefs pertaining to internal resources and spiritual practices and for working with family belief systems around health and illness, and for strengthening a culturally sensitive provider/patient/family relationship. PRQ: CAHC 707 or consent of department. CRQ: CAHC 709.

709. MEDICAL FAMILY THERAPY AND COUNSELING PRACTICUM (3). *Crosslisted as FCNS 709X*. Supervised medical family therapy and counseling practicum at Northern Illinois Proton Treatment and Research Center. Collaborate with attending physicians and on-site treatment team; provide supervised medical family therapy and counseling to individuals, couples, and families. Individual and/or group supervision of live and recorded sessions. A minimum of 100 clock hours of direct patient contact is required. S/U grading. PRQ: CAHC 707 and consent of school. CRQ: CAHC 708.

710. THEORY IN CAREER DEVELOPMENT (3). Thorough grounding in current career development theories.

714X. MEDICAL FAMILY THERAPY AND COUNSELING INTERNSHIP (6). *Crosslisted as FCNS 714*. Supervised participation in provision of family therapy, counseling, and psychoeducation to individuals, couples, and families in a medical setting. A minimum of 200 clock hours of direct patient contact is required. S/U grading. PRQ: CAHC 709 and consent of department.

730. THEORIES OF COUNSELING (3). Critical evaluation of theories of counseling. Review of research in the application of theoretical counseling constructs. PRQ: Admission to the doctoral program in counseling or consent of department.

731. SEMINAR IN COUNSELING AND PSYCHOTHERAPY (1-3).  
A. Adlerian Counseling  
B. Behavioral Counseling  
C. Gestalt Therapy  
D. Psychosynthesis  
E. Rational-Emotive Psychotherapy  
Advanced graduate seminars with focus on specific theories of counseling and psychotherapy. Separate sections, each focusing on a single theory. Credit is limited to a total of 3 semester hours per topic. PRQ: Admission to the doctoral program in counseling or consent of department.

740. 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 of individual and group purposes and goals. PRQ: Admission to the doctoral program in counseling, or consent of department.

750. ADVANCED PRACTICUM IN INDIVIDUAL COUNSELING (3). Supervised practice of counseling. Focus on development of skills in working with individual clients. S/U grading. PRQ: Consent of department.

752. SUPERVISION IN COUNSELING (3). Theory and practical experience relating to supervision of counselors-in-training. PRQ: CAHC 750 and consent of department.

761. OUTREACH IN HUMAN SERVICE PROGRAMS (3). Application of outreach strategies in working with individuals and groups. PRQ: Master's degree in counseling or consent of department.

764. PERSONALITY TESTING (3). Application of personality assessment instruments, including projective tests, in working with individuals. PRQ: Master's degree in counseling or consent of department.

765. MULTICULTURAL COUNSELING (3). Alternate counseling strategies for counselors in a multicultural society. Analysis of traditional and contemporary experiences of ethnocultural and other population groups with emphasis on counseling skills and techniques in working with clients of diverse backgrounds. PRQ: CAHC 530 or consent of department.

766. HUMAN SEXUALITY COUNSELING (3). Alternate counseling strategies to be applied to sexual concerns and problem areas. Emphasis on counseling skills and techniques in working with persons with differing sexual values, needs, and backgrounds. PRQ: Consent of department.

767. COUNSELING OLDER PERSONS (3). Gerontological counseling models and techniques.

784X. THEORETICAL FOUNDATIONS OF FAMILY THERAPY (3). *Crosslisted as FCNS 784*. Examination and discussion of the historical development and theoretical foundations of family therapy, with a focus on the traditional and current models of therapy in the field.

786. INTERNSHIP IN COUNSELING (1-15). Work individually or in small groups in a practical situation under guidance of a staff member of that setting and a university supervisor. Open only to doctoral students, or by consent of department. May be repeated to a maximum of 30 semester hours. Enrollment in more than one section of this course during a semester is permitted. S/U grading. PRQ: Consent of department.

790. SEMINAR ON RESEARCH IN HUMAN SERVICES (3). Research in counseling, career development, and other human services. PRQ: Admission to the doctoral program in counseling or consent of department.

797. INDEPENDENT RESEARCH IN COUNSELING (1-6). Independent research at post-master's degree levels under faculty supervision. May be repeated to a maximum of 18 semester hours but no more than 6 hours can be applied toward an Ed.D. degree in counseling. PRQ: Master's degree in counseling or consent of department.

799. DOCTORAL RESEARCH AND DISSERTATION (1-15). May be repeated to a maximum of 60 semester hours, but no more than 30 semester hours may be applied to degree. PRQ: Consent of faculty member who will direct research.

# Department of Educational Technology, Research and Assessment (ETR, ETT)

Chair: Lara M. Luetkehans

## Graduate Faculty

Rebecca P. Butler, professor, Ph.D., University of Wisconsin  
 Cynthia S. Campbell, associate professor, Ph.D., Southern Illinois University  
 Vicki L. Collins, assistant professor, Ph.D., University of Oregon  
 John Cowan, assistant professor, Ph.D., University of New Mexico  
 Corenna C. Cummings, associate professor, Ph.D., University of Pittsburgh  
 Jeffrey B. Hecht, professor, Ph.D., University of California, Riverside  
 Janet K. Holt, professor, Ph.D., Southern Illinois University  
 Pi-Sui Hsu, assistant professor, Ph.D., Pennsylvania State University  
 Wei-Chen Hung, associate professor, Ph.D., Indiana University  
 Laura Johnson, assistant professor, Ph.D., University of California, Berkeley  
 Lara M. Luetkehans, associate professor, Ph.D., University of Georgia  
 Hayley J. Mayall, associate professor, Ph.D., University of Connecticut  
 Rhonda S. Robinson, Distinguished Teaching Professor, Ph.D., University of Wisconsin  
 Sharon E. Smaldino, professor, Ph.D., Southern Illinois University  
 Thomas J. Smith, associate professor, Ph.D., University of Illinois  
 David A. Walker, associate professor, Ph.D., Iowa State University  
 Stephen Wallace, assistant professor, Ed.D., Northern Illinois University  
 Brent E. Wholeben, professor, Ph.D., University of Wisconsin  
 Lisa Yamagata-Lynch, associate professor, Ph.D., Indiana University  
 Seung Won Yoon, assistant professor, Ph.D., University of Illinois

The Department of Educational Technology, Research and Assessment offers graduate courses and research opportunities leading to the Master of Science degree in educational research and evaluation and to the Master of Science in Education and the Doctor of Education degrees in instructional technology. The department also offers two certification programs in school library media. The certification programs are fully accredited by the state of Illinois and by appropriate professional associations. The department works to advance the development and use of technology, research methodology, and assessment in a variety of settings to enhance teaching, learning, and scholarship. Through course work in the department, opportunities are provided for students to develop core knowledge and competence in assessment and evaluation and research methodology to support programs in the College of Education, as well as programs in other disciplines.

Students interested in teacher certification should also see "Teacher Certification Information."

## Master of Science

Educational research and evaluation

## Master of Science in Education

Instructional technology

## Doctor of Education

Instructional technology

## Admission

The faculty in the Department of Educational Technology, Research and Assessment select the best-qualified applicants for admission to its programs. When the number of applicants exceeds a program's capacity, qualified applicants may be denied admission and encouraged to reapply at a later date. Decisions about admissions are ordinarily made each term.

Any applicant who is denied admission to a program in the department may submit to the appropriate program admissions committee a written request for reconsideration that includes information not previously submitted. Final decisions of program admissions committees may be appealed to the department's Committee on Admissions, Retention, and Professional Standards. Appeals to this committee must be in writing and must explain the basis for the appeal.

## Master of Science in Educational Research and Evaluation

This 36-semester-hour program is designed to prepare professionals in the fields of educational assessment, evaluation, and qualitative and quantitative research. Students learn to plan and design educational evaluations, implement and interpret qualitative and statistical data analytic procedures, and relate the findings to educational and social science policy. Students pursue this degree either in a general track or with an area of study in advanced quantitative methods, in assessment, or in program evaluation. Study in the general track allows students to focus on a specific discipline of the department, e.g., evaluation and technology or qualitative research. The area of study in advanced quantitative methods prepares students for careers as data analysts/statisticians in educational, business, and professional settings, as well as in governmental agencies. The area of study in assessment furthers students' knowledge of the theory and practice of assessment; this specialization also provides opportunities for teacher professional development. The area of study in program evaluation prepares students for careers as evaluators for school districts, business and professional organizations, culturally based institutions, and military and government agencies.

## Admission

An applicant must submit GRE or GMAT scores.

## Student-at-Large, Study-Abroad, and Transfer Credit

A maximum of 15 student-at-large and transfer semester hours in combination may be applied toward the master's degree in educational research and evaluation, with the exception that a maximum of 18 student-at-large semester hours from the certificate of graduate study in advanced quantitative methodology in education may be applied towards this master's degree. See "Requirements for Graduate Degrees" for limitation on study-abroad credit.

**Requirements**

ETR 501 - Proseminar in Educational Research and Evaluation (3)  
 ETR 520 - Introduction to Educational Research (3)  
 ETR 521 - Educational Statistics I (3)  
 ETR 525 - Qualitative Research in Education (3)  
 ETR 528<sup>1</sup> - Educational Assessment (3),  
 OR ETR 529<sup>1</sup> - Principles of Educational Measurement (3)  
 ETR 586 - Internship in Research and Evaluation (3)  
 OR ETR 587 - Practicum in Educational Research and Evaluation (3)  
 ETR 699A - Master's Thesis (6)  
 OR ETR 699B - Master's Project (6)  
 Course work selected in consultation with program adviser including a minimum of 6 semester hours in the department (12), OR one of the following areas of study (12)

**Advanced Quantitative Methods<sup>1</sup>**

ETR 522 - Educational Statistics II (3)  
 ETR 560 - Computer Data Analysis (3)  
 ETR 562 - Applied Categorical Data Analysis (3)  
 One statistics-related course (3)

**Assessment**

ETR 531 - Program Evaluation in Education (3)  
 ETR 534 - Dynamic Assessment for Students with High-incidence Disabilities (3)  
 ETR 536 - Assessment Design (3)  
 One additional course in major (3)

**Program Evaluation**

ETR 522 - Educational Statistics II (3)  
 ETR 526 - Advanced Technologies in Qualitative Research (3)  
 ETR 531 - Program Evaluation in Education (3)  
 One additional course in major (3)

**Comprehensive Examination**

The comprehensive examination is based on the student's program of study and typically focuses on examination of an issue or problem in educational research and evaluation. Students should contact the department office no later than the semester prior to anticipated program completion and graduation to obtain an application for the comprehensive examination.

**Master of Science in Education in Instructional Technology**

This 39-semester-hour program prepares students to be competent practitioners and creative leaders in all major areas of the field. Students develop competencies in such areas as performance technology, instructional software design and development, media administration, program evaluation, and instructional design, development, and evaluation.

**Admission**

An applicant may submit GMAT or MAT scores in lieu of GRE scores.

**Student-at-Large, Study-Abroad, and Transfer Credit**

Students-at-large are normally prohibited from registering for graduate courses in instructional technology unless they are pursuing an approved certification or endorsement in school library media. A maximum of 15 student-at-large and transfer semester hours in combination may be applied toward the master's degree in instructional technology. See "Requirements for Graduate Degrees" for limitation on study-abroad and transfer credit. With the approval of the student's faculty adviser, a student who has completed endorsement and/or certification requirements in school library media at NIU as a student-at-large may apply some or all of those student-at-large hours towards the master's degree in instructional technology.

**Requirements**

The M.S.Ed. in instructional technology requires a minimum of 39 semester hours of graduate course work, determined jointly by the student and adviser. An approved program of courses includes general requirements in research and foundations, courses in instructional technology, and electives as follows.

A research course approved by adviser (3)

An educational foundations course approved by adviser (3)

Additional instructional technology (ETT) courses approved by adviser (24-33)

Electives (0-9)

Students focusing on performance technology, instructional design and development, or school library media certification may be required to include internship or practicum courses as part of the required course work.

**Comprehensive Examination**

The comprehensive examination is based on the student's program of study and usually focuses on the solution of an instructional problem. Students should contact the department office during the semester prior to anticipated program completion and graduation to obtain an application for the comprehensive examination.

**Doctor of Education in Instructional Technology**

The Ed.D. program in instructional technology prepares students for positions of leadership in research and the development of new knowledge and applications in instructional technology. Students may explore issues and advances in performance, instruction, and computer-based and distance-learning environments. Graduates are prepared for technology leadership roles in diverse settings including all levels of education, industry, government, and not-for-profit agencies. The doctoral program builds on the practical competencies of the master's program to prepare the student for the integration of theory and skills as the base for original research.

**Application Deadlines**

To be assured of consideration for admission to the doctoral program in instructional technology, completed applications and all supporting materials must be received by the Graduate School no later than June 1 for admission for the fall semester, November 1 for admission for the spring semester, and April 1 for admission for the summer session.

**Admission**

Admission to the doctoral program requires a master's degree in either instructional technology or another discipline acceptable to the admissions committee. If review of all application materials supports further consideration of the application, the applicant will be expected to submit a writing sample that demonstrates research and writing skills and to participate in a personal interview with the doctoral admissions committee.

**Program Planning and Advisement**

Following admission to the doctoral program in instructional technology, each new student is assigned an advisory committee of three faculty members. The chair of the committee is the major adviser and works with the student to develop a proposed program of courses. The remaining members review the proposal before departmental approval and submission to the Graduate School

<sup>1</sup> Students in the advanced quantitative methodology area of study must take ETR 529.

for final approval. Students are urged to maintain close contact with their major adviser throughout the program. Changes in the program of courses must be approved by the adviser, who is responsible for submitting such changes to the Graduate School for final approval.

### Student-at-Large, Study-Abroad, and Transfer Credit

Students-at-large are normally prohibited from registering for graduate courses in instructional technology unless they are pursuing an approved certification or endorsement in school library media. A maximum of 15 post-master's student-at-large and transfer semester hours in combination may be applied towards the doctoral degree in instructional technology. See "Requirements for Graduate Degrees" for limitation on study-abroad and transfer credit. With the approval of the student's faculty adviser, a student who has completed endorsement and/or certification requirements in school library media at NIU as a student-at-large may apply some or all of those student-at-large hours towards the doctoral degree in instructional technology. The faculty adviser has the authority to refuse any course credit he or she judges to be irrelevant to the doctoral degree in instructional technology.

### Requirements

Program requirements are flexible to best complement the individual student's background and professional goals. The student has significant input into the selection of specific courses for his or her program, in consultation with the advisory committee. The doctoral degree requires a minimum of 63 semester hours beyond the master's degree as follows.

Course work in research design and methods, learning and development theory, and sociocultural analyses of education (15)

Additional instructional technology (ETT) courses, excluding dissertation hours (18)

Cognate course work agreed upon by student and advisory committee

ETT 799, Doctoral Research and Dissertation (15)

Students focusing on performance technology, instructional design and development, or school library media certification may be required to include internship or practicum courses as part of the required course work.

Students entering the doctoral program with a master's degree in instructional technology will generally complete 48 semester hours of course work beyond the master's (including a cognate), plus 15 semester hours of dissertation credit. Students whose master's degree is in another field normally take three or four additional courses to gain background in their new field; they may also complete additional hours for a cognate. The student's advisory committee makes the final determination of additional courses to be completed.

### Candidacy Examination

The candidacy examination, administered each term by the faculty in instructional technology, includes sections on research skills and learning theory as well as on the major area of study. Early contact with the program adviser to discuss the examination is highly recommended.

If the first attempt at the candidacy examination is unsuccessful, the advisory committee will determine what remediation appears to be warranted and when the student may again attempt the examination.

## Certificates of Graduate Study

### Advanced Qualitative Methodology in Education (18)

This certificate is aimed at individuals who wish to gain expertise in qualitative research for research and teaching purposes. Students who complete the certificate will be able to design and implement qualitative research investigations using a variety of approaches of data collection and analysis. It is available to any graduate-level student in good standing. Students who want to pursue this certificate must file an application with the certificate coordinator and develop a plan of studies with that coordinator.

#### Required Courses

ETR 520 - Introduction to Educational Research (3)

ETR 525 - Introduction to Qualitative Research in Education (3)

ETR 526 - Advanced Technologies in Qualitative Research (3)

One or both of the following:

ETR 739X - Fieldwork Methods in Educational Research (3),  
AND/OR ETR 745X - Interpretive Methods in Educational Research (3)

One or two of the following:

EPS 524 - Ethnography in Human Development and Learning with Educational Settings (3)

ETR 531 - Program Evaluation in Education (3)

ETR 590 - Workshop in Research and Assessment (3)

ETT 531 - Visual Literacy (3)

Other qualitative research courses deemed appropriate by adviser.

### Advanced Quantitative Methodology in Education (18)

This certificate prepares graduate-level students in advanced quantitative methods for conducting or evaluating research. Students completing the certificate will gain the necessary skills for formulating quantitative research studies and conducting and interpreting data analyses.

ETR 520 - Introduction to Educational Research (3),

OR ETR 720 - Educational Research Planning and Interpretation (3)

ETR 521 - Educational Statistics I (3),

OR another quantitative methodology course approved by adviser (3)

ETR 522 - Educational Statistics II (3)

ETR 797 - Independent Research in Research and Assessment (3)

Two of the following (6)

ETR 531 - Program Evaluation in Education (3)

ETR 560 - Computer Data Analysis (3)

ETR 562 - Applied Categorical Data Analysis (3)

ETR 721 - Nonparametric Statistics (3)

ETR 722 - Methods of Multivariate Analysis (3)

ETR 725 - Bayesian Approach to Educational Statistics and Decision Making (3)

Another quantitative methodology course approved by adviser. (3)

### Response to Intervention (18)

The certificate is designed for school personnel (e.g., teachers, administrative personnel, school counselors, curriculum specialists, research/assessment coordinators, literacy/reading coaches) to provide training in assessment and intervention methods for use within the response to intervention service provision model.

ETR 519 - Applied Educational Research (3)

ETR 521 - Educational Statistics I (3)

ETR 534 - Dynamic Assessment for Students with High-Incidence Disabilities (3),

OR ETR 528 - Educational Assessment (3)

ETR 587 - Practicum in Educational Research and Evaluation (3)

ETR 592 - Special Topics in Research and Assessment (3)

TLRN 546 - Interventions to Meet Student Needs in the General Classroom (3)

## Workplace Learning and Performance (18)

This certificate is jointly administered by the Department of Educational Technology, Research and Assessment the Department of Counseling, Adult and Higher Education. See the College of Education Certificates of Graduate Study for a complete description of this certificate.

## Illinois Certification and Endorsement

### Teacher Certification as a Library Information Specialist

Persons holding a baccalaureate degree may complete requirements for the State of Illinois Special (K-12) Library Information Specialist Certificate through the Department of Educational Technology, Research and Assessment as part of the degree program for the M.S.Ed. in Instructional Technology with a Library Information Specialist concentration. The program meets the Illinois State Board of Education and the National Council for Accreditation of Teacher Education standards for Library Information Specialist. Individuals interested in becoming a library information specialist (Type 10 certificate or endorsement) should contact the department office for details.

Also see "Teacher Certification Information."

### Teacher Certification as a Technology Specialist

Persons holding a baccalaureate degree may complete requirements for the State of Illinois Special (K-12) Technology Specialist Certificate through the Department of Educational Technology, Research and Assessment as part of the degree program for the M.S.Ed. in Instructional Technology with a Technology Specialist concentration. The program meets the Illinois State Board of Education and the National Council for Accreditation of Teacher Education standards for Technology Specialist. Individuals interested in becoming a technology specialist (Type 10 certificate or endorsement) should contact the department office for details.

Also see "Teacher Certification Information."

## Course List

### Educational Technology, Research and Assessment (ETRA)

502. TECHNOLOGY AND ASSESSMENT FOR ELEMENTARY EDUCATION (4). Practice and reflection on technology and assessment issues in K-9 settings. Focus on use of technology in instruction and assessment, and the technical qualities of assessment. Limited to Master of Arts in Teaching elementary education majors. PRQ: ETT 229 or pass ETT proficiency exam.

### Instructional Technology (ETT)

501. PROSEMINAR IN INSTRUCTIONAL TECHNOLOGY (3). Overview of history, definitions, theoretical issues, career options, professional organizations, and required competencies in the field of instructional and performance technology.

504. ORGANIZATION OF SCHOOL LIBRARY MATERIALS: CATALOGING, CLASSIFICATION, AND AUTOMATION (3). Introduction to descriptive cataloging, classification, and subject analysis used in school library media centers. Includes basics of cataloging and classifying print and nonprint materials using MARC format.

507. COLLECTION DEVELOPMENT FOR SCHOOL LIBRARY MEDIA CENTERS (3). Principles of building and maintaining school library media center collections; selection aids, including national and trade bibliographies; current issues in intellectual freedom, collection mapping, and collection policies and procedures.

508. REFERENCE THEORY AND PRACTICE (3). Evaluation and use of basic reference materials and information resources in school media centers. Introduction to the theory and practice of professional reference services including the reference interview, electronic searching, and information literacy instruction.

510. INSTRUCTIONAL MEDIA AND TECHNOLOGY (3). Overview of theoretical issues and trends in instructional technology and their impact on the effective selection, design, utilization, and evaluation of instructional media. PRQ or CRQ: ETT 501 or consent of department.

511. ADVANCED INSTRUCTIONAL MEDIA DESIGN (3). Advanced design of mediated instruction, script writing, photography, audio and video production, and computer presentation systems. PRQ: ETT 510 and ETT 429 or Pass ETT Proficiency Exam, or consent of department.

523. MEDIA FOR YOUNG ADULTS (3). Evaluation and selection of print and nonprint materials appropriate for middle school/junior high and high school students (ages 12-19 years) with emphasis on uses of current media to meet students' needs, interests, and learning styles.

525. READING INTERESTS OF ADULTS (3). *Crosslisted as LTRE 525X*. Exploration of reading interest of adults, including demographic aspects; popular nonfiction and fiction (bestsellers, genre fiction) books and periodicals; media tie-ins; reading promotion and readers advisory services in libraries.

527. LIBRARY MATERIALS FOR CHILDREN (3). Evaluation, selection, and management of library media appropriate for children with emphasis on uses of library media to meet students' needs, interests, and learning styles.

529. THEORIES OF COMPUTER-BASED EDUCATION (3). Emerging theories and models relating to computer-assisted instruction (CAI), computer-based training, computer literacy, and other uses of computers as instructional media. Topics include intelligent CAI, expert systems, implementation models, and simulation and gaming. PRQ: ETT 501 or consent of department.

530. INSTRUCTIONAL TECHNOLOGY TOOLS (3). Advanced use of common as well as new and emerging instructional technology software and hardware tools. PRQ: ETT 429 or pass ETT Proficiency Exam, and ETT 510, or consent of department.

531. VISUAL LITERACY (3). Exploration of the historical background, conceptual base, and research involved in visual literacy. Review of the use and design of various instructional media communications and develop an understanding of the interpretation and creation of visual images in education. PRQ: ETT 510 or consent of department.

533. ADMINISTRATION OF SCHOOL LIBRARY MEDIA CENTERS (3). Philosophy, functions, objectives, and current methods of developing and administering curriculum-integrated media programs in elementary and secondary schools. PRQ: ETT 508; ETT 523 or ETT 527; and ETT 542; or consent of department.

535. DISTANCE EDUCATION: DESIGN AND DELIVERY (3). Evaluation and design of various types of distance delivery systems including video/ audio, telecommunications, and computer networks, with emphasis on the supportive roles of instructional media and instructional design. Theoretical and practical applications of distance delivery.

536. WEB-BASED LEARNING (3). Theory, research, and applications of Web-based learning, researching computer-mediated communication tools, and issues surrounding management and implementation, including designing of Web-based learning environments. PRQ: ETT 510 and ETT 429, or Pass ETT Proficiency Exam, or consent of department.

538. DEVELOPING EDUCATIONAL SOFTWARE (3). Design and develop educational software for computers. Experience with design methodologies for educational software and authoring systems commonly used in education. PRQ: ETT 429 or pass ETT Proficiency Exam, and ETT 510, or consent of department.

539. COURSEWARE SYSTEMS DEVELOPMENT (3). Advanced design techniques for team development of educational software. A systems view of topics such as creative design, graphics and animation, data tracking and file management, and product documentation. PRQ: ETT 538 or consent of department.

540. SEMINAR IN LIBRARY/INFORMATION STUDIES (1-6). Specific content varies. Representative topics include current trends or issues, storytelling, international and comparative librarianship, and services to specialized populations. A maximum of 6 semester hours may be applied toward the master's degree.

541. LIBRARY SERVICES FOR CHILDREN AND YOUNG ADULTS (3). Objectives, planning, organization, and evaluation of programs and services for children and young adults in school library media centers with focus on collaboration with public libraries.

542. INFORMATION ACCESS AND SOCIAL RESPONSIBILITIES FOR LIBRARY INFORMATION SPECIALISTS (3). In-depth coverage of policies, procedures, and teaching of intellectual properties, intellectual freedom, and ethical issues of information access and use in K-12 education.

549. ONLINE SEARCHING (3). Translation of reference questions into formal search statements; laboratory practice in online access to information; emphasis on online databases and the Internet.

550. ROLES OF THE INSTRUCTIONAL TECHNOLOGIST (3). Various roles of instructional technologists in both school and nonschool environments; to include field trips. PRQ: ETT 501 or consent of department

551. INSTRUCTIONAL TECHNOLOGY FOR THE FUTURE (3). Planning for educational technologies and futures; educational forecasting strategies; new and potential instructional media or processes; and educational models based on low and/or high technology.

552. INSTRUCTIONAL TECHNOLOGY FOR DIVERSE CULTURES (3). Development, utilization, and evaluation of instructional media for varied cultures and countries. Topics include appropriateness of standard instructional media for diverse audiences, creation of media for instructional environments with localized requirements, and evaluation of innovative teaching technologies for multiethnic and multicultural learners.

553. PROFESSIONAL STANDARDS IN INSTRUCTIONAL TECHNOLOGY (3). Awareness, understanding, and appreciation of issues related to instructional technology with focus on professional standards.

554. COPYRIGHT AND OTHER INTELLECTUAL PROPERTIES FOR EDUCATION PROFESSIONALS (3). Exploration of intellectual properties as found in a variety of educational settings, with focus on instructional technology issues dealing with copyright, plagiarism, patents, trademarks, logos, and piracy. PRQ: ETT 542 or ETT 553 or consent of department.

555. MEDIA DESIGN: MULTIMEDIA (3). Design and development of advanced instructional software incorporating interactive digital video and external video interfacing. PRQ: ETT 510, and ETT 429 or pass ETT Proficiency Exam, or consent of department.

556. MEDIA DESIGN: AUDIO MATERIALS (3). Designing presentations for instruction. Emphasis on audio format. PRQ: ETT 510, and ETT 429 or pass ETT Proficiency Exam, or consent of department.

558. INSTRUCTIONAL VIDEO I (3). Practical methods for the production and use of video in educational settings. Preparation and presentation of televised instructional materials. PRQ: ETT 510, and ETT 429 or pass ETT Proficiency Exam.

560. INSTRUCTIONAL DESIGN I (3). Systematic design of instructional materials. Students design a blueprint for an instructional module by applying an instructional design model. PRQ: ETT 510, or consent of department.

561X. HUMAN RESOURCE DEVELOPMENT (3). *Crosslisted as CAHE 561*. Nature and function of programs for developing human resources in business, education, industry, government, social services, and voluntary organizations.

562. INSTRUCTIONAL DESIGN II (3). Development and evaluation of an instructional module using systematic development models and established principles of instructional design. PRQ: ETT 560 or consent of department.

564. TRAINING AND PERFORMANCE TECHNOLOGY (3). Analysis of educational/training problems. By conducting an instructional needs assessment and performance audit, students plan solutions to training problems including various forms of training, job aids, and nontraining recommendations.

565. ADVANCED INSTRUCTIONAL DESIGN (3). Advanced problems in the design, development, evaluation, and management of instructional programs for education and corporate environments. PRQ: ETT 560 and ETT 562 or consent of department.

567X. PORTRAYAL OF TEACHERS IN FILM (3). *Crosslisted as TLCI 567*. Examination of the portrayal of teachers in movies with emphases on trends, related education issues and topics, and connections between practicing teachers' professional lives and those of teacher characters.

569. PRACTICUM: INSTRUCTIONAL DESIGN (3). Instructional design methodology in an applied setting. May be repeated to a maximum of 6 semester hours. S/U grading. PRQ: Consent of department.

570. INSTRUCTIONAL TECHNOLOGY ADMINISTRATION (3). Management of instructional technology services. PRQ: ETT 510, or consent of department.

571. INSTRUCTIONAL TECHNOLOGY PROGRAM DEVELOPMENT (3). Theories and methods for developing and managing instructional technology programs in educational settings. PRQ: ETT 510 or department consent.

573. INSTRUCTIONAL TECHNOLOGY FACILITIES (3). Design and construction of instructional technology facilities. PRQ: ETT 510 or consent of department.

586. INTERNSHIP IN INSTRUCTIONAL TECHNOLOGY (6). Work in a practical situation under guidance of a staff member from that setting and a university supervisor. May be repeated to a maximum of 12 semester hours. S/U grading. PRQ: Consent of department.

590. WORKSHOP IN INSTRUCTIONAL TECHNOLOGY (1-3). Study of current issues related to media. May be repeated to a maximum of 12 semester hours.

592. SPECIAL TOPICS IN INSTRUCTIONAL TECHNOLOGY (1-3). Topics announced. May be repeated to a maximum of 9 semester hours when topic varies.

597. INDEPENDENT RESEARCH IN INSTRUCTIONAL TECHNOLOGY (1-3). Independent research at the master's degree level under faculty supervision. May be repeated to a maximum of 6 semester hours. PRQ: Consent of faculty member who will direct research.

699. MASTER'S THESIS (3-6). Open only to students who elect to write a thesis for the M.S.Ed. degree. Student enrolls with the faculty member directing the thesis. May be repeated to a maximum of 6 semester hours. S/U grading. PRQ: Consent of department. Recommended: ETR 520.

715X. STRATEGIC HUMAN RESOURCE DEVELOPMENT (3). *Crosslisted as CAHE 715*. Advanced study emphasizing complex skills, concepts, and strategies relating to the adult teaching/learning component of human resource development in business, industry, government, and voluntary organizations.

740. SEMINAR: EDUCATIONAL TECHNOLOGY FOUNDATIONS (3). Examination of the historical, theoretical, and research foundations of educational and performance technology. PRQ: ETT 510 or consent of department.

741. SEMINAR: INSTRUCTIONAL TECHNOLOGY THEORY (3). Applying concepts of educational communication, models, and theories to problem solving, attitude formation, and teaching. PRQ: ETT 740.

742. SEMINAR: INSTRUCTIONAL TECHNOLOGY RESEARCH (3). Research in organization, administration, and application of instructional technology. PRQ: ETT 741, and ETR 520, or consent of department.

743. SEMINAR: INSTRUCTIONAL TECHNOLOGY PROBLEMS (3). Problems involved in the administration of instructional technology programs and services at all levels, and in areas such as finance, management of personnel, and facilities. PRQ: ETT 742, or consent of department.

755. MEDIA DESIGN PROJECT (3). Designing presentations for instruction with emphasis on individual student project. May be repeated to a maximum of 9 semester hours. PRQ: Consent of department.

764. ADVANCED TRAINING AND PERFORMANCE TECHNOLOGY (3). Analysis of advanced performance problems at the process and organizational level, including design, development, implementation, and evaluation of appropriate Human Performance Technology (HPT), and design of an internal organization structure to support HPT work. PRQ: ETT 564 or consent of department.

765X. CONSULTATION IN HUMAN SERVICES (3). *Crosslisted as CAHE 765*. Application of consultation strategies in working with individuals and groups. Topics and problems taken from the fields of counseling, adult education, and instructional technology. PRQ: Consent of department.

770. PRACTICUM: INSTRUCTIONAL TECHNOLOGY (3). Instructional media administration techniques in an applied setting. May be repeated to a maximum of 6 semester hours. S/U grading. PRQ: Consent of department.

786. INTERNSHIP IN INSTRUCTIONAL TECHNOLOGY (6). Work in a practical situation under guidance of staff member from that setting and a university supervisor. May be repeated to a maximum of 12 semester hours. S/U grading. PRQ: Consent of department.

797. INDEPENDENT RESEARCH IN INSTRUCTIONAL TECHNOLOGY (1-3). Independent research at post-master's degree level under faculty supervision. May be repeated to a maximum of 6 semester hours. PRQ: Consent of faculty member who will direct research.

798. RESEARCH SEMINAR IN INSTRUCTIONAL TECHNOLOGY (1-3). Designed for the advanced student interested in planning and conducting research studies in instructional technology. Research project may be an exploratory or pilot study related to the doctoral dissertation. May be repeated to a maximum of 6 semester hours. PRQ: ETT 743 and consent of department.

799A. DOCTORAL RESEARCH AND DISSERTATION (3-15). May be repeated to a maximum of 60 semester hours. Student must accumulate 15 semester hours prior to graduation. S/U grading. PRQ: Candidacy for the doctoral degree and consent of chair of doctoral committee.

799B. DOCTORAL RESEARCH AND DISSERTATION (1). Students must have accumulated 15 semester hours in ETT 799A and have a scheduled dissertation oral defense. May not be repeated. S/U grading. PRQ: Consent of chair of doctoral committee.

### Research and Assessment (ETR)

501. PROSEMINAR IN EDUCATIONAL RESEARCH AND EVALUATION (3). Current issues and topics in research presentation, manuscript preparation, data presentation, and information retrieval, emphasizing technology-oriented applications. Examination of historical and future trends, ethical/legal issues in educational research and evaluation, and exploration of career options in the field.

519. APPLIED EDUCATIONAL RESEARCH (3). Application of context-based research methods to problems in education. Focus on research issues in educational and applied settings and the formulation of feasible applied/action research plans to inform educational decision-making.

520. INTRODUCTION TO EDUCATIONAL RESEARCH (3). Basic course in methods of research in education; planning and conducting a research study; developing skills in problem identification, data collection, analysis, interpretation, and preparation of research reports.

521. EDUCATIONAL STATISTICS I (3). Techniques necessary for understanding, analyzing, and interpreting data. Concepts and applications of basic descriptive methods, correlation, and simple linear regression. Introduction to probability theory and sampling. Discussion of various inferential tests of means, correlations, proportions, variances, and one-factor analysis of variance.

522. EDUCATIONAL STATISTICS II (3). Concepts and techniques necessary for intermediate inferential methods. Analysis of variance (factorial, repeated measures, and nested designs), analysis of covariance, multiple regression, and multiple comparison procedures. PRQ: ETR 521 or PSYC 504 or SOCI 575, or consent of department.

525. QUALITATIVE RESEARCH IN EDUCATION (3). Introduction to the role of qualitative research in education, with emphasis on actual, hands-on research. Basic principles and focus of qualitative research will be discussed. Research methods will include case studies, ethnography, and interpretive research.

526. ADVANCED TECHNOLOGIES IN QUALITATIVE RESEARCH (3). Use of e-mail and Web-based data gathering techniques, digital video, transcription approaches, computer-based transcription analysis programs, and electronic dissemination for data collection and analysis. PRQ: EPS 524 or ETR 525, or consent of department.

528. EDUCATIONAL ASSESSMENT (3). Conceptual examination of theoretical foundations for assessment in education: classroom, diagnostic, placement, problem-solving. Emphasis on appraising assessment methods through reliability, validity, usability, and normative data consideration.

529. PRINCIPLES OF EDUCATIONAL MEASUREMENT (3). Study of psychometric properties of assessments used in the field of education, with emphasis on theory and calculation of reliability and validity indices from a classical test theory perspective.

530. TEST CONSTRUCTION AND EVALUATION (3). Modern concepts of evaluation; 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.

531. PROGRAM EVALUATION IN EDUCATION (3). Methods of evaluating educational programs using accepted models and data-gathering procedures. The rationale for and nature of educational evaluation, planning evaluation, evaluation models, large-scale assessment programs, implementing and sampling strategies, data-gathering tools and techniques, data analysis, and reporting and interpreting evaluation results. PRQ: ETR 520 or consent of department.

532. EVALUATION OF TEACHERS AND TEACHING (3). *Crosslisted as EPS 532X*. Examination of major components of a comprehensive system for evaluating teachers and teaching and the related issues and teacher effectiveness literature.

533. STANDARDIZED TESTING (3). *Crosslisted as CAHC 533X*. 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.

534. DYNAMIC ASSESSMENT FOR STUDENTS WITH HIGH-INCIDENCE DISABILITIES (3). Assessment of students with high-incidence disabilities within a problem-solving framework with attention given to the identification of students with high-incidence disabilities and recommendations for special education procedures including nondiscriminatory testing. PRQ: ETR 434, or ETR 528, or ETR 529, or ETR 530 or consent of department.

536. ASSESSMENT DESIGN (3). Purpose and methods of formal and informal classroom assessment for guiding and communicating educational decisions. Techniques for designing, using, and evaluating curriculum-aligned assessments through traditional and alternative methods. Emphasis on both theory and practical applications. PRQ: ETR 528 or ETR 529, or ETR 530, or consent of department.

560. COMPUTER DATA ANALYSIS (3). Survey of common statistical packages used for conducting quantitative data analyses. Data coding, data entry, variable transformation, use of various data analytic techniques, and interpretation of results contrasted among personal computer statistical packages such as SAS and SPSS. PRQ: ETR 521 or PSYC 504 or SOCI 575, or consent of department.

562. APPLIED CATEGORICAL DATA ANALYSIS (3). Applications of categorical and related data analysis techniques to education and social problems. Analysis of measurement issues, prediction, classification, scaling, instrument validation, and rater reliability using categorical techniques. Focus on interpretative and consequential aspects of analysis. PRQ: ETR 521 or PSYC 504 or SOCI 575, or consent of department.

572X. ASSESSMENT METHODS IN HIGHER EDUCATION (3). *Crosslisted as CAHE 572*. Basic concepts and procedures in the assessment of applicants for admission and retention and use of assessment methods for counseling to support retention in institutions of higher education.

586. INTERNSHIP IN RESEARCH AND EVALUATION (3-15). Work in a practical situation under guidance of staff member from that setting and a university supervisor. May be repeated to a maximum of 15 semester hours, although typically only 3 semester hours may be applied to the program of study. S/U grading. PRQ: Consent of site and university supervisors.

587. PRACTICUM IN EDUCATIONAL RESEARCH AND EVALUATION (1-6). Applications of educational research and evaluation approaches through practical in-class exercises and supervised participation in fieldbased activities. May be repeated to a maximum of 6 semester hours. S/U grading. PRQ: Consent of department.

590. WORKSHOP IN RESEARCH AND ASSESSMENT (1-3). Workshop designed for teachers, administrators, supervisors, and evaluators to study issues related to research and assessment. May be repeated to a maximum of 12 semester hours.

592. SPECIAL TOPICS IN RESEARCH AND ASSESSMENT (1-3). Topics announced. May be repeated to a maximum of 9 semester hours when topic varies.

597. INDEPENDENT RESEARCH IN RESEARCH AND ASSESSMENT (1-3). Independent study under direction of faculty member. May be repeated to a maximum of 6 semester hours. PRQ: Consent of department.

699A. MASTER'S THESIS (1-6). Investigation of an issue or problem related to educational research and evaluation. May be repeated to a maximum of 6 semester hours. S/U grading. PRQ: Consent of department.

699B. MASTER'S PROJECT (1-6). Applied project serving as the capstone experience of the degree. Designed to address the needs of an identified issue or problem in educational research and evaluation. May be repeated to a maximum of 6 semester hours. S/U grading. PRQ: Consent of department.

720. EDUCATIONAL RESEARCH PLANNING AND INTERPRETATION (3). Advanced course dealing with problems in criterion definition and various handicaps in deriving valid inferences. Analysis of how these handicaps can be resolved by study design and tool, data, and sample selection. PRQ: ETR 521, and ETR 519 or ETR 520, or consent of department.

721. NONPARAMETRIC STATISTICS (3). Application, computation, and interpretations of nonparametric statistical tests and correlation measures. Comparison of these tools and techniques with their parametric counterparts. PRQ: ETR 521, or PSYC 504 or SOCI 575, or consent of department.

722. METHODS OF MULTIVARIATE ANALYSIS (3). Introduction to methods appropriate for analyzing multivariate relationships. Canonical correlation, discriminant cluster, and factor analysis; multivariate analysis of variance and structural equation modeling. PRQ: ETR 522 or PSYC 506 or consent of department.

725. 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. PRQ: ETR 521 or PSYC 504 or SOCI 575, or consent of department.

733. 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. PRQ: ETR 530, or consent of department.

734. 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. PRQ: ETR 521 or PSYC 504 or SOCI 575, or consent of department.

735. THEORY OF MEASUREMENT (3). Analysis of theoretical approaches to reliability, validity, item analysis, and factor analysis. Exploration of related measurement problems. PRQ: ETR 521 or PSYC 504 or SOCI 575, or consent of department.

736. EDUCATIONAL ASSESSMENT FOR THE HANDICAPPED (3). Advanced study of symptomatology in relation to the nondiscriminatory diagnostic process, with attention to its significance for educational planning. PRQ: ETR 534 or consent of department.

739X. FIELDWORK METHODS IN EDUCATIONAL RESEARCH (3). *Crosslisted as EPS 739*. Emphasis on studying examples of educational fieldwork and actual hands-on research. PRQ: ANTH 560 or ETR 525, or EPS 524, or consent of department.

744. SEMINAR: RESEARCH AND ASSESSMENT (3). Investigation of problems and practices in research and assessment.

745X. INTERPRETIVE METHODS IN EDUCATIONAL RESEARCH (3). *Crosslisted as EPF 745*. Emphasis on structuralist, poststructuralist, and semiotic theories and techniques in education to develop systematic hands-on interpretive projects. PRQ: ETR 525 or EPS 524 or consent of department.

786. INTERNSHIP IN RESEARCH AND ASSESSMENT (3-15). Work in a practical situation under guidance of staff member from that setting and a university supervisor. May be repeated to a maximum of 15 semester hours, although typically only 3 semester hours may be applied to the program of study. S/U grading. PRQ: Consent of site and university supervisors.

790. WORKSHOP IN RESEARCH AND ASSESSMENT (1-3). Designed for teachers, administrators, supervisors, and evaluators. May be repeated to a maximum of 12 semester hours.

792. SPECIAL TOPICS IN RESEARCH AND ASSESSMENT (1-3). Topics announced. May be repeated to a maximum of 9 semester hours when topic varies.

797. INDEPENDENT RESEARCH IN RESEARCH AND ASSESSMENT (1-3). Independent study under direction of faculty member. May be repeated to a maximum of 6 semester hours. PRQ: Consent of department.

# Department of Kinesiology and Physical Education (KNDN, KNPE, LESM)

Chair: Paul Carpenter

## Graduate Faculty

Thomas J. Aicher, assistant professor, Ph.D., Texas A&M University  
Paul Carpenter, professor, Ph.D., University of California, Los Angeles

Charles Carter, associate professor, Ed.D., West Virginia University

Rodney Caughron, associate professor, Ph.D., University of Iowa  
Constance Fox, associate professor, Ed.D., University of Georgia  
Clersida Garcia, associate professor, Ph.D., Michigan State University

Luis E. Garcia, associate professor, Ph.D., Michigan State University  
Todd Gilson, assistant professor, Ph.D., Michigan State University  
Ethel Gregory, assistant professor, Ph.D., University of New Mexico

Ha-Young Kim, assistant professor, Ed.D., West Virginia University

So-yeun Kim, assistant professor, Ph.D., Oregon State University

Danielle M. Jay, professor, Ph.D., Texas Woman's University

Jinhong Jung, assistant professor, Ph.D., University of Georgia

Marilyn A. Looney, professor, P.E.D., Indiana University

Pamela Macfarlane, professor, Ph.D., University of Iowa F.

Jenny Parker, associate professor, Ph.D., University of Massachusetts

William A. Pitney, associate professor, Ed.D., Northern Illinois University

Cisco Reyes, assistant professor, Ph.D., University of Idaho

Janet A. Rintala, professor, Ph.D., University of Iowa

Amanda Salacinski, assistant professor, Ph.D., University of Pittsburgh

Gretchen Schlabach, associate professor, Ph.D., University of Maryland

Moirra Stuart, associate professor, Ph.D., Oregon State University

Matthew A. Stults-Kolehmainen, assistant professor, Ph.D., University of Texas

Yoshiaki Takei, professor, Ph.D., University of Southern California

Lauriece Zittel, associate professor, Ph.D., Oregon State University

## Master of Science in Sport Management

This 36-semester-hour program is designed to prepare students for a management career in the sport industry. Students attain theoretical knowledge and practical skills in preparation for various sport managerial careers in athletic and sport clubs, and intercollegiate athletics, professional and amateur sports, equipment merchandising, and sport consulting.

### Non-Thesis Option

LESM 538 - Managing the Sport Enterprise (3)

LESM 539 - Sport and the Law (3)

LESM 542 - Sport Promotions (3)

LESM 543 - Seminar in Sport Management (3)

LESM 544 - Sport Finance (3)

LESM 586 - Internship in Sport Management (1-3),

OR LESM elective with approval of graduate program adviser (3),

LESM 698 - Master's Paper (3),

OR LESM 699B - Master's Project (3)

Electives with approval of graduate program adviser (6)

One graduate-level research methodology course approved by adviser (3)

Course work from the College of Business selected in consultation with adviser (6)

### Thesis Option

Same requirements as the non-thesis option except that LESM 699A, Master's Thesis (6), and one 3-semester-hour graduate-level course in quantitative or qualitative analytical techniques approved by the adviser are taken in place of LESM 598 (3) or LESM 699B (3) and the electives (6).

## Master of Science in Education in Kinesiology and Physical Education

### Admission

To be considered for admission to the M.S.Ed. program in physical education, an applicant is expected to have a baccalaureate degree which included courses in kinesiology, physical education, health, recreation, dance, or equivalent courses.

Applicants to the master's degree program in physical education are normally notified of an admission decision as soon as administratively feasible following receipt of all credentials to complete the applicant's file by the Graduate School.

### Deficiencies

Student transcripts and life experiences will be evaluated to determine if deficiencies exist. If they do exist, any undergraduate deficiencies, as determined by the department, must be satisfied prior to the completion of 15 semester hours of graduate study.

### Retention

Students who violate the standards of the profession may be eliminated from the program after review by a properly constituted committee of the graduate faculty.

### Requirements

The M.S.Ed. in kinesiology and physical education requires a minimum of 36 semester hours. Students select from one of the following: a general program of study, a specialization in adapted physical education, a specialization in exercise physiology/fitness leadership, or a specialization in pedagogy, curriculum development in physical education. In consultation with an adviser, the student selects a thesis or non-thesis option.

Students are required to take a minimum of 6 semester hours in the research core, a minimum of 3 semester hours of social science, and a minimum of 3 semester hours of science, all within the department. In the general program of study, students are required to take 9 semester hours in the department in a focused area of interest. Students electing to do a thesis option are required to take 6 semester hours of thesis work with the remaining 9 semester hours of electives approved by the student's adviser selected from a list of courses either in the department and/or outside of the department. Students taking the non-thesis option are required to complete 15 semester hours of electives approved by the student's adviser. A minimum of 6 semester hours of electives must be selected from a list of courses within the department.

In each of the specializations, students are required to take 9-12 semester hours of professional courses in the department that identify the specialization. Students electing to do a thesis option

are required to take 6 semester hours of thesis work with the remaining 9 semester hours of electives approved by the student's adviser selected from a list of courses either in the department and/or outside of the department. Students taking the non-thesis option are required to complete 15 semester hours of electives approved by the student's adviser. A minimum of 6 semester hours of electives must be selected from a list of courses within the department.

### General Program of Study

The general program of study is designed to provide students with an opportunity to build a program of study that suits their particular area of interest and/or combines several sport science areas of interest. The general program of study would be of particular interest to students wishing to develop a broader based understanding of kinesiology and physical education. In consultation with an advisor, the student selects either a thesis or non-thesis option.

In consultation with the adviser, students will select a minimum of 9 semester hours in one of the following areas of interest: sport biomechanics, coaching, dance education, motor learning/motor development, or sociocultural aspects of sport/physical education. One course may be used to satisfy more than one program requirement; in this case, the number of elective hours will be increased.

### Thesis Option (36)

Select two from the research core (6)

KNPE 545 - Assessment in Kinesiology and Physical Education (3),  
OR KNPE 645 - Application of Statistics to Research in  
Kinesiology and Physical Education (3)

KNPE 552 - Methods of Research in Kinesiology and Physical  
Education (3)

Select one from the science core (3-4)

KNPE 514 - Neuromuscular Aspects of Physical Performance (3)

KNPE 535 - Mechanical Analysis of Motor Skills (3)

KNPE 557 - Applied Physiology of Exercise (4)

KNPE 578 - Seminar in Motor Development (3)

KNPE 635 - Biomechanics (3)

KNPE 652 - Exercise Bioenergetics (3)

KNPE 686 - Seminar in Motor Learning (3)

Select one from the social science core (3)

KNPE 507 - History of Physical Education (3)

KNPE 509 - Philosophy of Physical Education (3)

KNPE 582 - Psychology of Sport and Exercise (3)

KNPE 583 - Psychology of Coaching (3)

KNPE 586 - Sport in Society (3)

Course work related to the student's degree objectives approved by  
an adviser (9)

A minimum of 9 semester hours in an area of interest selected in  
consultation with adviser (9)

KNPE 699A - Master's Thesis (6)

### Non-Thesis Option (36)

Same requirements as listed above except in lieu of the thesis students take six semester hours of course work approved by an adviser.

### Specialization in Adapted Physical Education

This specialization is designed to prepare teachers to deliver physical education services to students with special needs. Persons are trained to assume roles related to adapted or special physical education including teaching, assessment, Individualized Educational Program development, consulting, program planning, and research. Certified physical education teachers completing this specialization meet Illinois State Board of Education recommended guidelines for personnel reimbursement as an "approved" adapted physical education instructor for students with disabilities. KNPE 490, Adapted Physical Education, or equivalent, is a prerequisite for this specialization. In consultation with an adviser, the student selects either a thesis or non-thesis option.

### Thesis Option (36)

Research Core (6)

KNPE 552 - Methods of Research in Kinesiology and Physical  
Education (3)

KNPE 645 - Application of Statistics to Research in Kinesiology  
and Physical Education (3)

Specialization Core (9)

KNPE 589 - Inclusion Strategies for Special Populations: Theory  
and Practice (3)

KNPE 590 - Physical Education for Individuals with Physical and  
Sensory Disorders (3)

KNPE 591 - Assessment and Program Planning in Adapted  
Physical Education (3)

Select one from the science core (3-4)

KNPE 514 - Neuromuscular Aspects of Physical Performance (3)

KNPE 535 - Mechanical Analysis of Motor Skills (3)

KNPE 557 - Applied Physiology of Exercise (4)

KNPE 578 - Seminar in Motor Development (3)

KNPE 635 - Biomechanics (3)

KNPE 652 - Exercise Bioenergetics (3)

KNPE 686 - Seminar in Motor Learning (3)

Select one from the social science core (3)

KNPE 507 - History of Physical Education (3)

KNPE 509 - Philosophy of Physical Education (3)

KNPE 582 - Psychology of Sport and Exercise (3)

KNPE 583 - Psychology of Coaching (3)

KNPE 586 - Sport in Society (3)

Course work related to the student's degree specialization approved  
by an adviser (9)

KNPE 699A - Master's Thesis (6)

### Non-Thesis Option (36)

Same requirements as listed above except in lieu of KNPE 645 (3) students take KNPE 545, Assessment in Kinesiology and Physical Education (3), and in lieu of the thesis students take six semester hours of course approved by an adviser.

### Specialization in Exercise Physiology/Fitness Leadership

This specialization is designed to provide knowledge and skills to students in the area of exercise physiology and/or fitness leadership. Students with such a professional background are prepared to assume various roles related to exercise physiology: research, teaching, and fitness leadership in hospitals, corporations, and health clubs. Applied exercise physiology, chemistry, and a human anatomy and physiology course are prerequisites for this specialization. In consultation with an adviser, the student selects either a thesis or non-thesis option.

### Thesis Option (36)

Research Core (6)

KNPE 552 - Methods of Research in Kinesiology and Physical  
Education (3)

KNPE 645 - Application of Statistics to Research in Kinesiology  
and Physical Education (3)

Specialization Core (12)

KNPE 514 - Neuromuscular Aspects of Physical Performance (3)

KNPE 560 - Cardiorespiratory Physiology: Responses and  
Adaptations to Exercise (3)

KNPE 565 - Seminar in Current Issues in Kinesiology, Physical  
Education, and/or Sport (3)

KNPE 652 - Exercise Bioenergetics (3)

Select one from the social science core (3)

KNPE 507 - History of Physical Education (3)

KNPE 509 - Philosophy of Physical Education (3)

KNPE 582 - Psychology of Sport and Exercise (3)

KNPE 583 - Psychology of Coaching (3)

KNPE 586 - Sport in Society (3)

Course work related to the student's specialization approved by an  
adviser (9)

KNPE 699A - Master's Thesis (6)

**Non-Thesis Option (36)**

Same requirements as listed above except in lieu of the thesis students take six semester hours of course work approved by an adviser.

**Specialization in Pedagogy and Curriculum Development in Physical Education**

This specialization is designed to provide relevant theoretical knowledge and experience in contemporary best practices in the discipline of physical education including methodology/instructional strategies, supervision, program development, and the use of technology and assessment in educational settings. Individuals completing this specialization will be able to assume leadership roles in pedagogy and curriculum development in physical education and related fields. In consultation with an adviser the student selects either a thesis or non-thesis option.

**Thesis Option (36)**

Select two from the research core (6)

- KNPE 545 - Assessment in Kinesiology and Physical Education (3),
- OR KNPE 645 - Application of Statistics to Research in Kinesiology and Physical Education (3)
- KNPE 552 - Methods of Research in Kinesiology and Physical Education (3)

Specialization Core (9)

- KNPE 620 - Seminar in Physical Education Curriculum (3)
- Two of the following (6)
- KNPE 568 - Principles of Supervision of Physical Education (3)
- KNPE 569 - Instructional Skills for Physical Education (3)
- KNPE 577 - Physical Education in the Elementary School (3)

Select one from the science core (3-4)

- KNPE 514 - Neuromuscular Aspects of Physical Performance (3)
- KNPE 535 - Mechanical Analysis of Motor Skills (3)
- KNPE 557 - Applied Physiology of Exercise (4)
- KNPE 578 - Seminar in Motor Development (3)
- KNPE 635 - Biomechanics (3)
- KNPE 652 - Exercise Bioenergetics (3)
- KNPE 686 - Seminar in Motor Learning (3)

Select one from the social science core (3)

- KNPE 507 - History of Physical Education (3)
- KNPE 509 - Philosophy of Physical Education (3)
- KNPE 582 - Psychology of Sport and Exercise (3)
- KNPE 583 - Psychology of Coaching (3)
- KNPE 586 - Sport in Society (3)

Course work related to student's specialization approved by an adviser (9)

- KNPE 699A - Master's Thesis (6)

**Non-Thesis Option (36)**

Same requirements as listed above except in lieu of the thesis students take six semester hours of course work approved by an adviser.

**Specialization in Sport and Exercise Psychology**

This specialization is designed to focus on relevant theory, research, and practice in the areas of sport and exercise psychology. The course work will help students examine a variety of predictors and consequences of sport and exercise participation. Emphasis is placed on the application of knowledge grounded in theory and research. Specifically teachers, coaches, and exercise professionals will experience a theory to practice approach to addressing the psychological needs of their participants in a performance setting. In consultation with an adviser the student selects either a thesis or non-thesis option.

**Thesis Option (36)**

Research Core (6)

- KNPE 552 - Methods of Research in Kinesiology and Physical Education (3)
- KNPE 645 - Application of Statistics to Research in Kinesiology and Physical Education (3)

Specialization Core (9)

- KNPE 582 - Psychology of Sport and Exercise (3)
- KNPE 583 - Psychology of Coaching (3)

One of the following

- KNPE 586 - Sport in Society (3)
- CAHC 500 - Orientation to the Counseling Profession (3)

Select one from the science core (3-4)

- KNPE 514 - Neuromuscular Aspects of Physical Performance (3)
- KNPE 535 - Mechanical Analysis of Motor Skills (3)
- KNPE 557 - Applied Physiology of Exercise (4)
- KNPE 578 - Seminar in Motor Development (3)
- KNPE 635 - Biomechanics (3)
- KNPE 652 - Exercise Bioenergetics (3)
- KNPE 686 - Seminar in Motor Learning (3)

Elective coursework related to the student's specialization approved by an adviser (12)

- KNPE 699A - Master's Thesis (6)

**Non-Thesis Option (36)**

Same requirements as listed above except in lieu of the thesis students take six semester hours of course work approved by an adviser.

**Certificate of Graduate Study****Adapted Physical Education (15)**

This certificate is designed to provide physical education teachers with the skills and knowledge necessary to design and deliver individualized movement programs for children and young adults with disabilities.

- KNPE 578 - Seminar in Motor Development (3),
- OR KNPE 686 - Seminar in Motor Learning (3)
- KNPE 589 - Inclusion Strategies for Special Populations: Theory and Practice (3)
- KNPE 590 - Physical Education for Individuals with Physical and Sensory Disorders (3)
- KNPE 591 - Assessment and Program Planning in Adapted Physical Education (3)
- TLSE 565 - Collaboration and Consultation Skills for School Professionals (3),
- OR KNPE 549 - Independent Study in Kinesiology and Physical Education (3)

**Secondary Certification in Physical Education**

The physical education entitlement program is designed for students interested in teaching physical education in Grades 6 to 12. The student plans a program of study in consultation with the adviser for teacher certification. Upon completion of physical education deficiencies, the physical education professional program, and professional education requirements for secondary certification, the student may be recommended for admission to teacher education.

**Deficiencies in Undergraduate Work**

Candidates for the M.S.Ed. degree and 6-12 teacher certification must show proficiency in the following courses, or their equivalent, through transcript evaluation.

- BIOS 311 - Functional Human Anatomy (4)
- KNDN 220 - Recreational Dance Forms (2),
- OR KNDN 351, Multicultural Dance (1)
- KNPE 217 - Personal Health-Related Fitness Development (1)
- KNPE 225 - Fundamental Sport Skills I (2)
- KNPE 226 - Fundamental Sport Skills II (2)
- KNPE 262 - Standard First Aid (2)
- KNPE 313 - Mechanical Kinesiology of Motor Skills (3),
- OR KNPE 314 - Applied Kinesiology (4)
- KNPE 446 - Measurement and Evaluation in Physical Education School Settings (2)
- KNPE 557 - Applied Physiology of Exercise (4)

## Physical Education Professional Course Requirements

Minimum of 1 semester hour in each of the areas of fitness, dance, individual sports, and team sports.<sup>2</sup>

- KNPE 344 - Field Experience in the Elementary School (1)
- KNPE 365 - Introduction to Adventure Education (3),  
OR KNPE 366, Lifetime Sports and Activities (3)
- KNPE 367 - Tactical Approach to Teaching Games (3),  
OR KNPE 368, Sport Education (3)
- KNPE 452<sup>1</sup> - Applied Physiology of Exercise (4)
- KNPE 466 - Field Experience at Outdoor Environments (1)
- KNPE 467 - Field Experience in the Middle School (1)
- KNPE 468 - Field Experience in the High School (1)
- KNPE 490<sup>1</sup> - Adapted Physical Education (3)
- KNPE 492 - Special Physical Education Clinic Practicum (1-2)
- KNPE 557 - Applied Physiology of Exercise (4)
- KNPE 569 - Instructional Skills for Physical Education (3)
- KNPE 577 - Physical Education in the Elementary School (3)
- KNPE 578 - Seminar in Motor Development (3),  
OR KNPE 686 - Seminar in Motor Learning (3)
- KNPE 598A - Elementary School Student Teaching in Physical Education (6),  
OR KNPE 598B - Middle School Student Teaching in Physical Education (6),  
OR KNPE 598C - High School Student Teaching in Physical Education (6)
- KNPE 620 - Seminar in Physical Education Curriculum (3)

## Professional Education Requirements

Students seeking secondary teaching certification must contact the adviser for teacher certification regarding professional education and should also see "Teacher Certification Information."

Following completion of course work in the professional program in physical education and the professional education requirement, students are eligible to attempt the Illinois Teacher Certification Examination. Students may earn the M.S.Ed. degree by completing the additional hours required for the degree (normally 9-18 semester hours).

## Course List

### Dance Education (KNDN)

573. DANCE AS ART IN EDUCATION (3). Development of aesthetic and cultural theories of dance as an art form in education. Opportunity for the practical application of the elements of dance and related art forms in education to the elementary, secondary, or higher education levels and/or to students of various intellectual and physical abilities.

574. HISTORY OF DANCE: PRIMITIVE THROUGH RENAISSANCE (3). Historical development of dance from primitive to the renaissance period through the world focusing on cultural and religious trends.

575. HISTORY OF DANCE: 18TH CENTURY TO MODERN TIMES (3). Historical development of dance from the 18th century to modern times, considering cultural and artistic implications.

674. SEMINAR IN RHYTHMS AND DANCE (3). Rhythms and dance as a basic educational technique. Designed to assist in planning, teaching, and supervising rhythmic dance programs. PRQ: Consent of department.

### Physical Education (KNPE)

507. HISTORY OF PHYSICAL EDUCATION (3). Historical background of physical education in relation to the cultural patterns of civilization and educational movements.

509. PHILOSOPHY OF PHYSICAL EDUCATION (3). Development of philosophical concepts paralleling educational philosophy. Current philosophical positions of physical educators with application to present day educational programs.

514. NEUROMUSCULAR ASPECTS OF PHYSICAL PERFORMANCE (3). Acute and chronic responses to short-term and intermittent physical activity, including prescription of resistance exercise. Focus on physiology of nervous and muscular systems. PRQ: KNPE 557 or consent of department.

535. MECHANICAL ANALYSIS OF MOTOR SKILLS (3). In-depth study of mechanical principles operative in the performance of motor skills. PRQ: KNPE 313 or KNPE 314, or consent of department.

540. PLANNING AND USE OF FACILITIES FOR PHYSICAL EDUCATION (3). Principles, terminology, standards, functional layout, design, and construction features for indoor and outdoor facilities. Maintenance, use, scheduling, and supervision of facilities in terms of functional needs.

541X. ORGANIZATION AND ADMINISTRATION OF INTERSCHOLASTIC ATHLETICS (3). *Crosslisted as LESM 541*. Organization and administration of interscholastic athletics with special reference to national, state, and local control. Consideration of philosophies of athletics, the place of athletics in the educational curriculum, the relationship between boys' and girls' programs, athletic budgeting and finance, facilities and equipment, personnel administration, contest management, athletics and the law, and public relations.

545. ASSESSMENT IN KINESIOLOGY AND PHYSICAL EDUCATION (3). Application of measurement and evaluation theory to measures of human performance. Development of effective assessment programs for more objective decision-making in kinesiology and physical education. PRQ: KNPE 445 or KNPE 446, or consent of department.

549. INDEPENDENT STUDY IN KINESIOLOGY AND PHYSICAL EDUCATION (1-3). Individual investigation of special problems, areas, or topics in kinesiology and physical education planned in consultation with a department adviser. May be repeated to a maximum of 6 semester hours. PRQ: Consent of department following approval of written proposal.

552. METHODS OF RESEARCH IN KINESIOLOGY AND PHYSICAL EDUCATION (3). Introduction to methods and techniques, research design and development, resources, and the research project. Student develops a research project or thesis prospectus. PRQ: Admission to master's program in physical education or consent of department.

553. EXERCISE PROGRAMS FOR ADULT SPECIAL POPULATIONS (3). Examination of characteristics, physiological responses, and exercise adaptations of adult special populations. Includes exercise testing, physical activity prescription, and clinical experiences. Emphasis on exercise limitations, responses, and adaptations which differ from the nondisabled. PRQ: KNPE 557 or consent of department. CRQ: KNPE 555 for 1 semester hour.

554. EXERCISE GERONTOLOGY (3). Examination of the characteristics, physiological responses to exercise, and adaptations to exercise of older adult populations. Includes exercise testing and prescription, programmatic concerns, and exercise limitations for older adults. PRQ: BIOS 357 or KNPE 557, or consent of department. CRQ: KNPE 555 for 1 semester hour.

555. CLINICAL EXPERIENCE IN EXERCISE GERONTOLOGY (1-3). Assessing, planning, implementing, and evaluating exercise programs for older adults. Includes practicum and directed study. May be repeated to a maximum of 3 semester hours. PRQ: KNPE 557 or consent of department.

557. APPLIED PHYSIOLOGY OF EXERCISE (4). Cardiovascular, respiratory, metabolic, and neuromuscular aspects of human function at rest, during exercise, and as a result of training. Three hours per week of lecture plus arranged laboratory experience. PRQ: BIOS 311, BIOS 357, or consent of department.

558. STRESS TESTING (3). Theory, techniques, and procedures of graded exercise stress testing for diagnostic and functional assessment of individuals. PRQ: KNPE 557 with a grade of C or better and consent of department.

<sup>1</sup> Students in the advanced qualitative methodology area of study must take ETR 529.

<sup>2</sup> These courses may be met through undergraduate deficiency requirements.

559. PHYSICAL FITNESS PROGRAMMING (3). Development, organization, implementation, and administration of physical fitness programs. Includes field experience. PRQ: KNPE 558 or consent of department.

560. CARDIORESPIRATORY PHYSIOLOGY: RESPONSES AND ADAPTATIONS TO EXERCISE (3). Study of cardiorespiratory physiology with specific application to exercise conditions. Emphasis on the cardiovascular, ventilatory, and respiratory adaptations associated with acute and chronic exercise. PRQ: KNPE 452 or consent of department.

565. SEMINAR IN CURRENT ISSUES IN KINESIOLOGY, PHYSICAL EDUCATION, AND/OR SPORT (3). Study of current issues and problems in physical education and sport through examination and critical analysis of recent literature and research findings.

566. PUBLIC RELATIONS FOR PHYSICAL EDUCATION (3). Purposes, materials, and methods relevant to keeping the public informed and interested in various aspects of physical education and related programs. Term project for a real or simulated situation required.

568. PRINCIPLES OF SUPERVISION OF PHYSICAL EDUCATION (3). Techniques and procedures of supervision in physical education programs, including responsibilities of those involved in clinical and preclinical experiences.

569. INSTRUCTIONAL SKILLS FOR PHYSICAL EDUCATION (3). Teaching/learning process, developing/maintaining a productive learning environment, developing/analyzing content, and obtaining tools for the analysis of instruction.

574. PHYSICAL EDUCATION FOR ELEMENTARY SCHOOL TEACHERS (1). Bases for planning and conducting physical education experiences derived from the study of human movement and developmental needs of children. Designed for students pursuing a Master of Arts in Teaching Degree.

575. SEMINAR IN MOVEMENT EDUCATION (3). Theories of movement education as the core of physical education. Designed for teachers of kindergarten through college, including classroom teachers and specialists in physical education. PRQ: KNPE 342 or KNPE 343, or consent of department.

576. SEMINAR IN ELEMENTARY SCHOOL PHYSICAL EDUCATION (3). Present-day programs and problems related to elementary school physical education.

577. PHYSICAL EDUCATION IN THE ELEMENTARY SCHOOL (3). Planning and conducting physical education experiences for children, derived from the study of human movement and developmental needs of children. Designed for graduate students seeking elementary certification.

578. SEMINAR IN MOTOR DEVELOPMENT (3). Survey of research on motor behavior and development with emphases on findings pertaining to growth patterns, adaptability, and specificity. Factors influencing the development of motor abilities with implications for physical education.

582. PSYCHOLOGY OF SPORT AND EXERCISE (3). Investigation of psychological theory and methods relative to involvement in sport and exercise.

583. PSYCHOLOGY OF COACHING (3). Application of psychological principles of behavior to individuals and groups in competitive sports. Attention given to motivation and team compatibility.

586. SPORT IN SOCIETY (3). Sport and physical activity as a sociological phenomenon stressing the importance of various dimensions of sport and their social significance.

588. THERAPEUTIC EXERCISE (3). Principles and application of exercises for selected skeletal and muscular dysfunction. Not available for graduate credit for NATABOC certified athletic trainers. PRQ: BIOS 311 or consent of department.

589. INCLUSION STRATEGIES FOR SPECIAL POPULATIONS: THEORY AND PRACTICE (3). Examination of factors, including litigation, legislation, and societal attitudes, influencing the successful inclusion in physical education and sport of children and adults with and without disabilities. PRQ: KNPE 490 or consent of department.

590. PHYSICAL EDUCATION FOR INDIVIDUALS WITH PHYSICAL AND SENSORY DISORDERS (3). Study of the physical and motor characteristics resulting from chronic and/or permanent physical and sensory disabilities. Curricular and teaching strategies for physical education and sport/recreation programs. PRQ: KNPE 490 or consent of department.

591. ASSESSMENT AND PROGRAM PLANNING IN ADAPTED PHYSICAL EDUCATION (3). Application of psychomotor testing procedures and program planning in adapted physical education. PRQ: KNPE 445 and KNPE 490, or consent of department.

592. CLINICAL EXPERIENCE IN SPECIAL PHYSICAL EDUCATION (1-2). Planning, implementing, and evaluating individualized development/adapted physical activity programs for individuals and groups of individuals with disabilities and/or developmental delays in the areas of fundamental gross motor skill development, physical fitness, leisure/recreation skill, sport skill, and aquatics. Previous experience teaching children with disabilities required. May be repeated to a maximum of 3 semester hours. PRQ: KNPE 490, KNPE 492, or consent of department.

595. WORKSHOP IN KINESIOLOGY AND PHYSICAL EDUCATION (1-3). Content varies and may focus attention on professional issues in the discipline. May be repeated; however, credit does not count toward the M.S.Ed. in physical education.

596. SPECIAL TOPICS IN KINESIOLOGY AND PHYSICAL EDUCATION (1-3). Topics announced. May be repeated to a maximum of 6 semester hours when subject varies.

597A. INTERNSHIP: PHYSICAL EDUCATION (1-6). Internship for students in the M.S.Ed. program in physical education. Supervised participation in field-based professional development activities to supplement theoretical background. May be repeated to a maximum of 6 semester hours. PRQ: Acceptance into graduate program and consent of department.

597K. INTERNSHIP: ADAPTED PHYSICAL EDUCATION (3). Supervised practicum experience for students in the adapted physical education specialization of the M.S.Ed. program. Planning, implementing, and evaluating adapted physical education for individuals with handicapping conditions. PRQ: KNPE 490 and consent of department.

598A. ELEMENTARY SCHOOL STUDENT TEACHING IN PHYSICAL EDUCATION (6). Student teaching for eight weeks in elementary school physical education. Includes seminars on current issues in teaching physical education. Assignments to be arranged with the department coordinator of clinical experiences. See "Teacher Certification Requirements." This course cannot be counted toward the M.S.Ed. in Physical Education. PRQ: KNPE 569.

598B. MIDDLE SCHOOL STUDENT TEACHING IN PHYSICAL EDUCATION (6). Student teaching for eight weeks in middle school physical education. Includes seminars on current issues in teaching physical education. Assignments to be arranged with the department coordinator of clinical experiences. See "Teacher Certification Requirements." This course cannot be counted toward the M.S.Ed. in Physical Education. PRQ: KNPE 569.

KNPE 598C. HIGH SCHOOL STUDENT TEACHING IN PHYSICAL EDUCATION (6). Student teaching for eight weeks in high school physical education. Includes seminars on current issues in teaching physical education. Assignments to be arranged with the department coordinator of clinical experiences. See "Teacher Certification Requirements." This course cannot be counted toward the M.S.Ed. in Physical Education. PRQ: KNPE 569.

620. SEMINAR IN PHYSICAL EDUCATION CURRICULUM (3). Students recognize, study, and propose solutions to immediate issues in physical education curriculum. Areas in which such problems may exist include curriculum construction, curriculum statutes, liability possibilities, and administrative problems related to curriculum development.

635. BIOMECHANICS (3). Biomechanical principles in the analysis of human motion. Use of cinematography and other techniques. PRQ: KNPE 535 or consent of department.

640. ADMINISTRATIVE PROCEDURES OF PHYSICAL EDUCATION (3). Administration of physical education in schools and colleges. Includes case studies and consideration of group and individual administrative problems.

645. APPLICATION OF STATISTICS TO RESEARCH IN KINESIOLOGY AND PHYSICAL EDUCATION (3). Application of descriptive and inferential statistics to research problems in physical education. PRQ: Admission to master's program in physical education or consent of department.

652. EXERCISE BIOENERGETICS (3). Processes involved in the production and utilization of energy in the human as these relate to exercise and training. Laboratory. PRQ: KNPE 557 or consent of department.

671. DIRECTED RESEARCH IN KINESIOLOGY AND PHYSICAL EDUCATION (1-3). Topic must be approved by supervisor prior to registration. May be repeated to a maximum of 6 semester hours. PRQ: KNPE 552 and consent of department.

686. SEMINAR IN MOTOR LEARNING (3). Evaluation of current motor learning research in kinesiology and physical education and the development of a specific motor learning topic for discussion. PRQ: KNPE 486 or consent of department.

699A. MASTER'S THESIS (1-6). Investigation of an area or problem relating to kinesiology and physical education. Student must show ability to address successfully a genuine research question in kinesiology and physical education and to draw valid and significant conclusions from the data. May be repeated to a maximum of 6 semester hours. PRQ: KNPE 552 or consent of department.

699B. MASTER'S PROJECT (1-6). Investigation of an area or problem relating to kinesiology and physical education. Student must show ability to identify a unique problem or area of need in kinesiology and physical education and design a plan based on current literature, which includes goals, objectives, and evaluation criteria. May be repeated to a maximum of 6 semester hours. PRQ: KNPE 552 or consent of department.

699C. MASTER'S INTERDISCIPLINARY INQUIRY (1-6). Investigation of an area of problem relating to kinesiology and physical education. Student must show ability to identify a question or area of need in kinesiology and physical education which integrates and synthesizes appropriate interdisciplinary bodies of literature and evaluate potential solutions to the original problem. May be repeated to a maximum of 6 semester hours. PRQ: KNPE 552 or consent of department.

### **Sport Management (LESM)**

536. SPORT INDUSTRY AND ORGANIZATIONS (3). Study of sport-related industries and organizations. Examination of dimensions of structure, design processes, theories, and behaviors, as each relates to the sport organizational environment. Implications of sport organizational goals, effectiveness, size, technology, communication, conflict, change, politics, and culture.

538. MANAGING THE SPORT ENTERPRISE (3). Analysis of the sport industry with emphasis on the sport manager's role and functions. Emphasis on planning, organizing, leading, and controlling functions as they apply to the sport manager.

539. SPORT AND THE LAW (3). Study of the court and legal systems as they relate to sport. Analysis of administrative, antitrust, constitutional, contract, tort, labor, and collective bargaining laws as each applies to various sport management enterprises.

541. ORGANIZATION AND ADMINISTRATION OF INTERSCHOLASTIC ATHLETICS (3). *Crosslisted as KNPE 541X*. Organization and administration of interscholastic athletics with special reference to national, state, and local control. Consideration of philosophies of athletics, the place of athletics in the educational curriculum, the relationship between boys' and girls' programs, athletic budgeting and finance, facilities and equipment, personnel administration, contest management, athletics and the law, and public relations.

542. SPORT MARKETING AND PROMOTIONS (3). Comprehensive study of promotions as they relate to the sport industry. Analysis of activities designed to meet the needs and wants of sport consumers, including the promotion of sport services and products directly and indirectly to the sport consumer.

543. SEMINAR IN SPORT MANAGEMENT (3). Investigation and analysis of current issues and trends in sport management. May be repeated to a maximum of 6 semester hours when topic varies.

544. SPORT FINANCE (3). Conceptual and theoretical aspects of financial accounting management practices associated with the organization and operation of a sport enterprise. Interaction of financial activities and management roles and functions.

550. SPORT SPONSORSHIP AND RETENTION (3). Application of sponsorship acquisition methods to the sport industry. Examination of sport sponsorship retention strategies and sponsorship evaluation methods in sport.

555. SPORT GLOBALIZATION AND INTERNATIONAL GOVERNANCE (3). Analysis of the impact of globalization on the sport industry. Examination of policy analysis and governance in the global sport community.

560. SPORT FACILITIES AND EVENT MANAGEMENT (3). Comprehensive planning for developing new sport/multipurpose facilities. Design, construction, maintenance, use, scheduling, and supervision of facilities. Event and crowd management at sport and related events.

565. SPORT COMMUNICATIONS (3). Application of communication theories to the sport industry. Examination of public and media relations with focus on message development, image building, and crisis management for sport organizations.

585. PRACTICUM IN SPORT MANAGEMENT (3). Supervised management experience for students in the specialization in sport management. PRQ: Consent of department.

586. INTERNSHIP IN SPORT MANAGEMENT (1-6). Supervised full-time management experience for students in a sports management setting. May be repeated to a maximum of 6 semester hours. PRQ: Completion of all course work.

592. SPECIAL TOPICS IN SPORT MANAGEMENT (1-3). Topics announced. May be repeated to a maximum of 6 semester hours when topic varies. PRQ: Consent of department.

597. INDEPENDENT STUDY IN SPORT MANAGEMENT (1-3). Individual investigation of special issues, problems, areas, and topics in sport management. May be repeated to a maximum of 3 semester hours. PRQ: Admission to master's degree program in sport management and consent of department.

698. MASTER'S PAPER (3). Investigation, integration, and application of the body of knowledge areas relative to the field of sport management. PRQ: Completion of 21 semester hours in the approved degree program which must include a research methodology course.

699A. MASTER'S THESIS (1-6). Investigation of an issue or problem relating to sport management. Enrollment by arrangement with graduate adviser. May be repeated to a maximum of 6 semester hours. PRQ: A graduate-level research methodology course and a quantitative or qualitative analytical technique course, or consent of department.

699B. MASTER'S PROJECT (1-3). Applied project designed to meet the needs of an identified issue or problem in sport management. May be repeated to a maximum of 3 semester hours. PRQ: A graduate level research methodology course or consent of department.

# Department of Leadership, Educational Psychology and Foundations (EPF, EPFE, EPS, LEBM, LEEA)

Chair: Charles L. Howell

## Graduate Faculty

Kerry Burch, associate professor, Ph.D., University of Hawaii at Manoa

Jon Crawford, assistant professor, J.D., Ph.D., Iowa State University

Andrea E. Evans, associate professor, Ph.D., University of Illinois, Chicago

Charles L. Howell, associate professor, Ph.D., Syracuse University

Donald J. Hunt, assistant professor, Ph.D., University of Albany

Christine Kiracofe, associate professor, Ed.D., University of Georgia

Li-jen Kuo, assistant professor, Ph.D., University of Illinois

Rosita Lopez, associate professor, Ed.D., Northern Illinois University

Wilma R. Miranda, professor emeritus, Ph.D., State University of New York, Buffalo

Diann Musial, Distinguished Teaching Professor emeritus, Ed.D., Northern Illinois University

Linda O'Neill, associate professor, Ed.D., Northern Illinois University

Jean W. Pierce, professor emeritus, Ph.D., Northwestern University

Thomas B. Roberts, professor emeritus, Ph.D., Stanford University

Joseph Saban, associate professor, Ed.D., Northern Illinois University

Leslie A. Sassone, associate professor, Ph.D., Purdue University

Jennifer Schmidt, associate professor, Ph.D., University of Chicago

David Shernoff, associate professor, Ph.D., University of Chicago

Hidetada Shimizu, associate professor, Ed.D., Harvard University

Lee B. Shumow, Presidential Teaching Professor, Ph.D., University of Wisconsin

M Cecil Smith, professor, Ph.D., University of Wisconsin

Cynthia Taines, assistant professor, Ph.D., University of Wisconsin

Stephen M. Tonks, assistant professor, Ph.D., University of Maryland

Lucy F. Townsend, professor, Ph.D., Loyola University of Chicago

Carolyn Vander Schee, assistant professor, Ph.D., Georgia State University

Marc VanOverbeke, associate professor, Ph.D., University of Wisconsin

Teresa Wasonga, associate professor, Ed.D., University of Missouri

The Department of Leadership, Educational Psychology and Foundations offers programs leading to degrees in educational administration, educational psychology, foundations of education, and school business management. The department engages students in the critical study of educational theory and practice, developing reflective educators who base their teaching, research, and policy decisions on historical, philosophical, psychological, and social-cultural perspectives. In addition, the department facilitates the development of leaders who actively shape organizational cultures, are sensitive to moral and equity issues, and can manage and lead complex and changing entities.

## Master of Science in Education

Educational administration

Educational psychology

Foundations of education

School business management

## Educational Specialist

Educational administration

## Doctor of Education

Educational administration

Educational psychology

## Regulations Governing Programs in Educational Administration and School Business Management

### Admission

Applicants for the master's degree in school business management may submit scores from the GMAT in lieu of GRE scores. Qualified applicants to the Ed.S. and Ed.D. programs must demonstrate writing competency and computer literacy and participate in a pre-admission interview. Students seeking admission to certification-only programs in the department should contact the department for application materials.

### Certification at the Graduate Level

Within the M.S.Ed. in educational administration, students may complete requirements for the principal endorsement to the Type 75 Illinois Administrative Certificate. This requires department consent. Within the M.S.Ed. in school business management, students complete requirements for the chief school business official endorsement to the Type 75 Illinois Administrative Certificate. Within the Ed.S. in educational administration and the Ed.D. in educational administration, students may complete requirements for the superintendent endorsement to the Type 75 Illinois Administrative Certificate. Students seeking certification should contact the Department of Leadership, Educational Psychology, and Foundations for further information.

### Advisement

A student is assigned an adviser when admitted to a department degree or certification program and develops a program of study in consultation with the adviser.

### Student-at-Large, Study-Abroad, and Transfer Credit

Student-at-large, study-abroad, and transfer hours in combination may not exceed 15 semester hours for students pursuing any of the degree programs offered in the department.

## Retention

Students must remain in good academic standing in the Graduate School, maintain high ethical standards, and demonstrate evidence of functional competency in fulfilling the professional roles required by the discipline. Doctoral students must pass a candidacy examination which requires an ability to deal analytically with integrated course content. Doctoral students must also develop, complete, and defend an acceptable dissertation following the guidelines of the Graduate School and the program in which they are enrolled. Additional requirements are delineated in the degree program descriptions.

## Master of Science in Education in Educational Administration

This 34-semester-hour program focuses on the knowledge and skills required for persons who are interested in educational leadership, administration, and management in educational settings. The program should be of particular interest to those preparing to work as supervisors, department chairs, assistant principals, principals, and associate/assistant superintendents and may also be used by students seeking careers in higher education, private institutions, or governmental agencies.

Majors in educational administration may earn the M.S.Ed. degree with or without the general administrative endorsement to the Type 75 Illinois Administrative Certificate. Those electing to earn the endorsement normally complete the non-thesis option. Those seeking the master's degree without the endorsement may pursue either the thesis or non-thesis option.

## Admission

An applicant for admission to the M.S. Ed. program in educational administration must submit

- all official transcripts from institutions of higher education
- scores on the GRE
- two letters of recommendation from professors and/or practicing school administrators who hold state certification

The faculty in educational administration select the most qualified applicants. Preference is given to educators who hold a master's degree in an area other than educational administration, who are experienced educators, and who have a minimum undergraduate GPA of 3.50. Faculty decisions are based on the total profile of each applicant. Any applicant who is denied admission may submit an appeal to be reviewed by the admissions committee and the faculty. Appeals must be in writing, explain the basis for the appeal, and include information not previously submitted.

## Requirements

Students seeking the M.S.Ed. with or without the general administrative endorsement are required to complete the following requirements.

## Non-Thesis Option

- ETR 520 - Introduction to Educational Research (3)
- Foundations course approved by adviser (3)
- Course work in educational administration approved by adviser (15-24)
- Electives and/or research course work approved by adviser (0-9)
- LEEA 586A and LEEA 586B - Internship in Educational Administration A two-semester internship (fall-spring or spring-fall) with a portfolio as the culminating activity (4)

The comprehensive examination for students pursuing the non-thesis option is conducted in conjunction with the defense of the portfolio.

## Thesis Option

Same requirements as the non-thesis option, except that 6 semester hours must be taken in LEEA 699A, Master's Thesis. Students pursuing the thesis option fulfill the comprehensive examination requirement in conjunction with the thesis defense.

## Master of Science in Education in Educational Psychology

The M.S.Ed. program in educational psychology promotes the understanding and practical application of theory and empirical knowledge regarding human development, learning, and motivation in sociocultural contexts. Courses relate to learning and developmental processes within educational settings (e.g., schools, family, work, neighborhood). The program requires the successful completion of a master's thesis or project.

## Admission

The faculty in educational psychology select the most qualified applicants.

An applicant for admission must submit

transcripts showing the GPA for the last two years of undergraduate work.

scores on the Miller Analogies Test (MAT) or the verbal and quantitative parts of the General Test of the GRE.

a two-page essay describing their career goals and interests relevant to educational psychology, the origins of those interests, and how the educational psychology program should be able to help them reach those goals.

three letters of recommendation from employers, supervisors, or professors.

While a minimum GPA of 3.00 is preferred, final decisions regarding admissions are made by the educational psychology admissions committee on the basis of all submitted items. Any applicant who is denied admission may submit an appeal to be reviewed by the entire educational psychology faculty. Appeals must be in writing, explain the basis for the appeal, and include information not previously submitted.

## Student-at-Large, Study-Abroad, and Transfer Credit

Student-at-large and transfer hours in combination may not exceed 15 semester hours for students pursuing the M.S.Ed. degree in educational psychology. See "Requirements for Graduate Degrees" for limitation on study-abroad credit.

## Advisement

When admitted to the program, the student is assigned an adviser who is a faculty member in the area of interest that the student intends to pursue. A course of study is developed for each student.

## Requirements

The M.S.Ed. in educational psychology requires a minimum of 33 semester hours, including either Option A or Option B.

## Option A

This option is designed for students who would like to enroll in a doctoral program.

- EPS 501 - Psychological Foundations of Education (3)
- EPS 506 - Theories and Research in Child Behavior and Development (3),
- OR EPS 508 - Theories and Research in Adolescent Behavior and Development (3),
- OR EPS 510 - Adult Educational Psychology (3)

EPS 523 - Application of Psychological Research to Educational Practice (3)  
 ETR 520 - Introduction to Educational Research (3)  
 ETR 521 - Educational Statistics I (3)  
 One of the following (3)  
 EPFE 500 - Social Foundations of Education (3)  
 EPFE 510 - Philosophical Foundations of Education (3)  
 EPFE 511 - Philosophical Analysis of Current Educational Thought (3)  
 EPFE 521 - Historical Foundations of Education in the United States (3)  
 EPFE 530 - Comparative/International Education (3)  
 Courses selected in consultation with the student's major adviser, at least one course in the major (9)  
 EPS 699A – Master's Thesis (6)

### Option B

Option B is designed for students who are not considering enrolling in a doctoral program.

EPS 501 - Psychological Foundations of Education (3)  
 EPS 506 - Theories and Research in Child Behavior and Development (3),  
 OR EPS 508 - Theories and Research in Adolescent Behavior and Development (3),  
 OR EPS 510 - Adult Educational Psychology (3)  
 EPS 523 - Application of Psychological Research to Educational Practice (3)  
 Two of the following (6)  
 EPS 524 - Ethnographies in Human Development and Learning within Educational Settings (3)  
 ETR 520 - Introduction to Educational Research (3)  
 ETR 521 - Educational Statistics I (3)  
 ETR 522 - Educational Statistics II (3)  
 ETR 525 - Qualitative Research in Education (3)  
 ETR 530 - Test Construction and Evaluation (3),  
 OR ETR 531 - Program Evaluation in Education (3)  
 OR ETR 533 - Standardized Testing (3)  
 One of the following (3)  
 EPFE 500 - Social Foundations of Education (3)  
 EPFE 510 - Philosophical Foundations of Education (3)  
 EPFE 511 - Philosophical Analysis of Current Educational Thought (3)  
 EPFE 521 - Historical Foundations of Education in the United States (3)  
 EPFE 530 - Comparative/International Education (3)  
 Courses selected in consultation with the student's major adviser, at least one course in the major (9)  
 EPS 699A - Master's Thesis (6),  
 OR EPS 699B - Master's Project (6)

### Comprehensive Examination

The comprehensive examination is conducted in conjunction with the oral defense of the thesis or project.

## Master of Science in Education in Foundations of Education

This 33-semester-hour program provides the student with a theoretical and comparative understanding of the philosophical, historical, and social foundations of education, which serves as the basis for the analysis of educational policies and controversies. The program requires the successful completion of a master's thesis.

### Admission

An applicant may submit MAT scores in lieu of GRE scores. For qualified applicants to the program, demonstration of writing competencies and a pre-admission interview must be completed before final admission decision is made.

## Student-at-Large, Study-Abroad, and Transfer Credit

Student-at-large and transfer hours in combination may not exceed 15 semester hours for students pursuing a master's degree in foundations of education. The limit on student-at-large hours may be waived in special circumstances with the approval of the department chair. See "Requirements for Graduate Degrees" for limitation on study-abroad credit.

### Advisement

A student is assigned an adviser when admitted to the program. Individual needs and goals of students are considered in the advisement process; courses may be selected from appropriate departments throughout the university. Students are responsible for meeting regularly with the adviser. Near the end of course work, students select a thesis adviser and two additional committee members who are graduate faculty members in foundations of education.

### Requirements

The M.S.Ed. in foundations of education requires a minimum of 33 semester hours as follows.

A course in research (3)  
 Foundations of education (EPFE) courses (12)  
 Elective course work selected in consultation with an adviser (12-15)  
 EPFE 699A - Master's Thesis (6),  
 OR EPFE 699B - Master's Project (6)

### Comprehensive Examination

Students fulfill the comprehensive examination requirement in conjunction with the successful oral defense of an approved thesis or culminating project.

## Master of Science in Education in School Business Management

This 39-semester-hour program is intended to prepare persons to serve as school business managers. Students, under the direction of an adviser, will plan a program of studies which will include course work, internship, and field experiences directly related to the school business management function in elementary and secondary, or college educational systems. It is not necessary to have a teaching certificate to apply for this program. A student who completes the M.S.Ed. in school business management will satisfy the educational requirements for the chief school business official endorsement to the Type 75 Illinois Administrative Certificate. Program flexibility permits elective courses which may be applied toward meeting minimal educational requirements for the general administrative endorsement.

### Requirements

Students who seek the M.S.Ed. with a major in school business management are required to complete the core courses.

LEEA 500 - Educational Organization and Administration: Principles, Concepts, and Structure (3)  
 LEBM 501 - School Business Management (3)  
 LEEA 520 - Education Finance I (3)  
 LEBM 521 - Accounting, Statement Analysis, and Budgeting (3)  
 LEBM 550 - Financial Planning and School Budgeting (3)  
 LEBM 721 - Advanced School Fund Accounting and Budgeting (3)  
 Additional course work in school business management or educational administration approved by adviser (9)  
 Course work in educational research and educational foundations approved by adviser (6)

Each student is also required to complete a full-year internship experience. Students seeking an internship must make application and receive approval of the internship plan. A full-year internship is defined as having an internship plan which is approved by the program adviser and being registered for 2 semester hours of LEBM 586 for each of three consecutive terms.

### **Comprehensive Examination**

The comprehensive examination is conducted in conjunction with the defense of the portfolio.

## **Educational Specialist in Educational Administration**

This 33-semester-hour program of advanced study in educational administration is designed to prepare eligible graduate students for various administrative positions in education. It emphasizes the technical and specialized aspects of administration and includes studies intended to refine the student's competence to deal with more general aspects of educational theory. Within their program of studies, students may complete requirements for the superintendent endorsement to the Type 75 Illinois Administrative Certificate. Other certification requirements may be included in the program. Students should consult their adviser.

### **Admission**

An applicant for admission to the Ed.S. program in educational administration must submit

- evidence of having completed a master's degree
- all official transcripts from institutions of higher education
- scores on the GRE
- three letters of recommendation from professors and/or practicing school administrators who hold state certification

The faculty in educational administration select the most qualified applicants. Preference is given to experienced administrators who hold a master's degree from an accredited university, with a minimum graduate GPA of 3.50. Faculty decisions are based on the total profile of each applicant. Any applicant who is denied admission may submit an appeal to be reviewed by the admissions committee and the faculty. Appeals must be in writing, explain the basis for the appeal, and include information not previously submitted.

### **Limitation of Time**

The student must fulfill all of the requirements of the Ed.S. program within the six consecutive years immediately preceding the date of the student's graduation from that program. This time limit applies to enrollment in all graduate course work in the student's program including work for which transfer credit is allowed.

If an NIU course taken to complete the requirements for the Ed.S. program does not fall within the time limitation indicated in the previous paragraph, the department may require the student to retake the course for credit or may allow the student to demonstrate current knowledge of the subject matter. In the latter case, currency must be demonstrated to the satisfaction of the department offering the course through successful completion of an appropriate examination or other assessment if available from the department. Otherwise, the outdated course work must be deleted from, and other course work must be substituted in, the program of courses. Transfer courses falling outside the limitation of time cannot be used in a graduate program.

## **Course Requirements**

The program requires 34 semester hours in either the thesis or non-thesis option with a GPA of at least 3.00 in the degree program (excluding deficiency courses taken for graduate credit) as well as in all graduate course work taken at NIU.

### **Non-Thesis Option**

LEEA 700 - Nature and Theory of Administration (3)  
LEEA 745 - Survey of Research in Educational Administration (3)  
Additional course work in educational administration (16)  
Course work in one or two related fields of study (12)

### **Thesis Option**

Same as non-thesis option except that 6 semester hours of the educational administration course work must be in LEEA 699B, Ed.S. Thesis, or LEEA 699C, Ed.S. Field Study.

### **Examination**

Students are required to create and successfully defend a portfolio.

### **Thesis**

The writing of a thesis or field study is optional in the Ed.S. program. See "Requirements for Graduate Degrees."

### **Composition of Committees**

The thesis committee (if applicable) and comprehensive-examination committee shall each consist of at least three members. The majority of the committee must be regular faculty members at Northern Illinois University; a majority must be members of the graduate faculty; and the chair must be a graduate faculty member in this department.

## **Doctor of Education in Educational Administration**

The Ed.D. program in educational administration is intended to prepare individuals for administrative service and leadership positions in schools, institutions of higher education, or other agencies. The doctoral program provides instructional experiences designed for satisfactory development of conceptual, human, and technical skills and understandings required for successful leadership in various administrative roles with emphasis on educational research, the role of the leader in the social order, community power structure, and organizational theory. Within their program of studies, students may complete requirements for the superintendent endorsement to the Type 75 Illinois Administrative Certificate.

### **Admission**

An applicant for admission to the Ed.D. program in educational administration must submit

- evidence of having completed a master's degree
- all official transcripts from institutions of higher education
- scores on the GRE
- three letters of recommendation from professors and/or practicing school administrators who hold state certification

The faculty in educational administration select the most qualified applicants. Preference is given to experienced administrators who hold a master's degree from an accredited university, with a minimum graduate GPA of 3.50. Faculty decisions are based on the total profile of each applicant. Any applicant who is denied admission may submit an appeal to be reviewed by the admissions committee and the faculty. Appeals must be in writing, explain the basis for the appeal, and include information not previously submitted.

## Requirements

The doctoral program in educational administration requires a minimum of 63 semester hours of graduate work beyond the master's degree as follows.

Course work constituting common requirements in research understandings and skills, learning and development theories, and sociocultural analyses of education (15)

Course work (excluding dissertation hours) in educational administration (18)

A cognate component may be selected from outside the major to provide a broader base of knowledge, a supportive professional skill, or more sophisticated research competencies.

Successful completion of a candidacy examination. This examination encompasses the common requirements, the area of professional knowledge, and any cognate. The examination is developed and evaluated by the student's committee and combines theory, research, and practice. The examination may be written or oral or both, at the option of the department. A student planning to take a candidacy examination is required to file a letter of intent with the department chair, and should consult the department concerning applicable procedures and deadlines for such notification. It is scheduled with the permission of the chair of the student's doctoral program committee, normally during the last term of course work prior to the dissertation, but may be taken during the semester before or immediately after completing the last nondissertation course in the graduate program. A student must be enrolled in the term of the candidacy examination. A student must be in good academic standing, both overall and in the Ed.D. program to be eligible to take this examination. A student who fails this examination may, with the permission of the major department, repeat it no sooner than the following academic term. A student who fails this examination a second time, or is not granted approval for a second attempt, will not be permitted to continue work toward the Ed.D. degree, and admission to that program will be terminated.

LEEA 799, Doctoral Research and Dissertation (15)

If beyond the Ed.S. degree, the doctoral program in educational administration requires a minimum of 33 semester hours as follows.

Course work in research understandings and skills, learning and development theories, and sociocultural analyses of education (15)

One other LEEA course (3)

LEEA 799, Doctoral Research and Dissertation (15)

## Type 75 Illinois Administrative Certificate

In conjunction with the degrees described above, students may meet requirements for various endorsements to the Type 75 Illinois Administrative Certificate. Students may also enroll in certificate-only programs with departmental approval. Departmental approval is required for certification application. Application packets may be obtained from the department office for students interested in certification only rather than a degree program. Students seeking certification who are not admitted to an NIU graduate degree program also must apply for and obtain permission from the Graduate School to enroll as students-at-large.

## General Administrative Endorsement

Students seeking this endorsement as part of a graduate degree program in the department must possess a baccalaureate degree which provided certification as an educator in Illinois schools or an equivalent degree with evidence of certification deficiency

completion. Students seeking certification only must possess a master's degree in addition to the previous requirement. All students seeking this endorsement must be admitted by the department, have a program of courses approved by an adviser, and successfully complete a comprehensive examination. State requirements for the general administrative endorsement include four areas of course work and experience including instructional leadership, management of public schools, schools and public policy, and a clinical experience.

## Chief School Business Official Endorsement

Students who have already earned an appropriate and related master's degree from an accredited college or university with an approved teacher education program can complete specific school business management courses to qualify for the chief school business official endorsement. Applicants must meet all state requirements for the endorsement and complete courses in the areas of school business management, school organization and administration, school finance and fiscal planning, and clinical experience.

## Superintendent Endorsement

To pursue the superintendent endorsement, students must possess a master's degree in educational administration or its equivalent. Students seeking this endorsement must be admitted by the department, have a program of courses approved by an adviser, successfully complete a comprehensive examination, and meet all other state requirements. State requirements for the superintendent endorsement include the areas of governance and management of public schools, educational planning, and clinical experiences.

## Doctor of Education in Educational Psychology

The doctoral degree program in educational psychology enables students to acquire an understanding of psychological processes that underlie human development, learning, and teaching and to develop necessary skills to interpret and design research in educational settings. The program provides students with opportunities to develop original and creative thinking and research in the areas of human development, learning, and motivation. Students may relate this knowledge to selected areas of interest, which may include sociocultural, historical, and philosophical foundations of education, instructional technology, research methods and assessment, linguistics, special education, or teacher education.

## Admission

Applicants for the doctoral degree in educational psychology are expected to have course work in learning theory, theory of development, research methods, basic statistics, and foundations of education. Where deficiencies are found by the admissions committee, additional courses for the doctoral degree may be prescribed.

Successfully completing requirements of Option A of the Master of Science in Education in Educational Psychology from Northern Illinois University satisfies the above requirements. Similarly, successfully completing requirements of the Master of Science in Educational Research and Evaluation from Northern Illinois University (including 3 semester hours of course work in theories of learning, 3 semester hours of course work in theories of development, and a thesis or equivalent study) satisfies the above requirements.

Applicants for admission must

have completed a master's degree.

submit scores from the Miller Analogies Test (MAT) or the General Test of the Graduate Record Examinations.

provide three letters of recommendation from knowledgeable professors, employers, or supervisors.

write a three-four-page essay describing their career goals and interests relevant to educational psychology, the origins of those interests, goals for pursuing those interests in research and study, and how the educational psychology program should be able to help them reach those goals.

Applicants may be invited for an interview. The Graduate School notifies the applicant of the decision of the admission committee. Students should contact the Graduate School for information about admission deadlines and materials.

Questions about the program or the application process should be directed to the program admissions chair. Students seeking to take courses while admission papers to the Graduate School are being processed should receive approval of the program admissions chair.

After all admission forms are completed and Graduate School requirements for admission are fulfilled, the applicant is considered by the department's admissions committee and may be invited for an interview. The recommendation of the admissions committee is forwarded to the Graduate School, which informs the applicant of the admission decision. Any applicant who is denied admission may submit an appeal to be reviewed by the entire educational psychology faculty. Appeals must be in writing, explain the basis for the appeal, and include information not previously submitted. Limited facilities and/or resources may necessitate the rejection of some students who meet the minimum requirements for admission.

### Advisement

The student's program adviser provides advisement on courses in the major, cognates, deficiencies, additional courses, prerequisites, and the candidacy examination. The student's departmentally approved program of courses is forwarded to the Graduate School for final approval.

### Course Requirements

The doctoral program in educational psychology requires the equivalent of at least three years of full-time academic work, or a minimum of 93 semester hours of graduate work beyond the baccalaureate degree including the following.

ETR 522 - Educational Statistics II (3)

EPS 524 - Ethnographies in Human Development and Learning within Educational Settings (3)

EPS 701 - Professional Practices in Educational Psychology (3)

EPS 713 - Advanced Educational Psychology (3)

EPS 723 - Design of Research on Human Development and Learning in Educational Settings (3)

One of the following (3)

EPS 705 - Advanced Seminar in Child Development (3)

EPS 708 - Advanced Research Seminar in Adolescent Development (3)

EPS 710 - Seminar in Lifespan Human Development (3)

Two of the following (6)

EPS 706 - Research in Child Development (3)

ETR 526 - Advanced Technologies in Qualitative Research (3)

ETR 562 - Applied Categorical Data Analysis (3)

ETR 720 - Educational Research Planning and Interpretation (3)

ETR 722 - Methods of Multivariate Analysis (3)

ETR 735 - Theory of Measurement (3)

EPS 739 - Fieldwork Methods in Educational Research (3)

EPF 745X - Interpretive Methods in Educational Research (3)

One of the following (3)

EPFE 712 - Ethics and Education (3)

EPFE 715 - Foundations of Educational Policy (3)

EPFE 721 - Seminar in American Educational Thought (3)

Course work in an area of interest related to the major chosen in consultation with adviser. At least one course must be in the major (18).

EPS 786 - Internship (6) The research is chosen in consultation with the student's adviser. Students must take 6 semester hours in this course in two consecutive semesters.

EPS 799 - Doctoral Research and Dissertation (12)

A maximum of 30 semester hours from a master's degree may be included in the doctoral program. These hours may be applied to prerequisites, cognates, or other requirements with the consent of the program adviser. The combined total of student-at-large and transfer hours beyond the master's degree may not exceed 15 semester hours for students pursuing the Ed.D. degree in educational psychology. See "Requirements for Graduate Degrees" for limitation on study-abroad credit.

### Examinations

The student must receive approval from his or her adviser to take the candidacy examination. The candidacy examination is conducted in conjunction with the oral defense of a portfolio. It is expected that the student will have completed at least 60 semester hours of graduate course work.

Competencies to be demonstrated in the portfolio include the following:

Demonstrate proficiency in course work based on individual goals for professional growth and development.

Demonstrate experience using research methodologies. One example must come from a thesis (or comparable research study) approved by the faculty.

Demonstrate in-depth knowledge of theory and expertise in a domain within educational psychology.

Demonstrate effective communication and presentation skills, both (a) oral and (b) written.

Demonstrate knowledge and application of ethical standards.

Demonstrate evidence of successful research internship experience supervised by a faculty member.

A final oral examination related to the dissertation is required and is conducted in accordance with the general requirements of the Graduate School.

### Candidacy

Upon satisfactory completion of the candidacy examination, the student is accepted as a candidate for the Ed.D. degree. A student who fails the candidacy examination may be granted the opportunity to take a second examination. Failure on the second examination denies the student admission to candidacy.

### Dissertation

The dissertation in educational psychology is expected to make a substantial contribution to knowledge in the field. Candidates are expected to conduct original scholarship and independent research appropriate to their major and communicate the results of their research effectively. The dissertation director and committee are selected by the student in consultation with the department chair or assistant chair. The committee represents graduate faculty of the university with knowledge in the area of the candidate's topic. At least two members of the committee are selected from the graduate faculty in educational psychology. Official approval of a dissertation director by the Graduate School must be effected by the conclusion of the first semester in which the student registers for dissertation credit.

## Certificate of Graduate Study

### Foundations of Education (18)

This certificate is designed to provide educators with a framework in historical, social, and/or philosophical foundations of education with an emphasis on issues of race, gender, and social class. It is available to any graduate-level student with a GPA of at least 3.00.

EPF 740 - Interpretive Methods in Educational Research (3)  
 EPFE 715 - Foundations of Educational Policy (3)  
 EPFE 721 - Seminar in American Educational Thought (3)

Course work from one or more of the areas below chosen in consultation with certificate adviser. Students may select an interdisciplinary program of electives from across the foundations' parent disciplines, or they may develop a focus in a specific foundations field as indicated below. A maximum of 3 semester hours of internship credit may be used toward the certificate. (9)

#### *Philosophy of Education*

EPFE 510 - Philosophical Foundations of Education (3)  
 EPFE 511 - Philosophical Analysis of Current Educational Thought (3)  
 EPFE 586 - Internship in Educational Foundations (1-3)  
 EPFE 703 - Seminar: Gender Issues in Educational Thought (3)  
 EPFE 710 - Seminar in Philosophical Investigation (2-6)  
 EPFE 712 - Ethics and Education (3)

#### *History of Education*

EPFE 521 - Historical Foundations of Education in the United States (3)  
 EPFE 586 - Internship in Educational Foundations (1-3)  
 EPFE 720 - Seminar in European Educational Thought (3)  
 EPFE 723 - History of Higher Education (3)  
 EPFE 725 - History of Women's Education in the United States (3)

#### *Social Foundations*

EPF 540 - Education for Social Justice (3)  
 EPFE 500 - Social Foundations of Education (3)  
 EPFE 530 - Comparative/International Education (3)  
 EPFE 586 - Internship in Educational Foundations (1-3)  
 EPFE 722X - Adult and Higher Education in Social Context (3)  
 EPFE 730 - Seminar in Comparative/International Education (3)  
 EPFE 740 - Seminar in Professional Educational Organizations (3)

### Problem-Based Learning in Educational Psychology (15)

This certificate is designed to provide educators with a framework needed for successful implementation of problem-based learning. Graduate students must consult with the certificate adviser before beginning study.

EPFE 511 - Philosophical Analysis of Current Educational Thought (3)  
 EPS 501 - Psychological Foundations of Education (3)  
 EPS 597<sup>1</sup> - Independent Research (4)  
 EPS 614 - Instructional Psychology (3)  
 EPS 786<sup>1</sup> - Internship (2)

## Course List

### Course Information

All courses with the EPF designator may be counted toward a student's major program in educational psychology or in foundations of education.

### Educational Administration (LEEA)

500. EDUCATIONAL ORGANIZATION AND ADMINISTRATION: PRINCIPLES, CONCEPTS, AND STRUCTURE (3). Development of an awareness and understanding of the social, political, and behavioral bases for educational administration. PRQ: Admission to M.S.Ed. educational administration program or school business management program, or consent of department.

501. 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.

511. THE PRINCIPALSHIP (3). Basic performance patterns of elementary, middle, and secondary school principals in the organization and administration of the education process. Clinical experiences appropriate to each level of administration. PRQ:LEEA 500, LEEA 525, LEEA 535, and LEEA 554, or consent of department.

520. EDUCATION FINANCE I (3). Survey of social, economic, and political considerations in public financing of education. Examination of sources of revenues, federal-state-local allocation systems, and local educational agency financial planning and budgeting. Includes clinical experiences. PRQ: Admission to M.S.Ed. educational administration program or school business management program, or consent of department.

525. EDUCATION LAW I (3). Survey course on legal problems in educational settings. Designed for students in master's degree programs. Includes clinical experiences. PRQ: Admission to M.S.Ed. educational administration program, consent of department.

535. SUPERVISORY BEHAVIOR (3). Theoretical constructs underlying supervisory behavior in educational settings and applications of related principles to the supervision and management of education personnel. PRQ: Admission to M.S.Ed. educational administration program, or consent of department.

540. SCHOOL-COMMUNITY RELATIONS (3). Responsibility of the school to offer leadership in home-school-community relationships. Tasks of surveying and utilizing community resources, studying promising programs and practices, and evaluating educational criticism. Includes clinical experiences.

550. SEMINAR: PROBLEMS IN EDUCATIONAL ADMINISTRATION (3). Individual investigation of fundamental problems in educational administration and business management, culminating in a research paper. Problems based largely on past or anticipated experience of the students.

554. POLICY ANALYSIS FOR SCHOOL ADMINISTRATORS (3). Policy making, implementing, and evaluating at the school site and school district levels; skills of policy analysis and policy development; identification of issues appropriate for policy study in the school district and at the school site; the principal in policy-related roles. PRQ: Admission to M.S.Ed. educational administration program, or consent of department.

577. ADMINISTRATION AND SUPERVISION OF SPECIAL EDUCATION (3). Overview of the functions, responsibilities, and problems in the organization, administration, and supervision of special education programs at the federal, state, and local levels.

580. CLINICAL LABORATORY, BUILDING-LEVEL ADMINISTRATION (1). Laboratory-based clinical experiences including individual and group classroom exercises and simulations focused on building-level administrative tasks and functions. Required for general administrative endorsement.

586A. INTERNSHIP IN EDUCATIONAL ADMINISTRATION (1-6). Work individually or in small groups in a practical situation under guidance of a staff member from that setting and a university supervisor. Focus on the first half of the school year. May be repeated to a maximum of 6 semester hours, although typically only 2 semester hours may be applied to a graduate degree program. S/U grading. PRQ: Consent of department. PRQ or CRQ: LEEA 511.

<sup>1</sup> When topic is problem-based learning.

586B. INTERNSHIP IN EDUCATIONAL ADMINISTRATION (1-6). Work individually or in small groups in a practical situation under guidance of a staff member from that setting and a university supervisor. Focus on the second half of the school year. May be repeated to a maximum of 6 semester hours, although typically only 2 semester hours may be applied to a graduate degree program. S/U grading. PRQ: Consent of department PRQ or CRQ: LEEA 511.

590. WORKSHOP IN EDUCATIONAL ADMINISTRATION (1-3). Designed for teachers, supervisors, and educational administrators to study contemporary issues and problems in education. Content varies. May be repeated to a maximum of 12 semester hours.

592. SPECIAL TOPICS IN EDUCATIONAL ADMINISTRATION (1-3). Topics announced. May be repeated to a maximum of 12 semester hours when topic varies.

597. INDEPENDENT RESEARCH IN EDUCATIONAL ADMINISTRATION (1-6). Independent research at the master's degree level under faculty supervision. May be repeated to a maximum of 6 semester hours. PRQ: Consent or department.

699A. MASTER'S THESIS (3-6). Open only to students who elect to write a thesis for the M.S.Ed. degree. Student enrolls with the faculty member directing the thesis. May be repeated to a maximum of 6 semester hours. S/U grading. PRQ: Consent of department.

699B. ED.S. THESIS (3-6). May be repeated to a maximum of 6 semester hours. S/U grading. PRQ: Consent of department.

699C. ED.S. FIELD STUDY (3-6). May be repeated to a maximum of 6 semester hours. S/U grading. PRQ: Consent of department

700. 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.

710. THE SUPERINTENDENCY (3). Basic performance patterns of the superintendent and central office personnel in the organization and administration of the educational process. PRQ: LEEA 700, LEEA 720, LEEA 725, LEEA 735, LEEA 754, and LEEA 755, or consent of department.

715. EDUCATIONAL FACILITIES (3). Educational facilities planning, facilities survey, population and utilization studies, and evaluation of existing facilities. Includes laboratory and field-based clinical experiences.

720. EDUCATION FINANCE II (3). Theoretical aspects of financial administration, state and local tax systems, cost-quality relationships, and operational finance.

725. EDUCATION LAW II (3). Emphasis on case studies in education law. Includes clinical experiences.

726. SPECIAL EDUCATION: LEADERSHIP AND THE LAW (3). Legal aspects of leading programs that address the specialized needs of children with disabilities from diverse cultural and language backgrounds.

730. EDUCATIONAL ADMINISTRATION FIELD STUDIES (3). Methods of administrative planning in the areas of community background, evaluation of facilities, transportation, scheduling, utilization of staff, and financial analysis. Includes clinical experiences.

735. ADMINISTRATION AND SUPERVISION OF EDUCATIONAL PERSONNEL (3). Problems and issues associated with administration and supervision of educational personnel. Organization of personnel, collective negotiations, selection of personnel, and development of reward systems. Includes clinical experiences.

736. COLLECTIVE BARGAINING IN EDUCATION (3). An educational administration perspective on basic processes of collective bargaining in educational settings. Consideration given to history, theory, specific collective bargaining issues, planning, communication, and strategies required in the bargaining process. Includes clinical experiences.

737. SEMINAR: MANAGEMENT OF NEGOTIATED CONTRACTS IN EDUCATION (3). For present and prospective educational administrators to study and explore effective strategies for implementation, resolution, and management of negotiated contracts. Includes clinical experiences.

740. SEMINAR IN SCHOOL-COMMUNITY RELATIONS (3). Current problems and issues as they affect administrative practices; emphasis on field-based practices and techniques.

745. SURVEY OF RESEARCH IN EDUCATIONAL ADMINISTRATION (3). Survey of selected research studies in educational organization and administration.

750. SEMINAR: EDUCATIONAL ADMINISTRATION (3). Identification and integration of the human and technical skills required for modern educational administration. May be repeated to a maximum of 6 semester hours.

751. EXTERNSHIP IN EDUCATIONAL ADMINISTRATION (3). Designed expressly for practicing educational administrators and business managers and directly concerned with applied problems in educational administration and business management. May be repeated to a maximum of 6 semester hours. PRQ: Consent of department.

754. THE POLITICS OF EDUCATIONAL ADMINISTRATION (3). Methods and conceptualization of political power in educational administration; examination of policy making, the policymakers, and educational administrators in their policy making roles; ways of influencing policy processes and identification of current policy issues in educational administration.

755. PLANNING AND DECISION MAKING IN EDUCATIONAL ADMINISTRATION (3). Extended study of decision making in education focusing on specific problems in planning, design, implementation, and evaluation. Includes clinical experiences.

777. SPECIAL EDUCATION ADMINISTRATION (3). Advanced study of functions, responsibilities, and problems in the organization and administration of special education programs at the federal, state, and local levels.

778. SEMINAR: SPECIAL EDUCATION ADMINISTRATION (3). Trends, issues, and concerns in administration of special education programs. One issue or trend will be selected for an in-depth independent library review and/or empirical study by each student.

780. CLINICAL LABORATORY, DISTRICT-LEVEL ADMINISTRATION (1). Laboratory-based clinical experiences including individual and group classroom exercises and simulations focused on district-level administrative tasks and functions. Required for superintendent's endorsement.

786. INTERNSHIP IN EDUCATIONAL ADMINISTRATION (1-12). Work individually or in small groups in a practical situation under guidance of a staff member of that setting and a university supervisor. May be repeated to a maximum of 12 semester hours, although typically only 6 semester hours may be applied to the program of study. S/U grading. PRQ or CRQ: LEEA 710, or consent of department.

797. INDEPENDENT RESEARCH IN EDUCATIONAL ADMINISTRATION (1-3). Independent research at post-master's degree levels under faculty supervision. May be repeated to a maximum of 6 semester hours. PRQ: Consent of department.

798. RESEARCH SEMINAR IN EDUCATIONAL ADMINISTRATION (3). Designed for the advanced student interested in planning and conducting research studies in educational administration. Research project may be an exploratory or pilot study related to the doctoral dissertation. May be repeated to a maximum of 6 semester hours. PRQ or CRQ: ETR 720 or consent of department.

799. DOCTORAL RESEARCH AND DISSERTATION (1-15). Student must accumulate 15 semester hours prior to graduation. May be repeated to a maximum of 30 semester hours. S/U grading. PRQ: Candidacy for the doctoral degree and consent of chair of doctoral committee.

### **Educational Psychology (EPS)**

501. PSYCHOLOGICAL FOUNDATIONS OF EDUCATION (3). Psychology as it relates to and provides foundations for educational practice. Constructive analysis of the principal areas, theories, experimentation, and conclusions in psychology with focus on such topics as motivation, learning, thinking, problem solving, self regulation and the social context.

504. PSYCHOLOGY OF EDUCATION IN THE ELEMENTARY AND MIDDLE SCHOOL YEARS (3). Application of psychological principles to teaching elementary and middle school. For students pursuing a Master of Arts in Teaching degree.

505. ISSUES IN HUMAN DEVELOPMENT IN THE ELEMENTARY THROUGH HIGH SCHOOL YEARS (3). Cognitive, socioemotional, and physical development of children and adolescents within their families, schools, and sociocultural contexts. Focus on relationships between these aspects of student development and their implications for educational approaches and teaching within a school setting. Designed for students needing K-12 teacher certification. Documented clinical experience or supervised participation in schools is required either prior to or concurrent with this course.

506. THEORIES AND RESEARCH IN CHILD BEHAVIOR AND DEVELOPMENT (3). Analysis of theory and research concerning the nature of child development and the implications of such for classroom teachers and other professionals who work with childhood populations.

507. ISSUES IN HUMAN DEVELOPMENT AND LEARNING IN THE MIDDLE SCHOOL AND HIGH SCHOOL YEARS (3). Cognitive, socioemotional, and physical characteristics of youth and their implications for educational practices with respect to student learning and performance in middle school and high school. Designed for students seeking teacher certification in grades 5-12 only. CRQ: Clinical experience or supervised participation in schools.

508. THEORIES AND RESEARCH IN ADOLESCENT BEHAVIOR AND DEVELOPMENT (3). Analysis of theory and research concerning the nature of adolescent development and the implications of such for classroom teachers and other professionals who work with adolescent populations.

510. ADULT EDUCATIONAL PSYCHOLOGY (3). Study of educational and psychological theories of adult development and aging with emphasis on the evaluation of contemporary research in adult cognitive development.

511. MORAL DEVELOPMENT AND CHARACTER EDUCATION (3). Advanced seminar focusing on critical analysis of theoretical perspectives, research, and educational practices related to moral development. PRQ: EPS 506, EPS 508, or EPS 510, or consent of department.

512. TEACHER, FAMILY, AND COMMUNITY: RELATIONSHIPS AND RESOURCES (3). Theoretical and empirical perspectives on how relationships among teachers, families, and communities influence the learning and school adjustment of children and adolescents as well as the roles of teachers, parents, and community agencies. Models and methods for facilitating positive relationships among teachers, parents, and students. Resources for the education of children within families and communities.

513. CREATIVITY AND LEARNING (3). Preservice and inservice training for elementary and secondary teachers in the nature of creativity, the creative process, the creative person, and cultivation of the creative personality. Addresses the assessment of creative processes and products. Emphasis on the creative process as it relates to education and schools.

515. SOCIAL THEORY APPLIED TO EDUCATION (3). *Crosslisted as EPFE 515X*. Investigation of social theory and brief survey of its origins in psychology, educational studies based on this approach, and relevant contributions from the social sciences.

518. MOTIVATION IN THE CLASSROOM (3). Application of current motivation theories and research for understanding and fostering student motivation to learn in the classroom.

519. THE MIDDLE SCHOOL CHILD (3). Examination of the match between characteristics of early adolescents (10-14 years) and characteristics of middle school programs. Biological, cultural, psychological, and social forces affecting the development of young adolescents. Focus on the role of the teacher, school, and community in helping the adolescent to deal with the impact of changes in these types of forces.

523. APPLICATION OF PSYCHOLOGICAL RESEARCH TO EDUCATIONAL PRACTICE (3). Interpretation and application of research concerning human development, learning, and motivation to improve practices in schools and other organized learning environments. Design and evaluation of educational practices based on psychological theory and research, analyzing and selecting developmental assessments, observing student learning and motivation during instructional activities, and communicating with practitioners about research.

524. ETHNOGRAPHIES IN HUMAN DEVELOPMENT AND LEARNING WITHIN EDUCATIONAL SETTINGS (3). Ethnographies in diverse educational settings (e.g., classroom, school, family) with emphasis on human development across the life span and cultures. Ethnographic research relevant to learning and development such as negotiating entry, collecting data through interview and participant-observation, writing field notes, developing and identifying research questions, and generating valid and critical hypotheses and conclusions.

526. FOUNDATIONS OF PSYCHEDELIC STUDIES IN EDUCATION (3). *Crosslisted as EPFE 520X*. An exploration of psychological, social, historical, philosophical, and anthropological implications of psychedelics for educational practice and policy.

532X. EVALUATION OF TEACHERS AND TEACHING (3). *Crosslisted as ETR 532*. Examination of major components of a comprehensive system for evaluating teachers and teaching and the related issues and teacher effectiveness literature.

535. EXAMINING EDUCATIONAL PSYCHOLOGY EVIDENCE FOR EDUCATIONAL PRACTICES (3). Examination of a number of practices in education from a psychological perspective, with focus on weighing the best available evidence. Topics may include methods of grouping students for instruction, individual differences in learning, student academic support activities, and student achievement. Evaluation of evidence in order to make informed decisions regarding effective practices in education. PRQ: Graduate course work in educational psychology and research methods, or consent of department.

540X. EDUCATION FOR SOCIAL JUSTICE (3). *Crosslisted as EPFE 540*. Social and psychological forces which influence human relationships and have implications in educating for social justice and the diminution of forces of aggression, fear, and violence.

550X. CLASSROOM MANAGEMENT (2). *Crosslisted as TLCI 550*. Applications of motivation and management principles and procedures to maintain a positive learning environment in classrooms.

553. THE GIFTED STUDENT (3). Characteristics of the gifted. Emphasis on identification, growth and development, creativity, motivation, guidance, and evaluation of the gifted.

554. PROCEDURES FOR EDUCATING THE GIFTED (3). Current practices, trends, and issues in curriculum development and instructional methods for the gifted. Procedures as they relate to cognitive functions, factors of intellect, and creative expression. PRQ: EPS 553 or consent of department.

587. PRACTICUM IN GIFTED (1-10). Supervised field experience in special education programs in schools, institutions, and other facilities for gifted students. May be repeated to a maximum of 12 semester hours. PRQ: Admission to Graduate School and consent of department.

590. WORKSHOP IN EDUCATIONAL PSYCHOLOGY (1-3). Designed for teachers, supervisors, counselors, and administrators to study contemporary issues and problems of the public school. Content varies. May be repeated to a maximum of 12 semester hours.

592. SEMINAR IN EDUCATIONAL PSYCHOLOGY (3). Review and analysis of current issues and research in educational psychology. May be repeated to a maximum of 9 semester hours when subject varies.

597. INDEPENDENT RESEARCH (1-6). Independent research at the master's degree level under faculty supervision. May be repeated to a maximum of 18 semester hours, but no more than 6 hours can be applied to a degree. PRQ: Consent of faculty member who will direct research.

614. INSTRUCTIONAL PSYCHOLOGY (3). *Crosslisted as PSYC 614X*. Models and theories of instructional psychology as related to contemporary research in cognition. PRQ: EPS 713, a course in cognitive psychology, or consent of department.

679. CULTURAL PERSPECTIVES ON HUMAN DEVELOPMENT (3). *Crosslisted as PSYC 679X*. Cultural perspectives on parenting, home-school relations, psychological development, and education. Case materials drawn from western and non-Western societies.

699A. MASTER'S THESIS (1-6). Enrollment by special arrangement with student's major adviser. May be repeated for a maximum of 6 semester hours. S/U grading.

699B. MASTER'S PROJECT (1-6). Culminating experience. Enrollment by special arrangement with student's major adviser. May be repeated for a maximum of 6 semester hours. S/U grading.

701. PROFESSIONAL PRACTICES IN EDUCATIONAL PSYCHOLOGY (3). Examination of the historical and systemic roots of educational psychology; relationships among educational psychology, education, and other behavior sciences; career options and professional practices; and current initiatives and future directions within the discipline.

705. ADVANCED SEMINAR IN CHILD DEVELOPMENT (3). Critical analysis of child development theories with application to contemporary educational issues and problems.

706. RESEARCH IN CHILD DEVELOPMENT (3). Examination and analysis of recent research in child development. Focus on development of skills for conducting research in child development applicable to all educational settings. PRQ: EPS 705 or consent of department.

707. HUMAN DEVELOPMENT AND EDUCATIONAL AND SOCIAL POLICY (3). *Crosslisted as EPFE 707X*. Interplay among societal issues, human development research and theory, and social policy. Methods for initiating, developing, and implementing social and educational policy in a variety of institutional settings.

708. ADVANCED RESEARCH SEMINAR IN ADOLESCENT DEVELOPMENT (3). In-depth examination of selected research methods and topics in adolescent development. Particular focus on student research and secondary analysis of existing data sets pertaining to various dimensions of adolescent development within educational contexts. Background in adolescent development recommended.

710. SEMINAR IN LIFESPAN HUMAN DEVELOPMENT (3). The study of human development and learning from a lifespan perspective pertinent to cognitive, emotional, physical, and social development. Implications for educators.

713. ADVANCED EDUCATIONAL PSYCHOLOGY (3). Detailed analysis of modern learning theories and practices as they relate to education. Detailed investigation of major research in educational psychology focusing on learning and cognition.

715. EDUCATION AND HUMAN COGNITIVE PROCESSING (3). Implications of human cognitive processing and memory research techniques and their application to learning situations.

716. LEARNING RESEARCH PRACTICUM (3). Extended study of learning theory and individual research focusing on specific and persistent problems of design, translation, and interpretation of learning research for educators. May be repeated to a maximum of 6 semester hours. PRQ: EPS 713 or consent of department.

718. RESEARCH SEMINAR IN MOTIVATION AND EDUCATION (3). Critical analysis of current motivation theories and research in educational settings. Emphasis on issues of research design and interpretation for educators.

723. DESIGN OF RESEARCH ON HUMAN DEVELOPMENT AND LEARNING IN EDUCATIONAL SETTINGS (3). Development of proposals for studies of human development, learning, and motivation within educational settings. Acquisition of skills to analyze research critically, develop research questions, select appropriate designs and methods, and create or adapt instruments to assess learner development. PRQ: ETR 522 and EPS 523 or consent of department.

739. FIELDWORK METHODS IN EDUCATIONAL RESEARCH (3). *Crosslisted as ETR 739X*. Emphasis on studying examples of educational fieldwork and actual hands-on research. PRQ: ANTH 560 or ETR 525, or consent of department.

745X. INTERPRETIVE METHODS IN EDUCATIONAL RESEARCH (3). *Crosslisted as EPFE 745 and ETR 745X*. Emphasis on structuralist, poststructuralist, and semiotic theories and techniques in education to develop systematic hands-on interpretive projects. PRQ: ETR 525.

770X. WRITING FOR PUBLICATION IN EDUCATIONAL PSYCHOLOGY AND SPECIAL EDUCATION (3). *Crosslisted as TLSE 770*. Planning, producing, and submitting manuscripts for publication. Includes analysis of professional journals and articles published in them with different types of publications addressed and analyzed, including review, research, and theoretical position papers.

771X. WRITING GRANT PROPOSALS IN EDUCATION (3). *Crosslisted as TLSE 771*. Reviewing and writing competitive grant proposals. Identifying funding sources (federal, state, private) that match one's interests and expertise. Analysis of components of different types of grants, including research, demonstration, special project, technology, and personnel preparation grants.

786. 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 doctoral students, or by consent of department. May be repeated to a maximum of 12 semester hours. S/U grading.

792. ADVANCED RESEARCH SEMINAR IN EDUCATIONAL PSYCHOLOGY (3). Students design and conduct a study dealing with a problem in educational psychology. It may be a pilot study related to the doctoral dissertation. May be repeated to a maximum of 12 semester hours. PRQ: Master's degree.

797. INDEPENDENT RESEARCH (1-6). Independent research at post-master's degree levels under faculty supervision. May be repeated to a maximum of 18 semester hours, but no more than 6 hours can be applied to a degree. PRQ: Consent of faculty member who will direct research.

799. DOCTORAL RESEARCH AND DISSERTATION (1-15). Students are required to register for a minimum of 3 semester hours per term unless an exception is granted by the department. May be repeated for additional credit to a maximum of 24 semester hours. S/U grading. PRQ: Candidacy for the doctoral degree and consent of chair of doctoral committee.

## Foundations of Education (EPFE)

500. SOCIAL FOUNDATIONS OF EDUCATION (3). Social forces influencing education; educational traditions as reflections of diverse cultures; the school and cultural change; educational issues and sources of cultural conflict in the United States.

501. RESEARCH METHODS IN THE PHILOSOPHICAL, HISTORICAL, AND SOCIAL FOUNDATIONS OF EDUCATION (3). Emphasis on interpretive, normative, and critical perspectives in planning, conducting, and writing research studies in education.

505. FOUNDATIONS OF LANGUAGE-MINORITY EDUCATION (3). Examination and analyses of the historical and social contexts of language-minority education in the United States, with emphases on bilingual education and the instruction of English as a second language in elementary, middle, and high schools.

510. PHILOSOPHICAL FOUNDATIONS OF EDUCATION (3). Emphasis on the distinct nature of philosophic inquiry functioning within a sociocultural setting in the construction of educational theory.

511. PHILOSOPHICAL ANALYSIS OF CURRENT EDUCATIONAL THOUGHT (3). Philosophical methods used in analyzing, refining, and criticizing educational theory and ideology in a multicultural society.

515X. SOCIAL THEORY APPLIED TO EDUCATION (3). *Crosslisted as EPS 515*. Investigation of social theory and brief survey of its origins in psychology, educational studies based on this approach, and relevant contributions from the social sciences.

520. HISTORICAL FOUNDATIONS OF EDUCATION (3). History of education in Western society. Major educational figures, theories, institutions, and developments emphasized and interpreted in their cultural contexts.

521. HISTORICAL FOUNDATIONS OF EDUCATION IN THE UNITED STATES (3). History of education in the United States. Interrelation of diverse cultures and educational figures, theories, and developments.

526X. FOUNDATIONS OF PSYCHEDELIC STUDIES IN EDUCATION (3). *Crosslisted as EPS 520*. An exploration of psychological, social, historical, philosophical, and anthropological implications of psychedelics for educational practice and policy.

530. COMPARATIVE/INTERNATIONAL EDUCATION (3). Survey of purpose, methodology, and research trends in comparative/international education. Implications of comparative research for American educational practice.

540. EDUCATION FOR SOCIAL JUSTICE (3). *Crosslisted as EPS 540X*. Social and psychological forces which influence human relationships and have implications in educating for social justice and the diminution of forces of aggression, fear, and violence.

555. SOCIOLOGY OF CLASSROOMS (3). Sociological analysis of teaching and learning in America's elementary and secondary school classrooms. Particular attention is given to processes of differentiation, stratification, socialization, social organization as well as social relationships in the classroom.

557. SOCIOLOGY OF URBAN EDUCATION (3). Sociological analysis of urban schooling and reform; political, economic, and social forces influencing urban education; culture and climate of urban schools; urban community-school relationships.

586. INTERNSHIP IN EDUCATIONAL FOUNDATIONS (1-9). Students learn to apply foundations principles in a practical setting. Instruction supervised by a foundations of education professor. May be repeated to a maximum of 9 semester hours.

590. WORKSHOP IN EDUCATION (1-3). 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. PRQ: Acceptance by the director of the workshop.

592. SPECIAL TOPICS IN FOUNDATIONS OF EDUCATION (1-3). Study of special topics, announced in advance, in foundations of education. May be repeated to a maximum of 9 semester hours when subject varies.

597. INDEPENDENT RESEARCH IN FOUNDATIONS OF EDUCATION (1-3). Independent research at the master's degree level under faculty supervision. May be repeated to a maximum of 6 semester hours. PRQ: Admission to master's degree program and consent of faculty member who will direct research.

699A. MASTER'S THESIS (1-6). Open only to students who elect to write a thesis for the M.S.Ed. degree. Student enrolls with the faculty member directing the thesis. May be repeated to a maximum of 6 semester hours. S/U grading. PRQ: Consent of department. Recommended: ETR 520.

699B. MASTER'S PROJECT (1-6). Culminating experience. Enrollment by special arrangement with the student's major adviser. May be repeated to a maximum of 6 semester hours. S/U grading. PRQ: Consent of department.

703. SEMINAR: GENDER ISSUES IN EDUCATIONAL THOUGHT (3). Study of gender in educational thought with emphasis on epistemological, ethical, and critical arguments. Consideration of the respective implications of theories for gender-specific education and development.

707X. HUMAN DEVELOPMENT AND EDUCATIONAL AND SOCIAL POLICY (3). *Crosslisted as EPS 707*. Interplay among societal issues, human development research and theory, and social policy. Methods for initiating, developing, and implementing social and educational policy in a variety of institutional settings.

710. SEMINAR IN PHILOSOPHICAL INVESTIGATION (2-3). Philosophic exploration of various educational doctrines and theories operating in a sociocultural context. May be repeated to a maximum of 9 semester hours.

712. ETHICS AND EDUCATION (3). Study of educational policy and pedagogy from the perspective of theories in ethics. Critical analysis of the relationship of education to philosophic discussions of pertinent ethical issues related to education in a multicultural society.

715. FOUNDATIONS OF EDUCATIONAL POLICY (3). Critical analysis of the generation, implementation, and outcomes of educational economics and history used to investigate the dynamics of policy formation and the relationship between educational policy and social trends.

720. SEMINAR IN EUROPEAN EDUCATIONAL THOUGHT (3). European educational theories that have influenced Western culture. Educational ideas of selected theorists examined in their cultural contexts. Attention to current issues and problems from a critical historical perspective.

721. SEMINAR IN AMERICAN EDUCATIONAL THOUGHT (3). Individuals, theories, and developments in American educational history examined in their historical, philosophical, social, and cultural contexts through discussion and research. Attention to how major educational theorists and intellectual movements are connected to the wider cultural environment. PRQ: Admission to Ed.S. or doctoral program, or consent of department.

722X. ADULT AND HIGHER EDUCATION IN SOCIAL CONTEXT (3). *Crosslisted as CAHA 722*. Critical analysis of the relationships existing between adult and higher education and its various social contexts. Clarification of present and future purposes and practices of adult and higher education in light of trends in social science research.

723. HISTORY OF HIGHER EDUCATION (3). Critical analysis and interpretation of historical developments in American higher education from the colonial to modern periods. Emphasis on key institutions, episodes, people, and social trends illustrating the continuities, complexities, and changes in community colleges, colleges, and universities.

725. HISTORY OF WOMEN'S EDUCATION IN THE UNITED STATES (3). Survey of women's education in the context of the main currents of United States history. Educational leaders, theories, institutions, and developments analyzed in multicultural contexts.

730. SEMINAR IN COMPARATIVE/INTERNATIONAL EDUCATION (3). Selected topics focusing on theoretical frameworks, relevant research, and implications for educational policy and practice.

740. SEMINAR IN PROFESSIONAL EDUCATIONAL ORGANIZATIONS (1-3). Case studies of educational organizations, their history, purposes, and functions. Appraisal of the impact of these groups on past, present, and future educational trends. May be repeated to a maximum of 3 semester hours.

745. INTERPRETIVE METHODS IN EDUCATIONAL RESEARCH (3). *Crosslisted as EPS 745X and ETR 740X*. Concentration on structuralist, poststructuralist, and semiotic theories and techniques in education to develop systematic hands-on interpretive projects. PRQ: ETR 525 or EPS 524 or consent of department.

### School Business Management (LEBM)

501. SCHOOL BUSINESS MANAGEMENT (3). Summary of task areas such as 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.

511. PRACTICUM IN SCHOOL BUSINESS MANAGEMENT (1-6). Designed to provide maximum experience with practitioners in the field. All phases of business management and opportunity for field experiences. May be repeated to a maximum of 6 semester hours. PRQ: LEBM 501, LEBM 521, and LEEA 520, or consent of department.

521. ACCOUNTING, STATEMENT ANALYSIS, AND BUDGETING (3). Principles of school fund accounting including a study of budgeting, payroll administration, bonded indebtedness, accounting for receipts and expenditures, extracurricular funds and analysis of statements, and auxiliary enterprises such as cafeteria and store. PRQ: LEBM 501, or consent of department.

525. LEGAL ASPECTS OF SCHOOL BUSINESS MANAGEMENT (3). Major legal issues and problems impacting day-to-day business and financial operations at the school district level. Includes clinical experiences. Designed for master's degree students. PRQ: LEBM 501 and LEBM 521, or consent of department.

530. MANAGEMENT OF BUSINESS SUPPORT SERVICES (3). Principles and procedures of purchasing, property accounting, risk management, food service programs, transportation, and school store operation. PRQ: LEEA 500, LEEA 520, LEBM 501, and LEBM 521, or consent of department.

536. ROLE OF THE SCHOOL BUSINESS ADMINISTRATOR IN COLLECTIVE BARGAINING (3). Focus on role of the school business administrator in defining financial parameters for bargaining, measuring short- and long-term financial impact of proposals, and administering approved contracts. PRQ: LEBM 501 and LEBM 521, or consent of department.

540. PERSONNEL AND FACILITIES MANAGEMENT (3). Problems and issues associated with managing personnel and operating and maintaining school sites and facilities. All aspects of the business office, noncertified staff, and legal and insurance problems. PRQ: LEEA 500 and LEBM 501, or consent of department.

550. FINANCIAL PLANNING AND SCHOOL BUDGETING (3). Techniques and methods of estimating local, state, and federal revenues; alternative methods of school budget planning and control; and cost analysis. PRQ: LEEA 520, LEBM 501, and LEBM 521, or consent of department.

586. INTERNSHIP IN SCHOOL BUSINESS MANAGEMENT (1-12). Work individually or in small groups in a practical situation under guidance of a staff member of that setting and a university supervisor. Minimum of 6 semester hours required for chief school business official endorsement. May be repeated to a maximum of 12 semester hours, although typically only 6 semester hours may be applied to the program of study. LEBM 586 is ordinarily to be taken 2 semester hours per term for three consecutive terms for a total of 6 semester hours. S/U grading. PRQ: LEBM 501 and LEBM 521, or consent of department.

590. WORKSHOP IN SCHOOL BUSINESS MANAGEMENT (1-3). Designed for teachers, supervisors, counselors, and administrators to study contemporary issues and problems of the public school. Content varies. May be repeated to a maximum of 12 semester hours. PRQ: Consent of department.

592. SPECIAL TOPICS IN SCHOOL BUSINESS MANAGEMENT (1-3). Topics announced. May be repeated to a maximum of 9 semester hours when topic varies.

597. INDEPENDENT RESEARCH IN SCHOOL BUSINESS MANAGEMENT (1-3). Independent research at the master's degree level under faculty supervision. May be repeated to a maximum of 6 semester hours. PRQ: Consent of department.

699. MASTER'S THESIS (3-6). Open only to students who elect to write a thesis for the M.S.Ed. degree. Student enrolls with the faculty member directing the thesis. May be repeated to a maximum of 6 semester hours. PRQ: Consent of department. Recommended: ETR 520.

710. SEMINAR IN SCHOOL BUSINESS MANAGEMENT (3). 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. PRQ: Consent of department.

721. ADVANCED SCHOOL FUND ACCOUNTING AND BUDGETING (3). Application of data processing systems to school fund accounting, payroll, inventories, curriculum, personnel, registration procedures, budget, textbook accounting, and other business office functions. PRQ: LEEA 500, LEEA 520, LEBM 501, and LEBM 521, or consent of department.

786. INTERNSHIP IN SCHOOL BUSINESS MANAGEMENT (3-12). Work individually or in small groups in a practical situation under guidance of a staff member of that setting and a university supervisor. May be repeated to a maximum of 12 semester hours. S/U grading. PRQ: Consent of department.

797. INDEPENDENT RESEARCH IN SCHOOL BUSINESS MANAGEMENT (1-3). Independent research at post-master's degree level under faculty supervision. May be repeated to a maximum of 6 semester hours. PRQ: Consent of department.

# Department of Literacy Education (LT--)

Chair: Norman A. Stahl

## Graduate Faculty

Sonya L. Armstrong, assistant professor, Ed.D., University of Cincinnati  
 Chris L. Carger, professor, Ph.D., University of Illinois, Chicago  
 Sarah Cohen, assistant professor, Ph.D., University of Toronto  
 Mayra C. Daniel, associate professor, Ed.D., Illinois State University  
 Laurie Elish-Piper, Presidential Teaching Professor, Ph.D., University of Akron  
 Sheryl L. Honig, assistant professor, Ph.D., University of Illinois, Chicago  
 Melanie D. Koss, assistant professor, Ph.D., University of Illinois, Chicago  
 Susan L'Allier, associate professor, Ed.D., Harvard University  
 Richard A. Orem, Presidential Teaching Professor, Ed.D., University of Georgia  
 Donald J. Richgels, Distinguished Teaching Professor, Ph.D., University of Wisconsin  
 Norman A. Stahl, professor, Ph.D., University of Pittsburgh  
 Donna E. Werderich, assistant professor, Ed.D., Northern Illinois University  
 Corrine M. Wickens, assistant professor, Ph.D., Texas A&M University

The Department of Literacy Education offers the M.S.Ed. degree in literacy education and the Ed.D. degree in curriculum and instruction with a specialization in literacy education. A list of requirements for each program is available in the department office. Several courses of study leading to certification, endorsement, and teacher approval are also offered. The department offers course work pertaining to literacy, intercultural, and language education across the lifespan, including work in reading, the language arts, children's literature, bilingual education, English as a second language, and multicultural education.

## Master of Science in Education

Literacy education

## Doctor of Education

Curriculum and instruction

## Internships

The Department of Literacy Education offers graduate internships in literacy fields including reading, language arts, children's literature, bilingual education, English as a second language, and adult literacy. For further information and internship possibilities, see course descriptions and consult with an adviser.

## Master of Science in Education in Literacy Education

The M.S.Ed. in literacy education prepares experienced teachers to be socially responsible practitioner scholars and to work and learn within multicultural and multilingual contexts to foster literacy and language development for all learners across the lifespan. Students who want to complete Illinois State Board of Education certification, endorsement, or approval in a literacy education field should refer to the section "Certification at the Graduate Level."

## Admission

The Department of Literacy Education seeks to select the best-qualified applicants for admission to its programs. When the number of applicants to any program exceeds its capacity, even qualified applicants may be denied admission and encouraged to reapply at a later date.

An applicant for admission must have a baccalaureate degree with a GPA of 3.00 or higher and provide at least two letters of recommendation from professors, employers, or supervisors that provide supportive evidence of an applicant's professional qualifications. An applicant may submit MAT scores in lieu of GRE scores. Prospective students who fail to satisfy the GPA criterion may request special consideration of their applications. Such a request must be in writing, must include compensatory evidence related to the deficiency, and should accompany the application for admission to the Graduate School. Decisions regarding admission are made by departmental program committees on the basis of a total profile of an individual's qualifications. Appeals of a decision made by the admissions committee may be made to the department's Student Affairs Committee. Appeals to this committee must be in writing and must explain the basis for the appeal.

## Student-at-Large, Study-Abroad, and Transfer Credit

Student-at-large, study-abroad, and transfer hours in combination may not exceed 15 semester hours for students pursuing the M.S.Ed. degree in literacy education.

## Requirements

The M.S.Ed. in literacy education requires a minimum of 33 semester hours. Students can choose either the non-thesis or thesis option.

### Non-Thesis Option

One graduate-level course in research approved by adviser (3)  
 Course work in major approved by adviser (21)  
 Additional course work approved by adviser (9)  
 Successful completion of a comprehensive examination

### Thesis Option

Same as the non-thesis except that a minimum of 6 semester hours must be devoted to LTCY 699, Master's Thesis.

## Doctor of Education in Curriculum and Instruction in Literacy Education

### Specialization in Literacy Education

This is a professional degree intended to prepare superior teachers, administrators, service personnel, and scholars of education. In addition to other functions, the program prepares individuals for teaching at the college level. Preparation for research responsibilities both as producer and as consumer is an integral part of each program. The specialization in literacy education focuses on preparing students to be knowledgeable practitioners, scholars, and leaders in the field of literacy. Students

study literacy research, theory, and practice. A commitment to scholarship and research, as well as practice, is required of students so as to improve the status of literacy for all learners.

Applicants for the Ed.D. program are expected to have a broad base of general education in the humanities, sciences, and social sciences and are required to present evidence of a minimum of three years of acceptable professional experience and/or demonstrated field leadership.

### Admission

Decisions about admission to the Ed.D. program in the department are made once each academic term. To be assured of consideration, completed applications containing all required data (application forms, official transcripts, GRE or MAT scores, and letters of recommendation) must be received by the Graduate School no later than March 1 for admission for the fall term, November 1 for admission for the spring term, and March 1 for admission for the summer session.

An applicant for admission is generally expected to

- have a minimum GPA of 3.20 in previous graduate work.

- submit scores on the General Test of the GRE or the Miller Analogies Test (MAT).

- provide three letters of recommendation from professors, employers, or supervisors which provide supportive evidence of an applicant's professional qualifications.

- demonstrate satisfactory academic and professional progress as indicated by data included in the application for admission to the Graduate School.

Demonstration of writing competencies and participation in a preadmission interview is required of qualified applicants before a final admission decision is made.

Prospective students who fail to satisfy either the GPA or the GRE/MAT criterion may request special consideration of their applications. Such a request must be in writing, must include compensatory evidence related to the deficiencies, and should accompany the application for admission to the Graduate School. Final decisions regarding admissions are made by departmental program committees on the basis of a total profile of an individual's qualifications. Appeals of a decision made by the program committee may be made to the department's Student Affairs Committee. Appeals to this committee must be submitted in writing to the department chair and must explain the basis for the appeal.

### Deficiency Study

In cases in which a student's background in literacy education is limited, the individual may be required to fulfill deficiency requirements. Where significant deficiencies are found by the student's advisory committee, additional semester hours above the 93 required for the doctoral degree may be prescribed.

### Requirements

The doctoral program in curriculum and instruction with a specialization in literacy education requires the equivalent of at least three years of full-time academic work, or a minimum of 93 semester hours of graduate work beyond the baccalaureate degree including the following.

- TLCI 703 - Design of Curriculum and Instruction (3)

- TLCI 704 - Research Seminar in Curriculum and Instruction (3)

- Course work constituting common requirements in research understandings and skills, learning and development theories, and sociocultural analyses of education (15)

- Course work (excluding dissertation hours) in the specialization (12)

A cognate component selected from outside the specialization to provide a broader base of knowledge, a supportive professional skill, or more sophisticated research competencies (No specific number of semester hours is required.)

LTCY 699, Doctoral Research and Dissertation (15-30)

### Examinations

A candidacy examination encompassing the principal areas of professional knowledge, the common requirements, and students' special fields will be scheduled and administered at least twice each year. A graduate student eligible to take this examination, with the permission of the chair of the doctoral committee, will have completed at least two-thirds of his or her studies including the common requirements. Application for the examination can be made at the Department of Literacy Education.

A final oral examination related to the dissertation is required and is conducted in accordance with the general requirements of the Graduate School.

### Certificate of Graduate Study

#### Teaching English as a Second Language and Bilingual Education

This interdisciplinary certificate is designed to prepare educators to serve language-minority students in a variety of contexts, including bilingual and English as a Second Language (ESL) programs at K-12, post-secondary, and adult education levels. Students completing the certificate will gain the necessary skills for designing instruction, evaluating and designing materials, and assessing the language development of second language learners across the lifespan.

Students who want to pursue this certificate must receive approval and advisement from the coordinator. Those who want to earn either the ESL or bilingual approval from the Illinois State Board of Education should contact the certificate coordinator for further information.

EPFE 505 - Foundations of Language-Minority Education (3)

LTIC 547 - Assessment of Language-Minority Students (3)

One of the following (3)

- ENGL 622 - Theories and Methods of Teaching English to Speakers of Other Languages (3)

- LTIC 520 - Methods and Materials for Teaching English as a Second Language in Content Areas (3)

- LTIC 550/CAHA 552X - Teaching Adults English as a Second Language: Methods and Materials for Teaching Oral Skills (3)

Course work from the following (6-9)

- ENGL 614 - Introduction to Linguistics (3)

- ENGL 615 - Descriptive English Linguistics (3)

- ENGL 623 - Second Language Acquisition (3)

- LTIC 501/TLRN 501X - Multicultural Education: Methods and Materials (3)

- LTIC 515 - Bilingualism and Reading (3)

- LTIC 535 - Teaching Language-Minority Students in Bilingual Programs: Methods and Materials (3)

- LTIC 545 - Applied Linguistics for Teachers in Multilingual Classrooms (3)

- LTIC 551/CAHA 551X - Teaching Literacy Skills to Adult English Language Learners: Methods and Materials (3)

- LTIC 552/CAHA 552X - Curriculum Development for Adult English Language Learners (3)

- LTIC 553/CAHA 553X - Crosscultural Issues in the Adult ESL Classroom (3)

- LTLA 539 - Children's Literature in a Multicultural Society (3)

Internship (0-3)<sup>1</sup>

- CAHA 586 - Internship in Adult and Higher Education (3),

- OR ENGL 696 - Practicum in the Teaching of College English (3),

- OR LTCY 586 - Internship in Literacy Education (1-12)

## Certification at the Graduate Level

K-12 reading specialist certification is designed for teachers who wish to gain additional competencies which will enable them to work effectively with learners, teachers, and K-12 school-community personnel in improving reading instruction in the schools. The reading teacher endorsement is a 24-semester-hour requirement for reading teachers whose major teaching assignment is reading in other than a self-contained classroom. This is a teaching qualification on an existing certificate or an endorsement on a new certificate.

Approval to teach English as a second language and bilingual education can be earned through a program of 18 semester hours of combined course work in the Departments of Literacy Education, English, and Leadership, Educational Psychology and Foundations. These approvals must be attached to a Type 03 (elementary) or Type 09 (secondary) initial teacher certificate.

Students who wish to make application for certification and/or endorsement should contact the Department of Literacy Education for further information.

## Course List

### Bilingual/ESL (LTIC)

501. MULTICULTURAL EDUCATION: METHODS AND MATERIALS (3). *Crosslisted as TLRN 501X*. Designed to aid students to identify content materials and devise methods for implementing multicultural education. Emphasis on the relationships among culture, classroom procedure, and educational policy.

515. BILINGUALISM AND READING (3). Theoretical bases, approaches, materials, and activities facilitating assessment and development of second-language reading for elementary and secondary bilingual students.

520. METHODS AND MATERIALS FOR TEACHING ENGLISH AS A SECOND LANGUAGE IN CONTENT AREAS (3). Examination and application of instructional approaches and materials for teaching English as a second language in elementary and middle school settings. Focus on collaborative teaching across content areas, such as mathematics, science, language arts, and social studies. PRQ: EPFE 505 or consent of department.

535. TEACHING LANGUAGE-MINORITY STUDENTS IN BILINGUAL PROGRAMS: METHODS AND MATERIALS (3). Examination and application of instructional approaches and materials in bilingual programs in elementary, middle, and high schools.

545. APPLIED LINGUISTICS FOR TEACHERS IN MULTILINGUAL CLASSROOMS (3). Classroom-oriented applications of linguistic principles for effective instruction in multicultural, multilingual classrooms. PRQ: EPFE 505 or consent of department.

547. ASSESSMENT OF LANGUAGE-MINORITY STUDENTS (3). Examination and application of instruments and techniques for assessing oral and written language of language-minority children in schools; identifying language needs and differentiating them from developmental needs. PRQ: EPFE 505, LTIC 520, and LTIC 545, or consent of department.

550. TEACHING ORAL SKILLS TO ADULT ENGLISH LANGUAGE LEARNERS: METHODS AND MATERIALS (3). *Crosslisted as CAHA 550X*. Examination and application of methods and materials used to teach oral communication skills (listening and speaking) to English-language learners in adult education settings.

551. TEACHING LITERACY SKILLS TO ADULT ENGLISH LANGUAGE LEARNERS: METHODS AND MATERIALS (3). *Crosslisted as CAHA 551X*. Examination and application of methods and materials used to teach literacy skills (reading and writing) to English-language learners in adult education settings.

552. CURRICULUM DEVELOPMENT FOR ADULT ENGLISH LANGUAGE LEARNERS (3). *Crosslisted as CAHA 552X*. Examination of current practices in teaching English language learners in adult education settings with focus on issues in program and curriculum design, including the curriculum as process, student and teacher assessment, teaching methodology, and professional development.

553. CROSSCULTURAL ISSUES IN THE ADULT ESL CLASSROOM (3). *Crosslisted as CAHA 553X*. Examination of cultural differences and their influences on adults learning English language skills and acquiring general perceptions of their social environment.

589. PRACTICUM IN MULTILINGUAL/MULTICULTURAL EDUCATION (1-6). *Crosslisted as TLCI 589X*. Selected field experiences and instructional design projects in multilingual/multicultural education for those who are interested in improving professional skills for serving diverse populations of learners. May be repeated to a maximum of 6 semester hours. Does not satisfy student teaching requirement.

598. ISSUES IN TEACHING ENGLISH LANGUAGE LEARNERS (3). Integration and synthesis of the concepts, principles, trends, and issues in literacy education for English language learners. Open only to master's students in literacy education who are focusing on English language learners. PRQ: Completion of 24 semester hours in an approved master's level program, or consent of department.

700. SEMINAR IN EDUCATING ENGLISH LANGUAGE LEARNERS (3). Study of research on and theory of educating English language learners across the life span. May be repeated to a maximum of 9 semester hours when topic varies.

701. SUPERVISION OF PROGRAMS FOR ENGLISH LANGUAGE LEARNERS (3). Procedures for developing a Bilingual/English as a Second Language (ESL) K-12 curriculum and examination of the knowledge base required of educators to understand and improve instruction for Bilingual/English Language Learners (ELLs) in the schools. PRQ: The candidate should hold the ISBE teaching approval or endorsement for English as a Second Language or bilingual education, or consent of department.

720. REVIEW OF RESEARCH IN TEACHING ENGLISH LANGUAGE LEARNERS (3). Comprehensive study of research literature in teaching English language learners across the life span. Designed for advanced graduate students preparing literature reviews for the thesis or dissertation.

### Language Arts (LTLA)

530. CONTEMPORARY LANGUAGE ARTS (3). Introduction to contemporary applied language arts programs. Emphasis on methods, materials, and instructional procedures for elementary school children.

536. LITERACY RESEARCH IN ELEMENTARY EDUCATION (3). Detailed study of selected research in elementary school literacy programs with emphasis on principles, trends, methods, and materials. Focus on curriculum patterns and innovations. PRQ: ETR 520 or consent of department.

537. ACQUISITION OF SPOKEN AND WRITTEN LANGUAGE (3). Study of language development in young children (ages 0-8). Includes indepth treatment of theories in developmental psycholinguistics. Emphases on parallels between oral development and literacy acquisition and on consequent preschool and elementary school teaching strategies.

538. EVALUATING CHILDREN'S LITERATURE (3). Children's books considered in relation to literary merit and their potential for meeting developmental and ethnic needs of children. Attention given to classroom application.

539. CHILDREN'S LITERATURE IN A MULTICULTURAL SOCIETY (3). A historical and current perspective of multicultural influences in children's literature. Implications for classroom programs are considered.

540. TEACHING LANGUAGE ARTS IN THE ELEMENTARY SCHOOL (3). Emphasis on principles of instruction and curriculum development in the language arts.

<sup>1</sup> Students without prior experience in teaching ESL or bilingual education must successfully complete a minimum of 3 semester hours in one of the following internships or practica in an approved ESL or bilingual program.

541. TEACHING YOUNG ADULT LITERATURE (3). Survey of young adult literature considered in relation to classroom applications and issues relevant to the developmental and diverse needs of middle and high school students.

542. DESIGN AND PRODUCTION OF PICTURE BOOKS FOR CHILDREN AND YOUNG ADULTS (3). Close investigation of the picture book including basic reading and language arts methodologies and the creation of an original picture book. Skills for elementary and middle school classroom teachers to use in making aesthetic connections to reading and in creating specific instructional materials for children with special needs.

543. WRITING IN THE ELEMENTARY SCHOOL (3). Methods of developing writing skills of elementary students based on current theory and research.

544. EXPLORING CHILDREN'S LITERATURE (1). An introduction to children's literature with attention to literary merit, potential to meet the academic, cultural, emotional, and social needs of all children, and to prepare children as citizens of a diverse, democratic society. Attention given to classroom application. Designed for Master of Arts in Teaching candidates.

550. TEACHING LANGUAGE ARTS IN THE MIDDLE SCHOOL (3). Practical applications and experiences for development of language arts teaching techniques and strategies. Evaluation of theoretical bases, approaches, activities, and materials facilitating development and assessment of language arts at the middle-school level.

733. CHILDREN'S LITERATURE RESEARCH IN ELEMENTARY EDUCATION (3). Examination of selected research in children's literature and implications for instruction and curricular needs. Emphasis on writing and publishing for children. PRQ: Consent of department.

760. ADVANCED SEMINAR IN ELEMENTARY EDUCATION: LANGUAGE ARTS (3). Identification and analysis of problems and current issues in elementary education. May be repeated to a maximum of 9 semester hours.

### Literacy Education (LTCY)

586. INTERNSHIP IN LITERACY EDUCATION (1-12). Work individually or in small groups in a practical situation under guidance of staff member of that setting and a university supervisor. May be repeated to a maximum of 12 semester hours, although typically only 3 semester hours may be applied to the program of study. S/U grading.

587. TEACHING PRACTICUM (1-6). For those actively engaged in teaching who are interested in improving their teaching skills. Clinical work with 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. PRQ: Consent of department.

590. WORKSHOP IN LITERACY EDUCATION (1-3). Workshop designed for teachers, supervisors, counselors, and administrators to study contemporary issues and problems of literacy education. May be repeated when subject varies; however, no more than 6 semester hours may be applied toward the M.S.Ed. degree in literacy education. PRQ: Acceptance by the director of the workshop.

592. SPECIAL TOPICS IN LITERACY EDUCATION (1-3). Topics announced. May be repeated when subject varies; however, no more than 6 semester hours may be applied toward the M.S.Ed. degree in literacy education. PRQ: Consent of department.

597. INDEPENDENT RESEARCH IN LITERACY EDUCATION (1-3). Research at the master's level under faculty supervision. May be repeated when subject varies; however, no more than 6 semester hours may be applied toward the M.S.Ed. degree in literacy education. PRQ: Acceptance by the faculty member who will direct the research.

699. MASTER'S THESIS (3-6). Open only to students who elect to write a thesis for the M.S.Ed. degree in literacy education. Student enrolls with faculty member directing the thesis. May be repeated to a maximum of 6 semester hours. PRQ: Consent of department. Recommended: ETR 520.

786. INTERNSHIP IN LITERACY EDUCATION (1-12). Work individually or in small groups in a practical situation under guidance of a staff member of that setting and a university supervisor. May be repeated to a maximum of 12 semester hours. PRQ: Admission to doctoral program or consent of department.

797. INDEPENDENT RESEARCH IN LITERACY EDUCATION (1-3). Independent research at post-master's degree levels under faculty supervision. May be repeated to a maximum of 6 semester hours.

799. DOCTORAL RESEARCH AND DISSERTATION (1-15). Student must accumulate a minimum of 15 semester hours prior to graduation. May be repeated to a maximum of 30 semester hours. PRQ: Candidacy for the doctoral degree and consent of chair of doctoral committee.

### Reading (LTRE)

500. 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.

501. PRACTICUM IN TEACHING DEVELOPMENTAL READING: ELEMENTARY LEVEL (3). Practical applications and experiences in developing diagnostic teaching techniques and strategies to improve the reading skills and meet the needs of individual pupils.

505. TEACHING READING IN THE MIDDLE SCHOOL (3). Theories and models. Practical applications and experiences for the development of teaching techniques and strategies to improve academic and recreational reading. Study strategies for middle school students. Evaluation of current approaches, programs, and young adolescent literature for teaching reading in the middle school.

510. IMPROVEMENT OF READING IN THE SECONDARY SCHOOL (3). Extension of reading skills and interests for all learners in the junior and senior high school. Role of reading in the instructional process.

511. TEACHING READING IN THE CONTENT AREAS (3). Adaptation of materials, reading skills, and study strategies to the content areas. Role of reading personnel as learning facilitators within the school setting.

516. EMERGING LITERACY DEVELOPMENT (3). Emphasis on children's developing literacy. Assessment techniques and organizational approaches to literacy instruction across the preschool and primary years.

520. DIAGNOSIS AND TREATMENT OF READING DIFFICULTIES (3). Causes of reading difficulties, their diagnosis and correction in grades K-12. Current evaluative instruments. PRQ: LTRE 500 or LTRE 505 or LTRE 510 or LTRE 511, or consent of department.

525X. READING INTERESTS OF ADULTS (3). *Crosslisted as ETT 525.* Exploration of reading interest of adults, including demographic aspects; popular nonfiction and fiction (bestsellers, genre fiction) books and periodicals; media tie-ins; reading promotion and readers advisory services in libraries.

530. PRACTICUM IN DIAGNOSIS OF READING DIFFICULTIES (3). Case study techniques in the diagnosis of reading problems. 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 department required. PRQ: LTRE 520, or consent of department.

531. PRACTICUM IN PROBLEMS OF TEACHING READING (3). Clinical experience in applying procedures with severely disabled readers at the elementary and/or secondary level. PRQ: Consent of department. Recommended: LTRE 530.

540. PRACTICUM IN 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. Supervised laboratory practice with children in a school setting required. PRQ: Consent of department. Recommended: LTRE 530.

550. PRACTICUM IN CORRECTIVE READING IN THE SECONDARY SCHOOL (3). Diagnostic techniques and corrective procedures suitable for testing and teaching the less severe reading disability cases among secondary school students. Supervised laboratory practice with students in a school setting required. PRQ: Consent of department. Recommended: LTRE 530.

591. READING INSTITUTE (1-3). Basic reading problems and issues at all levels of reading instruction. May be repeated when subject varies; however, no more than 6 semester hours may be applied toward the M.S.Ed. degree in literacy education.

701. SUPERVISORY PROBLEMS IN READING (3). Procedures for developing a K-12 curriculum in reading and the supervisory responsibilities of administrators and reading consultants in improving reading instruction in the schools. PRQ: Consent of department. Recommended: 12 graduate-level hours in reading.

711. SEMINAR IN RESEARCH STUDIES IN THE FIELD OF READING (3). Designed for advanced student interested in the study of research reports in education, psychology, linguistics, and other disciplines, which have a bearing on the problems of teaching reading. Recommended: ETR 520 and ETR 521 and 12 graduate-level hours in reading.

712. CORRELATES OF EFFECTIVE READING (3). The bases of methods in the teaching of reading and the reading process: word perception, reading readiness, personality and motivation variables, and other correlates. Recommended: 12 graduate-level hours in reading.

713. SEMINAR IN COMPARATIVE READING (3). Comparison of reading methods and related variables in different national and cultural groups.

714. SEMINAR IN READING (1-3). Identification and analysis of issues and problems in reading at all levels. May be repeated to a maximum of 9 semester hours.

718. ADULT READING INSTRUCTION (3). Emphasis on the teaching of reading to adults; strategies applicable to meet the needs of the adult learner; functional alternatives for instruction; preparation of volunteers and the role of the reading teacher with adults.

719. PRINCIPLES AND METHODS OF TEACHING POSTSECONDARY READING (3). Emphasis on research, theoretical foundations, and philosophical models relevant to postsecondary reading instruction methods. PRQ: Consent of department.

# Department of Teaching and Learning (TL--)

Chair: Helen Brantley

## Graduate Faculty

Erika Blood, assistant professor, Ph.D., University of Washington  
 Lynette K. Chandler, professor, Ph.D., University of Kansas  
 Gregory Conderman, associate professor, Ed.D., University of Northern Colorado  
 Sabiha Daudi, assistant professor, Ph.D., Ohio State University  
 Meryl Domina, assistant professor, Ph.D., University of Illinois at Chicago  
 Maylan Dunn-Kenney, associate professor, Ph.D., University of Oklahoma  
 Joseph Flynn, assistant professor, Ph.D., Michigan State University  
 Paula Hartman, assistant professor, Ph.D., The University of Texas at Austin  
 Mary Beth Henning, associate professor, Ph.D., Pennsylvania State University  
 Jesse Johnson, associate professor, Ed.D., Northern Illinois University  
 Sarah Johnston-Rodriguez, associate professor, Ph.D., University of Wisconsin, Madison  
 Myoungwhon Jung, assistant professor, Ph.D., Indiana University  
 Gaylen G. Kapperman, professor, Ed.D., University of Northern Colorado  
 Paul Kelter, professor, Ph.D., University of Nebraska-Lincoln  
 Andrew Kemp, assistant professor, Ed.D., University of Central Florida  
 Moses Mutuku, associate professor, Ed.D., Indiana University of Pennsylvania  
 Eui-Kyung Shin, associate professor, Ph.D., University of South Carolina  
 Toni Van Laarhoven, associate professor, Ed.D., Northern Illinois University  
 Elizabeth Wilkins, professor, Ph.D., Southern Illinois University  
 C. Sheldon Woods, associate professor, Ph.D., Kansas State University

The Department of Teaching and Learning offers the M.S.Ed. degree in curriculum and instruction, early childhood education, elementary education, and special education, and the Ed.D. degree in curriculum and instruction. Doctoral-level specializations in curriculum leadership; science, social studies, and environmental education integration; and secondary education are available in the department as part of the master's and doctoral degree programs in curriculum and instruction. State of Illinois approved programs leading to certification are offered in early childhood education, elementary education, and special education. Viewing teaching both as an art and science, learning as a reciprocal process, and service as a responsibility, the faculty provides curriculum and instruction grounded in theory, research, and best practice.

## Master of Science in Education

Curriculum and instruction  
 Early childhood education  
 Elementary education  
 Special education

## Doctor of Education

Curriculum and instruction

Students interested in doctoral level studies in special education may elect a cognate in special education while pursuing the doctorate in educational psychology. (See Department of Leadership, Educational Psychology and Foundations.)

## Admission

The Department of Teaching and Learning seeks to select the best-qualified applicants for admission to its programs. When the number of applicants to any program exceeds its capacity, even qualified applicants may be denied admission and encouraged to reapply at a later date.

Applicants must provide at least two letters of recommendation from professors, employers, or supervisors which provide supportive evidence of an applicant's professional qualifications. Except for applicants for the M.S.Ed. program in special education, applicants may submit MAT scores in lieu of GRE scores.

Decisions about admission to programs in the department are ordinarily made at least once each term. To be assured of consideration, completed applications containing all required data (application forms, official transcripts, GRE or MAT scores, and letters of recommendation) must be received by the Graduate School no later than June 1 for admission for the fall term, November 1 for admission for the spring term, and April 1 for admission for the summer session.

Any applicant who is denied admission to a program may submit to the department chair a written request for reconsideration by the admissions committee that includes information not previously submitted. Final decisions of admissions committees may be appealed to the department's Academic Appeals Committee. Appeals to this committee must be in writing and must explain the basis for the appeal.

## Advisement

A student is assigned an adviser when admitted to a department degree or certification program and develops a program of study in consultation with the adviser. Courses with the designator TLRN may be counted toward the major in any of the department's degree programs with adviser approval.

## Retention

Students must remain in good academic standing in the Graduate School, maintain high ethical standards, and demonstrate evidence of functional competency in fulfilling the professional roles required by the discipline.

Doctoral students must pass a candidacy examination which requires an ability to deal with more than individual course content. Satisfactory completion of comprehensive examinations requires analysis, synthesis, and integration of the content within a discipline. Doctoral students must also develop, complete, and defend an acceptable dissertation following the guidelines of the Graduate School and the program in which they are enrolled.

## Internships

The Department of Teaching and Learning offers internships in curriculum leadership, early childhood education, elementary education, environmental education, secondary education, and special education. For further information and internship possibilities, see course descriptions and consult with an adviser.

## Student-at-Large, Study-Abroad, and Transfer Credit

Student-at-large, study-abroad, and transfer hours in combination may not exceed 15 semester hours for students pursuing the M.S.Ed. degree in curriculum and instruction, elementary education, early childhood education, or special education. The limit on student-at-large hours may be waived in special circumstances with the approval of the department chair.

## Deficiency Study/Field Work

In cases in which a student's background in the chosen specialty is limited, the individual may be required to fulfill deficiency requirements. Generally, deficiency course work is required of an individual seeking a doctorate whose master's course work was in another specialty area or field. 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 a chosen specialty.

## Master of Arts in Teaching (M.A.T.)

All students pursuing the M.A.T. will be required to complete core experiences in which they demonstrate knowledge, skills, and dispositions related to assessment, diversity and special needs, human development and learning, and pedagogy in their content area.

## Admission

All applicants for the M.A.T. program must meet requirements for admission to the Graduate School and be accepted for admission by the faculty of the specialization.

## Specialization in Elementary Education with Initial Certification

The Master of Arts in Teaching specialization in elementary education with initial certification prepares students to become teachers in elementary and middle schools. They will complete all requirements for the Type 03 Illinois Elementary Education Certificate to teach grades kindergarten through 9. Students who plan to teach at the middle school level are required to take additional course work for the middle school endorsement. The specialization is grounded in a commitment to preparing teachers to nurture democratic citizens.

For the specialization in elementary education with initial certification, in addition to other graduate school requirements, applicants must submit an essay discussing "What it means to nurture democratic citizenship in students." For applicants who are currently teaching, one of their two reference letters must be from the principals of their schools.

## Deficiency Study

Students who have not successfully completed an introductory psychology course or a basic educational technology course will be required to fulfill those requirements. Students may demonstrate their basic psychology knowledge by taking EPS 300 or its equivalent. Students may demonstrate their basic knowledge of the use of computers in education by completing ETT 229 or by passing a proficiency test.

## Requirements

The specialization in elementary education with initial certification requires a minimum of 42 semester hours of graduate work, consisting of the following:

### Assessment

ETRA 502 - Technology and Assessment for Elementary Education (4)

### Diversity and Special Needs

EPFE 521 - Historical Foundations of Education in the United States (3)

LTIC 501 - Multicultural Education: Methods and Materials (3)

TLSE 557 - Systems for Integrating the Exceptional Student in the Regular Classroom (3)

### Human Development and Learning

EPS 504 - Psychology of Education in the Elementary and Middle School Years (3)

TLCI 550 or EPS 550X Classroom Management (2)

### Pedagogy

KNPE 574 - Physical Education for Elementary School Teachers (1)

LTLA 530 - Contemporary Language Arts (3)

LTLA 544 - Exploring Children's Literature (1)

LTRE 500 - Improvement of Reading in the Elementary School (3)

MATH 502/TLEE 502X - Methods of Instruction in the Mathematics Curriculum for Elementary School (3)

TLEE 530 - Teaching Social Studies in the Elementary School (3)

TLEE 532 - Teaching Science in the Elementary School (3)

TLEE 561 - Seminar in Elementary School Internship (1)

TLEE 586 - Internship (5)

TLEE 587 - Teaching Practicum in Education (1)

## Comprehensive Examination

The comprehensive examination is conducted in conjunction with a portfolio completed in the last semester of course work containing required artifacts and reflections which demonstrate mastery of the professional teaching standards and degree requirements.

## Master of Science in Education in Curriculum and Instruction

The major in curriculum and instruction prepares knowledgeable, reflective practitioners to work in both formal and nonformal educational settings. Courses help educational practitioners clarify their professional purposes and improve the pedagogical environments in which they function. The major includes course work from curriculum leadership, environmental education, and secondary education. Students may choose to focus their course work on one of these or combine course work to meet their professional needs.

Curriculum leadership courses provide the student with information to develop competence in supervisory techniques, curriculum theory and practice, cooperative planning for improvement of instruction, and evaluation of programs of curriculum improvement.

Environmental education courses focus on methods of teaching the core concepts and skills that environmentally literate citizens need. Environmental education courses prepare formal and nonformal educators to use community and natural out-of-classroom resources to enhance the curricula and non-formal education programs. Students focusing in this area are encouraged to complete the certificate of graduate study in environmental education.

Courses in secondary education are intended for entering or practicing teachers who wish to develop the teaching skills and the informed understanding of the major issues and trends in secondary education that mark the master teacher.

## Requirements

Programs of study must include a minimum of 33 semester hours, of which a minimum of 18 semester hours must be chosen from the major. Students elect either the non-thesis or thesis option.

### Non-Thesis Option

One graduate-level course in research approved by adviser (3)  
 One graduate-level course in foundations of education approved by adviser (3)  
 TLCI 500 - Curriculum, Instruction, and the Community (3)  
 TLCI 510 - Critical Practices in Curriculum and Instruction (3)  
 Course work in the major approved by adviser (9-18)  
 Additional course work approved by adviser (0-9)  
 Successful completion of a comprehensive examination

### Thesis Option

Same as the non-thesis option except that a minimum of 6 semester hours of program course work must be devoted to TLCI 699A, Master's Thesis: Curriculum Leadership, TLCI 699B, Master's Thesis: Environmental Education, or TLCI 699C, Master's Thesis: Secondary Education.

## Master of Science in Education in Early Childhood Education

The major in early childhood education offers focused study to strengthen and broaden the professional preparation of teachers and other professionals who work with young children, birth through eight years. 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. Students pursuing this M.S.Ed. may also choose course work to meet Early Childhood Illinois Type 04 Certification requirements to teach children from birth through grade 3 in Illinois public schools. Students may also elect course work to fulfill special education approval requirements for teaching exceptional children, birth through age six. Advisers evaluate students' prior course work, professional experience, and previous certifications to determine individual programs leading to Type 04 certification and/or early childhood special education approval.

## Requirements

Programs of study must include a minimum of 33 semester hours, of which a minimum of 18 semester hours must be chosen from courses in early childhood education. Students elect either the non-thesis or thesis option.

### Non-Thesis Option

One graduate-level course in research approved by adviser (3)  
 EPS 506 - Theories and Research in Child Behavior and Development (3),  
 OR FCNS 532 - Theories of Child Development (3)  
 TLEC 500 - Analysis of Instruction in Early Childhood Education (3)  
 TLEC 504 - Developmentally Appropriate Practice in the Primary Classroom (3)  
 TLEC 510 - Preschool Movement in the United States (3),  
 OR TLEC 511 - Comparative/International Early Childhood Education (3)  
 TLEC 521 - Educational Diagnosis and Assessment of Young Children with Special Needs (3),  
 OR TLSE 523 - Assessment in Early Childhood Special Education (3),  
 OR TLSE 557 - Systems for Integrating the Exceptional Student in the Regular Classroom (3)  
 TLEC 535 - Family and School Partnerships for Academic Success (3)  
 TLEC 598 - Master's Project (3)

A focus area selected to provide a broader base of knowledge, a supportive skill, or more sophisticated research competencies. The focus area requires a minimum of 9 semester hours, approved by adviser, selected from the following: administration of early childhood programs, emergent literacy, movement development, pedagogy in early childhood education, research in early childhood education, and special education.

Successful completion of a comprehensive examination. The comprehensive examination is conducted in conjunction with the oral defense of the master's project.

### Thesis Option

Students electing the thesis option will select research in early childhood education as their focus area. Six of the 9 semester hours required for the focus area must be taken in TLEC 699, Master's Thesis. Students electing the thesis option are still required to take TLEC 598.

## Master of Science in Education in Elementary Education

The major in elementary education emphasizes focused 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.

## Requirements

Majors in elementary education can choose either the non-thesis or thesis option. In both options the requirement is a minimum of 33 semester hours, of which a minimum of 18 semester hours must be chosen from courses in the major. The major includes courses selected from LTLA and TLEE courses.

### Non-Thesis Option

One graduate-level course in research approved by adviser (3)  
 One graduate-level course in foundations of education approved by adviser (3)  
 TLEE 560 - Seminar in Elementary Education (3)  
 TLEE 586 - Internship (3),  
 OR TLEE 587 - Teaching Practicum in Education (3)  
 LTIC 501 - Multicultural Education: Methods and Materials (3)  
 Additional elementary education courses approved by adviser (9-18)  
 One of the Following  
 Electives (0-9)

### Thesis Option

Same as the non-thesis option except that a minimum of 6 semester hours in TLEE 699, Master's Thesis, must be taken in lieu of TLEE 560 and TLEE 586/TLEE 587.

## Comprehensive Examination

Students in the non-thesis option fulfill the comprehensive examination requirement by successfully completing and formally presenting a project while enrolled in TLEE 586 or TLEE 587. Students in the thesis option fulfill this requirement in conjunction with the thesis defense.

## Master of Science in Education in Special Education

**Specialization in Advanced Special Education Practices**  
**Specialization in Blind Rehabilitation**  
**Specialization in Early Childhood Special Education**  
**Specialization in Learning Behavior Specialist I**  
**Specialization in Orientation and Mobility**  
**Specialization in Visual Impairments**

The M.S.Ed. in special education is designed to serve the needs of both experienced and beginning special education teachers who have baccalaureate degrees or are seeking career changes at the master's level. In addition, the department offers master's degree courses at regional sites, information on which can be obtained from the department.

Provisions are made to assist noncertified persons who hold baccalaureate degrees in fields other than special education to acquire certification and an M.S.Ed. in special education. In some cases more than 35 semester hours will be necessary to meet the requirements for both certification and the master's degree.

Students seeking certification must successfully complete the Illinois Certification Testing System Basic Skills Test prior to admission to the Teacher Education Program in special education and the tests required by their certification field prior to student teaching. Completion of all program requirements satisfies the requirements for Illinois teacher certification as a learning behavior specialist I. See also "Teacher Certification Information."

### Admission

From among the applicants satisfying the requirements for admission to the Graduate School, the faculty select those most qualified, utilizing the General Test of the GRE and ordinarily requiring a GPA of 3.00 or higher for the last two years of undergraduate work.

Each prospective student must have three letters of recommendation from employers, supervisors, or professors.

Final decisions regarding admissions are made by the admissions committee of the department on the basis of a total profile of an individual's qualifications. Applicants who fail to meet these admission criteria may request special consideration from the admissions committee. If the student then fails to achieve admission, an appeal may be made to the department's Admission, Retention, and Professional Standards Committee.

### Deficiency Study/Field Work

In cases in which students' backgrounds in their chosen specialty are limited, they may be required to fulfill deficiency requirements established by the department. Deficiency course hours are not counted toward the minimum 36 semester hours of the master's degree program.

Supervised clinical experiences are required in all areas of special education. Students not seeking initial certification may not be required to engage in clinical experiences, depending on the area of specialization in which they are enrolled.

### Internship Programs

The Department of Teaching and Learning currently utilizes internship programs in some areas of special education. All internship placements are arranged and supervised by the department. For further information and internship possibilities, see course descriptions.

### Retention

To be retained in the program, a student must demonstrate acquisition and application of specific competencies, through practical experiences, that are requisite in the student's specialization.

Students must earn a B or better in the course work listed in the Graduate Catalog required for the specialization in order to take the comprehensive evaluation and/or enroll in the graduate practicum. Students receiving lower than a B in any of these courses must retake the course. In concert with the university policy, students may retake a course only once. If this required grade is not achieved on the second attempt, the student may be dropped from the program. In addition to meeting all Graduate School and College of Education standards for retention, students must meet the Council for Exceptional Children Code of Ethics and Standards for Professional Practice for Special Educators.

All other rules regarding academic regulations follow those described by the Graduate School.

### Advisement

A student is assigned an adviser when admitted to the program. The adviser is a faculty member in special education. Courses of study are developed for each student. Students are required to take the comprehensive examination. It is always the responsibility of the student to be aware of university policies and regulations affecting his or her program. Students should, therefore, familiarize themselves with the Graduate Catalog early in the program.

### Requirements

Each student must select a specialization. Each specialization requires a minimum of 35 semester hours of study which must include a research course approved by the adviser. Specific courses required for each specialization are listed below. Elective courses are selected with the approval of the student's adviser. A student wishing to write a thesis may, with the approval of the adviser, include 3-6 semester hours of credit in TLSE 699 in the elective portion of the program.

For a student whose undergraduate major was in special education, course work in other appropriate fields may be substituted for a portion of the special education course work, with the approval of the student's adviser. However, in all cases, at least 50 percent of the semester hours required for the degree must be in special education. For students whose undergraduate major was not in special education or who have limited background in their chosen specialization, deficiency requirements may be established by the department. Deficiency course hours will not be counted toward the minimum 35 semester hours of the master's degree program.

### Specialization in Advanced Special Education Practices

This specialization focuses on study to strengthen the professional development of certified special education teachers. Students enrolled in this M.S.Ed. program may incorporate requirements for one or more special education certificates of graduate study in their programs of study.

TLSE 592 - Seminar in Special Education (3)  
 TLSE 593 - Collaboration in Advanced Special Education Practices (3)  
 Research course approved by adviser (3)  
 Foundations course approved by adviser (3)  
 Course work in the major (12)  
 Additional course work approved by adviser (12)  
 Successful completion of a comprehensive examination  
 The comprehensive examination is conducted in conjunction with the completion and presentation of project in TLSE 593.

**Specialization in Blind Rehabilitation**

This specialization prepares students to instruct individuals with visual impairments in independent living skills and to obtain national certification as rehabilitation teachers from the Association for Education and Rehabilitation of the Blind and Visually Impaired.

- FCNS 640 - Family, Consumer, and Nutrition Sciences for Educators of the Visually Impaired (3)  
 TLSE 531 - Anatomy, Pathology, and Functioning of the Eye (3)  
 TLSE 532 - Literary Braille (3)  
 TLSE 534 - Communication Systems Used By Persons with Visual Impairments (3)  
 TLSE 536 - Basic Orientation and Mobility for Teachers of Persons with Visual Impairments (3)  
 TLSE 537 - Teaching Activities of Daily Living to Persons with Visual and Multiple Disabilities (3)  
 TLSE 573 - Instructional Systems for Utilization of Low Vision (3)  
 TLSE 571 - Collaboration Principles and Skills for Professionals Working with Persons with Visual Impairments (3),  
 OR TLSE 575 - Rehabilitation of Adults with Visual Impairments (3)  
 TLSE 586B - Internship in Rehabilitation Teaching of Persons with Visual Impairments (9)  
 TLSE 588B - Practicum in Rehabilitation Teaching for Persons with Visual Impairments (3)

**Specialization in Early Childhood Special Education**

This specialization prepares students to obtain early childhood special education approval to teach young children with special needs in early childhood (birth to 6 years) settings. Students must hold or obtain a Standard Special Certificate in special education or an Early Childhood Certificate in order to apply for early childhood special education approval. This specialization also prepares students to apply for an early intervention credential to work with infants and toddlers with special needs. Students who wish to obtain one of these teaching certificates in addition to the M.S.Ed. with a specialization in early childhood special education must complete course work required for the type of certificate desired. This course work will be identified through advisement.

- TLSE 523 - Assessment in Early Childhood Special Education (3)  
 TLSE 524 - Instructional Systems for the Education of Infants, Toddlers, and Young Children with Disabilities (3)  
 TLSE 526 - Working with Families of Young Children with Disabilities (3)  
 TLSE 527 - Issues in Early Childhood Special Education (3)  
 TLSE 540<sup>1</sup> - Foundations of Special Education (3)  
 TLSE 587N - Practicum in Early Childhood Special Education (3)  
 Elective course work with adviser's approval

**Specialization in Learning Behavior Specialist I**

This specialization prepares students to obtain learning behavior specialist I teacher certification.

- TLSE 512 - Methods for Teaching Students with Learning Disabilities (3)  
 TLSE 513 - Methods for Teaching Elementary Students with High-Incidence Disabilities (3)  
 TLSE 514 - Methods for Teaching Secondary Students with High-Incidence Disabilities (3)  
 TLSE 540 - Foundations of Special Education (3)  
 TLSE 547 - Issues and Trends in Special Education (3)  
 TLSE 552 - Assistive Technology/Multiple Disabilities (3)  
 TLSE 559 - Transition Planning and Vocational Programming for Students with Disabilities (3)  
 TLSE 560 - Functional Analysis for Special Educators (3)  
 TLSE 561 - Methods for Teaching Individuals with Developmental Disabilities (3)  
 TLSE 563 - Methods for Teaching Students with Emotional Disturbance (3)  
 TLSE 565 - Collaboration and Consultation Skills for School Professionals (3)  
 TLSE 585<sup>1</sup> - Initial Field Experience in Special Education (1-3)

- TLSE 587A<sup>1</sup> - Elementary or Secondary Practicum: Learning Behavior Specialist I (6)  
 ETR 534 - Dynamic Assessment for Students with High-incidence Disabilities (3)  
 In addition, individuals not currently holding teacher certification in the State of Illinois must include the following (see adviser for course selection).  
 One course in educational foundations (3)  
 One course in child development (3)

**Specialization in Orientation and Mobility**

This specialization prepares students to instruct individuals with visual impairments in the concepts and skills related to independent travel, and to obtain national certification as orientation and mobility specialists from the Association for Education and Rehabilitation of the Blind and Visually Impaired.

- TLSE 531 - Anatomy, Pathology, and Functioning of the Eye (3)  
 TLSE 532 - Literary Braille (3)  
 TLSE 536 - Basic Orientation and Mobility for Teachers of Persons with Visual Impairments (3)  
 TLSE 571 - Collaboration Principles and Skills for Professionals Working with Persons with Visual Impairments (3)  
 TLSE 573 - Instructional Systems for Utilization of Low Vision (3)  
 TLSE 574 - Advanced Orientation and Mobility (6)  
 TLSE 586A - Internship in Orientation and Mobility Instruction of Persons with Visual Impairments (9)  
 TLSE 588C - Practicum in Orientation and Mobility Techniques for Persons with Visual Disabilities (3)  
 Elective course work with adviser's approval

**Specialization in Visual Impairments**

This specialization prepares students to obtain certification to teach individuals who are classified as visually impaired.

- TLSE 532 - Literary Braille (3)  
 TLSE 533 - Advanced Braille (3)  
 TLSE 534 - Communication Systems Used By Persons with Visual Impairments (3)  
 TLSE 535 - Instructional Systems for Teaching Students Who Are Visually Impaired (3)  
 TLSE 536 - Basic Orientation and Mobility for Teachers of Persons with Visual Impairments (3)  
 TLSE 571 - Collaboration Principles and Skills for Professionals Working with Persons with Visual Impairments (3)  
 TLSE 573 - Instructional Systems for Utilization of Low Vision (3)  
 TLSE 588A - Student Teaching in Special Education: Vision Impairments (9).

Elective course work with adviser's approval

**Doctor of Education in Curriculum and Instruction****Specialization in Curriculum Leadership  
Specialization in Science, Social Studies, and  
Environmental Education Integration  
Specialization in Secondary Education**

This is a professional degree intended to prepare superior teachers, administrators, service personnel, and scholars of education. In addition, the program prepares individuals for teaching at the college level. Preparation for research responsibilities both as producer and as consumer is an integral part of each program.

The specialization in curriculum leadership focuses on students' future roles in society and in education as insightful and responsive leaders, with cultural, moral and ethical questions used as major themes of the doctoral program. A commitment to scholarship and research is required of students to enable them to understand the future needs of society, educational institutions, and students.

<sup>1</sup> Not required for students who have an Illinois Type 10 Special Education Teaching Certificate. With approval of the department, may be waived for students who are proficient in TLSE 583 course requirements and have sufficient professional experience.

The specialization in science, social studies, and environmental education integration focuses on the students' current and future role to provide leadership in formal and nonformal instruction, curriculum development, and teacher education. The program provides students with a conceptual understanding of curriculum and instruction and also permits them to focus on the interdisciplinary field of science, social studies and environmental education.

The specialization in secondary education focuses on students' current and future roles as exemplary educators—whether as secondary classroom teachers, school and district administrators, or academicians. Complemented by the study of curriculum theory and practice, the specialization revolves around secondary instruction at both the micro (classroom) and macro (school, district) levels.

### Admission

Applicants for the Ed.D. program are expected to have a broad base of general education in the humanities, sciences, and social sciences and are required to present evidence of a minimum of three years of acceptable professional experience and/or demonstrated field leadership.

An applicant for admission is generally expected to

- have a minimum GPA of 3.20 in previous graduate work.

- submit scores on the General Test of the GRE or the Miller Analogies Test (MAT).

- provide three letters of recommendation from professors, employers, or supervisors which provide supportive evidence of an applicant's professional qualifications.

- demonstrate satisfactory academic and professional progress as indicated by data included in the application for admission to the Graduate School.

Demonstration of writing competencies and participation in a preadmission interview is required of qualified applicants before a final admission decision is made.

Decisions about admission to the Ed.D. program in the department are made once each term. To be assured of consideration, completed applications containing all required data (application forms, official transcripts, GRE or MAT scores, and letters of recommendation) must be received by the Graduate School no later than March 1 for admission for the fall term, November 1 for admission for the spring term, and March 1 for admission for the summer session.

Prospective students who fail to satisfy either the GPA or the GRE/MAT criterion may request special consideration of their applications. Such a request must be in writing, must include compensatory evidence related to the deficiencies, and should accompany the application for admission to the Graduate School. Final decisions regarding admissions are made by departmental program committees on the basis of a total profile of an individual's qualifications. Appeals of a decision made by the program committee may be made to the department's Academic Appeals Committee. Appeals to this committee must be submitted in writing to the department chair and must explain the basis for the appeal.

### Deficiency Study

In cases in which a student's background in his or her chosen specialty is limited, the individual may be required to fulfill deficiency requirements.

### Requirements for Specialization in Curriculum Leadership

The Ed.D. in curriculum and instruction with a specialization in curriculum leadership requires a minimum of 93 semester hours of graduate work beyond the baccalaureate degree, including the following.

- TLCI 703 - Design of Curriculum and Instruction (3)

- TLCI 704 - Research Seminar in Curriculum and Instruction (3)

A minimum of 15 semester hours of graduate-level course work in common requirements including research understandings and skills, learning and development theories, and sociocultural analyses of education

A minimum of 12 semester hours (excluding dissertation hours) of course work in the specialization

A cognate component selected from outside the specialization to provide a broader base of knowledge, a supportive professional skill, or more sophisticated research competencies. No specific number of semester hours is required. Students may use the cognate area to satisfy requirements for Illinois administrative certification.

Successful completion of a candidacy examination. This examination encompasses the common requirements, the area of professional knowledge within the specialization, and, as appropriate, the cognate. The examination is scheduled with the permission of the chair of the student's doctoral program committee, normally during the last term of course work prior to the dissertation.

- TLCI 799 - Doctoral Research and Dissertation (1-15)

### Requirements for Specialization in Science, Social Studies, and Environmental Education Integration

The Ed.D. in curriculum and instruction with a specialization in science, social studies, and environmental education integration requires a minimum of 93 semester hours of graduate work beyond the baccalaureate degree, including the following.

- TLCI 703 - Design of Curriculum and Instruction (3)

- TLCI 704 - Research Seminar in Curriculum and Instruction (3)

- TLCI 709 - Seminar in Science, Social Studies, and Environmental Education (3)

Course work constituting common requirements in research understandings and skills, learning and development theories, and sociocultural analyses of education (15)

Course work (excluding dissertation hours) in TLEE courses, TLCI environmental education courses, and TLCI 762 - Seminar: Review of Research in Secondary Education (12).

A cognate component selected from outside the specialization to provide a broader base of knowledge, a supportive professional skill, or more sophisticated research competencies.

Successful completion of a candidacy examination This examination encompasses the common requirements, the area of professional knowledge within the specialization, and, as appropriate, the cognate. The examination is scheduled with the permission of the chair of the student's doctoral program committee, normally during the last term of course work prior to the dissertation.

- TLEE 799 - Doctoral Research and Dissertation (15-30)

<sup>1</sup> An elective approved by the adviser may be substituted for students who have completed this course or its equivalent.

## Requirements for Specialization in Secondary Education

The Ed.D. in curriculum and instruction with a specialization in secondary education requires a minimum of 93 semester hours of graduate work beyond the baccalaureate degree, including the following.

- TLCI 703 - Design of Curriculum and Instruction (3)
- TLCI 704 - Research Seminar in Curriculum and Instruction (3)

Course work constituting common requirements in research understandings and skills, learning and development theories, and sociocultural analyses of education (15)

Course work (excluding dissertation hours) in the student's specialization (12)

A cognate component selected from outside the specialization to provide a broader base of knowledge, a supportive professional skill, or more sophisticated research competencies. No specific number of semester hours is required. Students may use the cognate area to satisfy requirements for the Type 75 Illinois Administrative Certificate.

Successful completion of a candidacy examination. This examination encompasses the common requirements, the area of professional knowledge within the specialization, and, as appropriate, the cognate. The examination is scheduled with the permission of the chair of the student's doctoral program committee, normally during the last term of course work prior to the dissertation.

- TLCI 799 - Doctoral Research and Dissertation (15-30)

## Certificates of Graduate Study

### Advanced Teaching Practices (15)

This certificate of graduate study is designed for teachers who wish to hone their knowledge and skills required to engage in the National Board for Professional Teaching Standards certification process. Students seeking this certificate must file an application with the faculty of curriculum and instruction and develop a program of studies with a faculty adviser.

- TLCI 512 - Creating Learning Communities (3)
- TLCI 515 - Connecting Curriculum and Instruction to National Teaching Standards (3)
- TLCI 586B - Internship (3),  
OR TLCI 786B - Advanced Internship (3)
- TLCI 740 - Field Study in Curriculum Leadership (3-6)
- One course related to student's area of teacher certification (3)

### Environmental Education (15)

This certificate is designed for teachers and other educators who want to gain additional competencies which will enable them to design and implement environmental education programs in schools or other, non-formal education settings. Students seeking this certificate must file an application with the faculty of outdoor teacher education and develop a program of studies with a faculty adviser.

- TLCI 520 - Environmental Quality Education (3)
- TLCI 534 - Integrating Community Resources Into Curriculum and Instruction (3)
- TLCI 551 - Environmental Education Theory and Practice (3)
- Two of the following (6)
  - TLCI 500 - Curriculum, Instruction, and the Community (3)
  - TLCI 525 - Teaching Physical Science in the Outdoors (3)
  - TLCI 526 - Teaching Natural Science in the Outdoors (3)
  - TLCI 530 - Teaching Environmental Ethics (3)
  - TLCI 544 - Teaching Energy Alternatives and Energy Conservation (3)
  - TLCI 586D - Internship: Environmental Education (3)

### Outdoor Education (15)

This certificate is designed for both formal and nonformal educators who want to gain the content knowledge and skills to successfully teach in, for, and about the outdoors. Graduate students must consult with the certificate adviser before beginning study.

- TLCI 501 - Principles and Concepts of Outdoor Education (3)
- TLCI 511 - Advanced Field Experiences in Outdoor Teacher Education (3)
- TLCI 570 - Planning and Implementing Outdoor Education Programs (3)
- Two of the following (6)
  - TLCI 503 - Introduction to Educational Research in Outdoor Education (3)
  - TLCI 517 - Nature, Art, and Crafts in Outdoor Education (3)
  - TLCI 519 - Leisure and the Outdoors (3)
  - TLCI 525 - Teaching Physical Science in the Outdoors (3)
  - TLCI 526 - Teaching Natural Science in the Outdoors (3)

## Special Education Certificates of Graduate Study

The special education certificates of graduate study are designed for educators currently holding Learning Behavior Specialist I certification who are seeking additional competencies. Completion of a certificate of graduate study in one of the following areas prepares one to apply for Illinois Learning Behavior Specialist II certification as an assistive technology specialist, a behavior specialist, a curriculum adaptation specialist, or a multiple disabilities specialist.

### Assistive Technology Specialist (18)

This certificate is designed for educators seeking additional competencies in applications of instructional and assistive technologies for students with learning, behavior, sensory, motor, communication, and multiple disabilities.

- TLSE 521<sup>1</sup> - Technology for Students with Disabilities (3)
- TLSE 552<sup>1</sup> - Assistive Technology/Multiple Disabilities (3)
- TLSE 577 - Survey of Assistive Technology for Persons with Visual Impairments (3)
- TLSE 592 - Seminar in Special Education (3)
- TLSE 593 - Collaboration in Advanced Special Education Practices (3)
- One of the following (3)
  - ETT 510 - Instructional Media and Technology (3)
  - ETT 530 - Instructional Technology Tools (3)
  - ETT 570 - Instructional Technology Administration (3)
  - ETT 571 - Instructional Technology Program Development (3)
  - ETT 573 - Instructional Technology Facilities (3)

### Behavior Specialist (18)

This certificate is designed for educators seeking additional competencies in behavioral assessment, positive behavioral support, and crisis management.

- TLSE 526 - Working with Families of Young Children with Disabilities (3)
- TLSE 560 - Functional Analysis for Special Educators (3)
- TLSE 578 - Issues and Trends in Teaching Students with Emotional and Behavioral Disorders (3)
- TLSE 592 - Seminar in Special Education (3)
- TLSE 593 - Collaboration in Advanced Special Education Practices (3)
- TLSE 796 - Laboratory Field Studies in Special Education (3)

<sup>1</sup> An elective approved by the adviser may be substituted for students who have completed this course or its equivalent.

### Curriculum Adaptations Specialist (18)

This certificate is designed for educators seeking additional competencies in collaborative implementation of curricular and instructional strategies for students with disabilities in general education settings.

- ETR 534 - Dynamic Assessment for Students with High-incidence Disabilities (3)
- TLSE 521<sup>1</sup> - Technology for Students with Disabilities (3)
- TLSE 562 - Curricular and Instructional Design and Adaptation for Inclusive Settings (3)
- TLSE 592 - Seminar in Special Education (3)
- TLSE 593 - Collaboration in Advanced Special Education Practices (3)
- TLSE 559 - Transition Planning and Vocational Programming for Students with Disabilities (3),  
OR TLSE 560 - Functional Analysis for Special Educators (3)

### Multiple Disabilities Specialist (18)

This certificate is designed for educators seeking additional competencies in curriculum design, assistive technologies, and instructional methodologies for students with significant developmental, sensory, and physical disabilities.

- TLSE 549 - Evaluation and Instruction of Individuals with Multiple Disabilities (3)
- TLSE 559 - Transition Planning and Vocational Programming for Students with Disabilities (3)
- TLSE 560 - Functional Analysis for Special Educators (3)
- TLSE 577 - Survey of Assistive Technology for Persons with Visual Impairments (3)
- TLSE 592 - Seminar in Special Education (3)
- TLSE 593 - Collaboration in Advanced Special Education Practices (3)

### Certification and Endorsement at the Graduate Level

The M.S.Ed. program in early childhood education with certification is designed for students pursuing the Early Childhood Illinois Type 04 Certification requirements to teach children from birth through grade 3 in Illinois public schools. Students may elect course work to fulfill special education approval requirements for teaching children with disabilities, birth through age six.

The M.S.Ed. program in elementary education with certification is designed for students pursuing the Elementary Education Illinois Type 03 Certificate required to teach children kindergarten through grade 9 in Illinois public schools.

Middle grades endorsement requirements for the state of Illinois may be fulfilled by taking courses at the graduate level. Students who wish to take these courses should contact the Department of Teaching and Learning for further information.

See "Teacher Certification Information."

### Course List

#### General (TLRN)

501X. MULTICULTURAL EDUCATION: METHODS AND MATERIALS (3). *Crosslisted as LTIC 501*. Designed to aid students to identify content materials and devise methods for implementing multicultural education. Emphasis on the relationships among culture, classroom procedure, and educational policy.

546. INTERVENTIONS TO MEET STUDENT NEEDS IN THE GENERAL EDUCATION CLASSROOM (3). Design and implementation of evidence-based interventions for students in K-12 general education classrooms. Emphasis on classroom teaching, data-driven decision making, and differentiated lesson planning for students with a variety of academic, social, and behavioral characteristics.

595. SUPERVISION OF CLINICAL EXPERIENCES (1-3). Designed to provide cooperating teachers, administrators, and supervisors with a better understanding of the function of clinical experiences in the professional education of teachers. Discussion of basic issues and techniques in supervising, directing and evaluating those clinical experiences. May be repeated to a maximum of 5 semester hours.

795. SEMINAR IN THE SUPERVISION AND ADMINISTRATION OF CLINICAL EXPERIENCES (1-3). Theory and practice of clinical experiences in professional education such as microteaching, observation, participation, simulation, student teaching, and internships. May be repeated to a maximum of 5 semester hours.

### Curriculum and Instruction (TLCI)

#### General

500. CURRICULUM, INSTRUCTION, AND THE COMMUNITY (3). Issues of curriculum and development and delivery of effective instruction related to the world as a pluralistic community, schooling from a global environmental perspective, and the relationship between curriculum theories and instructional practices.

510. CRITICAL PRACTICES IN CURRICULUM AND INSTRUCTION (3). Design, analysis, and evaluation of curriculum and instruction. Principles of curriculum and models of instruction as guidelines for the construction of specific curriculum designs and instructional strategies that create learning communities.

550. CLASSROOM MANAGEMENT (2). *Crosslisted as EPS 550X*. Applications of motivation and management principles and procedures to maintain a positive learning environment in classrooms.

586. INTERNSHIP.

- A. Curriculum (3-9)
- B. Professional Development Leadership (3-9)
- D. Environmental Education (1-12)
- E. Secondary Education (3-9)

Work individually or in small groups in a practical situation under guidance of a staff member of that setting and a university supervisor. May be repeated to a maximum of 9 semester hours.

587. TEACHING PRACTICUM (1-6).

- A. Curriculum Leadership
- B. Secondary Education

Designed for actively engaged teachers 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. PRQ: Consent of department.

590. WORKSHOP (1-3).

- A. Curriculum
- B. Professional Development Leadership
- D. Environmental Education
- E. Secondary Education

Designed for teachers, supervisors, counselors, and administrators to study contemporary issues and problems of the public school and other education institutions. Content varies. May be repeated to a maximum of 12 semester hours. PRQ: Consent of department.

597. INDEPENDENT RESEARCH (1-3).

- A. Curriculum
- B. Professional Development Leadership
- D. Environmental Education
- E. Secondary Education

Independent research at the master's degree level under faculty supervision. Lettered topics A and B may be repeated to a maximum of 3 semester hours. Lettered topics D and E may be repeated to a maximum of 6 semester hours. PRQ: Consent of department.

<sup>1</sup> An elective approved by the adviser may be substituted for students who have completed this course or its equivalent.

598. MASTER'S CULMINATING PROJECT (3). Investigation of an issue or topic related to curriculum leadership, environmental education, and/or secondary education. Enrollment by special arrangement with student's adviser. Students may enroll after successfully completing 24 semester hours in the approved degree program including core courses or obtaining permission from adviser. May be repeated to a maximum of 6 semester hours, but no more than 3 semester hours may be applied toward the degree.

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

- A. Curriculum Leadership
- B. Environmental Education
- C. Secondary Education

Open only to students who elect to write a thesis for the M.S.Ed. degree. Student enrolls with the faculty member directing the thesis. May be repeated to a maximum of 6 semester hours. PRQ: Consent of department. Recommended: ETR 520.

786. ADVANCED INTERNSHIP (1-12).

- A. Curriculum
- B. Professional Development Leadership
- D. Secondary In-Service Staff Development
- E. Secondary Education

Work individually or in small groups in a practical situation under guidance of a staff member of that setting and a university supervisor. May be repeated to a maximum of 12 semester hours. PRQ: Admission to doctoral program or consent of department.

797. INDEPENDENT RESEARCH (1-3).

- A. Curriculum Leadership
- B. Secondary Education

Independent research at post-master's degree levels under faculty supervision. May be repeated to a maximum of 6 semester hours.

799. DOCTORAL RESEARCH AND DISSERTATION (1-15).

- A. Curriculum Leadership
- B. Secondary Education

Student must accumulate 15 semester hours prior to graduation. May be repeated. PRQ: Candidacy for the doctoral degree and consent of chair of doctoral committee.

### Curriculum Leadership

502. SURVEY OF RESEARCH IN CURRICULUM AND INSTRUCTION (3). Analysis of research in curriculum and instruction with emphasis on current research studies and research methods.

505. SITE-BASED CURRICULUM DEVELOPMENT (3). Assumptions underlying current curriculum organizations. Decision-making procedures regarding development and evaluation of educational programs.

512. CREATING LEARNING COMMUNITIES (3). Analysis and application of methods used in professional development for the improvement of instruction. Elements of effective teaching investigated and applied.

515. CONNECTING CURRICULUM AND INSTRUCTION TO NATIONAL TEACHING STANDARDS (3). Analysis and application of national teaching standards to curriculum and instruction.

524. ELEMENTARY SCHOOL CURRICULUM (3). Study of the elementary school curriculum, its relationship to society, and present practices in schools.

527. SECONDARY SCHOOL CURRICULUM (3). Study of the secondary school curriculum, its relationship to society, and present practices in schools.

540. THE GENDER-SENSITIVE CURRICULUM (3). Analysis of gender stereotyping. Development of gender-sensitive curriculum and curricular materials. Critical inquiry into gender as a multicultural concept and the ways in which gender issues have an impact in schooling.

702. RESEARCH SEMINAR IN CURRICULUM LEADERSHIP (3). Survey of research studies in curriculum leadership. PRQ: Admission to doctoral program or consent of department.

703. DESIGN OF CURRICULUM AND INSTRUCTION (3). Design and develop a critical perspective about what knowledge is of most worth by examining beliefs and ideological positions about curriculum and instruction design. PRQ: Admission to doctoral program or consent of department.

704. RESEARCH SEMINAR IN CURRICULUM AND INSTRUCTION (3). Designed for the advanced student interested in planning and conducting a research study in curriculum and instruction. May be an exploratory or pilot study related to the doctoral dissertation. May be repeated to a maximum of 6 semester hours. PRQ: Completion of 30 semester hours of work beyond the master's degree including 15 semester hours in the major and 15 semester hours of the common requirements.

706. CURRICULUM INQUIRY (3). Analysis of curriculum theories. Inquiry into historical and contemporary curriculum discourses and their impact on educational practices. PRQ: Admission to doctoral program or consent of department.

708. PRINCIPLES OF CURRICULUM THEORY INTO PRACTICE (3). Assessment of curriculum models, classroom applications, and current issues and trends. PRQ: TLCI 703, admission to doctoral program, or consent of department.

733. SEMINAR IN CURRICULUM (3). Curriculum project required. May be repeated to a maximum of 9 semester hours when subject varies. PRQ: Admission to doctoral program or consent of department.

734. PRACTICUM IN CURRICULUM APPRAISAL (3). Analysis of purposes, process, and types of curriculum appraisal with emphasis on conducting an on-site appraisal of a school's curriculum. PRQ: Admission to doctoral program or consent of department.

735. ANALYSIS OF PROFESSIONAL DEVELOPMENT (3). Analysis and application of methods used in leading professional development for improvement of instruction. Emphasis on relationship between theory and practice. PRQ: Admission to doctoral program or consent of department.

740. FIELD STUDY IN CURRICULUM LEADERSHIP (3-6). Methods of analyzing and evaluating educational programs through participation in curriculum leadership studies in field settings. May be repeated to a maximum of 6 semester hours. PRQ: Admission to doctoral program or consent of department.

760. EDUCATIONAL CHANGE (3). Description and conceptualization of the process of fundamental change affecting the culture of the school community and various emerging education forms. PRQ: Admission to doctoral program or consent of department.

### Environmental Education

501. PRINCIPLES AND CONCEPTS OF OUTDOOR EDUCATION (3). Basic concepts and history of the outdoor education movement. Scope of contemporary programs in the U.S. and abroad. Examination of the teaching-learning processes relevant to outdoor education.

503. INTRODUCTION TO EDUCATIONAL RESEARCH IN OUTDOOR EDUCATION (3). Basic course in educational research with emphasis on outdoor education. PRQ: TLCI 501 or consent of department.

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. PRQ: TLCI 501 or consent of department.

517. NATURE, ART, AND CRAFTS IN OUTDOOR EDUCATION (3). Using nature as inspiration and as a source of ideas and materials for artistic expression in outdoor programming. Integrating nature-focused craft projects in outdoor education.

519. LEISURE AND THE OUTDOORS (3). Theories of leisure and recreation as applied to outdoor recreation and adventure activities. Emphasis on leadership technique, appropriate use of the environment, assessment, and personal skill acquisition.

520. ENVIRONMENTAL QUALITY EDUCATION (3). Cultural, ecological, and educational implications of the environmental movement. Emphasis on factors and influences leading to environmental quality literacy.

521. OUTDOOR INTERPRETATION (3). Interpreting the environment in relationship to natural, historical, and cultural heritage. Emphasis on exploring aesthetic awarenesses and a land ethic.

525. 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. PRQ: One course in mathematics and one in natural science or consent of department.

526. TEACHING NATURAL SCIENCE IN THE OUTDOORS (3). Developing and implementing strategies for teaching natural science in the outdoors. Emphasis on teaching the interrelationships among living organisms in their natural habitats.

528. ENVIRONMENTAL RESTORATION EDUCATION (3). Study of the philosophical and historical roots of habitat restoration, its political and social implications, and its educational potential. Emphasis on how to teach restoration methods and design curriculum incorporating field experience and research.

530. TEACHING ENVIRONMENTAL ETHICS (3). Designed for teachers and youth leaders to provide knowledge, attitudes, and skills for teaching environmental ethics. Content applicable in both indoor and outdoor settings including schools, camps, nature centers, and other related institutions.

534. INTEGRATING COMMUNITY RESOURCES INTO CURRICULUM AND INSTRUCTION (3). Investigating natural, cultural, and/or human resources that can be effectively integrated into curriculum development.

544. TEACHING ENERGY ALTERNATIVES AND ENERGY CONSERVATION (3). Theoretical and practical aspects of teaching basic concepts of energy alternatives and energy conservation. Learning experiences for awareness, understandings, skills, and attitudes designed for teachers and other youth leaders in schools, camps, homes, and other institutions.

551. ENVIRONMENTAL EDUCATION THEORY AND PRACTICE (3). Existing and emerging theory and practice related to environmental education. Environmental education as a method of curriculum integration. Planning, implementing, and assessing environmental education programs.

570. PLANNING AND IMPLEMENTING OUTDOOR EDUCATION PROGRAMS (3). Planning and implementing outdoor education experiences of varying lengths and the acquisition, development, and maintenance of outdoor education programs and facilities.

575. SEMINAR IN ENVIRONMENTAL EDUCATION (3). Identification and analysis of current problems, issues, and practices in environmental education. PRQ: Consent of department.

592. SPECIAL TOPICS IN ENVIRONMENTAL EDUCATION (1-6). Topics announced. May be repeated to a maximum of 18 semester hours when subject varies, but no more than 6 semester hours may be applied toward the M.S.Ed. in curriculum and instruction. PRQ: Consent of department.

709. SEMINAR IN SCIENCE, SOCIAL STUDIES, AND ENVIRONMENTAL EDUCATION INTEGRATION (3). Analysis of existing and emerging theory and practice related to the integration of science, social studies, and environmental education.

752. ADVANCED ENVIRONMENTAL EDUCATION THEORY AND PRACTICE (3). Analysis of existing and emerging theory and practice related to environmental education.

### Secondary Education

522. MIDDLE SCHOOL ORGANIZATION AND INSTRUCTION (3). Development of middle school organizations and philosophy; forms of curricula; characteristics of early adolescent students; special concerns in instructional and activity planning. Fulfills middle-grade philosophy, curriculum, and instruction requirement for middle grades endorsement.

523. SEMINAR IN SECONDARY EDUCATION (3). Focus on professional and classroom problems of secondary school teachers. May be repeated to a maximum of 6 semester hours when topics vary.

529. 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.

533. INSTRUCTIONAL THEORIES APPLIED TO PRACTICE (3). Application of instructional theories to secondary and post-secondary practice. Review of studies related to instruction and classroom management.

537. IMPROVEMENT OF INSTRUCTION (3). Investigation and analysis of common problems in teaching. The principles which apply at all levels of instruction.

552. EVALUATING SECONDARY SCHOOLS (3). Focus on characteristics of quality and processes of evaluating secondary schools. Attention given to development of reports of evaluation and models for their implementation. PRQ: TLCI 523 and TLCI 537, or consent of department.

567. PORTRAYAL OF TEACHERS IN FILM (3). *Crosslisted as ETT 567X*. Examination of the portrayal of teachers in movies with emphases on trends, related educational issues and topics, and connections between practicing teachers' professional lives and those of teacher characters.

585A. FIELD-BASED TEACHING PRACTICUM (3-6). Individualized course for practicing secondary educators and teaching teams. Focus on practical and immediately useful instructional improvement experiences and projects under the guidance of secondary education faculty. May be repeated to a maximum of 12 semester hours. Does not fulfill student teaching requirements. PRQ: Consent of department.

585B. CLINIC-BASED TEACHING PRACTICUM (3). Campus clinic-based practicum for secondary educators to develop master teaching skills. May be repeated to a maximum of 6 semester hours. Does not fulfill the student teaching requirement. PRQ: TLCI 537 or consent of department.

589X. PRACTICUM IN MULTILINGUAL/MULTICULTURAL EDUCATION (1-6). *Crosslisted as LTIC 589*. Selected field experiences and instructional design projects in multilingual/multicultural education for those who are interested in improving professional skills for serving diverse populations of learners. May be repeated to a maximum of 6 semester hours. Does not satisfy student teaching requirement.

723. SEMINAR: ISSUES IN SECONDARY EDUCATION (3). Integration and synthesis of the concepts, principles, and theoretical constructs in the secondary education field, including post-secondary teachers and teacher educators.

737. DESIGN OF INSTRUCTIONAL MODELS (3). Design and testing of innovative instructional methods and models in order to participate in advancing knowledge in the field.

762. SEMINAR: REVIEW OF RESEARCH IN SECONDARY EDUCATION (3). Participants become familiar with research questions under investigation; the nature, extent, and application of findings; and some research tasks which require conceptualization and development. Possible contributions to research literature may be generated by seminar activities.

772. DOCTORAL COLLOQUIUM IN SECONDARY EDUCATION (3). May be repeated to a maximum of 12 semester hours. PRQ: Admission to candidacy for the Ed.D. or consent of department.

### Early Childhood Education (TLEC)

500. ANALYSIS OF INSTRUCTION IN EARLY CHILDHOOD EDUCATION (3). Study of learning continuity in early years.

501. IMPROVEMENT OF INSTRUCTION IN EARLY CHILDHOOD EDUCATION (3). Investigation and analysis of common problems in teaching and supervision of early childhood programs.

504. DEVELOPMENTALLY APPROPRIATE PRACTICE IN THE PRIMARY CLASSROOM (3). Existing and emerging theory and practice with focus on direct, active involvement of learners in developing the educational environment, outcomes, and formative assessment. Examination of procedures for planning, organizing, implementing, and assessing learning, curriculum, and materials for children in developmentally appropriate primary grade classrooms.

510. PRESCHOOL MOVEMENT IN THE UNITED STATES (3). Study of the development of the American preschool movement.

511. COMPARATIVE/INTERNATIONAL EARLY CHILDHOOD EDUCATION (3). Cross-cultural, multidisciplinary approach to the study of both formal and informal education of young children. Emphasis on content and context of learning in early childhood across cultures.

521. EDUCATIONAL DIAGNOSIS AND ASSESSMENT OF YOUNG CHILDREN WITH SPECIAL NEEDS (3). Special diagnostic procedures appropriate for young children with special needs. Emphasis on screening and assessment of special conditions with respect to developmentally appropriate curriculum and on providing recommendations for procedures. PRQ: Consent of department.

522. CURRICULUM AND INSTRUCTIONAL STRATEGIES FOR THE YOUNG CHILD WITH SPECIAL NEEDS (3). Resource systems and materials available for the education of the young child with special needs. Focus on developmentally appropriate curricula for children with special needs. PRQ: Consent of department.

523. INFANTS AND PRESCHOOLERS WITH SEVERE DISABILITIES (3). Review of the characteristics, identification, educational intervention systems, and adaptive and cognitive behavior of infants and preschoolers with severe disabilities. PRQ: FCNS 539 or consent of department.

526. CURRICULAR STRATEGIES FOR THE EDUCATION OF INFANTS WITH SEVERE DISABILITIES (3). Curricular models for instructional intervention for infants with developmental delays during their first two years of life. PRQ: TLEC 523 or consent of department.

530. LANGUAGE ARTS IN EARLY CHILDHOOD EDUCATION (3). Focus on language arts and associated experiences as an integral part of the young child's growth and development.

531. SOCIAL LEARNING IN EARLY CHILDHOOD EDUCATION (3). Principles and procedures in the development of social experiences, with focus on social learning for the young child and emphasis on child growth and development, democratic values and processes, and common life problems.

535. FAMILY AND SCHOOL PARTNERSHIPS FOR ACADEMIC SUCCESS (3). Emphasis on continuous family-school teamwork efforts. Attention given to family background and social context. Effective parent-school programs/models and current research underscoring the dynamic interaction between families and schools on the academic success of prekindergarten through grade 8 students.

560. SEMINAR: NEW DEVELOPMENTS IN EARLY CHILDHOOD EDUCATION (3). Philosophy and psychology of early childhood education as related to factors in the contemporary scene.

582. PREPRIMARY CLINICAL EXPERIENCE (1). Pre-student teaching practicum for graduate students seeking an early childhood teaching certificate. Students are required to participate in a minimum of 30 clock hours per credit hour. May be repeated for a maximum of four semester hours of credit. Field placements arranged by the department. S/U grading.

583. PRIMARY CLINICAL EXPERIENCE (2). Pre-student teaching practicum for graduate students seeking an early childhood teaching certificate. Participation and observation in grade one, two, or three for a minimum of 30 clock hours per credit hour (for a total of 60 observation hours). May be repeated for a maximum of four semester hours. Field placements made by the Clinical Office in the College of Education. S/U grading.

585A. PREPRIMARY STUDENT TEACHING (3-12). Student teaching for one-half semester or one entire semester in early childhood programs for children 3 years through kindergarten. Application of theories of learning and development in the classroom using varied methodologies. Field placements arranged by the Clinical Office in the College of Education. S/U grading.

585B. PRIMARY STUDENT TEACHING (3-12). Student teaching for one-half semester or one entire semester in grade one, two, or three. Application of theories of learning and development in the classroom using varied methodologies. Field placements arranged by the Clinical Office in the College of Education. S/U grading.

586. INTERNSHIP (1-9). May be repeated to a maximum of 9 semester hours.

587. TEACHING PRACTICUM IN EARLY CHILDHOOD EDUCATION (1-6). Designed for actively engaged teachers interested in improving teaching skills. Clinical work with guidance of experienced professionals and consultants in teacher education. Experiences arranged to meet needs, concerns, and interests of each individual. May be repeated to a maximum of 6 semester hours. Does not fulfill student teaching requirement. PRQ: TLEC 560 and consent of department.

590. WORKSHOP IN EARLY CHILDHOOD EDUCATION (1-3). Designed to study contemporary issues and problems. Content varies. May be repeated to a maximum of 12 semester hours. PRQ: Consent of department.

597. INDEPENDENT RESEARCH (1-3). Independent research at the master's degree level under faculty supervision. Each lettered topic may be repeated to a maximum of 6 semester hours.

598. MASTER'S PROJECT (3). Culminating experience. Enrollment by special arrangement with student's adviser. PRQ: Successful completion of all education foundation courses and early childhood core courses.

699. MASTER'S THESIS (1-6). Open only to students who elect to write a thesis for the M.S.Ed. degree. Student enrolls with the faculty member directing the thesis. May be repeated to a maximum of 6 semester hours. PRQ: Consent of department. Recommended: ETR 520.

760. SEMINAR IN EARLY CHILDHOOD EDUCATION (3). Identification and analysis of problems and issues in early childhood education. May be repeated to a maximum of 6 semester hours.

786. INTERNSHIP (1-12). Work individually or in small groups in a practical situation under guidance of a staff member of that setting and a university supervisor. May be repeated to a maximum of 12 semester hours. PRQ: Admission to doctoral program, or consent of department.

797. INDEPENDENT RESEARCH (1-3). Independent research at post-master's degree levels under faculty supervision. May be repeated to a maximum of 6 semester hours.

### Elementary Education (TLEE)

501. IMPROVEMENT OF INSTRUCTION IN ELEMENTARY EDUCATION (3). Investigation and analysis of common problems in teaching. Emphasis on the principles which apply at all levels of instruction.

502X. METHODS OF INSTRUCTION IN THE MATHEMATICS CURRICULUM FOR ELEMENTARY SCHOOL (3). *Crosslisted as MATH 502.* Methods, techniques, materials, curricular issues, learning theories, and research utilized in the teaching of elementary school mathematics. Attention given to the teaching of exceptional students and planning for multicultural learning situations. Intended for students in education. Accepted for credit as an elementary mathematics methods course, but not as an upper-division mathematical content course. Not open for credit toward the major or minor in mathematical sciences.

503. INDIVIDUALIZING LEARNING IN THE ELEMENTARY SCHOOL (3). Philosophy, models, and procedures for diagnosing and individualizing learning in the elementary school.

504. TEACHING STRATEGIES FOR EXPERIENTIAL LEARNING (3). Existing and emerging theory and practice relating to experiential education. Focus on direct, active involvement of learners in developing their educational environment and outcomes.

511. USING HUMAN RESOURCES FOR ELEMENTARY SCHOOL PROGRAMS (3). Role of the elementary school teacher in developing and managing programs which involve parents and others in the community.

530. TEACHING SOCIAL STUDIES IN THE ELEMENTARY SCHOOL (3). Examination and evaluation of issues in the teaching of social studies with emphasis on principles of instruction and curriculum development in the social studies.

531. YOUNG CHILDREN'S EXPLORATION OF THE PHYSICAL WORLD (3). Focus on quantitative and science learnings of the young child.

532. TEACHING SCIENCE IN THE ELEMENTARY SCHOOL (3). Identification and analysis of problems and issues in society, science, and education that have an influence on curriculum and instruction in the elementary school science program.

533. DEVELOPING AN ELEMENTARY SCHOOL SCIENCE PROGRAM (3). Development of a conceptual framework and procedure for initiating and maintaining the currency of an elementary school science program; consideration of approaches from the perspective of the child, the teacher, the community, and the subject area.

534. IMPLEMENTING AN ELEMENTARY SCHOOL SCIENCE PROGRAM (3). Designed to aid classroom teachers, unit leaders, department chairs, district supervisors and other leadership personnel in implementing, managing, and revising an elementary school science program. Emphasis on converting philosophical structures into an operational program.

535. GLOBAL PERSPECTIVES IN CITIZENSHIP EDUCATION (3). Implications of emerging global trends and problems for social education in the elementary and middle school. Creation of interdisciplinary activities and units to develop the global perspective.

541. INQUIRY STRATEGIES IN ELEMENTARY SCHOOL SOCIAL STUDIES PROGRAMS (3). Adaptation to the learning styles of children of basic inquiry strategies drawn from theoretical models in the social sciences. Emphasis on the use of these strategies as methodology in the improvement of social studies learning.

542. RELATED ARTS FOR THE TEACHERS OF CHILDREN (3). Designed for students interested in aesthetic education for children; examination of trends, issues and aesthetic experience in the planning of learning in the fine and applied arts. May be repeated for a maximum of 6 semester hours.

560. SEMINAR IN ELEMENTARY EDUCATION (3). Current concerns and trends in elementary education. May be repeated to a maximum of 6 semester hours. PRQ: At least 24 semester hours of course work in the elementary education master's degree program.

561. SEMINAR IN ELEMENTARY SCHOOL INTERNSHIP (1). Orientation to the teaching profession, including school and community environment, professionalism, and effect of teaching on student learning. PRQ: TLEE 587.

586. INTERNSHIP (3-9). May be repeated to a maximum of 9 semester hours. S/U grading.

587. TEACHING PRACTICUM IN EDUCATION (1-6). Designed for actively engaged teachers interested in improving teaching skills. Clinical work with guidance of experienced professionals and consultants in teacher education. Experiences arranged to meet needs, concerns, and interests of each individual. May be repeated to a maximum of 6 semester hours. Does not fulfill the student teaching requirement. PRQ: TLEE 560 and consent of department.

590. WORKSHOP IN TEACHER EDUCATION (1-3). Designed to study contemporary issues and problems. Content varies. May be repeated to a maximum of 12 semester hours. PRQ: Consent of department.

597. INDEPENDENT RESEARCH (1-3). Independent research at the master's degree level under faculty supervision. May be repeated to a maximum of 6 semester hours.

699. MASTER'S THESIS (1-6). Open only to students who elect to write a thesis for the M.S.Ed. degree. Student enrolls with the faculty member directing the thesis. May be repeated to a maximum of 6 semester hours. PRQ: Consent of department. Recommended: ETR 520.

702. ANALYSIS OF INSTRUCTION IN ELEMENTARY EDUCATION (3). Use of theory in the analysis and interpretation of teaching-learning situations, as observed or recorded from preschool and elementary classrooms. Attention given to the identification and use of goals in education and the application of knowledge in the areas of learning, human growth, group behavior, and curriculum.

732. DOMAIN OF SCIENCE EDUCATION (3). Study of selected major dimensions of science education. Consideration of major problems and issues pertinent to each dimension and their association with school science programs. PRQ: Advanced graduate standing or consent of department.

746. PERSPECTIVES IN SOCIAL STUDIES CURRICULUM (3). Analysis of existing and historical models of social studies curriculum. Emphasis on converting philosophical goals and structures into an operational program by developing a conceptual framework for social studies curriculum.

747. SEMINAR IN SOCIAL STUDIES EDUCATION RESEARCH (3). Analysis of research studies in social studies education. A review of historical trends and contemporary research in social studies education.

760. ADVANCED SEMINAR IN ELEMENTARY EDUCATION (3).

A. Science

B. Social Studies

C. General Identification and analysis of problems and current issues in elementary education.

May be repeated to a maximum of 9 semester hours.

775. ELEMENTARY TEACHER EDUCATION (3). 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 NIU involving supervised laboratory experiences. Internship concurrent with this course recommended.

786. INTERNSHIP (1-12). Work individually or in small groups in a practical situation under guidance of a staff member of that setting and a university supervisor. May be repeated to a maximum of 12 semester hours. PRQ: Admission to doctoral program, or consent of department.

797. INDEPENDENT RESEARCH (1-3). Independent research at post-master's degree levels under faculty supervision. May be repeated to a maximum of 6 semester hours.

799. DOCTORAL RESEARCH AND DISSERTATION (1-15). PRQ: Candidacy for the doctoral degree and consent of chair of doctoral committee.

### Special Education (TLSE)

512. METHODS FOR TEACHING STUDENTS WITH LEARNING DISABILITIES (3). Curriculum, instructional methods, and materials appropriate for teaching students with learning disabilities from a language arts perspective. PRQ: ETR 434 or ETR 534, TLSE 540, or consent of department.

513. METHODS FOR TEACHING ELEMENTARY STUDENTS WITH HIGH-INCIDENCE DISABILITIES (3). Instructional theories, curricula, methods, and materials as they relate to teaching elementary-aged students with high-incidence disabilities. Emphasis on instructional procedures, adaptations, and progress-monitoring systems. PRQ: ETR 434 or ETR 534, TLSE 540, or consent of department.

514. METHODS FOR TEACHING SECONDARY STUDENTS WITH HIGH-INCIDENCE DISABILITIES (3). Instructional theories, curricula, methods, and materials as they relate to teaching secondary-aged students with high-incidence disabilities. Emphasis on instructional procedures and adaptations. PRQ: ETR 434 or ETR 534, TLSE 540, or consent of department.

521. TECHNOLOGY FOR STUDENTS WITH DISABILITIES (3). Application of microcomputers and related technology to persons with learning, behavior, sensory, motor, and communication disorders. Software evaluation and adaptation, alternative input and output modes, development of supportive resources, and integration of microcomputing into the Individualized Education Program.

523. ASSESSMENT IN EARLY CHILDHOOD SPECIAL EDUCATION (3). Identification and diagnosis of infants, toddlers, and young children (birth to eight years) with special needs and assessment of family concerns, priorities, and resources and early childhood environments.

524. INSTRUCTIONAL SYSTEMS FOR THE EDUCATION OF INFANTS, TODDLERS, AND YOUNG CHILDREN WITH DISABILITIES (3). Instructional strategies and curricular models for instructional intervention for infants, toddlers, and young children (birth to eight years) with disabilities.

526. WORKING WITH FAMILIES OF YOUNG CHILDREN WITH DISABILITIES (3). Strategies to promote positive and productive family/ professional relationships and family-centered, team-based models for working with children with disabilities (birth to eight years) and their families.

527. ISSUES IN EARLY CHILDHOOD SPECIAL EDUCATION (3). Trends, issues, and concerns in the field of early childhood special education (birth to eight years). In-depth analysis of current issues in the field related to children with special needs, families, service providers, and other professionals. PRQ: Consent of department.

530. EDUCATION OF STUDENTS WITH VISUAL IMPAIRMENTS (3). Introduction to educational programs, services, and resources for children and adolescents with visual impairments. Exploration of historical background and sociological and psychological aspects of blindness, and of legislation, literature, and philosophy related to blindness.

531. ANATOMY, PATHOLOGY, AND FUNCTIONING OF THE EYE (3). Lectures and demonstrations of various pathologies. Includes study of parts of the eye and their function, normal visual development, abnormalities and conditions that result in visual loss, and functional and programmatic implications.

532. LITERARY BRAILLE (3). Mastery in the reading and writing of Grade II literary braille. Development and use of special materials; slate and stylus techniques presented.

533. ADVANCED BRAILLE (3). Intensive study of the Nemeth Code for mathematics and science notation, music code, computer and foreign language codes, and braille textbook formats and techniques. Transcription and adaptation of print material, including tests and worksheets, for individuals who are blind. PRQ: TLSE 532 or consent of department.

534. COMMUNICATION SYSTEMS USED BY PERSONS WITH VISUAL IMPAIRMENTS (3). Techniques in teaching the use of communications systems developed or adapted for individuals who are blind or visually impaired, including methods for teaching braille, typing, script, notetaking, sound reproduction systems, listening skills, electronic reading devices, and calculation with emphasis on abacus usage. Laboratory experiences. PRQ: TLSE 531 and 532 or consent of department.

535. INSTRUCTIONAL SYSTEMS FOR TEACHING STUDENTS WHO ARE VISUALLY IMPAIRED (3). Special methods, materials, and techniques employed in the assessment and instruction of learners with visual impairments. Emphasis on utilization of low vision, curriculum planning, and adaptation of subject matter areas. Preschool through high school and learners with multiple disabilities included. PRQ: GPA of at least 3.00, successful completion of ICTS Basic Skills Test, and consent of department.

536. BASIC ORIENTATION AND MOBILITY FOR TEACHERS OF PERSONS WITH VISUAL IMPAIRMENTS (3). Emphasis on concept development, sensory skills, organizational techniques, precane skills, and a full range of mobility options. Exploration of historical background and current issues in orientation and mobility. Blindfold and simulator experience included. PRQ: Consent of department.

537. TEACHING ACTIVITIES OF DAILY LIVING TO PERSONS WITH VISUAL AND MULTIPLE DISABILITIES (3). Methods of teaching grooming, eating, and personal and home management to children, youth, and adults with visual and multiple disabilities. Emphasis on home, school, work, and leisure skills. Two hours of lecture and two hours of laboratory per week.

540. FOUNDATIONS OF SPECIAL EDUCATION (3). Education of exceptional learners including contemporary changes in philosophy, objectives, teaching in diverse cultural settings, curriculum, methods, materials, and evaluation.

547. ISSUES AND TRENDS IN SPECIAL EDUCATION (3). Analysis of current issues and trends affecting the field of special education. Culminating seminar for master's program. PRQ: Minimum of 27 graduate program semester hours or consent of department.

549. EVALUATION AND INSTRUCTION OF INDIVIDUALS WITH MULTIPLE DISABILITIES (3). Strategies for creating and evaluating meaningful educational experiences for individuals with significant learning challenges. Implications of physical, health, and/or multiple disabilities for participation in major life activities. Curriculum modifications in academic and nonacademic areas. PRQ: TLSE 592 or consent of department.

550. COUNSELING IN BLIND REHABILITATION (3). Foundations of personal-social counseling and vocational guidance with emphasis on problems created by blindness and adjustment issues related to visual loss. PRQ: Consent of department.

552. ASSISTIVE TECHNOLOGY/MULTIPLE DISABILITIES (3). Evaluating abilities in relation to environmental demands and determining adaptations, adaptive equipment, and/or assistive devices that can be used to ensure student participation. Students demonstrate proficiency in programming augmentative communication devices and using other assistive technology devices. PRQ: TLSE 561.

553. TRANSITION PLANNING USING TECHNOLOGY (2-3). Curriculum, instructional methods, and materials appropriate for promoting self-determination and self-advocacy among individuals with disabilities. Focus on using technology for assessing preferences, setting goals, and developing action plans for IEP and/or transition meetings. Includes field-based activities.

554. CLASSROOM MANAGEMENT FOR SPECIAL EDUCATORS (3). Application of the principles of applied behavior analysis to promote appropriate academic and social behavior and to prevent and decrease challenging behavior in school settings. Designed to enable preservice special educators to design classroom environments, conduct functional assessment, develop positive behavior intervention plans, and implement group and individualized behavior programs in classroom settings. PRQ: TLSE 540, or consent of department.

557. SYSTEMS FOR INTEGRATING THE EXCEPTIONAL STUDENT IN THE REGULAR CLASSROOM (3). Designed to provide preservice and inservice elementary, secondary, and vocational educators information and skills necessary to accommodate exceptional students placed in regular school settings, including the establishment and implementation of individual educational programs and other concerns encompassed under the Individuals with Disabilities Education Act of 1990 (Public Law 101-476) and the Regulations of Section 504 of the Rehabilitation Act of 1973. Does not count toward degree program in special education. PRQ: TLEE 282 or consent of department.

559. TRANSITION PLANNING AND VOCATIONAL PROGRAMMING FOR STUDENTS WITH DISABILITIES (3). Transition planning, vocational training, evaluation, and placement of students of senior high school age with special needs; role of school personnel, families, and adult service providers. PRQ: ETR 434 or ETR 534, TLSE 540 or TLSE 592, or consent of department.

560. FUNCTIONAL ANALYSIS FOR SPECIAL EDUCATORS (3). Principles and methods of behavior analysis applied to the learning and behavior management of students exhibiting problems in learning and behavior. Emphasis on functional analysis in the classroom, home, and community. PRQ: TLSE 540 or TLSE 592, and TLSE 454, or consent of department.

561. METHODS FOR TEACHING INDIVIDUALS WITH DEVELOPMENTAL DISABILITIES (3). Role of personnel, methods for teaching and assessing independent functioning skills, and curriculum modifications in inclusive environments for individuals with developmental disabilities. PRQ: TLSE 540 and ETR 434 or ETR 534, or consent of department.

562. CURRICULAR AND INSTRUCTIONAL DESIGN AND ADAPTATION FOR INCLUSIVE SETTINGS (3). Models and strategies for developing and modifying materials and instruction for students with disabilities in general education classrooms. PRQ: TLSE 592 or consent of department.

563. METHODS FOR TEACHING STUDENTS WITH EMOTIONAL DISTURBANCE (3). Programs, methods, and materials in the education of students with emotional disturbance. Current issues and literature dealing with teaching students with emotional disturbance. PRQ: ETR 434 or ETR 534, TLSE 540, and TLSE 560, or consent of department.

564. ADVANCED PROGRAM PLANNING AND EVALUATION FOR PERSONS WITH DUAL SENSORY AND PHYSICAL DISABILITIES (3). In-depth curriculum planning based on theory and research for persons with dual sensory and physical disabilities. Planning and evaluation of hypothetical programs and participation in evaluation of operational programs in school districts required. PRQ: Consent of department.

565. COLLABORATION AND CONSULTATION SKILLS FOR SCHOOL PROFESSIONALS (3). Developing, implementing, and evaluating indirect service delivery systems for learners with special needs. Emphasis on interaction skills for use by professionals in schools and processes of collaboration and consultation. PRQ: Minimum of 27 graduate program semester hours or consent of department.

570. PRINCIPLES OF ORIENTATION AND MOBILITY TECHNIQUES FOR LEARNERS WITH VISUAL AND MULTIPLE IMPAIRMENTS (3). Techniques designed to assess the functional efficiency of kinesthetic, proprioceptive, auditory, visual, tactual, thermal, and olfactory senses of learners with visual and multiple impairments. Special adaptations in orientation and mobility techniques and devices for use by learners with visual and multiple impairments. PRQ: TLSE 536 or consent of department.

571. COLLABORATION PRINCIPLES AND SKILLS FOR PROFESSIONALS WORKING WITH PERSONS WITH VISUAL IMPAIRMENTS (3). Specific techniques related to inservice training and team teaching in inclusive settings. Interrelationships between and among families and specialists working with individuals with visual impairments.

573. INSTRUCTIONAL SYSTEMS FOR UTILIZATION OF LOW VISION (3). Procedures in assessing functional vision of persons with impairments. Instructional techniques in maximizing utilization of low vision, including training in basic optics, visual development and perception, specific visual and functional skills, application of low vision devices, and adaptations of materials, equipment, and environments. PRQ: TLSE 531 or consent of department.

574. ADVANCED ORIENTATION AND MOBILITY (3-6). Reinforcement of orientation and mobility skills and techniques, with emphasis on use of the long cane for travel. Teaching and assessment materials, procedures, and techniques; contemporary issues in the discipline; and program planning. Significant time spent participating in blindfold and simulator experiences. May be repeated to a maximum of 6 semester hours. PRQ: Consent of department.

575. REHABILITATION OF ADULTS WITH VISUAL IMPAIRMENTS (3). Community resources, methods, and materials to assist adults with visual impairments through rehabilitation. Includes history, rehabilitation models, and legislation. Emphasis on team management, evaluation, concomitant disabilities, and vocational planning.

576. INSTRUCTIONAL SYSTEMS FOR TEACHING INDIVIDUALS WITH VISUAL AND MULTIPLE IMPAIRMENTS (3). Special methods, materials, and techniques used in the instruction of individuals with visual and multiple impairments. Emphasis on sensory stimulation, visual functioning, motor development, self-help skills, communication skills and devices, home and behavior management, and interrelationships among specialists in related fields. PRQ: Consent of department.

577. SURVEY OF ASSISTIVE TECHNOLOGY FOR PERSONS WITH VISUAL IMPAIRMENTS (3). Introduction to educational difficulties of individuals with visual impairments for special educators without expertise in visual impairment. Overview of visual impairments and technology-related solutions to enable independent access to the general curriculum.

578. ISSUES AND TRENDS IN TEACHING STUDENTS WITH EMOTIONAL AND BEHAVIORAL DISORDERS (3). Focus on programs, projects, systems of support, classroom and school-based strategies, and assessment. PRQ: TLSE 563 or consent of department.

579. ASSISTIVE TECHNOLOGY FOR PERSONS WITH VISUAL IMPAIRMENTS (3). Emphasis on application of research in using assistive technology by persons with visual impairments. Hardware and software access issues for educational and life purposes. Not open to students with credit for TLSE 479. PRQ: TLSE 532 or consent of department.

580. ASSISTIVE TECHNOLOGY FOR PERSONS WITH VISUAL IMPAIRMENTS: ADVANCED TOPICS (3). Advanced features of recently developed technologies used by persons who are visually impaired. Emphasis on advanced instructional applications. PRQ: TLSE 479 or TLSE 579 or consent of department.

583A. INITIAL FIELD EXPERIENCE IN SPECIAL EDUCATION: LEARNING BEHAVIOR SPECIALIST I (1-3). Supervised observation of students with disabilities in a variety of educational settings. May be repeated to a maximum of 3 semester hours. S/U grading. PRQ: TLSE 540 or consent of department.

583C. INITIAL FIELD EXPERIENCE IN SPECIAL EDUCATION: VISION IMPAIRMENTS (1-3). Supervised observation of students with disabilities in a variety of educational settings. May be repeated to a maximum of 3 semester hours. PRQ: TLSE 540 or consent of department.

586A. INTERNSHIP IN ORIENTATION AND MOBILITY INSTRUCTION OF PERSONS WITH VISUAL IMPAIRMENTS (1-12). Supervised instruction including the techniques of safe, independent travel and the use of the long cane. Observation and participation in residential school, day school, and/or agency programs for individuals with visual impairments. May be repeated to a maximum of 12 semester hours. PRQ: Consent of department.

586B. INTERNSHIP IN REHABILITATION TEACHING OF PERSONS WITH VISUAL IMPAIRMENTS (1-12). Supervised instruction including observation and participation in residential school, day school, and/or agency programs for individuals with visual impairments. May be repeated to a maximum of 12 semester hours. PRQ: Consent of department.

587A. PRACTICUM IN LEARNING BEHAVIOR SPECIALIST I (1-10). Supervised field experience in special education programs in schools, institutions, and other facilities for elementary and secondary students with disabilities. May be repeated to a maximum of 12 semester hours. S/U grading. PRQ: Consent of department.

587E. ELEMENTARY OR SECONDARY PRACTICUM IN BEHAVIOR DISORDERS (1-10). Supervised field experience in special education programs in schools, institutions, and other facilities for elementary and secondary students with behavior disorders. May be repeated for experience at both elementary and secondary levels to a maximum of 12 semester hours. S/U grading. PRQ: Consent of department.

587N. PRACTICUM IN EARLY CHILDHOOD SPECIAL EDUCATION (1-10). Supervised field experience in special education programs in schools, homes, institutions, and other facilities for infants, toddlers, and preschoolers with disabilities. May be repeated to a maximum of 12 semester hours. S/U grading. PRQ: Consent of department.

587W. PRACTICUM WITH STUDENTS WITH MULTIPLE DISABILITIES (1-10). Supervised field experience in special education programs in schools and other facilities with programs for students with multiple disabilities. May be repeated to a maximum of 12 semester hours. S/U grading. PRQ: Consent of department.

588A. STUDENT TEACHING IN SPECIAL EDUCATION: VISION IMPAIRMENTS (9). Supervised student teaching of children and adolescents with vision impairments in culturally and educationally diverse settings. All students must satisfy the regulations governing student teaching. PRQ: Consent of department.

588B. PRACTICUM IN REHABILITATION TEACHING FOR PERSONS WITH VISUAL IMPAIRMENTS (3). Supervised field experiences in working with persons with visual impairments in daily living activities. PRQ: Consent of department.

588C. PRACTICUM IN ORIENTATION AND MOBILITY TECHNIQUES FOR PERSONS WITH VISUAL DISABILITIES (3). Supervised observation of a minimum of four different Orientation and Mobility Specialists providing instruction to children or adults with vision impairments in culturally diverse settings. PRQ: Consent of department.

588D. PRACTICUM IN INSTRUCTIONAL SYSTEMS FOR THE UTILIZATION OF LOW VISION (9). Supervised practicum in assessment of the functional vision of persons with vision impairments and in use of instructional techniques for obtaining maximum benefit from low vision. CRQ: TLSE 573.

590. WORKSHOP IN TEACHER EDUCATION (1-3). Designed to study contemporary issues and problems. Content varies. May be repeated to a maximum of 12 semester hours. PRQ: Consent of department.

591. INSTITUTE IN SPECIAL EDUCATION (1-3). Series of lectures, consultations, and discussion sessions on a relatively limited area of research or education. May be repeated to a maximum of 9 semester hours. S/U grading. PRQ: Consent of department.

592. SEMINAR IN SPECIAL EDUCATION (3). Review and analysis of current research in special education in terms of the special interests of the student. May be repeated to a maximum of 9 semester hours. PRQ: Consent of department.

593. COLLABORATION IN ADVANCED SPECIAL EDUCATION PRACTICES (3). Focus on collaboration among school personnel, community and university resources, and parents to develop and implement interventions for current and emerging issues in special education. Field experience required. PRQ: Consent of department.

594. GRADUATE CAPSTONE SEMINAR IN SPECIAL EDUCATION (1). Investigation of specific areas of special education including current issues and research. Completion of professional portfolio as documentation that all required standards have been met. Designed to be taken during the same semester as student teaching. CRQ: Enrollment in student teaching or minimum of 27 graduate program hours.

597. INDEPENDENT RESEARCH (1-3). Independent research at the master's degree level under faculty supervision. May be repeated to a maximum of 6 semester hours.

699. MASTER'S THESIS (1-6). Open only to students who elect to write a thesis for the M.S.Ed. degree. Student enrolls with the faculty member directing the thesis. May be repeated to a maximum of 6 semester hours. PRQ: Consent of department. Recommended: ETR 520.

742. EDUCATIONAL ASPECTS OF MENTAL RETARDATION (3). Study of the educationally significant characteristics of the mentally retarded with emphasis on research. PRQ: Consent of department.

743. PSYCHOLOGICAL AND SOCIOLOGICAL ASPECTS OF MENTAL RETARDATION (3). Study of psychological and sociological problems and characteristics of the mentally retarded, including a review of research. PRQ: Consent of department.

747. ADVANCED SEMINAR IN SPECIAL EDUCATION (3). Analysis of concepts and research related to educating individuals with disabilities. PRQ: Consent of department.

750. PERSPECTIVES IN LEARNING DISABILITIES (3). Examination of the development of the field of learning disabilities. Influence of past etiological theories, diagnostic practices, classification schemes, and treatment approaches on current practices. Service delivery approaches for youth and adults with mild, moderate, and severe learning disabilities. PRQ: Consent of department.

752. PERSPECTIVES IN BEHAVIOR DISORDERS (3). Examination of the development of the field of behavior disorders. Influence of etiological theories, diagnostic practices, classification schemes, and treatment approaches on current practices. Service delivery approaches for youth and adults with identified mild, moderate, and severe behavior disorders. PRQ: Consent of department.

754. READINGS IN VISUAL IMPAIRMENTS (3). Directed readings in the area of visual impairments including, but not limited to, issues related to persons with visual impairments, the teaching of students with visual impairments, adult blind rehabilitation, orientation and mobility, historical background, and current issues in the field. PRQ: Consent of department.

760. DIRECTOR OF SPECIAL EDUCATION (3). Theoretical background and practical application of knowledge and skills for leadership in the role of director of special education. Emphasis on instructional programming integrated with vision and mission building in a collaborative school culture. PRQ: TLSE 592.

762. ADVANCED INSTRUCTIONAL SYSTEMS FOR STUDENTS WITH DISABILITIES (3). Study of theories, principles, and practices in the education of children and youth with disabilities with emphasis on current research on effective schools. PRQ: Consent of department.

765. SEMINAR: PROFESSIONAL COLLABORATION IN SCHOOLS (3). Intensive study of current trends affecting the growth of collaboration in school settings. Analysis of school change processes related to the delivery of special services. Current initiatives in schools and their treatment of special education. PRQ: TLSE 565 or consent of department.

770. WRITING FOR PUBLICATION IN EDUCATIONAL PSYCHOLOGY AND SPECIAL EDUCATION (3). *Crosslisted as EPS 770X*. Planning, producing, and submitting manuscripts for publication. Includes analysis of professional journals and articles published in them with different types of publications addressed and analyzed, including review, research, and theoretical position papers.

771. WRITING GRANT PROPOSALS IN EDUCATION (3). *Crosslisted as EPS 771X*. Reviewing and writing competitive grant proposals. Identifying funding sources (federal, state, private) that match one's interests and expertise. Analysis of components of different types of grants, including research, demonstration, special project, technology, and personnel preparation grants.

780. FIELD OBSERVATION OF SPECIAL EDUCATION PROGRAMS (1-8). Observation and evaluation of administrative programs in special education in federal, state, and selected local programs. May be repeated to a maximum of 8 semester hours. PRQ: LEEA 500 and LEEA 577, or consent of department.

786. INTERNSHIP IN SPECIAL EDUCATION (1-12). Assignment as an intern in assessment, programming, and/or administration experiences. Participation in on-going programs in residential or public schools for learners with disabilities; work as a student/staff member according to the assignment that has been undertaken. May be repeated to a maximum of 12 semester hours. PRQ: Consent of department.

787. LABORATORY PRACTICUM IN PREPARING SPECIAL EDUCATORS FOR HIGHER EDUCATION (1-6). Strategies for providing instruction and experiences for preservice and inservice special education teachers. Includes program and course development, field-based programs, seminars, workshops, institutes, practicum experiences, team teaching, specialized minicourses, programmed and computer-directed instruction, and other delivery systems. Use of media and strategy evaluation. May be repeated to a maximum of 6 semester hours. PRQ: Consent of department.

791. SEMINAR: GROUP RESEARCH METHODOLOGIES IN SPECIAL EDUCATION (3). Concepts in the philosophy and methodology of scientific research to prepare students to evaluate critically ideas and practices in special education. Emphasis on understanding and employing group research designs. PRQ: Consent of department.

792. SEMINAR: SINGLE-SUBJECT RESEARCH METHODOLOGIES IN SPECIAL EDUCATION (3). Consideration of major concepts underlying single-subject research regarding children with disabilities analyzing the design, variables, and parameters most critical in study of children who have limited language, motor, and cognitive abilities. PRQ: Consent of department.

796. LABORATORY FIELD STUDIES IN SPECIAL EDUCATION (3). Theoretical constructs, design, and procedures for laboratory research and field-based evaluation in special education. Participation in research projects required. May be repeated to a maximum of 6 semester hours. PRQ: Consent of department.

797. INDEPENDENT RESEARCH (1-3). Independent research at the post-master's degree levels under faculty supervision. May be repeated to a maximum of 6 semester hours.

799. DOCTORAL RESEARCH AND DISSERTATION (1-15). Students must accumulate 15 semester hours prior to graduation. May be repeated. PRQ: Candidacy for the doctoral degree and consent of chair of doctoral committee.

# College of Engineering and Engineering Technology

**Dean: Promod Vohra, Ed.D., P.E.**

**Associate Dean: Mansour Tahernezehadi, Ph.D., P.E.**

Department of Electrical Engineering  
 Department of Industrial and Systems Engineering  
 Department of Mechanical Engineering  
 Department of Technology

## Master of Science in Teaching

The M.S.T. is designed for certified teachers seeking teaching endorsements at the master's level in disciplines approved by the university. All students pursuing the degree will be required to complete core experiences in which they demonstrate knowledge, skills, and dispositions related to assessment, diversity and special needs, human development and learning, and pedagogy in their content area.

### Admission

All applicants for the M.S.T. program must meet requirements for admission to the Graduate School and be accepted for admission by the faculty of the specialization.

### Specialization in Engineering Education

The Master of Science in Teaching (M.S.T.) with specialization in Engineering Education prepares teachers with mathematics or science certification to infuse traditional content with the 21st century knowledge and skills associated with emerging critical technologies such as nanotechnology, fuel cells, and modern manufacturing technology. The program integrates mathematics and science standards for teaching and learning into the middle school and high school industrial technology endorsements. The central goal of the program is to empower teachers to implement generative and transformative pedagogy by using research-based instructional practices and emerging engineering content. Four strands permeate the program: (1) active learning through such approaches as project-based learning and guided inquiry, (2) adolescent identity development, (3) action research, and (4) teacher leadership.

### Mission

The Master of Science in Teaching (M.S.T.) with specialization in Engineering Education prepares certified middle and high school teachers of mathematics and the sciences to engage their students in authentic engineering content and processes. Such engagement will stimulate interest in mathematics, the sciences, and engineering among adolescent students at a formative time in their academic development.

## Educational Objectives

The program leading to the Master of Science in Teaching (M.S.T.) with specialization in Engineering Education is designed to: (1) improve teaching and learning of mathematics, the sciences, and engineering by increasing the knowledge and skills of teachers; (2) implement quality action research, focusing on inquiry and problem-solving skills; and (3) integrate research-based pedagogical practices and content.

## Program Requirements (33)

IEET 590 - Topics in Engineering and Engineering Technology (1-3)  
 TECH 532 - Disaster Preparedness (3)  
 TLCI 537 - Improvement of Instruction (3)  
 UEET 601 - Introduction to Emerging Technologies (3)  
 UEET 602 - Nanotechnology and Applications (3)  
 UEET 603 - Introduction to Energy Engineering (3)  
 UEET 604 - Introduction to Fuel Cell and Fuel Cell Power Generation (3)  
 UEET 605 - Nanoelectronics and Applications (3)  
 UEET 606 - Applied Modern Manufacturing and Quality Control (3)  
 UEET 607 - Internship (3)  
 UEET 608 - Master's Project (3)

## Interdisciplinary Courses Offered by the College of Engineering and Engineering Technology

IEET 590. TOPICS IN ENGINEERING AND ENGINEERING TECHNOLOGY (1-3). Selected interdisciplinary topics from various engineering or engineering technology disciplines not offered in regular departmental courses. May be repeated to a maximum of 6 semester hours. PRQ: Consent of instructor.

UEET 601. INTRODUCTION TO EMERGING TECHNOLOGIES (3). An overview of emerging technologies for teachers. Introduction to basic concepts of nanotechnology, energy use, fossil fuel resources and energy conversion, fuel cells and their power generation, electronics, applied engineering probability and statistics, applied modern manufacturing and quality control, and the basics of homeland security. Open only for credit towards the M.S.T. with Specialization in Engineering Education.

UEET 602. NANOTECHNOLOGY AND APPLICATIONS (3). Introduction to the basic concepts of nanotechnology for educators with a focus on theory of nanotechnology, history of nanotechnology, microelectronics and MEMS, and simple experiments to demonstrate the principles of nanotech. Special emphasis is placed on modeling and use of instructional methods and best practices appropriate for delivery of pedagogical content. Open only for credit towards the M.S.T. with Specialization in Engineering Education.

UEET 603. INTRODUCTION TO ENERGY ENGINEERING (3). Overview of energy use, fossil fuel resources and energy conversion for teachers. Topics include solar energy principles, solar collector, photovoltaic cells and applications; wind energy and wind turbines; nuclear energy principles, nuclear reactors, and power generation; bio-mass and energy conversion; and hydrogen energy, storage, and transportation. Overview of fuel cell, fuel cell types, and applications. Special emphasis on modeling and use of instructional methods and best practices appropriate for delivery of pedagogical content. Open only for credit towards the M.S.T. with Specialization in Engineering Education.

UEET 604. INTRODUCTION TO FUEL CELL AND FUEL CELL POWER GENERATION (3). Introduction of the basics of fuel cell power generation for teachers. Topics include: introduction to fuel cell; classification, types, and operations of fuel cell; energy conversion process in fuel cell; fuel cell characterization; thermodynamics of electrochemical fuel cell, major components, and operation; irreversibilities, voltage losses, and performance characteristics; fuel cell analysis and design; fuels and fuel processing; thermal and water management; and fuel cell power electronics and power conditioning. Special emphasis on modeling and use of instructional methods and best practices appropriate for delivery of pedagogical content. Open only for credit towards the M.S.T. with Specialization in Engineering Education. PRQ: UEET 603 or consent of the college.

UEET 605. NANOELECTRONICS AND APPLICATIONS (3). Introduction to the basic concepts of nanoelectronics for teachers. Use of theory and experiments to demonstrate the principles of nanoelectronics and nanodevices. Open only for credit towards the M.S.T. with Specialization in Engineering Education.

UEET 606. APPLIED MODERN MANUFACTURING AND QUALITY CONTROL (3). Study of the elements of the entire manufacturing process, including the cost, productivity (throughput), and quality control arenas. Exploration of the relationship between cost, throughput, and quality. Study of optimization principles and the application to manufacturing. The content as well as the pedagogy will be addressed. Open only for credit towards the M.S.T. with Specialization in Engineering Education.

UEET 607. INTERNSHIP (3). Provides experiences at industrial sites or research laboratories in emerging technologies such as nanotechnology, fuel cell research, modern manufacturing and quality control, and homeland security. Students are required to spend 20-40 hours per week at practice sites. Open only for credit towards the M.S.T. with Specialization in Engineering Education.

UEET 608. MASTER'S PROJECT (1-3). Capstone master's project which focuses on a relevant subject area of particular interest to the student in the areas of emerging technologies such as nanotechnology, fuel cell research, modern manufacturing and quality control, and homeland security. Not available for credit for nonteachers.

# Department of Electrical Engineering (ELE)

Chair: Ibrahim Abdel-Motaleb

## Graduate Faculty

Ibrahim Abdel-Motaleb, professor, Ph.D., P.E., University of British Columbia  
 Alan P. Genis, professor, Ph.D., Colorado State University  
 Michael Haji-Sheikh, associate professor, Ph.D., University of Texas, Arlington  
 Reza Hashemian, professor, Ph.D., P.E., University of Wisconsin  
 Sen-Maw Kuo, professor, Ph.D., University of New Mexico  
 Lichuan Liu, assistant professor, Ph.D., New Jersey Institute of Technology  
 Vincent McGinn, professor, Ph.D., P.E., Pennsylvania State University  
 Gerald Miller, professor, Ph.D., Northwestern University  
 Mansour Tahernezehadi, professor, Ph.D., P.E., University of Oklahoma  
 Peng-Yung Woo, professor, Ph.D., University of Pennsylvania  
 Donald Zinger, associate professor, Ph.D., P.E., University of Wisconsin

## Master of Science in Electrical Engineering

The Department of Electrical Engineering offers graduate studies leading to the M.S. in electrical engineering. The program is designed to stimulate creativity, to provide an in-depth understanding of the basic physical phenomena involved in electrical systems, and to provide the student with the ability to use modern techniques in the analysis and design of electrical components and systems. Bulletins describing graduate studies in electrical engineering are available from the departmental office.

Admission to the graduate program in electrical engineering requires a baccalaureate degree in electrical engineering or a related area such as physics, mathematical sciences, chemistry, computer science, or other science and engineering disciplines. Undergraduate students in electrical engineering can, however, enroll in the integrated B.S./M.S. sequence after finishing 90 semester hours with a GPA of at least 3.00.

## Thesis Option

All students admitted to the M.S. program are classified as thesis option students. The thesis option is designed to prepare students for graduate work at the doctoral level and concentrates on original research techniques. The graduate program of courses must include 6 semester hours of ELE 699A, Master's Thesis, on a topic approved by the student's graduate committee. The thesis must be satisfactorily defended at an oral examination. Portions of the research work required by ELE 699A may be performed in off-campus facilities if approved by the student's graduate committee.

## Non-Thesis Option

Students wishing to pursue the non-thesis option are required to petition the department's graduate committee upon admission to the major. The non-thesis option is designed for practicing professionals who wish to pursue advanced study in electrical engineering culminating in the M.S. degree and who cannot pursue the traditional research experience of a thesis option. Students pursuing a M.S. degree under this option must earn a minimum of 30 semester hours of graduate credit including 3 semester hours of ELE 699B, Master's Project, which must lead to significant original work which must be defended at an oral examination and submission of a written report.

## Requirements for Graduates with a B.S. in Electrical Engineering

Students must satisfy the following departmental requirements.

The student with the support of his or her faculty adviser must submit to the department a program of graduate study approved by the student's graduate committee.

Students must complete at least 30 semester hours of graduate work with at least 12 semester hours of course work in 600-level courses exclusive of ELE 597, ELE 598, ELE 699A, and ELE 699B.

Combined credit in 500-level courses must not exceed 12 semester hours.

The 30 semester hours must include a minimum of 12 semester hours of course work in the department exclusive of ELE 597, ELE 598, ELE 699A, and ELE 699B.

## Requirements for Graduates with a B.S. in an Area other than Electrical Engineering

Students with a B.S. degree in an area other than electrical engineering are required to take at least three courses from the following: ELE 210, ELE 250, ELE 315, ELE 330, ELE 335, ELE 340, ELE 350, ELE 356, ELE 360, ELE 370, and ELE 380. A grade of B or better is required for each of these courses. The thesis adviser must approve the set of courses to be taken. The student is also required to fulfill all the requirements in the previous section.

## Requirements for Integrated B.S./M.S. Sequence

This integrated sequence leads to both the B.S. and M.S. degrees in electrical engineering and is open to all undergraduate electrical engineering majors who finished at least 90 semester hours of undergraduate work with a minimum GPA of 3.00. A minimum GPA of 3.00 must be maintained during the course of study. Failure to meet the requirements of the integrated sequence may lead to a B.S. degree only, but only after all the requirements for that degree have been met.

All students enrolled in this sequence must have their schedule approved by their faculty adviser each semester. Any deviation from an approved course schedule may delay graduation.

Students seeking to qualify for the integrated B.S. and M.S. sequence in electrical engineering must satisfy the following departmental requirements.

A minimum of 121 semester hours of course work must be taken including all undergraduate required courses. In addition, 30 semester hours must be taken for graduate credit.

Students must take at least 12 semester hours of course work at the 600-level exclusive of ELE 597, ELE 598, ELE 699A, and ELE 699B.

Combined credit in 500-level courses must not exceed 12 semester hours.

A program of courses and a thesis or a project topic approved by the student's graduate committee and adviser must be submitted to the department.

The 30 semester hours of graduate credit must include a minimum of 12 semester hours of course work in the Department of Electrical Engineering exclusive of ELE 597, ELE 598, and ELE 699A, and ELE 699B.

### Specialization in Applied Radio Frequency (RF) Engineering (Thesis Option Only) (30)

Students pursuing this specialization must also fulfill relevant Requirements for Graduates with a B.S. in Electrical Engineering or Requirements for Graduates with a B.S. in an Area other than Electrical Engineering or Requirements for Integrated B.S./M.S. Sequence.

#### Required Courses (27)

- ELE 561 - Synthesis of Active and Passive Filters (3)
- ELE 574 - Transmission Line Media and Wave Propagation (3)
- ELE 575 - Antenna Theory and Design (3)
- ELE 670 - Microwave Circuits and Devices (3)
- ELE 673 - Time Harmonics Electromagnetic Fields (3)
- ELE 674 - Microwave Measurement and Beam Instrumentation Laboratory (3)
- ELE 677 - Advanced Microwave and Millimeter Wave Engineering (3)
- ELE 699A - Master's Thesis (6)
- One of the following courses (3)
  - ELE 537 - Hybrid Circuit Design (3)
  - ELE 635 - Advanced Electronic Devices (3)
  - ELE 660 - Digital and Analog Communication Systems (3)
  - ELE 672 - Microwave Solid-State Devices and Circuits (3)

### Certificates of Graduate Study

The Department of Electrical Engineering offers several short-term focused technical fields of study leading to a certificate of graduate study. The certificates are ideally suited for graduate-level students interested in lifelong learning and in the advancement of their skills in an area of electrical engineering. Credit earned for a certificate of graduate study may be applied toward the M.S. degree in electrical engineering with the approval of the department.

#### Digital Image Processing (12)

- ELE 554 - Introduction to Digital Image Processing (3)
- ELE 654 - Advanced Topics in Digital Image Processing (3)
- Two of the following (6)
  - ELE 551 - Digital Filter Design (3)
  - ELE 650 - Digital Signal Processing (3)
  - ELE 656 - Pattern Recognition (3)

#### Digital Signal Processing (12)

- ELE 551 - Digital Filter Design (3)
- ELE 552 - Real-Time Digital Signal Processing (3)
- ELE 650 - Digital Signal Processing (3)
- ELE 651 - Random Signal Processing (3)

#### Digital Systems (12)

- ELE 530 - Design with Field Programmable Logic Devices (3)
- ELE 557 - Microprocessor (3)
- ELE 655 - Microprocessor System Design (3)
- ELE 657 - Parallel Processing (3)

#### Industrial Control (12)

- ELE 581 - Digital Control Systems (3)
- ELE 683 - Computerized Control and Modeling of Automated Systems (3)
- ELE 685 - Control Laws and Strategies for Multilink Manipulators (3)
- ELE 687 - Fuzzy Logic in Engineering (3)

#### Semiconductor Devices (12)

- ELE 531 - Theory of Semiconductor Devices II (3)
- ELE 533 - Design of Gallium Arsenide Integrated Circuits (3)
- ELE 534 - Semiconductor Material and Device Characterization (3)
- ELE 538 - Thin Film Engineering (3)

#### Semiconductor Fabrication (12)

- ELE 535 - Integrated Circuit Engineering (3)
- Two of the following (6)
  - ELE 532 - Semiconductor Device Fabrication Laboratory (3)
  - ELE 537 - Hybrid Circuit Design (3)
  - ELE 538 - Thin Film Engineering (3)
- One of the following (3)
  - ELE 630 - Advanced Integrated Circuit Engineering (3)
  - ELE 631 - VLSI Engineering: Computer-Aided Design (3)
  - ELE 634 - Integrated Circuit Design for Testability (3)

#### VLSI Design (12)

- ELE 535 - Integrated Circuit Engineering (3)
- ELE 536 - Analog MOS VLSI Engineering (3)
- Two of the following (6)
  - ELE 630 - Advanced Integrated Circuit Engineering (3)
  - ELE 631 - VLSI Engineering: Computer-Aided Design (3)
  - ELE 634 - Integrated Circuit Design for Testability (3)

### Course List (ELE)

520. BIOMEDICAL INSTRUMENTATION (4). Design and application of electrodes, bio-potential amplifiers, biosensor applications, therapeutic devices. Medical imaging. Electrical safety. Measurement of ventilation, blood pressure, and flow. Three hours lecture per week and 10 lab sessions (3 hours each). PRQ: ELE 330 or consent of department.

521. BIOMEDICAL SENSOR ENGINEERING (3). Theory, analysis, and design of biomedical sensors. Topics include biological elements; immobilization of biological components; medical, biological, and chemical sensors; and transducers based on electrochemistry, optics, and solidstate devices. PRQ: ELE 330 and ELE 335, or MEE 390, or consent of department.

525. BIOMEDICAL SIGNAL PROCESSING (3). Modeling of biomedical signals and analysis of biomedical systems using both time-domain and frequency-domain techniques. Design of linear and nonlinear filters for biomedical applications and medical imaging. Practical applications in cardiac and neurological signal processing. Not available for credit to students with credit in ELE 551. PRQ: ELE 315 or consent of department.

530. DESIGN WITH FIELD PROGRAMMABLE LOGIC DEVICES (3). Design of high performance logic designs utilizing programmable logic gates. Design of finite state machines and introduction to latest computeraided tools. PRQ: ELE 350 or consent of department.

531. THEORY OF SEMICONDUCTOR DEVICES II (3). Continuation of ELE 335 dealing with complex semiconductor devices. Theory of operation of integrated circuits, solid state lasers, switching devices, and negative conductance microwave devices. PRQ: ELE 335 or consent of department.

532. SEMICONDUCTOR DEVICE FABRICATION LABORATORY (3). Design and fabrication of active semiconductor devices. Laboratory exercises include artwork and pattern generation, mask making, oxidation, photolithographic processing, diffusion, metallization, and device testing. PRQ: Consent of department.

533. DESIGN OF GALLIUM ARSENIDE INTEGRATED CIRCUITS (3). Fundamentals of GaAs devices and logic families; fabrication processes; physical layout for VLSI circuits; interconnection and testing of high speed systems. PRQ: ELE 335 or consent of department.

534. SEMICONDUCTOR MATERIAL AND DEVICE CHARACTERIZATION (3). Study of fundamentals and principles of semiconductor material properties with applications to device characterization. Modern measurement techniques of semiconductor industry including electrical, optical, chemical, and physical methods. PRQ: ELE 335 or consent of department.

535. INTEGRATED CIRCUIT ENGINEERING (3). Basic theory of integrated circuits including MOS processing technology. Principles of layout design, simulation, and design rule checking of large-scale integrated circuits. Introduction to design tools and techniques including utilization of available design software packages. Requirements include the design, simulation, and layout of an integrated circuit to the point of mask generation. PRQ: ELE 250 and ELE 330, or consent of department.

536. ANALOG MOS VLSI ENGINEERING (3). Introduction to analog MOS (nMOS and CMOS) circuits. MOS transistor as both a switch and a linear device. Different MOS circuits such as amplifiers, switches, comparators, sensors, D/A-A/D converters, multipliers, and neural networks. PRQ: ELE 330 or consent of department.

537. HYBRID CIRCUIT DESIGN (3). Lecture/laboratory course covering thick film processing techniques as they apply to the design and fabrication of miniature electronic circuits. Topics include minimum design rules, design of electronic components, artwork generation, screen preparation, screen printing, drying and firing profiles, and trimming. PRQ: ELE 360 or consent of department.

538. THIN FILM ENGINEERING (3). Lecture/laboratory course designed to demonstrate theory and principles of thin film processing including vacuum processing and deposition techniques. Topics include resistive evaporation, DC sputtering, RF sputtering, ion beam sputtering, electron beam evaporation, methods of achieving vacuum, and measurement techniques. PRQ: ELE 335 or consent of department.

540. POWER ELECTRONICS (3). Introduction to concepts involved with switch mode power electronic circuits. Analysis of basic circuit topologies including AC/DC, DC/DC, and DC/AC converters. Discussion of desired outputs of these circuits, as well as undesired components such as harmonics and ripple. PRQ: ELE 330 and ELE 340, or consent of department.

541. ELECTRIC DRIVES (3). Advanced discussion of different types of electric motors under various load conditions. Application of power electronic drives to electric motors. Topics include DC drives, AC induction motor drive, and AC synchronous motor drives. Efficiency and harmonic effects discussed for each drive system. PRQ: ELE 330 and ELE 340, or consent of department.

550. DIGITAL DESIGN WITH HDL (3). Design, simulation, and synthesis of digital circuits and systems using Verilog HDL or VHDL. Topics include digital design methodologies, finite state automata, behavioral models, structural design, finite state machines and datapath controllers, and algorithms and architectures for digital signal processors. Includes a term project to design, simulate, and synthesize a digital circuit/system. PRQ: ELE 250 and CSCI 240, or consent of department.

551. DIGITAL FILTER DESIGN (3). Difference equations, z-transform, Fourier representation of sequences, discrete-time system transfer functions, infinite impulse response discrete-time filters design. Includes implementation considerations and computer aided filter design. Practical examples and computer simulations. PRQ: ELE 315 or consent of department.

552. REAL-TIME DIGITAL SIGNAL PROCESSING (3). In-depth presentation of the use of single-chip programmable signal processors. Hardware design aspects of digital signal processing (DSP) systems, architectural issues, and fixed versus floating point representations for implementing DSP algorithms. Applications to speech processing, adaptive filtering, and telecommunications. PRQ: ELE 315 and ELE 356, or consent of department.

554. INTRODUCTION TO DIGITAL IMAGE PROCESSING (3). Principles, techniques, and algorithms for enhancements of degraded images, compression of pictorial information, recognition of patterns in scenes, reconstruction of a picture from projections, and descriptions of objects in a scene. PRQ: CSCI 240 and consent of department.

555. COMPUTER SYSTEM ARCHITECTURE (3). Register transfer and micro-operation, basic computer organization and design; central processing unit; micro-programmed control; pipeline and vector processing; computer arithmetic; input/output organization, and memory organization. PRQ: ELE 250 or consent of department.

556. INTRODUCTION TO PATTERN RECOGNITION (3). Theory and design of pattern recognition systems. Topics include pattern recognition and perception, nonparametric decision theoretical classification, statistical discriminant functions, Fisher's approach, unsupervised learning systems (clustering) and their performance, and neural networks for pattern recognition. PRQ: CSCI 240 or CSCI 241, ELE 250, and STAT 350 or IENG 335, or consent of department.

557. MICROPROCESSOR (3). Analysis of computer logic systems. Topics include parallel and serial I/O ports, memory interface, I/O interface, and interrupt interface. PRQ: ELE 356 or consent of department.

561. SYNTHESIS OF ACTIVE AND PASSIVE FILTERS (3). Principles of network synthesis are introduced. Synthesis techniques are used to design active and passive filters. PRQ: ELE 360 or consent of department.

564. SYSTEM DESIGN UTILIZING ANALOG INTEGRATED CIRCUITS (3). Basic theory for the utilization of special purpose integrated circuit amplifiers in application specific to circuit designs, including special differential and operational amplifier circuits. PRQ: ELE 330 or consent of department.

571. LIGHTWAVE ENGINEERING (3). Theory, analysis, and design of opto electronic communication techniques. Multimode and monomode optical fibers examined for loss, dispersion, and practical considerations. Optical receiver, transmitter, and repeaters presented with an introduction to optical signal processing. PRQ: ELE 335, ELE 360, and ELE 370, or consent of department.

574. TRANSMISSION LINE MEDIA AND WAVE PROPAGATION (3). Theory and applications of various transmission line media such as twowire, coaxial, stripline, and microstrip lines. Principles of wave propagation in freespace and waveguides. Distributed circuits and impedance matching using the Smith chart approach. PRQ: ELE 370 or consent of department.

575. ANTENNA THEORY AND DESIGN (3). Fundamentals of electromagnetic radiation from wire and aperture-type antennas; applications of field equivalence principles to aperture radiation; receiving antennas and noise evaluation of communication systems; antenna test equipment and measurement techniques. PRQ: ELE 370 or consent of department.

580. CONTROL SYSTEMS II (3). Design and compensation of feedback control systems. State-variable approach to the analysis and design of feedback control systems. Use of digital controllers in modern control systems. PRQ: ELE 380 or MEE 322, or consent of department.

581. DIGITAL CONTROL SYSTEMS (3). Introduction to digital and sampled-data control systems. Analysis and design of digital systems using z-transform and state-space methods. Study of the effects of quantization and sampling on stability and performance. PRQ: ELE 580 or consent of department.

597. INDEPENDENT STUDY (1-3). Independent pursuit of advanced problems in electrical engineering under faculty supervision. Written report required. May be repeated to a maximum of 3 semester hours. PRQ: Consent of department.

598. SPECIAL TOPICS IN ELECTRICAL ENGINEERING (1-3).

- A. Biomedical Engineering
- B. Microelectronics
- C. Power Electronics
- D. Computer Engineering
- E. Communications Engineering
- G. Electromagnetics
- J. Control Systems
- K. Digital Signal Processing

Advanced study of electrical engineering topics offered in a regular class format. May be repeated to a maximum of 3 semester hours in each topic, but combined semester hours taken in all 500-level courses, ELE 597, and ELE 598 may not exceed 12 semester hours. PRQ: Consent of department.

630. ADVANCED INTEGRATED CIRCUIT ENGINEERING (3). Design of large integrated circuits explored at transistor, gate, and register subsystem level. Mathematical abstractions related to parasitic effects and discussion of physics layout complications. PRQ: ELE 535 or consent of department.

631. VLSI ENGINEERING: COMPUTER-AIDED DESIGN (3). Creative use of design aids in parameter extraction, schematic capture, chip layout, channel routing, and maze routing multilevel simulation. Artwork generation and verification. PRQ: ELE 535 or consent of department.

632. VLSI ENGINEERING: DEVICE DESIGN (3). Special design considerations of NMOS, COMS, and bipolar technologies. Topics include device simulation, application of graph theory to chip layout, design rules and validation techniques, and strategies for layout of microcells and macrocells. PRQ: ELE 630 or consent of department.

633. VLSI ENGINEERING: CHIP DESIGN (3). Complete design of integrated circuits in MOS and bipolar technologies. Designs evaluated by computer simulation with the computer results utilized in an iterative manner to optimize circuit design prior to mask generation. PRQ: ELE 632 or consent of department.

634. INTEGRATED CIRCUIT DESIGN FOR TESTABILITY (3). Current methodologies and techniques for design of VLSI systems are introduced. Topics include the introduction to integrated circuit design; modeling integrated circuits at functional, structural, and physical levels; fault modeling and fault detection; testing; design for testability; built-in self test; and test pattern generation. PRQ: ELE 535 or consent of department.

635. ADVANCED ELECTRONIC DEVICES (3). Theory, analysis, and design of advanced electronic devices such as metal semiconductor field effect transistors, modulation doped field effect transistors, heterojunction bipolar transistors, and quantum well devices. PRQ: ELE 335 or consent of department.

636. DESIGN OF MICROSYSTEMS (3). Theory, analysis, and design of micro-electro-mechanical systems. Topics include fabrication process of micro and nanodevices; electrical, mechanical, magnetic and thermal properties of micro and nanostructures; and analysis of newly developed nanostructures. PRQ: ELE 335 and ELE 330, or consent of department.

637. THIN FILM RESISTIVE SENSORS (3). Analysis and design of resistive sensors and capacitive sensors. Includes anisotropic magnetoresistors (AMR), giant magnetoresistors (GMR), thermistors, humidity sensors, and mass flow sensors. PRQ: ELE 335 and ELE 370; or consent of department.

640. ADVANCED POWER ELECTRONICS (3). Discussion of advanced topics involved with switch mode power electronic circuits. Topics include switching characteristics of power semiconductor devices, resonant converters, and soft-switching converters. Advanced techniques for the modeling and control of power electronic circuits. PRQ: ELE 540.

650. DIGITAL SIGNAL PROCESSING (3). Theory and computer realization of digital signal processing. Fourier and z-transform hardware and software implementation of digital filters. Discrete Butterworth and Chebyshev filters. FIR, IIR, and linear phase filters. Effects of finite word length in fixed and floating-point arithmetic. PRQ: ELE 315 or consent of department.

651. RANDOM SIGNAL PROCESSING (3). Statistical description of discrete and continuous signals in communication. Power spectrum analysis. Applications to filtering and interpolation problems. Detection and extraction of signals in noise background based on statistical decision theory. PRQ: ELE 360 or ELE 650, or consent of department.

653. DIGITAL SPEECH PROCESSING (3). Principles, techniques, and algorithms for speech signals. Emphasis on the representation of speech signals in digital form, the implementation of sophisticated processing techniques, and the classes of applications which rely heavily on digital processing. PRQ: ELE 651 or consent of department.

654. ADVANCED TOPICS IN DIGITAL IMAGE PROCESSING (3). Advanced treatment of image processing techniques; linear and nonlinear image restoration, image segmentation, image enhancement, image encoding, feature description, and image understanding; and related computer projects. PRQ: ELE 554 or consent of department.

655. MICROPROCESSOR SYSTEM DESIGN (3). Principles and techniques required to design a microprocessor-based electronic system by treating the microprocessor as a component of the overall system. Hardware design aspects of systems including buses, memory system design, I/O, interrupts, DMA, and memory management will be examined. PRQ: ELE 657 or consent of department.

656. PATTERN RECOGNITION (3). Principles of approaches currently employed in pattern recognition; nonparametric classification, clustering analysis, nonsupervised learning, dimensionality reduction, feature extraction, shape recognition, curve fitting, polygon clipping, and graphic display generation. PRQ: CSCI 230 or consent of department.

657. PARALLEL PROCESSING (3). Fundamental concepts of parallel processor organization. Development of basic algorithms suitable for such systems. Parallel sorting and interconnection networks. Applications and discussion of specific processors. PRQ: Consent of department.

658. ARTIFICIAL INTELLIGENCE (3). Methodology in the design of a knowledge-based system using LISP or other appropriate computer language. Subjects and strategies including information base, forward chaining, testing and debugging, and dedicated hardware. Stages from initial problem definition to system implementation will be discussed. PRQ: Consent of department.

659. ADAPTIVE SIGNAL PROCESSING (3). The adaptive transversal filter with least mean square algorithm introduced and compared with frequency-domain and lattice algorithms. Applications to modeling and system identification, inverse modeling, deconvolution, equalization, adaptive noise canceling, and adaptive array. Practical examples and computer simulations. PRQ: ELE 651 or consent of department.

660. DIGITAL AND ANALOG COMMUNICATION SYSTEMS (3). Theory of digital communication systems including digital transmission of analog systems. Digital communication in the presence of noise and the use of error correcting codes. PRQ: ELE 360 or consent of department.

661. ERROR CONTROL CODING (3). Fundamentals of coding theory digital communications. Topics include finite fields, linear block codes, convolutional codes, and parallel concatenated codes. Design and implementation for a digital communication system. PRQ: ELE 360 or consent of department.

662. OPTICAL COMMUNICATION (3). Fundamentals of the propagation of optical beams in various media. Theory and applications of optical resonators. Laser oscillation and modulation techniques of laser beams. Optical detection and noise in optical systems. Two-laser optical systems and phase conjugate optics. PRQ: ELE 335 and ELE 360, or consent of department.

664. SPREAD SPECTRUM COMMUNICATION SYSTEMS (3). Concepts of spread spectrum digital communication and frequency hopped communication systems, including code tracking loops, synchronization of the receiver spreading code, and binary shift register sequence. PRQ: ELE 660 or consent of department.

665. SATELLITE COMMUNICATIONS (3). Space vehicle overall design for communications. Orbital mechanics and the space environment presented along with station keeping, modulation methods, antenna and coding. Intended for engineers seeking entry into the satellite communications industry. PRQ: ELE 360, ELE 575, or consent of department.

670. MICROWAVE CIRCUITS AND DEVICES (3). Wave equation; microwave waveguides and components; solid-state devices and circuits; microwave integrated circuits; microwave test equipment and laboratory measurements. PRQ: ELE 370 or consent of department.

671. MICROWAVE INTEGRATED CIRCUITS (3). Analysis and design of microwave/millimeter wave integrated circuits using various transmissionline media, such as microstrips, finlines, and dielectric waveguides. Supercompact; will be used as a design tool. PRQ: Consent of department.

672. MICROWAVE SOLID-STATE DEVICES AND CIRCUITS (3). Theory of operation of passive and active microwave devices including beamlead detector and mixer diodes, switching and varactor diodes, Gunn and IMPATT diodes; use of these devices in various microwave circuits, such as receiver front-ends, Gunn and IMPATT oscillators, and voltagecontrolled oscillators. Design of practical microwave/millimeter wave circuits. PRQ: Consent of department.

673. TIME HARMONICS ELECTROMAGNETIC FIELDS (3). Builds on advanced electromagnetic concepts to study wave propagation, resonators, and launching methods. Rigorous mathematical methods establish understanding for plane waves, cylindrical waves, and spherical waves. Body scattering, aperture principles, and perturbation methods are examined with specific focus on design, measurement, and formulation methods. PRQ: ELE 370 and ELE 575 or consent of department.

674. MICROWAVE MEASUREMENT AND BEAM INSTRUMENTATION LABORATORY (3). Topics include (1) Microwave measurements in the time and frequency domains, basics of spectrum analyzers, vector signal analyzers, and time domain reflectometers; (2) Transmission lines, complex impedance, reflection coefficients; (3) Microwave measurements with a vector network analyzer; basics of vector network analyzers; (4) Microwave components and devices, splitters, circulators, directional couplers, filters, etc.; (5) Beam signals for circular accelerators, beam spectrums, power spectral density, betatron and synchrotron signals; (6) signals, noise and dynamic range, basic noise performance of devices and systems; (7) Impedance matching, basics of matching devices; (8) RF cavity measurements, cavity basics, bead pull, coupling, cavity bandwidth. PRQ: ELE 561 or consent of the department.

677. ADVANCED MICROWAVE AND MILLIMETER WAVE ENGINEERING (3). Analysis of various transmission-line media, including rectangular and circular waveguides, dielectric waveguides, finlines, and microstrip transmission lines; microwave/millimeter wave passive and active components; theory and design of integrated circuits, such as receiver front-ends; application of microwave systems and measurement techniques. PRQ: ELE 370 or consent of department.

680. MICROPROCESSOR SENSORS AND CONTROL SYSTEMS (3). Application of microprocessors to various sensors including temperature, pressure, flow, and moisture measurements. Development of microprocessor based control systems. Includes laboratory experiments in microprocessor interface techniques. PRQ: ELE 380 or MEE 322, or consent of department.

681. STATE SPACE ANALYSIS (3). Study of linear systems emphasizing state space analysis. Topics include signals and signal representation, mathematic description of continuous and discrete systems, matrices and linear spaces, state variables and linear continuous systems, state variables and linear discrete systems, system controllability and observability, and introduction to stability theory. PRQ: ELE 580 or consent of department.

682. NONLINEAR CONTROL SYSTEMS (3). Study of the methods used for the analysis and design of nonlinear feedback control systems. Emphasis on the phase-plane method, numerical techniques, describing functions, and the methods of Lyapunov. PRQ: ELE 580 or consent of department.

683. COMPUTERIZED CONTROL AND MODELING OF AUTOMATED SYSTEMS (3). Study of computerized control in automated systems for industries, emphasizing digital controllers and linear quadratic controllers (LQC). Topics include introduction to computer control, digital controller design, command generation for process control, process modeling, optimal design methods, finite-wordlength effects, and case studies. PRQ: ELE 580 or consent of department.

684. OPTIMUM CONTROL SYSTEMS (3). Introduction to the basic theory and methods for the optimization of control system problems. Topics include matrix calculus, optimization with and without constraints, calculus of variations, dynamic programming with applications, optimal control of continuous and discrete systems, state estimation, and Kalman filters with electrical engineering applications. PRQ: ELE 581 or consent of department.

685. CONTROL LAWS AND STRATEGIES FOR MULTILINK MANIPULATORS (3). Study of servo control for manipulators, emphasizing various control schemes currently active in the robotic field. Topics include single-link control, kinematics and dynamics of multilink manipulators, computed torque technique, variable-structure control, nonlinear feedback control, resolved motion control, adaptive control, and force control. PRQ: ELE 580 or consent of department.

687. FUZZY LOGIC IN ENGINEERING (3). Study of fuzzy logic with emphasis on its engineering applications. Topics include classical and fuzzy sets, classical and fuzzy relations, membership functions, fuzzy-to-crisp conversions, fuzzy arithmetic, classical and fuzzy logic, fuzzy rulebased systems, fuzzy control systems, and other engineering applications. PRQ: Consent of department.

689. INTRODUCTION TO NEURAL NETWORKS (3). Study of neural networks with an engineering application emphasis. Topics include feedforward neural networks, single layer feedback neural networks, supervised and unsupervised learning, and associative memories, as well as topics related to intelligent systems such as genetic algorithms.

699A. MASTER'S THESIS (1-9). May be taken every semester of enrollment, but only 6 semester hours will count towards the degree. PRQ: Consent of department.

699B. MASTER'S PROJECT (1-3). May be repeated to a maximum of 3 semester hours. PRQ: Consent of department.

# Department of Industrial and Systems Engineering (ISYE)

Chair: Omar Ghrayeb

## Graduate Faculty

Ehsan Asoudegi, assistant professor, Ph.D., West Virginia University  
She-Jie Chen, associate professor, Ph.D., State University of New York, Buffalo.

Omar Ghrayeb, associate professor, Ph.D., New Mexico State University

Murali Krishnamurthi, professor, Ph.D., Texas A&M University  
Richard L. Marcellus, associate professor, Ph.D., University of Michigan

Reinaldo Moraga, assistant professor, Ph.D., University of Central Florida

## Master of Science in Industrial and Systems Engineering

The Department of Industrial and Systems Engineering offers an M.S. degree with a major in industrial and systems engineering. Students may choose to pursue the degree culminating in a thesis (to develop research abilities in industrial and systems engineering), or in a project (to prepare for advanced practice in industrial and systems engineering). Industrial and systems engineers are employed in a broad variety of organizations, including manufacturing industries, utilities, transportation, health care systems, financial institutions, and all levels of government agencies. Students with a baccalaureate degree in engineering or science or other disciplines are encouraged to consider graduate study in industrial and systems engineering.

At the discretion of the department, a maximum of 9 semester hours of graduate-level credit from other accredited institutions may be accepted for graduate credit towards the requirements of the degree.

## Requirements

The student must submit to the department, with the help of a faculty adviser, a program of courses which must be approved by the student's graduate committee.

The student must complete at least 31 semester hours of graduate-level course work, of which at least 50 percent must be 600-level courses, excluding ISYE 699A, ISYE 699B, or ISYE 698.

If a student has completed a 400-level course for undergraduate credit at NIU with a grade of B or better, that course may not be retaken for graduate credit to be applied to the M. S. program in industrial and systems engineering.

Students in this program may apply 12 semester hours of courses earned in a certificate of graduate study from any department in the College of Engineering and Engineering Technology. The program requires proficiency in statistics and computer programming. To achieve this proficiency, students must have course work in statistics and computer programming such as ISYE 335, STAT 350, or UBUS 223, as well as CSCI 240 or OMIS 351 or alternatives approved by the department chair.

## Thesis Option

Complete 1 semester hour of ISYE 695, Graduate Seminar, 12 semester hours of industrial and systems engineering courses, 12 additional semester hours of graduate course work, as approved by the department, and 6 semester hours of thesis, ISYE 699A, on a topic approved by the student's graduate committee. The thesis must be satisfactorily defended at an oral examination. A portion of the research required by ISYE 699A may be performed in off-campus facilities if approved by the student's graduate committee.

## Non-Thesis Option

### Master's Project

Complete 1 semester hour of ISYE 695, Graduate Seminar, 18 semester hours of industrial and systems engineering courses, including 3 semester hours of graduate project, ISYE 699B on a topic approved by the student's adviser, and 12 additional semester hours of graduate courses, as approved by the department.

### Master's Paper

Complete 1 semester hour of ISYE 695, Graduate Seminar, 18 semester hours of industrial and systems engineering courses, excluding 1 semester hour of ISYE 698, Master's Paper, on a topic approved by the student's adviser, and 12 additional semester hours of graduate courses, as approved by the department.

## Integrated B.S./M.S. Sequence

This plan is open to all industrial and systems engineering majors who have finished at least 90 semester hours of undergraduate work and have a cumulative GPA of at least 3.00. To enter the integrated sequence, a student must obtain early admission to the NIU Graduate School, and formulate a detailed plan of study, working closely with a faculty adviser

Students in this sequence must satisfy all the requirements of the undergraduate industrial and systems engineering curriculum with the exception that 9 semester hours of graduate credit may be included during the student's final undergraduate semester. These hours must be approved by the department.

## Certificates of Graduate Study

Courses taken to meet the requirements of any certificate offered in the College of Engineering and Engineering Technology may be applied toward an M.S. degree in industrial and systems engineering as long as all the other requirements of the degree are met.

**Integrated Manufacturing Systems (12)**

A course of study that develops expertise in design and control of integrated manufacturing systems.

Four of the following (12)

- ISYE 540 - Production Planning and Control (3)
- ISYE 550 - Integrated Manufacturing Systems (3)
- ISYE 560 - Facilities Planning and Design (3)
- ISYE 580 - Simulation Modeling and Analysis (3)
- ISYE 582 - Engineering Information Systems (3)
- ISYE 640 - Advanced Production and Inventory Control (3)
- ISYE 650 - Advanced Manufacturing Systems (3)

**Lean Six Sigma (12)**

This certificate equips graduate students with advanced skills required in manufacturing and service plants that apply the principles of lean production and Six Sigma. Lean production and Six Sigma methodology has become a key component of successful production systems.

- ISYE 535 - Experimental Design for Engineering (3)
- ISYE 539 - Six Sigma Excellence and Modern Problem Solving (3)
- ISYE 630 - Advanced Quality Control (3)
- ISYE 650 - Advanced Lean Manufacturing Systems (3)

**Quality Control of Manufacturing Processes (12)**

A course of study that develops expertise in statistical process control and reliability analysis.

Four of the following (12)

- ISYE 530 - Quality Control (3)
- ISYE 531 - Reliability Engineering (3)
- ISYE 555 - Manufacturing Metrology (3)
- ISYE 630 - Advanced Quality Control (3)
- ISYE 631 - Advanced Reliability Engineering (3)

**Course List (ISYE)**

501. INTERNSHIP (3). Work experience for the student lacking professional industrial and systems engineering experience organized and supervised cooperatively by the department and selected organizations. A wage-earning position for a minimum of six 40-hour work weeks or 240 hours must be obtained with the guidance and approval of the department's faculty coordinator. Student and faculty coordinator must prepare a proposal containing a statement of educational objectives that will become part of the student's record. A report that describes the learning experience is also required to be placed in the student's record. PRQ: Consent of the department and supervising instructor.

505. PRINCIPLES OF INDUSTRIAL AND SYSTEMS ENGINEERING (3). Introduction to the major areas comprising industrial and systems engineering including facility location and layout, material handling, distribution, and routing, work measurement, operations planning and inventory management, mathematical modeling and simulation, systems engineering, and management system design. A primer for advanced courses in each industrial and systems engineering area.

510. HUMAN FACTORS ENGINEERING (3). Introduction to the principles of human-machine systems, human error, auditory systems, and visual systems. Analysis of psychomotor skills, speech communications, and control-display relationships. PRQ: PHYS 250A and ISYE 335 or STAT 350 or UBUS 223, or consent of department.

530. QUALITY CONTROL (3). Importance of quality; statistical concepts relevant to process control; control charts for variables and attributes; process capability analysis; acceptance sampling plans for variables and attributes. PRQ: ISYE 334 or ISYE 335 or STAT 350 or UBUS 223, or consent of department.

531. RELIABILITY ENGINEERING (3). Reliability analysis for the design, implementation, and operation of engineering systems, processes, and products. Fault trees, lifetime distributions, life testing, availability, and maintainability. PRQ: ISYE 334 or ISYE 335 or STAT 350, or consent of department.

535. EXPERIMENTAL DESIGN FOR ENGINEERING (3). Statistical techniques for designing and analyzing relationships among variables in engineering processes. Engineering applications of analysis of variance (ANOVA), factorial design, and fractional factorial design. PRQ: ISYE 334 and ISYE 335, or consent of department.

536. APPLIED REGRESSION ANALYSIS FOR ENGINEERING (3). Statistical techniques for modeling, designing, and investigating relationships among variables in engineering processes. Engineering applications of linear regression with one predictor variable, multiple linear regression, and forecasting and time series analysis. PRQ: ISYE 334 and ISYE 335.

539. SIX SIGMA PERFORMANCE EXCELLENCE AND MODERN PROBLEM SOLVING (3). Introduction to hard skills, soft skills, tools, mentoring, DMAIC, and the Black Belt organization. Foundation on implementation of these areas. Focus on robust foundational problem solving techniques that enhance the functional role of individuals to quickly solve complex problems. Cost, quality, and throughput improvement will be addressed. PRQ: ISYE 335 or STAT 350, or UBUS 223.

540. PRODUCTION PLANNING AND CONTROL (3). Analysis, design, and management of production systems. Topics include productivity measurement, forecasting techniques, project planning, line balancing, inventory systems, aggregate planning, master scheduling, operations scheduling, and modern approaches to production management such as just-in-time production. PRQ: ISYE 335 or STAT 350 or UBUS 223, or consent of department.

542. ENGINEERING PROJECT MANAGEMENT (3). An integrated approach to the management of engineering and high-technology projects that addresses the entire life cycle of the project including project initiation, organization, planning, implementation, control, and termination. Focus on human resources and the use of quantitative methods for project evaluation, scheduling, resource allocation, cost control, contract selection, risk management, and project quality management. PRQ: MATH 230 and STAT 208 or equivalent, or consent of department.

550. LEAN MANUFACTURING SYSTEMS (3). Introduction to modern issues in lean manufacturing systems and practice of lean tools. Topics include overview of lean manufacturing systems, value stream analysis, quick changeover, point of use storage, quality at source, teams, total productive maintenance, pull/just-in-time/kanban, and cellular manufacturing. PRQ: ISYE 250 or consent of department.

551. EXPERT SYSTEMS IN ENGINEERING (3). Basic concepts and techniques of expert systems as well as the applications of expert systems in engineering. Primary topics include expert systems building tools and languages, a review of expert systems in engineering, and building expert systems for engineering problems. PRQ: CSCI 240 or consent of department.

552. INDUSTRIAL ROBOTICS (3). Fundamentals of robotics and robotic applications. Topics include manipulator kinematics and dynamics, performance characteristics of robots, robot programming, robotic work cell design, and application of robots in industry. PRQ: MEE 211 or consent of department.

553. INTEGRATED PRODUCT AND PROCESS DESIGN (3). Introduction to modern issues and practice of integrating various aspects in product design and process development. Topics include concurrent engineering, product design and development strategies, product life cycle design, integrated information support for product design and development, computer-aided process planning, design for manufacturing, and cost analysis of product design and development. PRQ: ISYE 350 and MEE 270, or consent of department.

555. MANUFACTURING METROLOGY (3). Study of the concepts, theories, and techniques of automated inspection. Topics include dimensional measurement, in-process measurement and control, coordinate measuring machines, automated visual inspection, quality control, and process capability analysis. PRQ: ISYE 334 or ISYE 335 or STAT 350, or consent of department.

560. FACILITIES PLANNING AND DESIGN (3). Principles and practice of the planning of facility layout and material handling equipment for manufacturing and service systems. Topics include analytical approaches in site location, facility layout, material handling, and storage systems. Discussion of systematic procedures and computer-aided techniques. PRQ: ISYE 370 or consent of department.

561. WAREHOUSING AND DISTRIBUTION SYSTEMS (3). Introduction to warehousing and distribution center operations and their role in supply chains, modern material handling equipment, and algorithms involved in the design and operation of warehouses and distribution centers. PRQ: Consent of the department.

566. ANALYSIS AND DESIGN OF SUPPLY CHAIN SYSTEMS (3). Analysis of material and information flows in complex production-distribution networks. Provide knowledge and the tools necessary to develop, implement, and sustain strategies for designing supply chains with a focus on the use of analytical modeling techniques to understand and manage supply chains. Topics include planning demand and supply, inventory management, transportation, network design and facilities decisions, and coordination in a supply chain. PRQ: ISYE 540 or consent of department.

572. QUEUEING METHODS FOR SERVICES AND MANUFACTURING (3). Behavior of queueing systems, focusing on mathematical models, and diagnosis and correction of problems. Arrival process, service policies, waiting line disciplines, bottlenecks, and networks. Reducing delay through control and design. PRQ: ISYE 371 or consent of department.

574. SCHEDULING AND LOGISTICS (3). Special topics on applied operations research with focus on theory of scheduling and logistics. Major topics include: single- and multiple-stage scheduling problems, vehicle routing and scheduling problems, bin packing problems, concepts of supply chain, heuristics, modern tools to solve these problems, solution implementation issues, and work at the graduate level. PRQ: ISYE 440 or CSCI 240, or consent of department.

575. DECISION ANALYSIS FOR ENGINEERING (3). Elementary quantitative decision making when random factors are present. Decision trees, assessment of choices using expected utility, influence diagrams, and the value of information. PRQ: ISYE 334 or ISYE 335 or STAT 350 or UBUS 223, or consent of department.

580. SIMULATION MODELING AND ANALYSIS (3). Design and analysis of industrial systems using computer simulation models. Choice of input distributions, generation of random variates, design and construction of simulation models and experiments, and interpretation of generated output. PRQ: MATH 211 and UBUS 223, or ISYE 334 and ISYE 335, or STAT 350, and CSCI 240, and ISYE 371; or consent of department.

582. ENGINEERING INFORMATION SYSTEMS (3). Basic concepts, design, development, and the use of engineering information systems. Topics include architecture and components of engineering information systems, problem analysis, modeling, design, development, and validation of application systems. Theoretical and practical issues related to manipulation of engineering information and design of queries. Examples of engineering information systems. PRQ: CSCI 240 or OMIS 351, or consent of department.

590. SYSTEMS ENGINEERING MANAGEMENT (3). Introduction to the fundamental principles of systems engineering and their applications to the development and management of complex systems. Address modern systems engineering and management principles through systems definition, requirements analysis, and design and implementation of systems. Examination of the processes of systems engineering from the perspective of system life cycle. Presentation of modeling tools and their use with respect to system optimization and architecture evaluation. PRQ: Consent of department.

593. CONTEMPORARY TOPICS IN INDUSTRIAL ENGINEERING (1-3). May be repeated to a maximum of 9 semester hours, with no more than 3 hours in the same topic area. PRQ: Consent of department.

620. ECONOMIC ANALYSIS OF INDUSTRIAL PROJECTS (3). Advanced topics in engineering economic analysis including equipment replacement studies, purchases versus lease problems, project selection under budgetary and other resource constraints, mathematical programming formulations for economic optimization under constraints, statistical methods of dealing with uncertainty, evaluation for sequential decisions, portfolio selection, and multiple attributes. Knowledge of probability and statistics and economic analysis is required. PRQ: Consent of department.

630. ADVANCED QUALITY CONTROL (3). Advanced theory, principles, and procedures of statistical quality control. Mathematics of sampling plans. Acceptance sampling plans by variables. Rectifying control procedures, continuous sampling plans, cumulative sum control charts, special procedures. PRQ: ISYE 530 or consent of department.

631. ADVANCED RELIABILITY ENGINEERING (3). Statistical analysis of failure distributions. Application of stochastic models for failure based on Poisson and related processes. Use of exponential and extreme value distributions in reliability. Use of Markov process in the areas of equipment reliability, maintenance, and availability. Advanced reliability evaluation techniques. PRQ: ISYE 531 or consent of department.

635. ADVANCED EXPERIMENTAL DESIGN FOR ENGINEERING (3). Advanced statistical techniques for designing and optimizing experiments. Engineering applications of two-level factorial designs, two-level fractional factorial designs, optimum seeking, response surface methodology, experiments with mixtures, and mixture design. PRQ: ISYE 535 or consent of department.

640. ADVANCED PRODUCTION AND INVENTORY CONTROL (3). Single and parallel-machine sequencing. Job shop and flow shop scheduling. Mathematical theory of single and multicommodity inventory systems. Production planning for static and dynamic models. Mathematical modeling approach toward forecasting. PRQ: STAT 350 and ISYE 671, or consent of department.

650. ADVANCED LEAN MANUFACTURING SYSTEMS (3). Advanced topics in computer-integrated manufacturing and lean manufacturing systems. Major topics include group technology, cellular manufacturing, flexible manufacturing, data integration in computer-integrated manufacturing, lean manufacturing, and lean implementation. PRQ: ISYE 550 or consent of department.

651. INTELLIGENT MANUFACTURING SYSTEMS (3). Application of artificial intelligence (AI) techniques to manufacturing. Major topics include heuristic search techniques, knowledge representation of manufacturing entities, and control and expert systems in manufacturing. Current research issues also addressed. PRQ: ISYE 551 or consent of department.

660. FACILITIES LAYOUT AND LOCATION ANALYSIS (3). Introduction to facilities location problems and factors affecting the selection criteria. Discussion of quantitative models and algorithms to choose the location considering various costs such as transportation, inventory, and fixed cost to open and operate a facility. PRQ: ISYE 560 and ISYE 671, or consent of the department.

661. MODERN MATERIAL HANDLING SYSTEMS (3). Analysis for design and operations of material handling systems (MHS), with emphasis on automation. Presentation of features, applications, and economics of MHS using analytical models and simulation. Experimentation using FMS laboratory. PRQ: ISYE 580 and ISYE 550, or consent of department.

671. LINEAR PROGRAMMING AND NETWORK FLOWS (3). Formulation and solution techniques for linear programming and network flow problems. Simplex method, theory, and computation. Duality theory, sensitivity analysis. Maximum flow minimum cut theorem. Shortest routes, minimum cost flows. PRQ: ISYE 370 or consent of department.

672. NONLINEAR PROGRAMMING (3). Theory and algorithms for optimization of nonlinear programs. Convex sets and functions, necessary and sufficient optimality conditions, constraint qualifications, duality theory, algorithms for quadratic programming, and linear complementary problems. Methods of direct search, Newton, gradient projection, feasible direction, and reduced gradient. PRQ: ISYE 671 or consent of department.

673. QUEUEING SYSTEMS (3). Introduction to queueing processes and their applications. The M/M/S and M/G/I queues. Queue length, waiting line, busy period. Queueing networks. PRQ: IENG 472 or consent of department.

674. DYNAMIC PROGRAMMING (3). Techniques of recursive optimization and their applications to multistage deterministic and stochastic problems from different fields. Problem formulation, computational aspects, and dimensionality reduction. PRQ: ISYE 671 and STAT 350, or consent of department.

675. ADVANCED DECISION ANALYSIS FOR ENGINEERING (3). Application of statistical decision making to engineering, with emphasis on problems in industry and operations. PRQ: ISYE 371 or consent of department.

676. DISCRETE OPTIMIZATION (3). Study of concepts, theories, and techniques of discrete optimization, both integer and combinatorial. Topics include polyhedral theory, theory of valid inequalities, computational complexity, polynomial algorithms, nonpolynomial algorithms, and nonexact algorithms. Applications include problems in graphs, networks, transportation, and scheduling. PRQ: ISYE 370 or consent of department.

680. ADVANCED SIMULATION TECHNIQUES (3). Advanced simulation concepts; event scheduling, process interaction, and continuous modeling techniques. Design and analysis of simulation experiments; probability and statistics related to simulation such as length of run, probability distribution interference, variance reduction, and stopping rules. PRQ: ISYE 580 or consent of department.

691. OCCUPATIONAL ERGONOMICS (3). Development and use of the human-machine model to establish the effects of interface design, environment, and work organization on the performance, safety, and health of the workforce. Topics include anthropometry, work physiology, biomechanics, environments (thermal, auditory, vibratory, and visual), and design of controls, display, and work spaces. PRQ: STAT 350 or consent of department.

693. ADVANCED TOPICS IN INDUSTRIAL ENGINEERING (1-3). Advanced topics of contemporary interest. May be repeated to a maximum of 9 semester hours provided no repetition of subject matter occurs. PRQ: Consent of department.

695. GRADUATE SEMINAR (1). Techniques for planning, conducting, documenting, and presenting industrial engineering research. Requires attending lectures and discussions on current industrial engineering research. Should be taken during the first year of the graduate program. PRQ: Consent of department.

697. INDEPENDENT STUDY (1-3). Independent study and work to explore recent advances and innovative approaches to industrial and systems engineering design, practice, and research. Written report required. May be repeated to a maximum of 3 semester hours. PRQ: Consent of department.

698. MASTER'S PAPER (1). Production of a capstone paper that investigates and integrates an application area of industrial and systems engineering, with the guidance of a faculty adviser. This course must be completed within one semester and cannot be repeated. Not available for credit for students in the thesis or project option of the Master of Science in Industrial and Systems Engineering program. PRQ: ISYE 695 and completion of at least 21 hours in the M.S.I.E. program.

699A. MASTER'S THESIS (1-9). May be taken every semester of enrollment, but only 6 hours will count towards the degree. PRQ: ISYE 695 and consent of department.

699B. GRADUATE PROJECT (3). Experience in the application of industrial engineering to real world systems through project work. Written report required. Not available for credit in the thesis or Master's Paper option. PRQ: ISYE 695 and consent of department.

# Department of Mechanical Engineering (MEE)

Chair: Shin-Min Song

## Graduate Faculty

Brianno Collier, associate professor, Ph.D., Cornell University  
 Behrooz Fallahi, professor, Ph.D., P.E., Purdue University  
 Sengoda G. Ganesan, associate professor, Ph.D., P.E., Oklahoma State University  
 Jenn-Terng Gau, associate professor, Ph.D., Ohio State University  
 Abhijit Gupta, professor, Ph.D., P.E., Pennsylvania State University  
 Meung J. Kim, professor, Ph.D., Virginia Polytechnic Institute and State University  
 Milivoje Kostic, professor, Ph.D., P.E., University of Illinois, Chicago  
 Pradip Majumdar, professor, Ph.D., Illinois Institute of Technology  
 Parviz Payvar, Distinguished Teaching Professor, emeritus, Ph.D., P.E., University of California, Berkeley  
 Nicholas A. Pohlman, assistant professor, Ph.D., Northwestern University  
 Federico Sciammarella, assistant professor, Ph.D., Illinois Institute of Technology  
 Scott Short, assistant professor, Ph.D., P.E., University of Dayton  
 Shin-Min Song, professor, Ph.D., Ohio State University

## Master of Science in Mechanical Engineering

The Department of Mechanical Engineering offers a program leading to the M.S. in mechanical engineering. The program is designed to stimulate creativity, to provide an in-depth understanding of the basic physical phenomena involved in mechanical systems, and to provide the student with the ability to use modern techniques in the analysis and design of mechanical components and systems.

Admission to the graduate program in mechanical engineering requires a baccalaureate degree in mechanical engineering or related areas such as physics, mathematical sciences, chemistry, computer science, and engineering disciplines. NIU undergraduate majors in mechanical engineering can, however, be admitted to the integrated B.S./M.S. sequence after finishing 90 semester hours with a GPA of at least 3.00.

### Thesis Option

All students admitted to the M.S. program are initially classified as thesis option students. The thesis option is designed to prepare students for graduate work at the doctoral level or advanced engineering work in industry and focuses on original research techniques. Students pursuing the thesis option generally have more opportunities for receiving financial support from the department. The graduate program of study must include 6 semester hours of MEE 699, Master's Thesis, on a topic approved by the student's thesis committee. The thesis must be satisfactorily defended at an oral examination. Portions of the research work required in MEE 699 may be performed in off-campus facilities if approved by the student's graduate committee.

Two non-thesis options, the project option and the course option, are available to students who wish to pursue a M.S. degree and who do not want to pursue the traditional research experience of a thesis option. The non-thesis options are designed primarily for practicing professionals, but they are also available to full time students. Those who wish to pursue the project option or the course option are required to petition the department's graduate committee.

### Project Option

Students pursuing a M.S. degree under this option must earn a minimum of 30 semester hours of graduate credit including 3 semester hours of MEE 697, Independent Study, for a master's project resulting in some original work which must be defended at an oral examination and presented in a written report. Employed students may use topics and facilities from their work if approved.

### Course Option

Students pursuing a M.S. degree under this option are required to complete 33 semester hours of graduate credit. Students pursuing the course option generally do not take MEE 697 or MEE 699. However, such students are required to write a research paper related to one or more mechanical engineering courses taken as part of the graduate program. The topic must be approved by the student's paper committee at least one semester prior to graduation, and the completed paper must be examined and approved by the committee as a requirement for graduation.

## Requirements for Graduates with a B.S. in Mechanical Engineering

Students must satisfy the following departmental requirements.

Submit to the department a program of graduate study approved by the student's graduate committee or the department.

Complete at least 30 (thesis option or project option) or 33 (course option) semester hours of graduate work, not more than 30 percent of which may be in courses numbered 500-599. All courses taken outside the Department of Mechanical Engineering must have departmental approval in advance.

Complete MEE 692 and one of the following: MEE 580, MEE 611, MEE 615, MEE 658, or a mathematics course approved by adviser (6)

Complete two courses from one of the following groups (6)

- Applied Mechanics—MEE 610, MEE 611, MEE 612, MEE 613, MEE 614, MEE 616
- Dynamic Systems and Control—MEE 620, MEE 621, MEE 622, MEE 623, MEE 624, MEE 625, MEE 626
- Materials and Manufacturing—MEE 629, MEE 630, MEE 631, MEE 632, MEE 633, MEE 634,
- Thermal-Fluid Engineering—MEE 640, MEE 642, MEE 650, MEE 655, MEE 656, MEE 658

### Requirements for Graduates with a B.S. in an Area other than Mechanical Engineering

Students are required to fulfill all the requirements mentioned in the previous section. In addition, students with a B.S. degree in an area other than mechanical engineering are required to take at least three courses from one of the following groups depending on their chosen field of study. The department will stipulate the courses to be taken. A grade of B or better must be obtained in each of these courses.

Applied Mechanics—MEE 210, MEE 211, MEE 212, MEE 220, MEE 350, MEE 470

Dynamic Systems and Control—MEE 211, MEE 321, MEE 322, or ELE 380, MEE 470, MEE 521, MEE 522, MEE 524, MEE 525

Materials and Manufacturing—MEE 212, MEE 330, MEE 331, TECH 345 or TECH 441, ISYE 531, or ISYE 550 or ISYE 551, MEE 523, MEE 531

Thermal-Fluid Engineering—MEE 340, MEE 350, MEE 351 MEE 352, MEE 551, MEE 552, MEE 553

### Requirements for Integrated B.S./M.S. Sequence

This integrated sequence leads to both the B.S. and M.S. degrees in mechanical engineering and is available to all undergraduate mechanical engineering majors who have finished at least 90 semester hours of undergraduate work with a GPA of at least 3.00. A minimum GPA of 3.00 must be maintained during the course of study. Failure to meet the requirements of the integrated sequence may lead to a B.S. degree only, but only after all the requirements for that degree have been met.

All students enrolled in the integrated B.S./M.S. sequence must have their schedule approved by their faculty adviser each semester. Any deviation from the approved course schedule may delay graduation.

Students must complete all undergraduate required courses, including 9 semester hours of technical electives. Only those technical electives or required courses taken for graduate credit during the student's final undergraduate term will be credited toward the M.S. program, up to a maximum of 9 credit hours.

Students are required to fulfill all requirements for thesis option, project option, or course option mentioned in the previous section.

### Certificates of Graduate Study

The Department of Mechanical Engineering offers several certificates of graduate study for students interested in pursuing short-term study focused on a technical area related to mechanical engineering. The certificates are ideally suited for graduate-level students interested in lifelong learning and in the advancement of their skills in an area of mechanical engineering. Credit earned for a certificate may be applied toward the M.S. degree in mechanical engineering with the approval of the department.

#### Applied Mechanics (12)

This certificate emphasizes the application of engineering mechanics to design and analysis of mechanical components and products.

MEE 510 - Intermediate Mechanics of Materials (3)  
MEE 610 - Experimental Stress Analysis (3)  
MEE 612 - Advanced Mechanics of Materials (3)  
MEE 615 - Advanced Finite Element Methods (3)

### Computer-Aided Design and Computer-Aided Manufacturing (12)

Course work for this certificate unifies the methods applied to design of products simultaneous with full consideration of manufacturing methods.

ISYE 550 - Integrated Manufacturing Systems (3)  
MEE 530 - Computer-Aided Design and Manufacturing (3)  
MEE 631 - Computer-Aided Design of Mechanical Systems (3)  
MEE 633 - Computer-Aided Manufacturing (3)

### Design of Thermal Systems (12)

Course work for this certificate lays the theoretical foundations of design of thermal equipment and processes with applications to such areas as refrigeration, air conditioning, thermal design of electronic equipment, and numerical modeling of thermal-fluid systems.

MEE 551 - Refrigeration and Air Conditioning (3)  
MEE 552 - Design of Thermal Systems (3)  
MEE 656 - Convection Heat Transfer (3)  
MEE 658 - Computational Heat Transfer and Fluid Mechanics (3)

### Vibration and Control System Design (12)

Course work for this certificate focuses on laying the theoretical foundations of both vibrations and control and application to the design of components and systems.

MEE 521 - Dynamic Systems and Control II (3)  
MEE 621 - Advanced Vibrations (3)  
MEE 622 - Experimental Methods in Mechanical Vibrations (3)  
MEE 626 - Advanced Control Systems Design (3)

### Course List (MEE)

510. INTERMEDIATE MECHANICS OF MATERIALS (3). Buckling, unsymmetric bending, transverse loading, curved beams, thick-walled cylinders and rotating disks, torsion of thin-walled tubes, contact stresses, plastic behavior, strain energy and Castigliano's theorem, strength theories and design equations, fatigue, and fracture. PRQ: MEE 212, MATH 336, and MEE 380 or MEE 381; or consent of department.

521. DYNAMIC SYSTEMS AND CONTROL II (3). Concepts of linear system theory; model analysis, Lagrange's Equations, approximate numerical methods for solving vibration problems, and Root-locus and frequency response design. State-space analysis. Case studies in control system design. PRQ: MEE 322 or ELE 380, or consent of department.

522. DESIGN OF ROBOT MANIPULATORS (3). Mathematics, programming, and control in the design of robot manipulators. Includes topics on kinematics, differential relationships and dynamics, motion trajectories, and control algorithms. PRQ: MEE 211 and MATH 336, or consent of department.

523. MECHANICAL RELIABILITY (3). Basic probability, statistics, and reliability concepts applicable to mechanical systems. Probabilistic treatment of loads, stress, strength, safety indices, and fatigue. Mechanical equipment reliability; wear-out; reliability-based design, testing, and maintenance. PRQ: MEE 212 and MEE 470; or consent of department.

524. MACHINERY VIBRATION (3). Machinery vibration analysis: signature analysis in time and frequency domains, fault detection, diagnosis, and correction; instrumentation; case studies; machine monitoring programs. PRQ: MEE 322 and MEE 470; or consent of department.

525. DESIGN OF MOBILE ROBOTS (3). Configuration and architecture design. Position estimation, planning, and control. Perception and learning. Group capstone project in the design and development of a mobile robot. Lecture, discussion, and case studies of mobile robot design. PRQ: MEE 211 or TECH 375, or consent of department.

526. MECHATRONICS SYSTEM DESIGN (3). Use of computers embedded in mechanical systems, microcontrollers, real-time software, analog and digital world, sensors and actuators interfacing, electronics for mechatronics, measures of system performance, state transition logic and multitasking, mechatronics system design problems, advanced concepts and case studies of mechanical systems with embedded electronics. PRQ: ELE 210, ELE 380 or MEE 322, and CSCI 240, or consent of department.

530. COMPUTER-AIDED DESIGN AND MANUFACTURING (3). Computers for CAD/CAM; methodology in CAD; geometry description; geometric modeling; geometry construction by programming; applications of finite element method; NC part programming with G-code and APT; machine tool path verification with advanced software. PRQ: MEE 212, MEE 270, and MEE 230 or MEE 331; or consent of department.

531. COMPOSITE MATERIALS (3). Fiber and matrix properties; micromechanical and macromechanical behavior of lamina; lamination theory. PRQ: MEE 212, MEE 330, and MEE 380 or MEE 381, or consent of department.

551. REFRIGERATION AND AIR CONDITIONING (3). Refrigerants; vapor compression and absorption refrigeration systems; cryogenics; psychrometrics and humidity measurements; extended surface coils and transfer processes between moist air and water; solar radiation and heating and cooling loads of buildings and structures. PRQ: MEE 350 and MEE 352, or consent of department.

552. DESIGN OF THERMAL SYSTEMS (3). Application of principles of fluid mechanics, heat transfer, and thermodynamics in the component design of thermal systems. Examples drawn from power generations, environmental control, and industrial processes. Students work on group projects for integration of these components in the design of thermal systems. PRQ: MEE 350 and MEE 352, or consent of department.

553. PROPULSION (3). Aerodynamics and thermodynamics of gas turbine airbreathing and rocket engines; quasi-one-dimensional flow; ideal and real cycle analysis; component performance; engine operating off-design characteristics. PRQ: MEE 340 and MEE 350, or consent of department.

580. FINITE ELEMENT METHODS (3). Methods of weighted residual; variational methods of approximation; variational formulation; shape functions; finite element formulation; error analysis; computer implementation; applications to solid mechanics, dynamics, vibration, fluid mechanics, and heat transfer. PRQ: MEE 322, MEE 352, and MEE 380 or MEE 381, or consent of department.

584. ADVANCED COMPUTING IN MECHANICAL ENGINEERING (3). Project-based course which combines engineering science with advanced computing, including a practical introduction to object-oriented programming, data structures, and other topics that facilitate programming-in-the-large in which students write a substantial portion of a vehicle dynamics simulation. PRQ: MEE 381 or consent of department.

610. EXPERIMENTAL STRESS ANALYSIS (3). Elementary elasticity; brittle-coating methods; strain measurement methods and related instrumentation; photoelasticity; Moire methods; residual stress analysis. PRQ: MEE 490 or consent of department.

611. CONTINUUM MECHANICS (3). Vectors and tensors; stress; deformation; Eulerian and Lagrangian strain; physical laws; constitutive equations; solid mechanics; fluid mechanics. PRQ: Consent of department.

612. ADVANCED MECHANICS OF MATERIALS (3). Stress-strain-temperature relations; failure criteria; energy methods; torsion; nonsymmetrical bending; curved beams; flat plates; beams and elastic foundations; rotating discs; contact stresses. PRQ: MEE 470 or consent of department.

613. FATIGUE AND FRACTURE MECHANICS (3). Yielding; brittle fracture mechanics; plasticity induced fracture; fracture toughness; fatigue testing and analysis; stress concentration and notch sensitivity; low-cycle, corrosion, acoustic, and thermal fatigues. PRQ: MEE 612 or consent of department.

614. THEORY OF ELASTICITY AND APPLICATIONS (3). Plane stress and plane strain in rectangular, polar, and curvilinear coordinates; analysis of stress and strain in three dimensions; torsion of bars; bending of bars and plates; axisymmetric problems; thermal stress; propagation of waves in elastic solid media. PRQ: MEE 611 or consent of department.

615. ADVANCED FINITE ELEMENT METHODS (3). Methods of weighted residual and variational calculus; variational and finite element formulations for linear/nonlinear problems; h- and p-methods for convergence and error analyses; computer implementation and use of advanced available computer software; applications to solid mechanics, dynamics/vibration, fluid mechanics, and heat transfer. PRQ: MEE 580 or consent of department.

616. MECHANICAL BEHAVIOR OF COMPOSITES (3). Comprehensive treatment of laminated beams, plates, and tubes. Bending, buckling, and vibration analysis. Various orders of theory and their range of parametric applications with respect to designing with composites. Hygrothermal and residual stresses. PRQ: MEE 531 or consent of department.

620. ADVANCED DYNAMICS (3). Newtonian mechanics; analytical mechanics; rotating reference frames; rigid body dynamics; geometric theory; stability of autonomous and nonautonomous systems; perturbation techniques; transformation theory; gyroscope. PRQ: MEE 521 or consent of department.

621. ADVANCED VIBRATIONS (3). Advanced principles of dynamics; discrete and continuous systems; free and forced vibrations; damped and undamped system response; approximate methods; wave solutions for continuous systems; random vibrations. PRQ: MEE 521 or consent of department.

622. EXPERIMENTAL METHODS IN MECHANICAL VIBRATIONS (3). Random vibrations; vibration pick-ups; dynamic strain measurements; beam vibrations; response analysis; modal analysis. PRQ: MEE 621 or consent of department.

623. ROBOT VISION CONTROL (3). Generalized images; segmented images; geometrical structures; relational structures; robot machine vision systems. PRQ: MEE 522 or consent of department.

624. ROBOT DYNAMICS AND CONTROL (3). Motion trajectories; principles of rigid body dynamics; robot dynamics; digital control systems; control of multiple link manipulators. PRQ: MEE 522 or consent of department.

625. ROBOT PROGRAMMING AND CONTROL (3). Task descriptions; structured programming; teaching; compliance and control; high level of robot language. PRQ: MEE 522 or consent of department.

626. ADVANCED CONTROL SYSTEMS DESIGN (3). Review of conventional and modern control design using block-diagram-transfer function, state-variable method, pole placement technique, estimation, and robust control schemes; digital control system analysis and design; z-transform theory and digitization process; nonlinear control system design; describing functions, phase plane and Liapunov's stability criterion; control system design problems and case studies including open-ended hands-on design projects from current research topics. PRQ: MEE 521 or consent of department.

629. MATERIALS ENGINEERING IN MECHANICAL DESIGN (3). The engineering design process, engineering materials and their properties, materials selection charts, case studies, selection of material and shape, and aesthetics of designs. PRQ: Consent of department.

630. STRUCTURE AND PROPERTIES OF POLYMERS (3). Molecular structure of amorphous, crystalline, and network polymers; theories of the glassy state; transition and melt temperatures; model prediction of viscoelastic properties; time-temperature superposition principle; theory of rubber elasticity. PRQ: MEE 530 or consent of department.

631. COMPUTER-AIDED DESIGN OF MECHANICAL SYSTEMS (3). Finite element methods in structural analysis; computer-aided design of symmetric and asymmetric machine elements under dynamic, impulsive, and thermal loadings; computer graphics; computer analysis and animation of kinematics of linkages. PRQ: MEE 580 or consent of department.

632. TRIBOLOGY (3). Surface topography and integrity; sliding and rolling friction; temperature in sliding contact; types, mechanisms, and theories of wear; antifriction and wear resistant material; boundary, hydrodynamic, and elastohydrodynamic lubrication; high pressure and wear resistant additives; solid lubricant; examples of tribology applied engineering design. PRQ: Consent of department.

633. COMPUTER-AIDED MANUFACTURING (3). Manufacture of parts and assemblies; design for manufacturability; numerically controlled machine tools; robotics. PRQ: MEE 530 or consent of department.

634. EXPERIMENTAL METHODS IN MATERIALS SCIENCE (3). Structural evaluation of materials with X-ray techniques; scanning electron microscopy for image formation and use of column related techniques to characterize bulk specimens; transmission microscopy for image formation and defect analysis in materials science applications. PRQ: Consent of department.

640. ADVANCED FLUID MECHANICS (3). Kinematics of fluid flow; plane irrotational and incompressible fluid flows; Navier-Stokes equations; hydrodynamic stability; turbulence; two-dimensional boundary layers in incompressible flow; flow separation. PRQ: Consent of department.

642. DYNAMICS OF VISCOUS FLUIDS (3). Fundamentals of viscous fluid; Navier-Stokes equations; exact solutions, boundary layer equations and their physical interpretations; mathematical techniques of similarity transformations, integral methods, perturbation methods and numerical solutions. PRQ: MEE 640 or consent of department.

650. ADVANCED THERMODYNAMICS (3). Thermodynamic postulates and conditions of equilibrium; the Euler equation and the Gibbs-Duhem relations; Legendre transformations and the extreme principle; Maxwell relations; stability of thermodynamic systems; the Nernst Postulate; chemical reactions and combustion; chemical equilibrium; irreversible thermodynamics. PRQ: Consent of department.

655. CONDUCTION HEAT TRANSFER (3). Fundamentals of heat conduction; approximate and exact analytical methods; finite and semi-infinite bodies; one-dimensional composite media; phase change problems; nonlinear problems; heat transfer in anisotropic solids. PRQ: Consent of department.

656. CONVECTION HEAT TRANSFER (3). Conservation principles; laminar internal and external flows; natural convection; turbulent flow; heat transfer at high velocities; heat transfer through porous media; numerical methods in convection heat transfer. PRQ: Consent of department.

658. COMPUTATIONAL HEAT TRANSFER AND FLUID MECHANICS (3). Application of partial differential equations, finite difference methods, and finite element methods in heat transfer and fluid mechanics; stability analysis, convergence criteria, and accuracy of computational techniques. PRQ: Consent of department.

692. ADVANCED MECHANICAL ENGINEERING ANALYSIS (3). Calculus of variations for deformable bodies; Sturm-Liouville problems; LaGrange's equations and generalized dynamical entities; integral equations in mechanical engineering; Green's functions; theory of distributions; one dimensional boundary value problems; partial differential equations in mechanical engineering. Applications of heat, conduction and convection, fluid dynamics, and structural mechanics. PRQ: Consent of department.

697. INDEPENDENT STUDY (1-3). Independent pursuit of advanced problems in mechanical engineering under faculty supervision. A written report is required. Course may be repeated, but only 3 semester hours of combined credit in MEE 697 and MEE 698 will count toward the degree. PRQ: Consent of department.

698. SPECIAL TOPICS IN MECHANICAL ENGINEERING (1-3). Advanced study of mechanical engineering topics. Course may be repeated, but only 3 semester hours of combined credit in MEE 697 and MEE 698 will count toward the degree. PRQ: Consent of department.

699. MASTER'S THESIS (1-6). May be taken every semester of enrollment, but only 6 semester hours will count toward the degree. PRQ: Consent of department.

# Department of Technology (TECH)

Chair: Clifford R. Mirman

## Graduate Faculty

Abul Azad, associate professor, Ph.D., University of Sheffield (United Kingdom)

Frank J. Gruber IV, associate professor, Ph.D., Michigan State University

Earl E. Hansen, associate professor, Ed.D., Oklahoma State University

Dennis R. Jones, assistant professor, Ph.D., University of Wisconsin, Madison

Clifford R. Mirman, professor, Ph.D., University of Illinois, Chicago

Andrew W. Otieno, associate professor, Ph.D., University of Leeds (United Kingdom)

Said Oucheriah, professor, Ph.D., P.E., Cleveland State University

Xueshu Song, professor, Ph.D., P.E., Pennsylvania State University

James R. Stewart, associate professor, Ph.D., P.E., Texas A&M University

Dennis V. Stoia, associate professor, M.B.A., P.E., University of Chicago

Robert Tatara, associate professor, Ph.D., Northwestern University

Promod Vohra, professor, Ed.D., P.E., Northern Illinois University

## Master of Science in Industrial Management

The Department of Technology offers graduate studies leading to the M.S. in industrial management. The objective of this graduate program is to build upon the competencies achieved at the baccalaureate level and to prepare students to assume managerial and leadership positions.

Admission to the graduate program in industrial management requires a baccalaureate degree in engineering, technology, or industrial education. Consideration may also be given to applicants with degrees in related areas who have appropriate industrial experience. Students should review the admission and graduate degree requirements in this catalog. Admission decisions are normally made within three weeks of receipt of the completed application.

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.

A student pursuing the M.S. in industrial management must complete a minimum of 30 semester hours in 500-level and above courses.

Students in this program may apply no more than 6 semester hours of relevant course work from the following courses: TECH 598 (3), TECH 699A (1-6), TECH 609 (3), or any other practicums, independent studies, directed studies, internships, seminars, and workshop courses from any department within the university.

## Requirements (30)

All of the following (12)

TECH 500 - Research in Industry and Technology (3)

TECH 535 - Legal Aspects of Safety (3)

TECH 560 - International Industrial Competition: U.S. Impact and Strategies (3)

TECH 562 - Industrial Systems Management (3)

## Technical Systems Management Electives and Thesis Option (18)

Graduate course work approved by adviser related to student's professional objectives from courses taken within the Department of Technology (18), a minimum of which 12 semester hours to be taken in the Department of Technology.

OR

Graduate course work approved by adviser related to student's professional objectives from courses within the Department of Technology (12), a minimum of which 6 semester hours to be taken in the Department of Technology and TECH 699B, Master's Thesis (6).

## Certificates of Graduate Study

In addition to offering a graduate degree program in industrial management, the Department of Technology offers certificates for students interested in pursuing short-term study in a technical field. The credit earned for a certificate may be applied toward the M.S. degree in industrial management, with the advice and approval of the student's adviser. All requirements for a certificate of graduate study must be completed within a period of six consecutive years.

The Department of Technology participates in the Homeland Security Certificate of Graduate Study. See the section on Inter-College Interdisciplinary Certificates in this catalog for details or visit the Homeland Security website at <http://www.niu.edu/HomelandSecurity/index.shtml>.

## Environmental Health and Safety (12)

This certificate is designed for the professional who is interested in gaining advanced knowledge in the area of environmental health and safety. This certificate allows the students to gain knowledge in current areas like emergency and contingency planning and industrial continuity. This certificate also engages the students in technical safety areas like legal needs within industry and monitoring and evaluation of hazardous substances, as well as the examination of human factors in preventing accidents in an industrial workplace.

TECH 532 - Disaster Preparedness (3)

TECH 535 - Legal Aspects of Safety (3)

TECH 540 - Monitoring and Evaluation Exposures to Hazardous Materials (3)

TECH 634 - Behavioral Factors in Safety (3)

## Industrial Project Management (12)

This certificate is designed to prepare engineers, technologists, managers, supervisors, and team leaders to lead and participate in projects more effectively. Emphasis is placed on identifying and applying best practices, new models, and techniques for effective project management and leadership in organizations.

TECH 550 - Leadership Theories and Techniques (3)

TECH 562 - Industrial Systems Management (3)

TECH 593 - High-Performance Teaming (3)

TECH 694 - Industrial Project Management (3)

### Industrial Workplace Design Systems (12)

This certificate is designed for the professional in the management services area who is responsible for the planning and control of an industrial facility. Professionals completing the program will be educated to plan the future of the work environment.

TECH 529 - Plant Location, Layout, and Materials Handling (3)  
 TECH 542 - Work Simplification and Measurement (3)  
 TECH 544 - Production Control Systems (3)  
 TECH 581 - Ergonomics (3)

### Systems Management (12)

This certificate is designed for the industrial professional who is looking to enter the management ranks or promotional opportunities within management. Students in this area will develop an advanced knowledge of production controls and how goods are efficiently produced. Since many of the goods produced today are either produced solely or in part outside of this country, this certificate allows the students to examine international aspect of production and the need to work as multinational teams. This certificate also builds an advanced understanding of systems management and project management. Students will have a unique understanding of the support needed in the management of a group of individuals with varying backgrounds, in different locations, in the development of a given product. This certificate also develops a deep understanding of the skills needed in managing the processes and systems needed in today's complex manufacturing environment.

TECH 544 - Production Control Systems (3)  
 TECH 560 - International Industrial Competition: U.S. Impact and Strategies (3)  
 TECH 562 - Industrial Systems Management (3)  
 TECH 694 - Industrial Project Management (3)

### Technical Logistics (12)

This certificate is designed for the industrial professional who is interested in gaining advanced knowledge in the areas of logistics and logistical support. Within this area, students examine the important applications in supply chain management and the control of goods and services within the corporate boundaries. Through advanced studies, students gain an important understanding of the economic need involved in justifying new processes and systems, as well as how industrial facilities are justified, outfitted and located in this complex manufacturing environment. In addition, students will develop an advanced knowledge of production controls and how goods are efficiently produced.

TECH 529 - Plant Location, Layout, and Materials Handling (3)  
 TECH 543 - Engineering Economy (3)  
 TECH 544 - Production Control Systems (3)  
 TECH 592 - Manufacturing Distribution Analysis (3)

### Traffic Safety Education (15-16)

This certificate is designed to meet the traffic-safety-education needs of safety professionals working in educational- and industrial/occupational-safety settings. The courses for this certificate fulfill the requirements in the state of Illinois for a High School Driver Education Endorsement for an Illinois high school teaching certificate.

TECH 539 - Advanced Traffic Safety Education Practices (3)  
 TECH 633 - Practicum in Traffic Safety Education (3)  
 TECH 635 - Seminar in Safety (6)  
 TECH 636 - Principles of Traffic Safety Education (3)

One of the following (3-4)

TECH 532 - Disaster Preparedness (3)  
 TECH 533 - Toxicology for Industry (3)  
 TECH 534 - Human Factors in Industrial Accident Prevention (3)  
 TECH 535 - Legal Aspects of Safety (3)  
 TECH 536 - Design and Administration of Industrial Safety Programs (3)  
 TECH 537 - Fundamentals of Industrial Hygiene (3)  
 TECH 538 - Safety in Transportation Systems (3)  
 TECH 581 - Ergonomics (3)  
 TECH 582 - Industrial Safety Engineering Analysis (3)  
 TECH 583 - Applied Ergonomics (3)  
 TECH 631 - Industrial Hygiene (3)  
 TECH 634 - Behavioral Factors in Safety (3)  
 TECH 637 - Systems Analysis in Safety (4)

### Course List (TECH)

500. RESEARCH IN INDUSTRY AND TECHNOLOGY (3). Designed to acquaint the student with research methodology as it applies to technology and industrial education. Students develop competence in research design, interpretation of research results, and the application of statistical techniques to solving technical problems.

501. ETHICS IN TECHNOLOGY (3). Exploration from the point of view of ethical theory of a number of ethical problems in the work environment encountered by technologists and engineers. Recognizing the moral aspects of business decisions on the personal level and of business institutions on the social level.

502. INDUSTRIAL TRAINING AND EVALUATION (3). History of employee training, kinds of training, training programs, instructional methods, and evaluation procedures.

504. SUPERVISION IN INDUSTRY (3). Principles, methods, and techniques for supervision of people in their work. For supervisory personnel and those preparing for such positions.

506. FACILITIES MANAGEMENT TECHNOLOGY (3). Overview of the technology facility management responsibilities, policies, and practices that are involved with implementing and/or managing technology properties that have sustainable goals connected to it. Identification of competencies needed by the technology facility management function to properly design, operate, and maintain the facilities within the scope of responsibilities of technology facilities managers.

514. COMPUTER-AIDED MACHINE DESIGN (3). Features-based and parametric solid modeling techniques, design principles of machine elements, design for manufacturability, stress, strain and load distributions, developments in standards for exchange of product design data. PRQ: PHYS 150A, TECH 265, and TECH 311, or consent of department.

515. APPLIED INDUSTRIAL EXPERIMENTAL DESIGN (3). Application of experimental methods to common problems in manufacturing, and electronics. Appropriate data analysis, design concepts, cost estimation, and presentation of results and solutions with specific emphasis on applied problems in manufacturing environments. Industrially relevant, commonly available, software will be used as problem solving tools whenever possible. PRQ: MATH 155 and STAT 208, or consent of department.

520. COMPUTER-INTEGRATED MANUFACTURING (3). Study of computer integrated manufacturing systems utilized by industry, including computer-aided manufacturing, computer-aided design/drafting, computeraided testing/inspection, and computer-aided process planning. Demonstrations in system integration with programmable controllers, sensors, machine vision, and robotics. PRQ: TECH 175, TECH 175A, TECH 211 and TECH 265, or consent of department.

522. **ADVANCED INDUSTRIAL MANUFACTURING (3).** Study of modern industrial organization and operations; trends in industrialization and globalization; computer applications in manufacturing including CAD/CAM integration, virtual prototyping, product data management; automation technologies, supply chain management technologies, data communications, and networking; and emerging trends in e-manufacturing. Case studies and industrial research project required. PRQ: TECH 420 or TECH 520 or consent of department.
523. **AUTOMATED MANUFACTURING SYSTEMS (3).** Study of automated manufacturing systems utilized by industry, including robotics, computer-aided design and manufacturing, computer-aided inspection, and system integration using PLCs, sensors, DAQ systems, and other automation components. Emphasis on laboratory experiences with automated technology. PRQ: TECH 326, TECH 520, and TECH 525, or consent of department.
525. **PROGRAMMABLE ELECTRONIC CONTROLLERS (3).** Basic concepts and skills needed to install, program and apply programmable electronic controllers in industry. Discrete and analog input/output (I/O) devices and ladder logic will be studied, including basic and intermediate PLC functions. Experiments in operation, programming, and industrial applications with emphasis on discrete I/Os. PRQ: TECH 175, TECH 175A, TECH 265, TECH 295, or CSC1 240, or consent of department.
529. **PLANT LOCATION, LAYOUT, AND MATERIALS HANDLING (3).** Analysis of plant location, layout, and material handling systems in achieving manufacturing/service goals. Different approaches to location, layout, and material handling systems are presented.
531. **INDUSTRIAL VENTILATION (3).** Application of principles of industrial ventilation for the safety professional. Emphasis on the designing of ventilation to protect workers and the environment. PRQ: CHEM 110, CHEM 111, MATH 155, TECH 245, TECH 534, or consent of department.
532. **DISASTER PREPAREDNESS (3).** Organization for survival from natural and human-made disasters. Warning and communication systems, radiological monitoring, shelter management. Fallout shelter experience included.
533. **TOXICOLOGY FOR INDUSTRY (3).** Basic concepts of toxicity as it relates to chemicals used in industrial work places. Assessment of the hazards of chemicals and how to deal with them safely. PRQ: CHEM 110, CHEM 111, MATH 155, TECH 534, and TECH 537, or consent of department.
534. **HUMAN FACTORS IN INDUSTRIAL ACCIDENT PREVENTION (3).** Survey of human factors principles and techniques used to minimize the frequency and severity of industrial accidents.
535. **LEGAL ASPECTS OF SAFETY (3).** Study of the development of federal and state legislation and programs relating to worker safety. Analysis of the implication of these laws and programs for industrial safety.
536. **DESIGN AND ADMINISTRATION OF INDUSTRIAL SAFETY PROGRAMS (3).** Analysis of current problems and trends in the design and supervision of model industrial accident prevention programs. PRQ: TECH 231 or TECH 245, TECH 534 or consent of department.
537. **FUNDAMENTALS OF INDUSTRIAL HYGIENE (3).** Application of principles of industrial hygiene for the safety specialist, whose role has been greatly expanded by recent federal legislation. Emphasis on stress-producing conditions including noise, ventilation, temperature, radiation, lighting, and their effect on human performance and productivity. PRQ: CHEM 110, CHEM 111, MATH 155, TECH 231, and TECH 534, or consent of department.
538. **SAFETY IN TRANSPORTATION SYSTEMS (3).** Status of, and rationale for, improvements in safety practices and legislation for the commercial carriers (rail, highway, water, and air transportation). Each student investigates one system in depth.
539. **ADVANCED TRAFFIC SAFETY EDUCATION PRACTICES (3).** Study of advanced driving performance capabilities, driving strategies, and tactics. Emphasis on administrative and instructional practices for advanced driver education programs. PRQ: TECH 331 or consent of department.
540. **MONITORING AND EVALUATING EXPOSURES TO HAZARDOUS MATERIALS (3).** Theory and methodology of evaluating exposures to hazardous materials, risk assessment techniques, and exposure response. Detailed examination of human exposure to chemical, biological, and radioactive agents. PRQ: CHEM 110A, PHYS 150A, and TECH 537, or consent of department.
541. **HAZARD CONTROL IN INDUSTRIAL OPERATIONS (3).** Advanced study of controls for environmental, safety, and health issues (ESH). Concepts related to materials handling systems in relation to the design and use of guards and protective devices. Advanced concepts within the realm of safety analysis and applications within industrial settings. Emphasis on OSHA requirements and applications of these requirements to various industrial processes. PRQ: TECH 231 and TECH 245, or consent of department.
542. **WORK SIMPLIFICATION AND MEASUREMENT (3).** Techniques for improving and standardizing methods; procedures for measuring work and developing time standards in production and service activities.
543. **ENGINEERING ECONOMY (3).** Principles used in the systematic evaluation of the net worth of benefits resulting from proposed engineering and business ventures in relation to the expenditures associated with those undertakings.
544. **PRODUCTION CONTROL SYSTEMS (3).** Implementation and operation of manufacturing systems including facility planning, quality improvement, labor measurement, production, and inventory control systems. Forecasting methods; the design and organization of routings, schedules, and bills-of-material; computer-based materials control; quality and productivity techniques within process and job-lot environments. PRQ: Consent of department.
545. **ORGANIZATIONAL PHILOSOPHY AND PLANNING FOR QUALITY (3).** The quality philosophies of Deming, Crosby, and Juran contrasted with the concepts of Ishikawa and Taguchi. Profound knowledge (Deming), cost of quality (Crosby), organization of corporate programs in quality, and customer focused systems. Emphasis on the American Society for Quality certificate examination body of knowledge. PRQ: Consent of department.
546. **SERVICE ORGANIZATIONS QUALITY ISSUES (3).** Quality philosophy, objectives, and measures, and organization of quality for service establishments. Application of audit criteria used to judge for quality awards—such as the Malcolm Baldrige and Lincoln—to hospitals, schools and universities, government agencies, and other service organizations. Design, measurement, and implementation of continuous improvement philosophies in not-for-profit organizations. PRQ: Consent of department.
547. **QUALITY MEASUREMENT AND IMPROVEMENT (3).** Design of valid quality assurance systems. Auditing of quality systems, prevention and correction of nonconformities, root cause analysis, failure mode and effect analysis; discussion of standards including ISO 9000, QS 9000, ISO 10011. Emphasis on American Society for Quality certificate examination body of knowledge. PRQ: Consent of department.
548. **QUALITY DECISION METHODS (3).** Problems and case studies utilizing the decision mathematical methods for quality analysis including on-line process control, design of experiments, regression analysis, and other mathematical tools. PRQ: TECH 491 or consent of department.
549. **RELIABILITY ISSUES AND PRODUCT TESTING (3).** Reliability management. Reliability issues in design, development, and maintainability. Product testing, data collection, and corrective action techniques. Warranty and product liability certification. Emphasis on the American Society for Quality certificate examination body of knowledge. PRQ: TECH 545 or consent of department.

550. LEADERSHIP THEORIES AND TECHNIQUES (3). Study of leadership theories and managerial techniques used to accomplish predetermined results through others. Topics include planning, motivation, communication, delegation, and employee selection as applied in industrial settings/situations. PRQ: TECH 504 or consent of department.

555. CASE STUDIES IN MANUFACTURING–LABOR RELATIONS (3). Using recent labor arbitration awards, students examine and analyze industrial relations from both the management and the union perspective. Students research and analyze multiple cases on an individually assigned topic as a final project. PRQ: TECH 504 or consent of department.

560. INTERNATIONAL INDUSTRIAL COMPETITION: U.S. IMPACT AND STRATEGIES (3). International developments affecting U.S. industries, foreign competition, policy and management strategies; dynamics of the European Community, Andean Pact, and ASEAN. Impact of working across nationalities and cultures. PRQ: Consent of department.

562. INDUSTRIAL SYSTEMS MANAGEMENT (3). Organizational structures; integrated systems management of product and process design, production, automation, technology, engineering, maintenance, and quality; technology/worker interface; implementation of change, international issues, and case studies. PRQ: Consent of department.

570. FIBER OPTICS COMMUNICATIONS (3). Fundamentals of fiber optics; fiber optics system components and applications in communication; cellular telephone technology. PRQ: TECH 378 or consent of department.

573. ADVANCED ELECTRICAL SERVOMECHANISMS (3). Analysis and design of servomechanisms using analytical tools.

575. ANALYSIS OF MICROPROCESSORS (3). Analysis of microprocessors with emphasis on architecture, state transition, machine cycles, and timing diagrams; instruction set; and interface techniques. PRQ: TECH 377 or consent of department.

576. INDUSTRIAL CONTROL ELECTRONICS (3). Basic hardware involved in servomechanism and process control systems. Topics include sensors, actuators, signal conditioners, data acquisition systems, power interfaces, and analog and digital controllers. PRQ: TECH 376 and TECH 379, or consent of department.

581. ERGONOMICS (3). Study of the basic human factors in engineering systems with emphasis on human-machine systems in relation to equipment designs and the work environment. Analyses of organizational factors relevant to operators at work, including monotony, repetitive work, training, and selection. PRQ: MATH 155, PHYS 150A or PHYS 250, and TECH 534 or consent of department.

582. INDUSTRIAL SAFETY ENGINEERING ANALYSIS (3). Practical theories and applications of safety engineering in the industrial environment. Accident investigation and job safety analysis. PRQ: MATH 155, PHYS 150A or PHYS 210, TECH 231, TECH 245, TECH 534, and TECH 541, or consent of department.

583. APPLIED ERGONOMICS (3). Review of physiological, biomechanical, and psychological concepts related to workplace layout, machine tools, and work methods with emphasis on control of over-exertion injuries, control of work-related musculoskeletal disorders through the use of software and analysis and evaluations of ergonomic problems. Solution of occupational ergonomic problems with presentation of results in class. PRQ: BIOS 311 and TECH 581, or consent of department.

584. ENERGY MANAGEMENT (3). Focus on energy sources, consumption, supply, trends, hazards, control systems, alternatives, conservation techniques, and measurements. Examples drawn from residential, commercial, and industrial systems.

592. MANUFACTURING DISTRIBUTION APPLICATIONS (3). Applications of mass customization principles, flexible manufacturing, and the theory of constraints in modern industrial distribution. Examination and assessment of manufacturing supply and distribution channels for increased value in world-class manufacturing environments and compliance with ISO 9000 standards. PRQ: TECH 265 and TECH 391, or consent of department.

593. HIGH-PERFORMANCE TEAMING (3). Designed to prepare engineers, technologists, and industrial managers, supervisors, and leaders to develop and lead high-performance teams. Emphasis on methods of working with interdisciplinary and multicultural teams, team appraisal and performance assessment. Analysis, case studies, industrial research, and project required.

597. WORKSHOP IN INDUSTRY AND TECHNOLOGY (1-6). Workshop designed for technologists, supervisors, engineers, managers, and administrators studying contemporary technological problems in the public and private sectors. Content varies providing the opportunity to study current problems and issues related to industry and technology. May be repeated to a maximum of 24 semester hours, but no more than 6 semester hours may be applied toward the M.S. degree in technology.

598. TECHNICAL PROBLEMS (1-6).

- A. General
- B. Automation
- D. Engineering Graphics
- E. Electronics
- G. Workplace Design Systems
- J. Project Management
- K. Industrial Supervision
- M. Metals
- N. Numerical Control
- Q. Quality
- R. Manufacturing Technology
- V. Safety

Advanced study of technical problems at the master's level under direct faculty supervision. May be repeated to a maximum of 6 semester hours. PRQ: Consent of faculty member who will supervise the study.

600. MASTER'S PROJECT (1). Capstone project for the M.S. in industrial management which focuses on a relevant subject area of particular interest to the student and emphasizes one of areas with the degree. Student must have completed more than 27 semester hours in the program or be in the final semester of the program.

609. INDUSTRIAL INTERNSHIP (3). A department-approved work experience designed to provide the student lacking full-time industrial experience an opportunity to observe and participate in activities that are applications of principles and skills acquired previously. The learning situation is organized and supervised cooperatively by the Department of Technology staff and personnel of selected organizations. Learning experiences include obtaining, with the guidance and approval of the department's faculty coordinator, an acceptable type of wage-earning employment where intern-learning experiences are present. A minimum of nine 40-hour work weeks is required for each 3 semester hours of credit. May be not be repeated. PRQ: Consent of major adviser and supervising instructor.

631. INDUSTRIAL HYGIENE (3). Lectures and demonstrations covering evaluation and control of exposure to dusts, fumes, mists, vapors, gases, radiation hazards, noise, and abnormal temperatures. PRQ: TECH 537 or consent of department.

633. PRACTICUM IN TRAFFIC SAFETY EDUCATION (3). Use of analysis of the driving task to develop strategies for teaching safe automobile operations. Self-improvement of driving skill, in-vehicle observations of drivers and instructors, and in-vehicle instruction. Administration of an on-road instructional program. Valid driver's license required.

634. BEHAVIORAL FACTORS IN SAFETY (3). Psychological, physiological, and sociological factors as they affect human safety. Students identify and pursue a topic of interest. PRQ: Consent of department.

635. SEMINAR IN SAFETY (1-6). Current issues or problems in safety. May be repeated, but a maximum of 6 semester hours may be applied toward advanced degrees.

636. PRINCIPLES OF TRAFFIC SAFETY EDUCATION (3). Program planning, administration, development, teaching theories, methods, and techniques for use in driver and traffic safety education programs. Includes class observations, lesson/course development, delivery, and evaluation.

637. SYSTEMS ANALYSIS IN SAFETY (4). Systems analysis techniques applied to accident record systems, theories of accident causation, and effectiveness of safety programs. PRQ: Consent of department.

638. RISK MANAGEMENT (3). Analysis of risk factors that affect potential industrial interruptions and losses in industry and society. Emphasis is placed on risk management, containment and mitigation, and addressing loss control as related to normal industrial operations and various disaster factors that contribute to loss. Topics include process management, systems analysis, insurance, and the on-site risk management of various loss producing incidents. PRQ: TECH 485, TECH 536, and TECH 582 or consent of department.

639. 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 applied toward advanced degrees. PRQ: Consent of department.

686. PRACTICUM IN TECHNOLOGY (1-6). Instruction arranged to meet the needs, concerns, and interests of individuals or groups in an appropriate setting under the guidance of a staff member of that setting and a university supervisor. Projects may include work/study in an appropriate setting and individual projects/research. May be repeated to a maximum of 24 semester hours, but no more than 6 semester hours may be applied toward the M.S. degree in technology. PRQ: Consent of department.

694. INDUSTRIAL PROJECT MANAGEMENT (3). Advanced concepts, principles, and skills of a variety of types of industrial project management. Emphasis on technological tools and project management techniques. Analysis, case studies, industrial research, and project required. PRQ: TECH 562 or consent of department.

699A. DIRECTED STUDY (1-6). Directed study in independent research projects at the master's level. May be repeated to a maximum of 6 semester hours. PRQ: Consent of adviser and faculty member directing the study.

699B. MASTER'S THESIS (1-6). Open only to students who elect to write a thesis for the master's degree. Once student registers for thesis they must maintain continuous registration until thesis is completed. May be taken every semester of enrollment, but only 6 hours will count towards the degree. PRQ: Consent of department.

# College of Health and Human Sciences

**Dean: Shirley A. Richmond, Ed.D.**  
**Associate Dean: Mary E. Pritchard, Ph.D.**

School of Allied Health and Communicative Disorders  
 School of Family, Consumer, and Nutrition Sciences  
 Department of Military Science  
 School of Nursing and Health Studies

## College Mission Statement

The mission of the College of Health and Human Sciences is to promote health and well being through scholarship that integrates teaching, research, and service. Vision: To enhance the lives of individuals, families, and communities across the lifespan.

## Policy on Dismissal

Students must make satisfactory progress in college programs to be allowed to continue and can be dismissed from the program or a class for academic reasons, behavior not accepted in the profession, or actions that threaten the health and safety of others. It is the responsibility of students to secure a copy of the dismissal policy from the program.

## Special Requirements

Students who select majors in the College of Health and Human Sciences may need to meet specific requirements for their academic programs and/or entry into their chosen professions, such as a criminal background check, drug testing, immunization, professional liability insurance, cardiopulmonary resuscitation (CPR) certification, uniforms, and equipment. The student is generally responsible for the costs of meeting these requirements. Refer to the specific program for detailed information.

## Certificate of Graduate Study

### Gerontology (18)

The interdisciplinary gerontology certificate fosters educational, research, and service activities pertinent to aging. It is open to any NIU graduate student or graduate student-at-large in good academic standing in the university. A minimum GPA of 3.00 in all certificate courses, and completion of all certificate course work within six calendar years are required. A student wishing to pursue this certificate must apply to the gerontology program.

### Primary Content Area (9-15)

IDSP 565 - Issues in Gerontology (3)  
 IHHS 567 - Fieldwork in Gerontology (3)  
 UHHS 560 - Introduction to Research in Health and Human Sciences (3),  
 OR other appropriate research course

### Additional Requirements (9)

Graduate courses focused on aging chosen with the approval of gerontology director.

ANTH 565 - Medical Anthropology (3)  
 CAHA 501 - Adult Learning: Maturity Through Old Age (3)  
 CAHA 590<sup>1</sup> - Workshop in Adult and Higher Education (3)  
 CAHC 767 - Counseling Older Persons (3)  
 COMD 674 - Cognitive-Linguistic Disorders of Neurologically Impaired Adults (3)  
 EPS 510 - Adult Educational Psychology (3)  
 EPS 710 - Seminar in Lifespan Human Development (3)  
 FCNS 586 - Aging and the Family (3)  
 FCNS 612 - Geriatric Nutrition (3)  
 IHHS 501 - Independent Study in Health and Human Sciences (3-6)  
 IHHS 566 - Seminar in Gerontology (3)  
 IHHS 567 - Fieldwork in Gerontology (3)  
 KNPE 554 - Exercise Gerontology (3)  
 KNPE 555 - Clinical Experience in Exercise Gerontology (3)  
 NURS 695<sup>2</sup> - Advanced Internship in Community Health Nursing (6)  
 PHHE 510 - Death Education (3)  
 PHHE 533 - Principles of Long-Term Care Administration (3)  
 PSPA 626 - Social Policy (3)  
 PSYC 525 - Adult Development and Aging (3)  
 PSYC 565 - Advanced Developmental Psychology (3)  
 SOCI 551 - Medical Sociology (3)  
 SOCI 560 - Social Structure and the Life Course (3)  
 SOCI 582 - Sociology of Death and Dying (3)

## Faculty Associates

Susan Bowers, associate professor of family, consumer, and nutrition sciences, Ph.D.  
 Carolinda Douglass, associate professor of allied health professions, Ph.D.  
 Lisa M. Finkelstein, associate professor of psychology, Ph.D.  
 Judith Hertz, associate professor of nursing, Ph.D.  
 Pamela Macfarlane, professor of kinesiology and physical education, Ph.D.  
 Donna Munroe, associate professor of nursing, Ph.D.  
 Allen Ottens, associate professor of counseling, adult and higher education, Ph.D.  
 Aimee D. Prawitz, associate professor of family, consumer, and nutrition sciences, Ph.D.  
 John F. Stolte, professor emeritus of sociology, Ph.D.  
 Josephine Umoren, associate professor of family, consumer, and nutrition sciences, Ph.D.

<sup>1</sup> When topic is appropriate, and with the approval of the director.

<sup>2</sup> Three semester hours from the internship may be applied toward certificate requirements when course content emphasizes aging, as determined by gerontology faculty associates from the School of Nursing.

## **Interdisciplinary Courses Offered by the College of Health and Human Sciences**

IHHS 501. INDEPENDENT STUDY IN HEALTH AND HUMAN SCIENCES (3). Directed independent study and service learning with special opportunities for interprofessional collaboration in health and human sciences, gerontology, and related topics. May be repeated to a maximum of 6 semester hours. PRQ: IDSP 565 or consent of college.

IHHS 550. ADMINISTRATION FOR PROFESSIONALS IN HEALTH AND HUMAN SCIENCES (2-3). Administrative principles as they pertain to the provision of services by professionals working in health and human sciences settings. Topics include departmental supervision, personnel issues, resource management, safety issues, and governmental regulations.

IHHS 566. SEMINAR IN GERONTOLOGY (3). Exploration of current topics in the study of health and aging. Possible areas of coverage include: Bio-psycho-social dimensions of age and aging, or the public policy challenges of age and aging. May be repeated to a maximum of 6 semester hours (if topic changes). PRQ: IDSP 565 or consent of college.

IHHS 567. FIELDWORK IN GERONTOLOGY (3). Application of gerontological concepts to a real-world setting through an internship or other applied learning experience. Partners collaborating to provide the fieldwork experience might include long-term care facilities, elder-service provider agencies, or other relevant organizational settings outside the university with a focus on older people. May be repeated to a maximum of 6 semester hours. PRQ: IDSP 565 or consent of college.

UHHS 560. INTRODUCTION TO RESEARCH IN HEALTH AND HUMAN SCIENCES (3). An introductory course in the research process for students in health and human sciences. General concepts of research and evidence-based practice. Understanding of basic statistics is expected for enrollment.

UHHS 570. WORKSHOP IN HEALTH AND HUMAN SCIENCES (1-3). Advanced studies of various interdisciplinary topics in health and human sciences. Nature and extent of workshop dependent upon topic and needs of students. May be repeated or taken concurrently for a maximum of 6 semester hours.

# School of Allied Health and Communicative Disorders (AHCD, AHPT, AHRC, AUD, COMD)

Chair: Sue Ouellette

## Graduate Faculty

Hamid Bateni, assistant professor, Ph.D., McGill University  
 Mary Jo Blaschak, associate professor, Ph.D., Northwestern University  
 David Boutin, assistant professor, Ph.D., Pennsylvania University  
 Nancy M. Castle, professor, Ph.D., Northern Illinois University  
 King Chung, assistant professor, Ph.D., Northwestern University  
 Meri Goehring, assistant professor, Ph.D., Nova Southeastern University  
 Deborah L. Gough, associate professor, Ed.D., Northern Illinois University  
 Tina M. Grieco-Calub, assistant professor, Ph.D., Northwestern University  
 Gregory A. Long, professor, Ph.D., University of Kansas  
 Jamie F. Mayer, assistant professor, Ph.D., Indiana University  
 Sherrill R. Morris, associate professor, Ph.D., University of Kansas  
 Nancy A. Nuzzo, professor, Ph.D., University of Illinois  
 Sue E. Ouellette, professor, Ph.D., Kent State University, chair  
 Kristine M. Riley, assistant professor, Ph.D., Northwestern University  
 Howard D. Schwartz, associate professor, Ph.D., Syracuse University  
 Earl J. Seaver III, professor, Ph.D., University of Iowa  
 Masih Shokrani, assistant professor, Ph.D., Meharry Medical College  
 Miriam Mersbergen, assistant professor, Ph.D., University of Minnesota

The School of Allied Health and Communicative Disorders offers graduate programs leading to the Master of Arts (M.A.), Master of Physical Therapy (M.P.T.), Doctor of Audiology (Au.D.) and the Doctor of Physical Therapy (D.P.T.) degrees. The M.A. curriculum prepares students for careers as entry-level speech-language pathologists and rehabilitation counselors. Students admitted to the professional physical therapy program through the limited admissions undergraduate major in health sciences in fall 2009 will be the last cohort to begin the M.P.T. program in spring 2011. The Au.D. is an entry-level degree that prepares individuals for professional practice in the area of audiology. The D.P.T. program prepares individuals to function as entry-level practitioners in physical therapy.

The M.A. specialization in speech-language pathology is accredited by the Council on Academic Accreditation in Speech-Language Pathology and Audiology of the American Speech-Language-Hearing Association. The program of study is designed to meet the minimum academic and clinical requirements for the Certificate of Clinical Competence in Speech-Language Pathology awarded by the American Speech-Language-Hearing Association, state licensure, and school certification (Type 73, SLP-Non Teaching). The M.A. specialization in rehabilitation counseling is accredited by the Council on Rehabilitation Education and is designed to meet the academic and experiential requirements of the Certified Rehabilitation Counselor credential awarded by the Commission on Rehabilitation Counselor Certification.

The M.P.T. and DPT programs are accredited by the Commission on Accreditation of Physical Therapy Education.

The Au.D. is accredited by the Council on Academic Accreditation in Speech-Language Pathology and Audiology of the American Speech-Language-Hearing Association. The program of study is designed to meet the minimum academic and clinical requirements for the Certificate of Clinical Competence in Audiology awarded by the American Speech-Language-Hearing Association and state licensure, expose students to basic and applied research, provide practical and research experience, and develop skills in the use of evidence-based practice.

## Master of Arts in Communicative Disorders

Communicative Disorders  
 Specialization in Audiology  
 Rehabilitation Counseling  
 Speech-Language Pathology

## Master of Physical Therapy (M.P.T.)

## Doctor of Audiology (Au.D.)

## Doctor of Physical Therapy (D.P.T.)

## Master of Arts in Communicative Disorders

### Admission

Admission to the specialization in speech-language pathology is limited to the fall term with an application deadline of January 15. However, admitted students can petition to begin taking classes the summer before their first fall in the program. Rehabilitation Counseling admits students each term. The application deadline is February 1 for the fall and summer terms and September 1 for the spring term. To be assured consideration for admission in either of the master's degree programs in communicative disorders, prospective students must submit completed application materials (application forms, official transcripts, GRE general test scores, and letters of recommendation) to the graduate school by the stated application deadline.

Admission to the master's degree program is typically for full-time study. An applicant for admission to a departmental program is generally expected to meet or exceed the following requirements.

A minimum 3.00 GPA (on a 4.00 scale) in all undergraduate work.

Competitive scores on the GRE General Test.

Two letters of recommendation from professors, employers, or supervisors providing supportive evidence of an applicant's professional qualifications.

A typewritten statement describing the applicant's qualifications, goals, and career aspirations as they relate to the communicative disorders program at NIU.

Prospective students who fail to meet the GPA requirement for admission may request special consideration of their applications. Such requests must be in writing, must include compensatory evidence related to the deficiency, and should accompany the application for admission to the Graduate School. Final decisions regarding admissions are made by the program's admissions committee on the basis of a total profile of an applicant's qualifications.

A maximum of 12 semester hours of student-at-large credit may be applied to degree requirements. In addition, the maximum combined total of student-at-large hours plus transfer credit may not exceed 12 semester hours.

## Requirements

The student must choose a specialization in audiology, rehabilitation counseling, or speech-language pathology. With the advice and consent of the adviser, a student elects to earn a degree with or without a thesis. Student participation in practicum and internship courses requires both good academic standing and consent of the school.

## Common Requirements

AHCD 600 - Introduction to Research in Communicative Disorders (3)

To be engaged in any clinical practicum experience, evidence of professional liability insurance, child and adult CPR certification, completion of the Varicella, Hepatitis B, and MMR titers, absence of active tuberculosis, and a negative criminal background check are required. Graduate students must be in compliance with all of the above requirements prior to initiating clinical assignments. Students will be responsible for the costs involved in the aforementioned requirements and will also be responsible for providing their own transportation for clinical course assignments.

Completion of the minimum academic and clinical requirements for the appropriate professional certification issued by the American Speech-Language-Hearing Association or the Commission on Rehabilitation Counselor Certification prior to graduation

Fulfillment of an experience assignment during each semester of full-time registration. Such assignments will be of a research, clinical, or teaching nature, depending on the needs of the student and the availability of the assignment.

One of the following specializations

### Specialization in Audiology

#### Specialization in Speech-Language Pathology

The master's degree requires a minimum of 36 semester hours, at least 30 of which must be earned in nonpracticum courses. Additional semester hours are normally earned in clinical practicum to fulfill the requirements of the appropriate clinical certification.

### Thesis Option

The student must earn a minimum of 36 semester hours of graduate credit. A thesis must be submitted and approved. A maximum of 6 semester hours may be allotted to thesis research and writing.

The student is normally required to pass a comprehensive oral examination which assesses knowledge and ability in the specialization in graduate study, but this may be waived at the discretion of the thesis committee.

### Non-thesis Option

The student must earn a minimum of 36 semester hours of graduate credit and pass an examination which will assess knowledge and ability in the specialization of graduate study. The examination typically consists of both written and oral components; however, the oral component may be waived at the discretion of the written-examination committee.

## Specialization in Rehabilitation Counseling

Because this program is fully accredited by the Council on Rehabilitation Education, a student who successfully completes the required curriculum, including a 600-hour internship under the supervision of a Certified Rehabilitation Counselor, is eligible to sit for the Commission on Rehabilitation Counselor Certification Examination. Students who wish to add a focus on deafness to augment the rehabilitation counseling specialization may complete AHRS 101, American Sign Language I, AHRS 102, American Sign Language II, and a basic course in audiometric methods.

- CAHC 525 - Counseling Skills and Strategies (3),  
OR AHRC 605X - Counseling Skills and Strategies (3)
- CAHC 540 - Group Counseling Theories and Procedures (3)
- AHCD 600 - Introduction to Research in Communicative Disorders (3)
- AHRC 592 - Medical Aspects of Disability in Rehabilitation (3)
- AHRC 628 - Psychosocial Aspects of Disability (3)
- AHRC 660 - Vocational Rehabilitation and Independent Living (3)
- AHRC 662 - Vocational Analysis and Job Placement (3)
- AHRC 682 - Counseling Theories and Techniques with People with Disabilities (3)
- AHRC 683 - Psychological and Vocational Assessment with Rehabilitation Populations (3)
- AHRC 686A - Practicum: Rehabilitation Counseling (1-8),  
OR AHRC 686B - Practicum: Deafness Rehabilitation Counseling (1-8)
- AHRC 690A - Advanced Practicum: Rehabilitation Counseling (6),  
OR AHRC 690B - Advanced Practicum: Deafness Rehabilitation Counseling (6)
- AHRC 694A - Internship: Rehabilitation Counseling (12),  
OR AHRC 694B - Internship: Deafness Rehabilitation Counseling (12)
- AHRC 777A - Seminar: Rehabilitation Counseling (3),  
OR AHRC 777B - Seminar: Deafness Rehabilitation Counseling (3)

If the student in this specialization has already completed AHRS 492 with a grade of B or better as an undergraduate at NIU, AHRC 592 will not be required in the student's M.A. program.

Students are required to complete a total of 200 approved professional development hours, including direct involvement supervised counseling, professional meetings, and disability community involvement.

### Thesis Option

A thesis must be submitted and approved. Students selecting this option must also pass a comprehensive examination which includes a defense of the thesis.

### Non-Thesis Option

Students selecting this option must pass an oral and written examination which will assess knowledge and ability in the specialization.

## Grading Policies for Clinical Courses

Students must make satisfactory progress in clinical practicum and internship courses. Students who earn two grades of C in clinical practicum courses (i.e., AUD 685, AHRC 686, COMD 687, AHRC 690, or AHRC 694) will be dismissed from the graduate program.

## Master of Physical Therapy (M.P.T.)

The M.P.T. program is the graduate component of the professional physical therapy curriculum. Students are admitted to the M.P.T. program following successful completion of the undergraduate health sciences component of the professional physical therapy curriculum. Students should refer to the Undergraduate Catalog for information concerning admission requirements to the professional physical therapy program as an undergraduate. Students in the professional physical therapy curriculum begin the graduate component of the professional curriculum upon completion of all requirements for the health sciences major.

In addition to the usual costs for a university student, physical therapy majors are responsible for the costs involved in

- uniforms to be worn during all clinical experiences,
- transportation to, and room and board at, clinical facilities,
- completion of a 3-dose Hepatitis B immunization,
- proof of varicella immunity,
- student professional liability insurance, and
- professional textbooks

Full-time clinical experiences are an integral part of the curriculum, providing the student opportunities to apply academic knowledge under the supervision of skilled physical therapists. Clinical experiences, offered throughout the central United States, are scheduled by the NIU physical therapy faculty. Students are required to complete a six-week full-time clinical experience, as well as two eight-week clinical experiences which occur during the final semester. Specific clinical sites may require background checks and/or drug testing.

### Requirements (50-52)

- AHPT 603 - Psychosocial Issues in Physical Therapy (2)
- AHPT 604 - Case Studies in Physical Therapy II (1)
- AHPT 605 - Case Studies in Physical Therapy III (2)
- AHPT 609 - Physical Therapy Research II (3)
- AHPT 615 - Neurological Basis of Human Movement (3)
- AHPT 636 - Physical Therapy Management of Individuals with Acute Medical Problems (3)
- AHPT 637 - Cardiopulmonary Physical Therapy (3)
- AHPT 640 - Evaluation and Treatment of Musculoskeletal Disorders: Spine (3)
- AHPT 645 - Physical Therapy Research III (1-3)
- AHPT 650 - Neurological Physical Therapy (4)
- AHPT 651 - Medical Issues in Neurological Physical Therapy (2)
- AHPT 655 - Rehabilitation in Physical Therapy (4)
- AHPT 660 - Clinical Experience IV (4)
- AHPT 661 - Clinical Experience V (6)
- AHPT 662 - Clinical Experience VI (6)
- AHPT 665 - Advanced Mock Clinic for Physical Therapists (1)
- AHPT 670 - Seminar in Physical Therapy (2)

Students admitted to the professional physical therapy program through the limited admissions undergraduate major in health sciences in fall 2009 will be the last cohort to enter the M.P.T. program in spring 2011. The M.P.T. program will be replaced by the Doctor of Physical Therapy program.

## Doctor of Audiology

The Doctor of Audiology (Au.D.) is an entry-level degree that prepares individuals for professional practice in the area of audiology. The program of study is designed to meet the minimum academic and clinical requirements for the Certificate of Clinical Competence in Audiology awarded by the American Speech-Language-Hearing Association and state licensure, expose students to basic and applied research, provide practical and research experience, and develop skills in the use of evidence-based practice.

## Admission

To be assured consideration for admission to the Au.D. degree program, prospective students must submit completed application materials to the Graduate School no later than February 1 for the fall session. Admission to the Au.D. program is typically limited to the fall term, but exceptions will be considered in light of a review of deficiency course work.

Admission to the Doctor of Audiology degree program is typically for full-time study. An applicant for admission is generally expected to meet or exceed the following requirements.

A minimum 3.20 GPA (on a 4.00 scale) in all undergraduate course work.

Competitive scores on the GRE General Test.

Three letters of recommendation from professors, clinical supervisors, or employers providing evidence of an applicant's professional qualifications and ability to complete doctoral work successfully. At least two letters should be from persons in a position to write analytically about the applicant's academic qualifications to pursue graduate studies, and/or professional competence in audiology.

A prospective student who fails to meet the GPA requirement for admission may request special consideration of her or his application. Such requests must be in writing, must include compensatory evidence related to the deficiency, and should accompany the application for admission to the Graduate School. These requests will typically be considered from students completing undergraduate degrees in fields other than communication sciences and disorders. Decisions regarding admissions are made by the program's admission committee on the basis of a total profile of an applicant's qualifications.

Specific course work requirements for admission are generally those necessary for successful completion of the baccalaureate degree in communicative disorders with an emphasis in audiology. Deficiency course work will be determined on an individual basis.

### Requirements

Students must complete the following.

- AHRC 605X - Counseling Skills and Strategies (3)
- AUD 606 - Noise and Its Effects on Humans (3)
- AUD 612A - Professional Issues I: Foundations of Practice (2)
- AUD 612B - Professional Issues II: Practice Management (2)
- AUD 625 - Acoustics and Psychoacoustics (3)
- AUD 627 - Anatomy and Physiology of the Ear (3)
- AUD 629 - Amplification I (4)
- AUD 630 - Auditory Rehabilitation (3)
- AUD 675 - Pediatric Audiology Treatment and Case Management (3)
- AUD 677 - Adult Audiological Assessment (4)
- AUD 678 - Pediatric Audiological Assessment (3)
- AUD 779 - Advanced Audiological Procedures (3)
- AUD 680 - Evaluation and Treatment for Balance Disorders (3)
- AUD 685 - Audiology Practicum: Speech and Hearing Clinic (8)
- AUD 693 - Advanced Practicum: Audiology (30)
- AUD 700 - Research Seminar (3)
- AUD 727 - Auditory and Vestibular Pathology (3)
- AUD 729 - Amplification II (3)
- AUD 773 - Seminar in Audiology (6)
- AUD 779 - Advanced Electrophysiological Assessment of the Auditory System (3)
- AUD 798 - Au.D. Research (3)
- Statistics (3-4)

Students are required to complete 6 semester hours of research-related courses (AUD 700, AUD 798) culminating in the completion of a research project.

To be engaged in any clinical practicum experience, evidence of professional liability insurance, child and adult CPR certification, completion of the Varicella, Hepatitis B, and MMR titers, absence of active tuberculosis, and a negative criminal background check are required.

Students must complete the minimum academic and clinical requirements for professional certification issued by the American Speech-Language-Hearing Association.

### Grading Policies for Clinical Courses

Students must make satisfactory progress in clinical practicum and internship courses. Students who earn two grades of C in clinical practicum courses (i.e., AUD 685, AUD 693) will be dismissed from the graduate program.

### Doctor of Physical Therapy

The Doctor of Physical Therapy (D.P.T.) program prepares individuals to function as entry-level physical therapists. Successful completion of this accredited academic program in physical therapy will meet one of the eligibility requirements for state licensure.

The faculty of the physical therapy program has determined that for students to successfully complete the professional physical therapy program, they must have abilities and skills in observation, communication, motor function, intellectual performance, and professional behavior. A student must, with or without reasonable accommodation, possess these technical skills upon admission to the physical therapy program. A copy of these technical standards for the physical therapy program can be obtained from the Physical Therapy Program Office.

In addition to the usual costs for a university student, physical therapy majors are responsible for the costs involved in

- appropriate clinical attire
- transportation to and from, and room and board at, clinical facilities
- proof of Hepatitis B, rubella, mumps, rubeola, and varicella immunity
- annual TB tests
- student professional liability insurance
- clinical site specific requirements
- maintenance of CPR certification
- professional textbooks and supplies

Full-time clinical experiences are an integral part of the curriculum, providing the student opportunities to apply academic knowledge under the supervision of skilled physical therapists. Clinical experiences, offered throughout the United States, are scheduled by the NIU physical therapy faculty. Students are required to complete two full-time six-week clinical experiences, as well as two full-time eight-week clinical experiences. Specific clinical sites may require background checks and/or drug testing.

### Admission

Admission to the D.P.T. is limited and competitive. To be assured consideration for admission to the D.P.T. program, prospective students must submit separate and completed application materials to the physical therapy program and to the Graduate School no later than October 1 for the following fall session.

Applicants must meet or exceed the following admission requirements:

- Bachelor's degree from an accredited institution, in progress or completed
- Competitive scores on the GRE General Test
- A minimum 3.00 GPA (on a 4.00 scale) in the last 60 semester hours of undergraduate course work

A minimum 3.00 GPA (on a 4.00 scale) in the following prerequisite courses:

- AHPT 405 - Physical Therapy and the Rehabilitation Process (3)
- 3 semester hours of general psychology
- 3 semester hours of developmental psychology
- 3 semester hours of abnormal psychology
- 3 semester hours of statistics
- 3 semester hours of research methods
- 5 - 8 semester hours of anatomy and physiology
- 8 semester hours of general biology with laboratory
- 8 semester hours of general chemistry with laboratory
- 8 semester hours of general physics with laboratory

Provisional acceptance may be granted pending completion of admission requirements. Contact the physical therapy program regarding admissions.

### Program Requirements

Students must complete a minimum of 106 semester hours that include the following:

- AHPT 602 - Communication and Educational Skills for Physical Therapists (3)
- AHPT 608 - Physical Therapy Research I: Evidence-Based Practice (2)
- AHPT 609 - Physical Therapy Research II (3)
- AHPT 610 - Foundations of Physical Therapy I (3)
- AHPT 611 - Foundations of Physical Therapy II (3)
- AHPT 612 - Foundations of Physical Therapy III (3)
- AHPT 613 - Foundations of Physical Therapy IV (4)
- AHPT 614 - Foundations of Physical Therapy V (3)
- AHPT 615 - Neurological Basis of Human Movement (3)
- AHPT 616 - Motor Development for Physical Therapists (3)
- AHPT 617 - Pathology for Physical Therapists (3)
- AHPT 618 - Pharmacology for Physical Therapists (2)
- AHPT 620 - Clinical Experience I (1)
- AHPT 621 - Clinical Experience II (1)
- AHPT 622 - Clinical Experience III (4)
- AHPT 636 - Physical Therapy Management of Individuals with Acute Medical Problems (3)
- AHPT 637 - Cardiopulmonary Physical Therapy (3)
- AHPT 639 - Evaluation and Treatment of Musculoskeletal Disorders (4)
- AHPT 641 - Physical Therapy Management of Complex Musculoskeletal Disorders (4)
- AHPT 642 - Medical Issues in Musculoskeletal Physical Therapy (3)
- AHPT 651 - Medical Issues in Neurological Physical Therapy (2)
- AHPT 652 - Neurological Rehabilitation (6)
- AHPT 657 - Pediatric Physical Therapy (2)
- AHPT 660 - Clinical Experience IV (4)
- AHPT 700 - Physical Therapy Administration (3)
- AHPT 701 - Professional Roles in Physical Therapy (1)
- AHPT 702 - Physical Therapy Management of Complex Patients I (2)
- AHPT 703 - Physical Therapy Management of Complex Patients II (2)
- AHPT 709 - Physical Therapy Research III (2)
- AHPT 710 - Practice Issues in Physical Therapy (2)
- AHPT 760 - Clinical Experience V (6)
- AHPT 761 - Clinical Experience VI (6)
- AHPT 798 - Comprehensive Examination in Physical Therapy (1)
- AHRC 628 - Psychosocial Aspects of Disability (3)
- BIOS 546 - Gross Human Anatomy (6)

### Certificate of Graduate Study

#### Deaf-Blind Rehabilitation Services (15)

This certificate requires 15 semester hours of undergraduate study that include online and face-to-face learning, individual projects, and field experience. Individuals completing the certificate will be better prepared to provide rehabilitation services to persons with combined hearing and vision loss.

Admission is limited to practicing rehabilitation professionals.

**Required courses:**

- AHRC 501 - Orientation to Deaf-Blindness (3)
- AHRC 502 - Assessment and Application of Services for Deaf-Blind Individuals (3)
- AHRC 503 - Topics in Deaf-Blindness (3)
- AHCD 686 - Practicum (3)
- AHCD 698 - Directed Individual Study (3)

**Course List**

**Allied Health and Communicative Disorders (AHCD)**

600. INTRODUCTION TO RESEARCH IN COMMUNICATIVE DISORDERS (3). Study of the research areas in communicative disorders including sources of reference, research design, and the formats of professional writing. Current professional issues will also be considered. PRQ: Admission to the graduate program in communicative disorders.

698. DIRECTED INDIVIDUAL STUDY (1-6). Independent pursuit of advanced problems in communicative disorders of special concern to qualified graduate students. May be repeated to a maximum of 12 semester hours, but only 6 semester hours may be applied to the master's degree in communicative disorders. PRQ: Consent of school.

699. MASTER'S THESIS (1-6). May be repeated to a maximum of 6 semester hours. PRQ: Consent of the student's adviser.

**Audiology (AUD)**

606. NOISE AND ITS EFFECTS ON HUMANS (3). Evaluation and practical application of noise measurement systems. Examination of noise as it affects humans. Includes information on hearing conservation programs designed to meet current governmental regulations. PRQ: Admission to the Au.D. program, or consent of school.

612A. PROFESSIONAL ISSUES I: FOUNDATIONS OF PRACTICE (2). Professional issues including ethical practice, confidentiality, patient/ consumer rights, advocacy, cultural diversity, universal precautions, clinical decision making, report writing, and record keeping. PRQ: Admission to the Au.D. program, or consent of school.

612B. PROFESSIONAL ISSUES II: PRACTICE MANAGEMENT (2). Issues in practice management including relevant laws and regulations, licensure, credentialing, regulatory agencies, health and educational delivery systems, service provider teaming, workers' compensation, billing and reimbursement, marketing, and advertising. PRQ: Admission to the Au.D. program, or consent of school.

625. ACOUSTICS AND PSYCHOACOUSTICS (3). Normal and abnormal auditory processes, advanced psychoacoustics, development of the auditory mechanism, and speech perception. Study of clinical measures and procedures. PRQ: Admission to the Au.D. program, or consent of school.

627. ANATOMY AND PHYSIOLOGY OF THE EAR (3). Study of the anatomical and physiological aspects of the human auditory and vestibular systems. PRQ: Admission to the Au.D. program, or consent of school.

629. AMPLIFICATION I (4). Theories and procedures used in selection, evaluation, and fitting of hearing instruments. Types and components of electroacoustic hearing instruments and earmold acoustics. Laboratory experience in making earmolds; selection, fitting, and evaluation of hearing instruments. PRQ: Admission to the Au.D. program, or consent of school.

630. AUDITORY REHABILITATION (3). Selected topics in aural rehabilitation with emphasis on the receptive aspects of communication and the impact on children and adults with impaired hearing. PRQ: Admission to the Au.D. program, or consent of school.

675. PEDIATRIC AUDIOLOGY TREATMENT AND CASE MANAGEMENT (3). 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. PRQ: Admission to the Au.D. program, or consent of school.

677. ADULT AUDIOLOGICAL ASSESSMENT (4). Administration and interpretation of the standard adult audiometric battery, as well as discussion of the specialized tests of auditory function. Laboratory experience. PRQ: Admission to the Au.D. program, or consent of school.

678. PEDIATRIC AUDIOLOGICAL ASSESSMENT (3). Administration and interpretation of the standard pediatric audiometric battery, as well as discussion of the specialized tests of auditory function. PRQ: Admission to the Au.D. program, or consent of school.

679. ELECTROPHYSIOLOGIC ASSESSMENT OF THE AUDITORY SYSTEM (4). Neuroanatomic and neurophysiological bases of auditory evoked responses; administration and interpretation of the procedures used in evoked response testing; and relationship between pathology and evoked response results. Laboratory experience. PRQ: Admission to the Au.D., or consent of school.

680. EVALUATION AND TREATMENT FOR BALANCE DISORDERS (3). Anatomy, physiology, neurology, and pathologies of the proprioceptive, vestibular, and central equilibrium mechanisms; instrumentation and procedures involved in evaluation of balance function; treatment for persons with equilibrium disturbances. PRQ: to the Au.D. program, or consent of school.

685. AUDIOLOGY PRACTICUM: SPEECH AND HEARING CLINIC (1). Observation, practice, and discussion of diagnostic and rehabilitative audiological procedures. All students involved in on-campus practicum in audiology must enroll in this course. May be repeated to a maximum of 10 semester hours. PRQ: Admission to the Au.D. program, or consent of school.

693. ADVANCED PRACTICUM: AUDIOLOGY (1-15). Advanced practicum in audiologic assessment and management in an external setting. May be repeated to a maximum of 30 semester hours. Good academic standing required for enrollment in this course. PRQ: Admission to the Au.D. program, or consent of school.

700. RESEARCH SEMINAR (3). Research design, application, and understanding leading to the development of a research proposal required for the Au.D. degree. PRQ: Admission to the Au.D. program, or consent of school.

727. AUDITORY AND VESTIBULAR PATHOLOGY (3). Includes study of atypical processes in the structure and function of the human auditory and vestibular systems. PRQ: Admission to the Au.D. program, or consent of school.

729. AMPLIFICATION II (3). Advanced study of research in amplification systems including speech perception, psychoacoustics, and design consideration of hearing instruments. PRQ: Admission to the Au.D. program, or consent of school.

773. SEMINAR IN AUDIOLOGY (3). Special topics in audition and the auditory system. May be repeated to a maximum of 9 semester hours. PRQ: Admission to the Au.D. program, or consent of school.

779. ADVANCED AUDIOLOGICAL PROCEDURES (3). Study of evoked potentials generated in subcortical and cortical areas of the auditory system; administration and interpretation of audiological procedures tests designed to evaluate auditory processes and discussion of appropriate application of these procedures. PRQ: Admission to the Au.D. program, or consent of school.

798. AU.D. RESEARCH (3). May be repeated to a maximum of 9 semester hours. PRQ: Admission to the Au.D. program, and consent of school.

**Communicative Disorders (COMD)**

602. ORAL-MOTOR FUNCTION IN CHILDREN: ASSESSMENT AND TREATMENT (3). Identification of and intervention for disorders of the oral-motor system affecting feeding, prespeech, and speech. Topics include motor development for feeding and speech, identification of problems within the motor system during feeding and speech production, treatment strategies, transdisciplinary roles of the speech and language pathologist in assessment and treatment, and family service delivery. PRQ: Admission to speech-language pathology graduate program or consent of school. CRQ: COMD 687 or consent of school.

603. COMMUNICATION DISORDERS IN EARLY CHILDHOOD (3). Identification of and intervention for communication disorders in children ages birth to six years and their families. Topics include the speech-language pathologist's role in prevention, communication and language assessment and intervention techniques, models of assessment and service delivery, relevant legislation, and speech and language resources available to families, educators, and service providers. PRQ: Admission to speech-language pathology graduate program or consent of school.

604. CHILD LANGUAGE DISORDERS: SPECIAL POPULATIONS (3). Assessment procedures for and intervention with children with physical and/or cognitive impairments. Topics include models of intervention for individuals with autism, mental retardation, and developmental delay and infants and toddlers at risk for developmental disorders. Use of augmentative and alternative communication systems will be studied. Additional topics may include communication programming for children with syndromes, traumatic brain injury, multiple disabilities, LEP language impairment, and selective mutism. PRQ: Admission to speech-language pathology graduate program or consent of school.

607. LANGUAGE DISORDERS IN SCHOOL-AGE POPULATIONS (3). Relationships between spoken and written language development and the identification of language disorders in school-age children, including impact on school performance. Principles and methods of prevention, language and literacy assessment, and intervention techniques. PRQ: COMD 603 and admission to speech-language pathology graduate program or consent of school.

624. SUPERVISORY TECHNIQUES IN SPEECH AND HEARING SERVICES (3). Provides insights, techniques, and research information to develop competence necessary for the supervision of speech, hearing, and language services. Emphasis on information on supervision in public school, hospital, therapy center, and other agency programs. PRQ: Admission to speech-language pathology graduate program or consent of school.

635. FAMILY BASED TREATMENT IN COMMUNICATIVE DISORDERS (3). Study and application of a systemic paradigm to therapeutic intervention in speech-language pathology and audiology in a variety of speech-language treatment settings, including family-focused intervention, early intervention family-centered treatment, consultation in schools, and transdisciplinary teams. PRQ: Admission to speech-language pathology graduate program or consent of school.

644. STUTTERING MANAGEMENT AND REMEDIATION (3). In-depth examination of the evaluation and treatment of stuttering including management techniques for indirect therapy with parents and issues that affect decisions for treatment. PRQ: Admission to speech-language pathology graduate program or consent of school.

670. VOICE DISORDERS: RESEARCH AND THERAPY (3). Discussion and review of the literature bearing on the theory, etiology, and treatment of voice disorders. PRQ: Admission to speech-language pathology graduate program or consent of school.

671. ADVANCED CLINICAL PHONOLOGY (3). Selected topics in the acquisition, assessment, and treatment of phonological disorders in children with emphasis on case presentations. PRQ: Admission to speech-language pathology graduate program or consent of school.

672. CRANIOFACIAL ANOMALIES (3). Study of craniofacial anomalies including cleft lip (with and without cleft palate), embryological development of the craniofacial complex, language and hearing problems, and other associated difficulties accompanying craniofacial dysmorphology. Principles of assessment, treatment, and research. PRQ: Admission to speech-language pathology graduate program or consent of school.

674. COGNITIVE-LINGUISTIC DISORDERS OF NEUROLOGICALLY IMPAIRED ADULTS (3). Study of neuropathologies and neuropsychological models of aphasia and cognitive-linguistic impairments accompanying head injury and right hemispheric lesions. Principles of differential diagnosis, treatment, and research. PRQ: Admission to speech-language pathology graduate program or consent of school.

676. ORGANIZATION AND PLANNING OF SPEECH, LANGUAGE, AND HEARING SERVICES (3). Aspects of conducting a program for communicative disorders in various settings including public schools, hospital and service clinics, and private practice. Study of current trends affecting the delivery of services in each of those areas. PRQ: Admission to speech-language pathology graduate program or consent of school.

684. SPEECH AND SWALLOWING DISORDERS IN HEAD AND NECK CANCER PATIENTS (3). Study of speech and swallowing disorders in head and neck cancer patients following surgical and medical intervention. Emphasis on the role of the speech-language pathologist in the areas of counseling, dysphagia, artificial larynges, and alaryngeal and tracheoesophageal speech. PRQ: Admission to speech-language pathology graduate program or consent of school.

687. SPEECH-LANGUAGE PRACTICUM: SPEECH AND HEARING CLINIC (1-3). Observation, discussion, and clinical practice of assessment and therapeutic procedures. All students involved in oncampus practicum in speech-language pathology must enroll in this course. May be repeated to a maximum of 6 semester hours. PRQ: Admission to speech-language pathology graduate program or consent of school.

688. TREATMENT OF COGNITIVE-COMMUNICATION DISORDERS ASSOCIATED WITH ACQUIRED BRAIN INJURY (3). Neurobehavioral sequelae and the physical manifestation within a speech-language-cognitive framework. The spectrum of intervention from speech, language and cognitive assessment, to treatment and carryover. PRQ: Admission to speech-language pathology graduate program or consent of school.

691. ADVANCED PRACTICUM: EDUCATIONAL SPEECH LANGUAGE PATHOLOGY (1-12). Assessment and intervention experience in speech-language services in the school setting. May be repeated to a maximum of 12 semester hours. Good academic standing required for enrollment in this course. PRQ: Admission to speech-language pathology graduate program, COMD 687, and consent of school.

692. ADVANCED PRACTICUM: MEDICAL SPEECH-LANGUAGE PATHOLOGY (1-12). Assessment and intervention experience in speech-language services in hospital and clinic settings. May be repeated to a maximum of 12 semester hours. Good academic standing required for enrollment in this course. PRQ: Admission to speech-language pathology graduate program, COMD 687, and consent of school.

772. 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. May be repeated to a maximum of 15 semester hours, but only 6 semester hours may be applied to the master's degree in communicative disorders. PRQ: Admission to speech-language pathology graduate program or consent of school.

774. ADMINISTRATION OF SPEECH AND HEARING PROGRAMS (3). 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. PRQ: Admission to speech-language pathology graduate program or consent of school.

775. SEMINAR: SPEECH-LANGUAGE PATHOLOGY (1-3). Selected topics in speech-language pathology. May be repeated, but only 6 semester hours may be applied toward the M.A. degree. PRQ: Admission to speech-language pathology graduate program or consent of school.

784. PEDIATRIC SWALLOWING DISORDERS (3). Assessment and treatment of pediatric swallowing disorders including neurodevelopment, normal anatomy and physiology of swallowing, respiratory and gastroenterologic issues related to swallowing, clinical oral motor and feeding assessment, videofluoroscopic evaluation of swallowing, and management of pediatric swallowing disorders. PRQ: Admission to speech-language pathology graduate program or consent of school.

### Physical Therapy (AHPT)

602. COMMUNICATION AND EDUCATION SKILLS FOR PHYSICAL THERAPISTS (3). Application of written and oral communication skills to patient-therapist interactions, including the development of patient interview and professional documentation skills. Overview of educational principles and practices utilized by physical therapists. PRQ: Consent of school.

603. PSYCHOSOCIAL ISSUES IN PHYSICAL THERAPY (2). Investigation of the impact of physical disability on individuals, families, and society. Relationship between the attitudes and values of society, persons with disabilities and their families, and health care professionals on outcomes of physical therapy interventions. PRQ: Consent of school.

604. CASE STUDIES IN PHYSICAL THERAPY II (1). Emphasis on program for individuals with cardiopulmonary and general medical problems. PRQ: Consent of school.

605. CASE STUDIES IN PHYSICAL THERAPY III (2). Process of differential diagnosis as utilized by physical therapists. Emphasis on the development of programs for individuals with complex movement problems and multiple system involvement. PRQ: Consent of school.

608. PHYSICAL THERAPY RESEARCH I: EVIDENCE-BASED PRACTICE (2). Exploration into the principles and concepts of evidence-based practice in physical therapy. Review of basic issues and concepts in research in terms of applicability to evidence-based practice. PRQ: Consent of school.

609. PHYSICAL THERAPY RESEARCH II (3). Application of research concepts in the design of a clinical research study. PRQ: Consent of school.

610. FOUNDATIONS OF PHYSICAL THERAPY I (3). Development of skill in physical therapy evaluation procedures, including palpation techniques and examination techniques for the assessment of strength, range of motion, and flexibility. PRQ: Consent of school.

611. FOUNDATIONS OF PHYSICAL THERAPY II (3). Application of the principles of biomechanics and therapeutic exercise for the treatment of disorders commonly managed by physical therapists. Skill development in safe, effective use of therapeutic exercise equipment and patient education principles will be included. PRQ: Consent of school.

612. FOUNDATIONS OF PHYSICAL THERAPY III (3). Physical therapy management approaches and examination techniques. Topics include screening examinations, posture, balance, and gait assessments, and gait training using assistive devices. PRQ: Consent of school.

613. FOUNDATIONS OF PHYSICAL THERAPY IV (4). Basic science and physiological principles of physical agents and their applications, the ability to seek and understand the research in the use of these agents, and the practical skills of selecting and applying these agents in a safe and effective manner. PRQ: Consent of school

614. FOUNDATIONS OF PHYSICAL THERAPY V (3). Development of skills in examination, evaluation and treatment of individuals with movement disorders related to soft tissue or other system dysfunction. PRQ: Consent of school.

615. NEUROLOGICAL BASIS OF HUMAN MOVEMENT (3). Human neuroanatomy and neurophysiology as they apply to the acquisition and control of movement. Emphasis on motor control, postural control, and motor learning. Effects of normal and abnormal neurological structures on performance. PRQ: BIOS 355, BIOS 546, and consent of school.

616. MOTOR DEVELOPMENT FOR PHYSICAL THERAPISTS (3). Examination of changes in body systems and movement patterns across the lifespan and the impact such changes have on the delivery of physical therapy services. PRQ: Consent of school.

617. PATHOLOGY FOR PHYSICAL THERAPISTS (3). Introduction to principles of pathology and the impact on physical therapy management. PRQ: Consent of school.

618. PHARMACOLOGY FOR PHYSICAL THERAPISTS (2). Introduction to principles of pharmacology and the impact of pharmacological agents on physical therapy management. PRQ: Consent of school.

620. CLINICAL EXPERIENCE I (1). Introduction to the roles and responsibilities of healthcare professionals in various settings across the continuum of healthcare, including the process of clinical education. S/U grading. PRQ: Consent of school.

621. CLINICAL EXPERIENCE II (1). Part-time clinical experience that provides the opportunity to apply previously learned skills under the guidance of qualified physical therapists. Patient types include general outpatient orthopedics, balance and neurological dysfunction, and wound care. S/U grading. PRQ: Consent of school.

622. CLINICAL EXPERIENCE III (4). Full-time clinical experience that provides the opportunity to apply previously learned skills under the guidance of qualified physical therapists. Settings include outpatient facilities, skilled nursing or subacute facilities and community or acute general hospitals. Emphasis will be on safety, skill in examination, treatment techniques and communication. S/U grading. PRQ: Consent of school.

636. PHYSICAL THERAPY MANAGEMENT OF INDIVIDUALS WITH ACUTE MEDICAL PROBLEMS (3). Examination of physical rehabilitation process during the acute phase of illness and disease. PRQ: Consent of school.

637. CARDIOPULMONARY PHYSICAL THERAPY (3). Physical therapy management of individuals with cardiopulmonary disorders. PRQ: Consent of school.

639. EVALUATION AND TREATMENT OF MUSCULOSKELETAL DISORDERS (4). Physical therapy examination, evaluation, and treatment of individuals with musculoskeletal dysfunction of the extremities and lumbar spine. Emphasis on clinical decision making using evidence-based practice. PRQ: Consent of school.

640. EVALUATION AND TREATMENT OF MUSCULOSKELETAL DISORDERS: SPINE (3). Physical therapy evaluation, treatment, and management of musculoskeletal conditions of the spine using a problem-solving approach. PRQ: Consent of school.

641. PHYSICAL THERAPY MANAGEMENT OF COMPLEX MUSCULOSKELETAL DISORDERS (4). Physical therapy examination, evaluation, and treatment of individuals with complex problems of the musculoskeletal system. Emphasis on clinical decision making using evidence-based practice. PRQ: Consent of school.

642. MEDICAL ISSUES IN MUSCULOSKELETAL PHYSICAL THERAPY (3). Exploration into diagnosis and medical management of patients with musculoskeletal disorders throughout the life span and in multiple clinical settings. Basic issues and concepts in human physiology, anatomy, pathology, and pharmacology will be reviewed in terms of applicability to evidence-based practice. PRQ: Consent of school.

645. PHYSICAL THERAPY RESEARCH III (1-3). Development and implementation of a research project under faculty supervision. Provides opportunity to explore specific areas of interest and integrate concepts of evidence-based practice into final project. PRQ: Consent of school.

650. NEUROLOGICAL PHYSICAL THERAPY (4). Physical therapy evaluation and treatment of individuals with movement problems secondary to disorders of the nervous system. Emphasis on developing a clinical decision-making process applicable in a variety of practice settings for adults and children. PRQ: Consent of school.

651. MEDICAL ISSUES IN NEUROLOGICAL PHYSICAL THERAPY (2). Medical diagnosis and management of adults and children with neurological conditions. Includes discussion of common medical imaging and laboratory tests. PRQ: Consent of school.

652. NEUROLOGICAL REHABILITATION (6). Physical therapy examination, evaluation, and treatment of individuals with movement dysfunction secondary to disorders of the nervous system including the brain, spinal cord, and peripheral nerves. Emphasis on development of evidence-based treatment approaches in a variety of practice settings. PRQ: Consent of school

655. REHABILITATION IN PHYSICAL THERAPY (4). Emphasis on the decision-making process used by physical therapists to help patients achieve maximal physical independence. PRQ: Consent of school.

657 PEDIATRIC PHYSICAL THERAPY (2). Development of skills in examination, evaluation and treatment of children and adolescents with movement disorders caused by a variety of musculoskeletal, neurological, cardiopulmonary and integumentary impairments. PRQ: Consent of school

660. CLINICAL EXPERIENCE IV (4). Application of previously learned skills under the guidance of qualified physical therapists. Further development of the students' abilities in the physical therapy management of patients with emphasis on patient evaluation and development of physical therapy diagnoses. S/U grading. Individual transportation required. PRQ: Consent of school.

661. CLINICAL EXPERIENCE V (6).

- A. Acute/Subacute Care
- B. Rehabilitation
- C. Outpatient
- D. Specialty
- E. Pediatrics

Clinical experiences in selected health care facilities under the supervision and guidance of qualified physical therapists. Emphasis on coordination and provision of all physical therapy related aspects of patient care. S/U grading. Individual transportation required. PRQ: Consent of school.

662. CLINICAL EXPERIENCE VI (6).

- A. Acute/Subacute Care
- B. Rehabilitation
- C. Outpatient
- D. Specialty
- E. Pediatrics

Clinical experiences in selected health care facilities under the supervision and guidance of qualified physical therapists. Site or experience must be different from AHPT 661.

Emphasis on coordination and provision of all physical therapy related aspects of patient care. S/U grading. Individual transportation required. PRQ: Consent of school.

665. ADVANCED MOCK CLINIC FOR PHYSICAL THERAPISTS (1). Application of previously learned skills in a laboratory environment with faculty and peer supervision. Physical therapy management of patients including examination, evaluation, and intervention of the complex patient. Emphasis on safety, skill in examination and intervention, written and oral communication, and modeling the role of clinical instructor. S/U grading. PRQ: Consent of school.

670. SEMINAR IN PHYSICAL THERAPY (2). Exploration of issues in the delivery of physical therapy services. Presentation of student clinical experience portfolios. PRQ: Consent of school.

700. PHYSICAL THERAPY ADMINISTRATION (3). Basic management concepts and skills needed for administration of physical therapy services. Topics include departmental supervision, personnel issues, resource management, risk management, governmental regulations, marketing, and financial management. PRQ: Consent of school.

701. PROFESSIONAL ROLES IN PHYSICAL THERAPY (1). Physical therapy management of patients including examination, evaluation, and intervention of the complex patient. With emphasis on safety, advanced students will increase their evaluation and treatment skills under supervision and guidance of qualified physical therapists and serve as mentors and peer clinical instructors for second year students. S/U grading. PRQ: Consent of school.

702. PHYSICAL THERAPY MANAGEMENT OF COMPLEX PATIENTS I (2). Examination, evaluation and treatment of individuals with movement dysfunction secondary to more complex medical problems or multi-system disorders. Topics include differential diagnosis, clinical decision-making, and evidence-based practice. PRQ: Consent of school.

703 PHYSICAL THERAPY MANAGEMENT OF COMPLEX PATIENTS II (2). Physical therapy management of patients with complex medical problems who require advanced techniques of examination and treatment. Topics include orthotics, prosthetics, and motion analysis. PRQ: Consent of school.

709. PHYSICAL THERAPY RESEARCH III (2). Continued development and implementation of a clinical research project under faculty guidance. Opportunities for exploration into specific areas of interest and integration of evidence-based practice concepts. PRQ: Consent of school.

710. PRACTICE ISSUES IN PHYSICAL THERAPY (2). Exploration of issues in the delivery of physical therapy services. Presentation of student research projects and licensure study plans. S/U grading. PRQ: Consent of school.

744. INDEPENDENT STUDY IN PHYSICAL THERAPY (1-6). Independent study of current topics in the physical therapy under faculty supervision. May be repeated or taken concurrently to a maximum of 6 semester hours. PRQ: Consent of school.

760. CLINICAL EXPERIENCE V (6).

- A. Acute/Subacute Care
- B. Rehabilitation
- C. Outpatient
- D. Specialty
- E. Pediatrics

Full-time clinical experiences in selected health care facilities under the supervision and guidance of qualified physical therapists. Emphasis on coordination and provision of all physical therapy related aspects of patient care. S/U grading. PRQ: Consent of school.

761. CLINICAL EXPERIENCE VI (6).

- A. Acute/Subacute Care
- B. Rehabilitation
- C. Outpatient
- D. Specialty
- E. Pediatrics

Full-time clinical experiences in selected health care facilities under the supervision and guidance of qualified physical therapists. Emphasis on coordination and provision of all physical therapy related aspects of patient care. S/U grading. PRQ: Consent of school.

798. COMPREHENSIVE EXAMINATION IN PHYSICAL THERAPY (1). Written and practical examinations in physical therapy. Students will take the PEAT examination and a comprehensive practical examination. S/U grading. PRQ: Consent of school.

### Rehabilitation Counseling (AHRC)

501. ORIENTATION TO DEAF-BLINDNESS (3). Survey of the causes and implications of deaf-blindness on individuals. Discussion of the psychosocial implications, communication strategies and impact of the disability. PRQ: Consent of school.

502. ASSESSMENT AND APPLICATION OF SERVICES FOR DEAF-BLIND INDIVIDUALS (3). Overview of the methods of assessing communication, vocational aptitudes and abilities, independent living skills, and mental status and provision of appropriate services. PRQ: Consent of school.

503. TOPICS IN DEAF-BLINDNESS (3). Examination of contemporary issues and problems for professionals in providing services to persons who are deaf-blind. PRQ: Consent of school.

592. MEDICAL ASPECTS OF DISABILITY IN REHABILITATION (3). A rehabilitative perspective on the structure of medicine in the United States, medical specialties, medical terminology, and the medical examination. Survey of select body systems, functions, basic etiologies, pathologies, and treatments intended to provide the rehabilitation counselor with basic information with which to determine eligibility and interpret case-related medical reports. Recommended PRQ: AHCD 318.

605X. COUNSELING SKILLS AND STRATEGIES (3). *Crosslisted as CAHC 525*. Clinical preparation in counseling skill development. Overview of role of counselor and counseling process. Emphasis on practice in counseling skills and techniques.

628. PSYCHOSOCIAL ASPECTS OF DISABILITY (3). Impacts of disability on the developmental, educational, personal, familial, social, and vocational aspects of life. Focus of study includes people who have disabilities.

660. VOCATIONAL REHABILITATION AND INDEPENDENT LIVING (3). Historical and legislative development of vocational rehabilitation and independent living services are described, with emphasis on the provision of rehabilitative and independent living services for people with disabilities.

662. VOCATIONAL ANALYSIS AND JOB PLACEMENT (3). Study of basic theory, methods, and techniques for obtaining and maintaining employment of vocational rehabilitation clients. Emphasis on job readiness, job development, vocational analysis, and job accommodation. PRQ: AHRC 660 or consent of school.

682. COUNSELING THEORIES AND TECHNIQUES WITH PEOPLE WITH DISABILITIES (3). Application of basic counseling theory to the unique problems of serving persons with disabilities, with emphasis on communicative and related experiential challenges presented by people who are deaf and hard of hearing. Emphasis on personal, family, group, educational, and vocational counseling as well as basic elements of program development. PRQ: CAHC 525 or AHRC 605X or consent of school.

683. PSYCHOLOGICAL AND VOCATIONAL ASSESSMENT WITH REHABILITATION POPULATIONS (3). Application of basic principles of standardized testing and evaluation to serving rehabilitation agency clients. Focus on issues related to assessment of persons with all disabilities. Emphasis on unique problems of selecting, administering, norming, and integrating test results for people who are deaf and hard of hearing. PRQ: AHRC 628 or consent of school.

686. PRACTICUM (1-3).

A. Rehabilitation Counseling

B. Deafness Rehabilitation Counseling

Observation, discussion, and practice of clinical procedures employed in rehabilitation counseling with persons with disabilities. All students involved in an on-campus practicum in deafness rehabilitation counseling must enroll in this course.

May be repeated, with faculty adviser consent, to a maximum of 8 semester hours. PRQ: Consent of school.

690. ADVANCED PRACTICUM (3).

A. Rehabilitation Counseling. PRQ: AHRC 686A and consent of school.

B. Deafness Rehabilitation Counseling. PRQ: AHRC 686B and consent of school.

Supervised practicum in rehabilitation counseling in external settings that include vocational rehabilitation programs and related agencies service persons with disabilities. May be repeated to a maximum of 6 semester hours.

694. INTERNSHIP (1-12).

A. Rehabilitation Counseling. PRQ: AHRC 690A and consent of school.

B. Deafness Rehabilitation Counseling. PRQ: AHRC 690B and consent of school.

Clinical experience in a rehabilitation or related facility; student performs the functions of a counselor with persons with disabilities under the direct supervision of both faculty and qualified staff at the placement site. May be repeated to a maximum of 12 semester hours.

777. SEMINAR (3).

A. Rehabilitation Counseling

B. Deafness Rehabilitation Counseling

Selected topics on the provision of rehabilitative services to persons with disabilities. May be repeated to a maximum of 12 semester hours, but only 6 semester hours may be applied to the master's degree in communicative disorders. PRQ: Consent of school.

# School of Family, Consumer and Nutrition Sciences (FCNS)

Chair: Laura S. Smart

## Graduate Faculty

Sally Arnett, assistant professor, Ph.D., Southern Illinois University  
Brent J. Atkinson, professor, Ph.D., Texas Tech University  
Susan P. Bowers, associate professor, Ph.D., Ohio State University  
Sarah L. Cosbey, associate professor, Ph.D., Iowa State University  
Barb Cuppett, supportive professional staff, M.A., St. Mary's College of Minnesota

Linda E. Derscheid, associate professor, Ph.D., University of Iowa  
Shi-Ruei Sherry Fang, professor, Ph.D., Michigan State University  
Beverly Henry, associate professor, Ph.D., Loyola University  
Julie Hillery, associate professor, Ph.D., University of Wisconsin  
Hyun-Mee Joung, associate professor, Ph.D., Iowa State University  
Seahee Lee, assistant professor, Ph.D., University of Minnesota  
Lan Li, professor, Ph.D., Virginia Polytechnic Institute and State University

Judith Lukaszuk, associate professor, Ph.D., University of Pittsburgh  
Michael J. Martin, professor emeritus, Ph.D., University of Georgia  
J. Elizabeth Miller, associate professor, Ph.D., University of Georgia

Bette Montgomery, associate professor, Ph.D., University of Wisconsin

Eunha Myung, assistant professor, Ph.D., University of Nevada-Las Vegas

Jane Rose Njue, assistant professor, Ph.D., Iowa State University  
Amy Ozier, assistant professor, Ph.D., University of Alabama  
Ellen Parham, professor emeritus, Ph.D., University of Tennessee  
Aimee D. Prawitz, professor, Ph.D., Louisiana State University  
Mary E. Pritchard, professor, Ph.D., Purdue University  
Lin Shi, associate professor, Ph.D., Texas Tech University  
Laura S. Smart, professor, Ph.D., University of Connecticut  
Josephine Umoren, associate professor, Ph.D., University of Nebraska

Yan Wang, assistant professor, Ph.D., University of Illinois  
Charline Xie, associate professor, Ph.D., University of Nebraska at Lincoln

The School of Family, Consumer, and Nutrition Sciences offers three graduate programs leading to the M.S. degree: the M.S. in applied family and child studies (with the option of a specialization in marriage and family therapy), the M.S. in family and consumer sciences (with specializations in apparel studies and in family and consumer sciences education), and the M.S. in nutrition and dietetics. The school prepares professionals who support families and individuals in meeting their basic human needs. The programs are based on an interdisciplinary approach, drawing on the behavioral sciences, natural sciences, and the humanities. Students learn theories and their application to professions in nonprofit organizations, private practice, government, education, and business. Graduates have the necessary foundation for a career as well as further study.

A student pursuing an advanced degree in the School of Family, Consumer, and Nutrition Sciences is expected to meet the requirements of a major area. Deficiencies in the major area at the undergraduate level will be determined by a committee of graduate faculty and must be removed as directed by the committee. Transcripts of all post-secondary course work should accompany the Graduate School application.

Students-at-large intending to take courses required by the programs in applied family and child studies or in nutrition and dietetics should meet with the appropriate program coordinator.

Admission requirements and information regarding notification of a decision on admission are indicated below for each area of study. Prior to initial registration, each student planning a major in family, consumer, and nutrition sciences should confer with the graduate adviser.

## Comprehensive Examination

Students in non-thesis programs fulfill the comprehensive examination requirement by successfully completing a proctored essay examination. Students in thesis programs fulfill the comprehensive examination requirement through the successful oral thesis defense and acceptance of the thesis by the Graduate School. Students must be enrolled in the term in which the comprehensive examination is taken.

## Master of Science

Applied Family and Child Studies  
Specialization in Marriage and Family Therapy  
Family and Consumer Sciences  
Specialization in Apparel Studies  
Specialization in Family and Consumer Sciences Education  
Nutrition and Dietetics  
Dietetic Internship

## Certificates of Graduate Study

Eating Disorders and Obesity

## Post Master's Certificate

### Medical Family Therapy and Counseling

This certificate is jointly administered by the College of Education and the College of Health and Human Sciences. The certificate has been designed to provide career enhancement for licensed mental health professionals to enable them to provide, within a variety of medical settings, family therapy and counseling services to patients and their families. See the section on Inter-College Interdisciplinary Certificates for a complete description of this certificate.

## Teacher Certification in Family and Consumer Sciences

## Master of Science in Applied Family and Child Studies

This major provides professional career enhancement for advanced graduate work and research, secondary and college teaching, and programming and administration in family social services and child development settings in community and government agencies, including youth work, gerontological programming, child life programs in hospitals, infant and child care programs, family support services, and family life and parenting education.

A program of courses is developed cooperatively by the student and an adviser. In addition to taking the required courses, the student may focus on an individualized area of interest through the selection of courses within and outside the school.

Students-at-large intending to take courses required by this program should meet with the program coordinator.

Within the major, there is also the opportunity to specialize in marriage and family therapy.

### Admission

Upon admission into the program, students are required, within 30 days, to notify the area coordinator in writing of their intention to register for classes in the term for which they were admitted. Failure to do so may result in cancellation of admission.

An applicant is required to have a minimum of 9 semester hours of undergraduate courses in family and child studies, or the equivalent including a course in family relations and one in child or lifespan development. Three of the 9 hours must be an upper-division family theories or child development theories course. A student may be required to remove deficiencies in the area of family and child studies by successfully completing designated courses. These deficiency courses should be completed during the first semester after admission to the major. Graduate students' undergraduate deficiencies have to be met with a grade of B or better. Failure to do so may result in removal from the program.

The maximum combined total of student-at-large hours plus transfer credit used in the degree program may not exceed 12 semester hours. For course work taken while a student-at-large, no more than 6 semester hours taken in the school and 6 hours outside of the school may be used in the degree program. Exceptions to these limits may be approved in special cases by the coordinator of the applied family and child studies faculty, provided that the Graduate School limit of transfer credit is not exceeded.

Since admission/enrollment in the major is limited, declared majors in the applied family and child studies program have priority for course enrollment. In such cases, students-at-large may not be allowed to enroll in some courses, or may be dropped from courses in the school within the graduate student drop period.

### Requirements

This program requires a minimum of 30 semester hours.

- ETR 521 - Educational Statistics I (3),  
OR ETR 522 - Educational Statistics II (3),  
OR BIOS 670 - Biostatistical Analysis (3),  
OR PSYC 604 - Advanced Psychological Statistics (3)
- FCNS 601 - Seminar in Human Development and Family Studies (3)
- FCNS 604 - Research Methods (3)
- Course work from the following (3-12)
  - FCNS 631 - Internship in Community Programs: Child Development (3)  
See "Special Requirements for FCNS 631" below.
  - FCNS 632 - Internship in Community Programs: Family Services (3)  
See "Special Requirements for FCNS 632" below.
  - FCNS 638 - Internship in Community Programs: Parent Education (3)  
See "Special Requirements for FCNS 638" below.
  - FCNS 639 - Practicum: Family Therapy (12)  
(Enrollment limited to students admitted to the specialization in marriage and family therapy)
  - FCNS 699A - Thesis (6)
  - FCNS 710 - Teaching College-Level Family, Consumer, and Nutrition Sciences (3)
  - A 3-semester-hour 600-level course on social science research methodology, or statistics
- Three or four of the following including at least one 600-/700- level course (9-12)
  - FCNS 532 - Theories of Child Development (3)
  - FCNS 534 - Administration and Supervision of Quality Programs for Young Children from Diverse Backgrounds (3)

- FCNS 537 - Parent-Child Interaction From Birth to Eight Years (3)
- FCNS 538 - Parent Education (3)
- FCNS 539 - Infant Development in the Family: Typical and Atypical (3)
- FCNS 545 - Management of Human and Family Resources (3)
- FCNS 584 - Family Theories (3)
- FCNS 586 - Aging and the Family (3)
- FCNS 588 - Working with Ethnically Diverse Children and Families in the United States (3)
- FCNS 589B-D - Topical Issues in Family and Child Studies (3)
- FCNS 635 - Behavior Assessment of the Infant and Young Child (3)
- FCNS 637 - The Child in the Family (3)
- FCNS 684 - The Family with Adolescents (3)
- FCNS 685 - Family Stress and Structural Diversity (3)
- FCNS 689 - Readings in Family and Child Studies (3)
- FCNS 784 - Theoretical Foundations of Family Therapy (3)

Additional courses with approval of the adviser (6)

Students may fulfill the above requirements by completing various sequences of courses which develop professional competencies in specific areas including, but not limited to, the following areas of study.

*Programming for and administration in family social services with emphasis on youth work.* FCNS 601, FCNS 604, analytical and applied course requirements listed above, FCNS 538, FCNS 684, FCNS 685 and 6 semester hours of electives.

*Programming for and administration in child development settings, including hospitals.* FCNS 601, FCNS 604, analytical and applied course requirements listed above, FCNS 534, or FCNS 545, or FCNS 537, FCNS 637, and 6 semester hours of electives. It is recommended that students have a baccalaureate degree in child development or a related area including upper-division courses comparable to FCNS 330, FCNS 331, FCNS 331A, FCNS 439, and FCNS 490.

*Programming for and administration in family social services with study in gerontology.* FCNS 601, FCNS 604, analytical and applied course requirements listed above, FCNS 586, FCNS 685, and 6 semester hours of electives. (Consult the gerontology program listing elsewhere in this catalog.)

*Preparation for advanced graduate work.* FCNS 532, FCNS 601, FCNS 604, FCNS 685, FCNS 699A, and BIOS 670 or ETR 522, or PSYC 604, FCNS 637, FCNS 684, and 6 semester hours of electives.

*Enhancement for secondary and college teaching.* FCNS 601, FCNS 604, FCNS 710, analytical and applied course requirements listed above, FCNS 532, FCNS 637, FCNS 685, and 6 semester hours of electives.

### Special Requirements for FCNS 631

Prerequisites for enrollment in the child development internship in community programs (FCNS 631) are (1) completion of a minimum of 9 graduate semester hours in applied family and child studies; (2) previous full-time employment for at least one year in a licensed early childhood program or other professional setting related to young children and their families or the equivalent of the following: supervised on-campus internship (FCNS 590), both guidance and planning courses (FCNS 330 and FCNS 331/FCNS 331A), a parent-child interaction course (FCNS 537), and an early childhood professional programs course (FCNS 534); (3) FCNS 637; (4) provide written proof of a fingerprint-based criminal background check in compliance with DCFS' policies; and (5) consent of school.

### Special Requirements for FCNS 632

Prerequisites for enrollment in the family services internship in community programs (FCNS 632) are (1) completion of a minimum of 9 graduate semester hours in applied family and child studies; (2) previous full-time employment for at least one year in a social

services program or family therapy setting or the equivalent of all of the following: (a) 50 hours of approved volunteer work, (b) a group process class (FCNS 382 or CAHC 540), and (c) a professional issues class (FCNS 581 or FCNS 692); (3) provide written proof of a fingerprint-based criminal background check in compliance with DCFS' policies; and (4) consent of school.

### Special Requirements for FCNS 638

Prerequisites for enrollment in the parent education internship (FCNS 638) are (1) undergraduate course work in child or adolescent development, including principles of guidance (FCNS 330 or equivalent) and course content in ethics (FCNS 534, FCNS 581, FCNS 692, or equivalent); (2) completion of a minimum of 9 graduate semester hours in applied family and child studies, including FCNS 538 and one other content course related to the focus of the practicum; (3) completion of or co-enrollment in FCNS 637 or FCNS 684; and (4) consent of school.

### Specialization in Marriage and Family Therapy

The specialization in marriage and family therapy, accredited by the Commission on Accreditation for Marriage and Family Therapy Education, emphasizes the practical application of systemic family therapy principles to the diagnosis and treatment of problems in human relationships. Through extensive course work, clinical experience with client couples, families, and individuals, and supervision by approved supervisors of the American Association for Marriage and Family Therapy, students in the specialization learn to integrate theory and research while developing the clinical skills of marriage and family therapists. The specialization prepares students to function in mental health, family service, hospital business, and human service settings, and upon graduation students have completed all requirements for associate membership in the American Association for Marriage and Family Therapy.

### Application Process

The specialization in marriage and family therapy admits a limited number of students once a year in the spring semester. Eligible candidates for the specialization will be selected only from persons who have first applied for and been admitted to the M.S. program in applied family and child studies (without specialization), fulfilling the prerequisites noted above. Therefore, applicants to the specialization must complete two separate application packets: the Graduate School application for admission to the M.S. program with a major in applied family and child studies (without specialization), and the school's application portfolio for the specialization.

The Graduate School application must be obtained directly from and submitted to the Graduate School. The specialization application portfolio must be obtained from and returned to the coordinator, specialization in marriage and family therapy, School of Family, Consumer, and Nutrition Sciences, Northern Illinois University, DeKalb, Illinois 60115-2854.

Completed Graduate School applications must be submitted by January 4 to the Graduate School, and specialization applications must be received by the director of the specialization by January 15. Late applications will be considered only if space is available. Once admitted to both the graduate major in applied family and child studies and the specialization in marriage and family therapy, students may begin courses in the summer or fall term.

Admission requirements and procedures for the specialization in marriage and family therapy are fully described in an admission portfolio that is available from the program coordinator. Except in extraordinary circumstances, applicants must be available for a personal interview with the clinical faculty of the specialization.

### Requirements

- ETR 521 - Educational Statistics I (3),  
OR ETR 522 - Educational Statistics II (3),  
OR BIOS 670 - Biostatistical Analysis (3),  
OR PSYC 604 - Advanced Psychological Statistics (3),  
OR another 3-semester-hour 600-level course in social science research methodology or statistics approved by the chair of the graduate faculty (3)
- FCNS 601 - Seminar in Human Development and Family Studies (3)
- FCNS 604 - Research Methods (3)
- FCNS 633 - Internship in Community Agencies: Marriage and Family Therapy (6)
- FCNS 639 - Practicum: Family Therapy (12)
- FCNS 691 - Assessment in Marriage and Family Therapy (3)
- FCNS 692 - Professional Issues in Family Therapy (3)
- FCNS 693 - Addiction and Substance Abuse in Marriage and Family Therapy (3)
- FCNS 694 - Marriage and Family Therapy Strategies: Treatment of Children and Adolescents (3)
- FCNS 695 - Approaches to Marriage and Family Therapy (3)
- FCNS 697 - Marriage and Family Therapy Strategies: Treatment of Couples (3)
- FCNS 784 - Theoretical Foundations of Family Therapy (3),  
Two of the following (6)
  - FCNS 538 - Parent Education (3)
  - FCNS 584 - Family Theories (3)
  - FCNS 586 - Aging and the Family (3)
  - FCNS 588 - Working with Ethnically Diverse Children and Families in the United States (3)
  - FCNS 589B - Topical Issues in Family and Child Studies: Social Policy, Children, and Families (3)
  - FCNS 589C - Topical Issues in Family and Child Studies: Child Abuse and Neglect (3)
  - FCNS 589D - Topical Issues in Family and Child Studies: The Family and Divorce (3)
  - FCNS 637 - The Child in the Family (3)
  - FCNS 684 - The Family with Adolescents (3)
  - FCNS 685 - Family Stress and Structural Diversity (3)
  - FCNS 689 - Readings in Family and Child Studies (3)

In addition to the comprehensive examination, students are required to pass an oral examination which assesses their knowledge of the theory and practice of marriage and family therapy. This examination is usually taken in the term prior to graduation.

Students must complete a minimum of 54 semester hours in the program for graduation. This includes 500 supervised clinical contact hours completed within the field of marriage and family therapy. This may be done through required course work and work experience or internship.

### Master of Science in Family and Consumer Sciences

The Master of Science in Family and Consumer Sciences is designed for professionals seeking advanced study in apparel and related topics or family and consumer sciences education.

The program is intended to serve two general groups, including bachelor-degreed apparel industry professionals who seek to augment their educational background regarding consumers of apparel and related products, as well as middle- and high-school educators in family and consumer sciences who wish to maintain their teaching certification while advancing professionally. This program will increase a student's ability to use subject matter, research, and communication skills for employment in professional positions in business, education, non-profit organizations, or government. Graduates are prepared to continue their studies in doctoral programs.

With the assistance of an adviser, admitted students will complete a documented planned program of study by the end of the first semester. The program of study must support the student's area of interest/thesis topic, meet graduation requirements, and be approved by the graduate faculty chair. Students will include in their program of study course work from a variety of programs within the university. A thesis is required.

This program requires a minimum of 30 semester hours.

### Requirements

ETR 521 - Educational Statistics I (3),  
OR ETR 522 - Educational Statistics II (3)  
FCNS 604 - Research Methods (3)  
FCNS 699A - Thesis (6)

One of the following specializations (18)

### Specialization in Apparel Studies

This specialization, oriented toward the human sciences, is designed to enhance students' abilities in applying subject matter, critical thinking, and oral and written communication skills in the professional apparel industry. Individual thesis topics are selected with the approval of the adviser. The program also prepares students to continue their studies in doctoral programs.

### Admission

An applicant is required to have a minimum of 9 semester hours of undergraduate courses in a textiles and apparel related curriculum. Three of the 9 hours must be at the upper-division level. Students may be required to complete undergraduate deficiency coursework by the end of the second semester of enrollment and/or prior to enrolling in certain major courses. Graduate students must complete all deficiency courses with a grade of B or better. Failure to do so may result in removal from the program. A combined total of no more than 12 semester hours of graduate credit earned as a student-at-large including transfer hours will be counted toward the M.S. degree. Because the admission/enrollment in the major is limited, declared majors in the Apparel Studies specialization have priority for course enrollment.

One from the following (3)

FCNS 600E - Seminar: Textiles and Clothing (3)  
FCNS 668 - Readings in Textiles, Apparel, and Merchandising (3)

Three from the following (9)

FCNS 566 - Economics of Apparel and Textile Industries (3)  
FCNS 568 - Consumer Behavior Related to Apparel (3)  
FCNS 602 - Issues in Eating Disorders and Obesity (3)  
FCNS 650\* - Workshop in Family, Consumer, and Nutrition Sciences (3)  
FCNS 664 - Fashion Process Analyses (3)  
FCNS 674 - Clothing and Human Behavior (3)  
FCNS 701\* - Problems in Family, Consumer, and Nutrition Sciences (3)  
FCNS 710 - Teaching College-Level Family, Consumer, and Nutrition Sciences (3)

Additional courses with approval of the adviser (6)

### Specialization in Family and Consumer Sciences Education

This specialization provides a foundation for advanced graduate work and research within Family and Consumer Sciences Education, as well as the professional development of teachers in practice. This specialization does not lead to initial teacher certification in Family and Consumer Sciences.

A program of courses is developed cooperatively by the student and an advisor. In addition to completing the required courses, students may focus on an individualized area of interest through the selection of courses within and outside of the school.

Students-at-large intending to take courses required by this program should meet with the program coordinator.

### Admission

Applicants are required to have completed a B.S. degree in family and consumer science education or a family and consumer science field. Preference will be given to applicants who are certified teachers of family and consumer sciences. Applicants will be admitted according to the vacancies in the program.

A combined total of no more than 12 semester hours of graduate credit earned as a student-at-large plus transfer hours will be counted toward the M.S. degree. Since admission/enrollment in the major is limited; declared majors in the Family and Consumer Sciences Education specialization will have priority for course enrollment.

Course work from the following (9)

FCNS 600D - Seminar: Family and Consumer Science Education (3)  
FCNS 620 - Curriculum in Family and Consumer Sciences Education (3)  
FCNS 621 - Evaluation in Family and Consumer Sciences Education (3)  
FCNS 625 - Administration and Supervision in Family, Consumer, and Nutrition Sciences (3)  
FCNS 650<sup>1</sup> - Workshop in Family, Consumer, and Nutrition Sciences (3)  
FCNS 701<sup>1</sup> - Problems in Family, Consumer, and Nutrition Sciences (3)

Graduate-level course work in one of the following areas (9) with the approval of an adviser:

Family and child studies  
Apparel studies  
Nutrition and dietetics

### Master of Science in Nutrition and Dietetics

The M.S. in nutrition and dietetics is designed to prepare students interested in community nutrition to work as registered dietitians in a variety of public and private health organizations in county, state, and government agencies or as patient-care dietitians in hospitals and other health-care settings. The program also prepares students to continue their studies in doctoral programs.

Students in this program may select additional courses in biology, chemistry, biochemistry, and psychology for a concentration in biochemistry or biophysics. (For details, see "Center for Biochemical and Biophysical Studies.")

Students planning to qualify for the Registration Examination of the American Dietetic Association must meet both academic and experience requirements. Completion of the Dietetic Practicum may be used to satisfy the experience requirements. The academic requirements for the Didactic Program in Dietetics (DPD) of the American Dietetic Association must be completed before students initiate the practicum hours. A list of courses may be obtained from the student's adviser. Any deficiency in courses required for admission must be removed within the time limitation determined by the admission committee.

Post-baccalaureate students requesting DPD verification must consult with the DPD director prior to NIU enrollment to determine required course work and complete a minimum of 9 semester hours at NIU with a grade of B or better. Note that students who complete DPD requirements at NIU may be eligible for a second bachelor's degree. Consult with the undergraduate academic advisor for degree requirements.

Students-at-large intending to take courses required by this program should meet with the program coordinator.

### Admission

Applicants are required to have completed a Didactic Program in Dietetics (DPD) or have had courses in general chemistry, organic chemistry, biochemistry, microbiology or bacteriology,

\* Appropriate content to apparel studies.

<sup>1</sup> Appropriate content to family and consumer sciences education.

human biology, human physiology, science of nutrition, applied nutrition, two semesters of nutrition in clinical care, principles of food preparation, and statistics. A minimum 3.00 GPA in these courses is required. Applicants will be admitted according to the vacancies in the program. Vacancies are determined by the number of graduate students completing degrees each semester. Applicants with the highest GPA and GRE scores will be given priority for available positions.

A combined total of no more than 12 semester hours of graduate credit earned as a student-at-large plus transfer hours will be counted toward the M.S. degree.

The majority of vacancies in the program are filled shortly after February 15 for summer session, April 15 for fall semester, and September 15 for spring semester.

## Requirements

Students must complete the required courses listed here and fulfill the thesis or non-thesis option, with corresponding requirements listed below:

- ETR 521 - Educational Statistics I (3),  
OR ETR 522 - Educational Statistics II (3),  
OR BIOS 670 - Biostatistical Analysis (3)
- FCNS 600A - Seminar: Nutrition and Dietetics (3)
- FCNS 604 - Research Methods (3)
- FCNS 645 - Macronutrients (3)
- FCNS 646 - Micronutrients (3)
- One of the following (3)
  - FCNS 611 - Maternal and Child Nutrition (3)
  - FCNS 612 - Geriatric Nutrition (3)
  - FCNS 613 - Nutrition and Physical Activity (3)
  - FCNS 616 - Nutritional Factors in Obesity and Eating Disorders (3)
- Three semester hours selected in consultation with the assigned graduate program adviser (3)
- One of the following (3)
  - CAHC 525 - Counseling Skills and Strategies (3)
  - FCNS 529 - Strategies for Modifying Nutrition Behaviors (3)
  - PHHE 603 - Behavioral and Social Aspects of Public Health (3)
  - PHHE 620 - Primary Prevention and Health Promotion (3)
  - PSYC 517 - Principles of Behavior Modification (3)
- Two to three of the following (5-6)
  - FCNS 526 - Strategic Management in the Hospitality Industry (3)
  - FCNS 615 - Intensive Metabolic Nutrition Support (3)
  - FCNS 652 - Workshop in Dietetic Practice: Clinical Care Issues (1)
  - FCNS 653 - Workshop in Dietetic Practice: Management Issues (1)
  - PHHE 535 - Ethical Decision Making for Health Professionals (3)
  - PHHE 601 - Introduction to Health Systems in the United States (3)
  - PHHE 607 - Health Services Management (3)
  - PHHE 651 - Health Economics for Health Services Managers (3)
  - PHHE 655 - Human Resource Management in the Health Care Setting (3)
  - SOCI 575 - Health Organizations and Health Care Systems (3)

## Thesis Option Requirements

In addition to the requirements listed above:  
FCNS 699A - Thesis (6)

A minimum of 32 semester hours of graduate credit is required for the degree with the thesis option.

## Non-Thesis Option Requirements

In addition to the requirements listed above, complete FCNS 698, 3 additional semester hours in FCNS 600A, and 3 additional semester hours in consultation with the assigned graduate program adviser.

A minimum of 35 semester hours of graduate credit is required for the degree with the non-thesis option.

## Dietetic Internship

The internship is accredited by the Commission on Accreditation for Dietetics Education (CADE) and is available only to majors enrolled in the M.S. program in nutrition and dietetics. The dietetic internship offers on-site supervised practice experiences in dietetics, nutrition, and food service; completion fulfills the practice requirements to qualify for the Registration Examination of the Commission on Dietetics Registration. Interns may request one of the three CADE emphases: community, general, or food service.

The combined M.S. and internship program involves five terms: two orientation terms comprised of course work only, and three terms comprised of both on-site supervised practice (20-40 hours week) and graduate study. Students in the internship must have completed at least 15 semester hours toward the degree before they can be placed in a supervised practice site.

## Special Requirements

Criminal background checks and drug screening are required prior to supervised practice. The dietetic internship program may be unable to place interns in supervised practice if they have positive drug screen results or if the student has a criminal record. Therefore, the intern may not be able to complete the dietetic internship program.

Dietetic interns are required to obtain certification in food sanitation, professional-level CPR certification and to provide proof of required immunizations prior to the supervised practice.

## Admission

Admission is limited and competitive; admission to the major does not constitute admission to the internship. Although a student may apply for admission to the internship while acceptance to the major is pending, internship acceptance cannot be finalized until the student is accepted into the major.

Applicants must have completed the academic requirements for the DPD of the ADA. A B average in key course work is required. These courses are identified in the applications packet.

Applicants must have successfully completed 150 clock hours of paid work or volunteer experience related to the profession.

Students may apply in the fall or spring semester. Applicants should inquire about application deadlines. Applications will be screened and ranked with the highest ranking applicants being invited to interview. Following the interviews, students are matched to this program through the ADA computer-matching process. Late applicants will be considered if openings are available after computer matching.

## Requirements

In addition to the courses required for the M.S. in nutrition and dietetics, including FCNS 652 (1) and FCNS 653 (1), students electing the practicum must complete the following.

- FCNS 617 - Internship: Food Systems Management (5)
- FCNS 618 - Internship: Introduction to Medical Nutrition Therapy (3)
- FCNS 619 - Internship: Community Nutrition (8)
- FCNS 624 - Internship: Medical Nutrition Therapy (8)

## Program Completion

When all requirements of both the M.S. degree and dietetic internship have been met, students will be issued the CADE Verification Statement of dietetic internship completion.

## Certificates of Graduate Study

### Eating Disorders and Obesity

Admission to the certificate requires approval of the Eating Disorders and Obesity Certificate admissions committee. Procedures for admission to this certificate and other detailed information are available from the School of Family, Consumer, and Nutrition Sciences office. Application deadlines coincide with Graduate School deadlines

Participants must have a degree in family, consumer, and nutrition sciences or related undergraduate or graduate degree. It is required that the student have introductory course work in nutrition, psychology, and family relationships with grades of C or better to be accepted into the program.

FCNS 602 - Issues in Eating Disorders and Obesity (3)

Course work from the following (9)

FCNS 529 - Strategies for Modifying Nutrition Behaviors (3)

FCNS 616 - Nutritional Factors in Obesity and Eating Disorders (3)

FCNS 637 - The Child in the Family (3)

FCNS 650<sup>1</sup> - Workshop in Family, Consumer, and Nutrition Sciences (1-3)

FCNS 674 - Clothing and Human Behavior (3)

FCNS 684 - The Family with Adolescents (3),

OR EPS 508 - Theories and Research in Adolescent Behavior and Development (3)

FCNS 685 - Family Stress and Structural Diversity (3)

FCNS 701<sup>1</sup> - Problems in Family, Consumer, and Nutrition Sciences (3)

### Post Master's Certificate

#### Medical Family Therapy and Counseling

This certificate is jointly administered by the College of Education and the College of Health and Human Sciences. The certificate has been designed to provide career enhancement for licensed mental health professionals to enable them to provide, within a variety of medical settings, family therapy and counseling services to patients and their families. See the section on Inter-College Interdisciplinary Certificates for a complete description of this certificate.

#### Teacher Certification in Family and Consumer Sciences

This program prepares individuals to be certified to teach family and consumer sciences at the middle/junior high and high school levels. The program meets the Illinois State Board of Education and the National Council for Accreditation of Teacher Education standards for secondary certification in family and consumer sciences. Students must have a baccalaureate degree in family and consumer sciences from an accredited institution and must

seek transcript evaluation and advisement from the teacher certification adviser at the earliest possible date.

be admitted to the university as a student-at-large or a graduate student. Admission to a degree program does not guarantee admission to the certification program.

plan their programs of study in consultation with a teacher certification adviser in the school at the earliest possible date.

obtain consent of family and consumer sciences teacher certification adviser for enrollment in early field experiences.

obtain approval for admission into the teacher certification program which requires passing the ICTS basic skills test, a minimum 3.00 GPA in all course work. Applications are due May 1 for the following academic year.

maintain a minimum 3.00 GPA in all NIU course work.

obtain permission for admission into student teaching which requires passing the content test. Applications are due February 15 for placement the following fall semester.

complete the plan of courses.

obtain the Illinois State Sanitation Certificate prior to or as a corequisite with FCNS 200A.

Course work in family and consumer sciences must have been completed within the last ten years. Students must demonstrate currency in older course work.

Professional liability insurance for field experiences and student teaching is paid through course fees.

#### Requirements in School (62-65)

FCNS 152 - Fiber and Fabric Analysis I (3),

OR FCNS 258 - Introduction to the Fashion Industry (3)

FCNS 200A - Principles of Food Preparation (3)

FCNS 200B - Food Preparation Laboratory (2)

FCNS 201 - Human Nutrition (3),

OR FCNS 405 - Child Health and Nutrition (3)

FCNS 230 - Child Development (3)

FCNS 240 - Teaching and Learning in Family and Consumer Sciences Education (3)

FCNS 280 - Human Development, the Family, and Society (3)

FCNS 284 - Introduction to Family Relationships (3)

FCNS 344 - Curriculum Development in Family and Consumer Sciences (3)

FCNS 345 - Methods and Resources for Teaching Family and Sciences (3)

FCNS 438 - Parent Education (3)

FCNS 475 - Student Teaching in Family and Consumer Sciences (Secondary) (12)

One of the following (3)

FCNS 180 - Personal Development and the Family (3)

FCNS 285 - Introduction to Family Life Education (3)

FCNS 384 - Asian American Families (3)

FCNS 584 - Family Theories (3)

FCNS 589B - Topical Issues in Family and Child Studies: Social Policy, Children, and Families (3)

FCNS 589D - Topical Issues in Family and Child Studies: Family and Divorce (3)

Two of the following (6)

FCNS 330 - Principles of Guiding Young Children (3)

FCNS 332 - Program Planning for Children 3-8 Years of Age and Their Parents (3)

FCNS 532 - Theories of Child Development (3)

FCNS 534 - Administration and Supervision of Programs for Young Children (3)

FCNS 537 - Parent-Child Interaction From Birth to Eight Years (3)

FCNS 588 - Working with Ethnically Diverse Children and Families in the United States (3)

FCNS 589C - Topical Issues in Family and Child Studies: Child Abuse and Neglect (3)

Two of the following (6)

FCNS 207 - The Consumer (3)

FCNS 343 - Family Financial Planning (3)

FCNS 545 - Management of Human and Family Resources (3)

One of the following content areas (3-6)

#### Apparel and Textiles (6)

FCNS 152 - Fiber and Fabric Analysis I (3),

OR FCNS 258 - Introduction to the Fashion Industry (3),

OR FCNS 262 - Design Trends in Western Costume (3),

FCNS 252 - Apparel Production (3),

OR FCNS 353 - Apparel Products Analysis (3)

#### Living Environments (6)

Courses taken with approval of program adviser

<sup>1</sup> When topic is related to eating disorders and obesity.

**Nutrition, Wellness, and Hospitality (3)**

- FCNS 202 - Introduction to the Hospitality Industry (3),  
 OR FCNS 406 - Global Food and Nutrition Issues (3),  
 OR FCNS 408 - Current Problems and Trends in Nutrition and Foods (3)  
 OR FCNS 424 - Cultural and National Food Patterns (3)

**Requirements outside School (25-29)**

- \*BIOS 103 - General Biology (3),  
 OR \*BIOS 104 - General Biology (4),  
 OR \*BIOS 106 - Environmental Biology (3),  
 OR \*BIOS 109 - Human Biology (3)  
 \*CHEM 110 - Chemistry (3),  
 \*CHEM 111 - Chemistry Laboratory (1),  
 EPFE 500 - Social Foundations of Education (3),  
 OR EPFE 510 - Philosophical Foundations of Education (3),  
 OR EPFE 520 - Historical Foundations of Education (3),  
 OR EPFE 521 - Historical Foundations of Education in the United States (3)  
 EPS 507 - Issues in Human Development and Learning in the Middle School and High School Years (3),  
 OR EPS 508 - Theories and Research in Adolescent Behavior and Development (3)  
 ETR 440 - Secondary Classroom Assessment (3)  
 ETT 229 - Computers in Education (3),  
 OR pass ETT proficiency examination  
 ETT 402 - Teaching and Learning with Technology (3)  
 LTRE 310 - Teaching Reading in the Secondary School (3),  
 OR LTRE 510 - Improvement of Reading in the Secondary School (3),  
 OR LTRE 511 - Teaching Reading in the Content Areas (3)  
 TLSE 557 - Systems for Integrating the Exceptional Student in the Regular Classroom (3)

Students must maintain a minimum 3.00 GPA in all undergraduate and graduate courses with a minimum 3.00 GPA in FCNS 344 and FCNS 345 for retention.

See also "Teacher Certification Information."

**Course List (FCNS)**

507. 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. PRQ: Graduate standing or consent of school.

508. 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. PRQ: Consent of school.

510. COMMUNITY NUTRITION (3). Examination of nutrition needs of populations, intervention services, and public policy issues for community-based nutrition programs. Planning, implementing, and evaluating community nutrition programs. Includes field experiences and hands-on learning. PRQ: Nutrition and dietetics graduate student or consent of school.

524. CULTURAL AND NATIONAL FOOD PATTERNS (3). Food practices as influenced by social, cultural, and economic factors. PRQ: Nutrition and dietetics graduate student or consent of school.

526. STRATEGIC MANAGEMENT IN THE HOSPITALITY INDUSTRY (3). Analysis of environments associated with a product/market domain and implementation of the proper mix of competitive strategy and organization structure in the hospitality industry. Opportunity to explore the process and content of strategic management as applied to the administration of hospitality organizations. PRQ: Nutrition and dietetics graduate student or consent of school.

528. EXPERIMENTAL FOODS (3). Application of scientific method in the study and design of experimental food problems. Development of evaluative and laboratory research techniques through group and individual projects. PRQ: Nutrition and dietetics graduate student or consent of school.

529. STRATEGIES FOR MODIFYING NUTRITION BEHAVIORS (3). Exploration of various strategies for assisting individuals and families to make changes in their behaviors related to food and nutrition. Attention given to nutrition counseling and nutrition education. Active participation in applying strategies to case studies and hypothetical situations. Recommended: Undergraduate course in nutrition education. PRQ: Nutrition and dietetics graduate student, or consent of school.

532. THEORIES OF CHILD DEVELOPMENT (3). Analysis of the major theories of child development and their implications in working with young children. PRQ: 6 semester hours in child development or consent of school.

534. ADMINISTRATION AND SUPERVISION OF QUALITY PROGRAMS FOR YOUNG CHILDREN FROM DIVERSE BACKGROUNDS (3). Planning the total inclusive program: the administration and supervision of various types of quality inclusive group care for children from diverse backgrounds. Topics to promote quality care and education, including program philosophy, program assessments, personnel supervision and management, financial management, leadership, and advocacy. Service learning and professional association components. PRQ: One introductory course in human or child development or consent of school.

537. PARENT-CHILD INTERACTION FROM BIRTH TO EIGHT YEARS (3). Parent-child interactions in the home and in institutions (e.g., early childhood care and educational settings in public and private schools, community service agencies, hospitals, and parent-child centers). Survey of theory, research, and professional early childhood practice regarding parent-child interaction, and parent education and involvement. PRQ: 3 semester hours in child/human development and 3 semester hours in family relations, or consent of school.

538. PARENT EDUCATION (3). Basic principles in organization, formulation, and presentation of parent study programs. Experience in ways of working with parents of children from preschool through adolescence. Uses of group dynamics and mass media. PRQ: A course in child or adolescent development, or consent of school.

539. INFANT DEVELOPMENT IN THE FAMILY: TYPICAL AND ATYPICAL (3). The typical and atypical development of infants in the context of the family. Study of major scientific findings concerning typical and atypical prenatal and postnatal development of the child from conception through the first two years of life. PRQ: At least 6 semester hours in family and child studies or consent of school.

545. MANAGEMENT OF HUMAN AND FAMILY RESOURCES (3). Integration of theory and research for practice related to management of resources by individuals and families. Exploration of multicultural perspectives on resource management. PRQ: Consent of school.

552. APPAREL DESIGN I (3). Apparel design through the fundamental principles and processes of flat pattern methods. Emphasis on the development of a master pattern and original design. May be repeated once for advanced projects. Recommended: Undergraduate course in apparel production. PRQ: Consent of School.

553. EXPERIMENTAL TEXTILES (3). Standard textile testing methods used in determining the physical and chemical characteristics of fibres, yarns, and fabrics, and the statistical methods employed in data analysis and evaluation. Recommended: Undergraduate course in fiber and fabric analysis and introductory chemistry with laboratory. PRQ: Consent of school.

554. APPAREL DESIGN II (3). Draping based upon the interrelating factors of form, design, and material. Emphasis on experimentation with materials, techniques, and original design ideas. May be repeated once for advanced projects. Recommended: Undergraduate course in apparel production. PRQ: Consent of school.

566. ECONOMICS OF APPAREL AND TEXTILE INDUSTRIES (3). Factors affecting the production, distribution, and consumption of apparel and textile products; the role of the apparel and textile industries in the national economy. Recommended: Undergraduate courses in principles of microeconomics and fashion industries. PRQ: Consent of school.

568. CONSUMER BEHAVIOR RELATED TO APPAREL (3). Analysis of acquisition and consumption of apparel from perspectives of motivation, perception, learning, and attitude formation. Effects of factors constituting life style of families in various socioeconomic, ethnic, and age groups. Not available for credit to students with previous credit in MKTG 325. Recommended: Undergraduate courses in fashion industries, introduction to psychology, and introduction to sociology. PRQ: Consent of school.

581. PROFESSIONAL PRACTICES IN FAMILY SOCIAL SERVICES (3). Introduction to typical community family social service agencies. Includes internal function and structures and networking with other agencies, the role of the intern and entry-level worker, selected legislative statutes which relate to clients, and ethical behavior of employees and interns.

584. FAMILY THEORIES (3). Micro and macro theoretical approaches to family relationships; integration and application of theories and research to family processes and the practice of family science and family life education. PRQ: One introductory course in marriage and family and one introductory course in human or child development or consent of school.

586. AGING AND THE FAMILY (3). Family roles of the middle aged and elderly, including care giving and receiving; cultural variation; workforce and leisure participation; financial status; health status; housing needs; and the role of public and private agencies and institutions in the provision of services for the elderly. PRQ: At least 6 semester hours in family and child studies or consent of school.

588. WORKING WITH ETHNICALLY DIVERSE CHILDREN AND FAMILIES IN THE UNITED STATES (3). Influences of culture and ethnicity on family dynamics and child development. Historical, social, economic, political, and environmental factors that impact family processes and child rearing practices of ethnically diverse groups. Professional skills for effectively interacting with and serving culturally diverse populations. PRQ: At least 6 semester hours in family and child studies or consent of school.

589. TOPICAL ISSUES IN FAMILY AND CHILD STUDIES (3).

B. Social Policy, Children, and Families

C. Child Abuse and Neglect

D. The Family and Divorce

Selected topics affecting child development and family life. May be repeated to a maximum of 15 semester hours when topic changes. PRQ: At least 6 semester hours in family and child studies or consent of school.

590. PRACTICUM IN INFANT AND CHILD DEVELOPMENT LABORATORIES (3-6). Supervised on-campus practicum in child development. Opportunities for planning and supervising inclusive programs for infants and children of diverse backgrounds and abilities up to 7 years of age. In fulfilling the 30 semester hour graduate program requirement, no student will be permitted to count more than 6 semester hours from field experiences in FCNS 631 and/or FCNS 590.

600. SEMINAR (1-12).

A. Nutrition and Dietetics

B. Family and Child Studies

C. Marriage and Family Therapy

D. Family and Consumer Sciences Education

E. Textiles and Clothing

Readings and reports in the designated areas of family, consumer, and nutrition sciences. May be repeated to a maximum of 12 semester hours when topic changes. CRQ for A.: FCNS 604 or consent of school. PRQ for C.: FCNS 784, or consent of school.

601. SEMINAR IN HUMAN DEVELOPMENT AND FAMILY STUDIES (3). Overview of theory and research findings in family and individual development. PRQ: A minimum of 6 semester hours in family and child studies course work.

602. ISSUES IN EATING DISORDERS AND OBESITY (3). Interdisciplinary examination of eating disorders within the social and family context. Body image, self-esteem, cultural context, appropriate exercise and nutrition, human development, family science theory, family stress, child abuse, and interventions. Issues related to prevention, intervention, and genetics/physiology. PRQ: Admission to the Certificate of Graduate Study in Eating Disorders and Obesity or consent of school.

604. RESEARCH METHODS (3). Study of the research process including the interplay of theory, research design, data collection, and analysis. Development of a research proposal required.

611. MATERNAL AND CHILD NUTRITION (3). Interaction of the social, psychological, and physiological aspects of nutrition during pregnancy and lactation in women, and for children from birth through the teen years. PRQ: Nutrition and dietetics graduate student or consent of school.

612. GERIATRIC NUTRITION (3). Interaction of the social, psychological, and physiological aspects of nutrition in the elderly population. PRQ: Nutrition and dietetics graduate student or consent of school.

613. NUTRITION AND PHYSICAL ACTIVITY (3). Theoretical basis for the interaction of linking diet and physical activity for the improvement and/or maintenance of health and physical performance. PRQ: Nutrition and dietetics graduate student or consent of school.

615. INTENSIVE METABOLIC NUTRITION SUPPORT (3). In-depth study of recent trends in clinical nutrition relating organ physiology, disease progression, biochemical interpretation, calorie and fluid analysis, and macro- and micronutrient modifications to metabolic nutrition support. Focus on disease status and nutrient modifications to promote anabolism while concurrently minimizing or preventing further deterioration in organ function. PRQ: Nutrition and dietetics graduate student or consent of school.

616. NUTRITIONAL FACTORS IN OBESITY AND EATING DISORDERS (3). Exploration of the etiology, complications, prognosis, and treatment protocols for obesity and eating disorders. Assessment of diet and eating behavior as factors in treatment and prevention of these conditions. Students required to participate as staff volunteers in an on-going weight control program. PRQ: Nutrition and dietetics graduate student or consent of school.

617. INTERNSHIP: FOOD SYSTEMS MANAGEMENT (5). Supervised participation in a variety of foodservice systems. S/U grading. PRQ: Admission to the dietetic internship and consent of school.

618. INTERNSHIP: INTRODUCTION TO MEDICAL NUTRITION THERAPY (3). Introduction to supervised practice in nutrition care in a health care institution. S/U grading. PRQ: Admission to the dietetic internship.

619. INTERNSHIP: COMMUNITY NUTRITION (8). Supervised practice in professional settings appropriate to the student's professional interest. S/U grading may be used. PRQ: Admission to the dietetic internship and consent of school.

620. CURRICULUM IN FAMILY AND CONSUMER SCIENCES EDUCATION (3). Principles of curriculum development involving theoretical and philosophical concepts with emphasis on home economics programs including elementary, secondary, continuing education, and college. Recommended: Undergraduate course in curriculum development in family and consumer sciences. PRQ: Consent of school.

621. EVALUATION IN FAMILY AND CONSUMER SCIENCES EDUCATION (3). Methods of evaluation. Relationship to curriculum. Selection, construction, and use of evaluation devices for family and consumer sciences programs. Recommended: Undergraduate course in curriculum development in family and consumer sciences. PRQ: Consent of school.

622. TRENDS AND ISSUES IN FAMILY, CONSUMER, AND NUTRITION SCIENCES (3). Exploration of current issues in family, consumer, and nutrition sciences at the secondary, post-high-school, and college levels. Consideration of trends contributing to the issues and proposed solutions.

624. INTERNSHIP: MEDICAL NUTRITION THERAPY (8). Supervised practice in nutrition care in a health care institution. S/U grading. PRQ: FCNS 618 and consent of school.

625. ADMINISTRATION AND SUPERVISION IN FAMILY, CONSUMER, AND NUTRITION SCIENCES (3). Theories and principles of leadership and supervision as related to family, consumer, and nutrition sciences teaching, secondary departments, and state departments. Objectives, techniques, and evaluation of supervision.

631. INTERNSHIP IN COMMUNITY PROGRAMS: CHILD DEVELOPMENT (1-9). Supervised participation in professional settings. May be repeated to a maximum of 9 semester hours, but only 6 semester hours may be applied toward a master's degree. PRQ: See Special Requirements for FCNS 631.

632. INTERNSHIP IN COMMUNITY PROGRAMS: FAMILY SERVICES (1-9). Supervised participation in professional settings. May be repeated to a maximum of 9 semester hours, but only 6 semester hours may be applied toward a master's degree. PRQ: See Special Requirements for FCNS 632.

633. INTERNSHIP IN COMMUNITY AGENCIES: MARRIAGE AND FAMILY THERAPY (1-9). May be repeated to a maximum of 9 semester hours. Restricted to students admitted to the Specialization in Marriage and Family Therapy. S/U grading. CRQ: FCNS 639 or consent of school.

635. 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. PRQ: Consent of school.

637. THE CHILD IN THE FAMILY (3). Analysis of the reciprocal influences between family and child in the context of other important socializing influences. The biological, cognitive, affective, and social-personal domains of development are examined. Relevant information is included from historical, philosophical, anthropological, cross-cultural, and psychological perspectives. PRQ: Consent of school.

638. INTERNSHIP IN COMMUNITY PROGRAMS: PARENT EDUCATION (1-6). Supervised participation in professional settings with a parent education program aimed at changing or enhancing parental and family attitudes and behaviors. May be repeated to a maximum of 6 semester hours. PRQ: See Special Requirements for FCNS 638.

639. PRACTICUM: FAMILY THERAPY (1-12). Under faculty supervision, student develops the professional skills of marriage and family therapists. May be repeated to a maximum of 12 semester hours. Applicable toward AAMFT clinical contact and supervision requirements. Restricted to students admitted to the specialization in marriage and family therapy. Students must provide written proof of a fingerprint-based criminal background check in compliance with Department of Children and Family Services' (DCFS) policy. S/U grading. PRQ: Consent of school.

640. FAMILY, CONSUMER, AND NUTRITION SCIENCES FOR EDUCATORS OF THE VISUALLY IMPAIRED (3). Methods used to teach life skills to visually impaired individuals.

645. MACRONUTRIENTS (3). Study of current knowledge of the metabolic basis of nutritional needs of macronutrients (carbohydrates, proteins, and fats) and energy metabolism including clinical implications. PRQ: Nutrition and dietetics graduate student or consent of school.

646. MICRONUTRIENTS (3). The basis of nutritional needs for vitamins, major minerals (calcium, phosphorous, magnesium, and electrolytes) and trace minerals including nutrient interactions. PRQ: Nutrition and dietetics graduate student or consent of school.

650. WORKSHOP IN FAMILY, CONSUMER, AND NUTRITION SCIENCES (1-6). Workshop designed for professional personnel to study current issues, trends, and programs in a specialized area. Topic announced. May be repeated. Maximum of 6 semester hours of workshops may be applied toward master's degree. PRQ: Consent of school.

652. WORKSHOP IN DIETETIC PRACTICE: CLINICAL CARE ISSUES (1). An exploration and evaluation of techniques, procedures, and policies associated with the contemporary practice of dietetics. PRQ: Admission to the dietetic internship and consent of school.

653. WORKSHOP IN DIETETIC PRACTICE: MANAGEMENT ISSUES (1). An exploration and evaluation of management techniques, procedures, and policies associated with the contemporary practice of dietetics. PRQ: Admission to the dietetic internship and consent of school.

654. ADVANCED APPAREL DESIGN (3). Exploration of apparel design through draping and pattern drafting technique. Emphasis on original ideas and interrelated factors of materials, design, and form. PRQ: FCNS 552 or FCNS 554, or consent of school.

662. CURRENT PROBLEMS IN CONSUMER TEXTILES (3). New development in textiles; analysis of quality control and production standards, evaluation of current problems. Recommended: Undergraduate course in fiber and fabric analysis. PRQ: Consent of school.

664. FASHION PROCESS ANALYSES (3). Interdisciplinary approach to fashion process analyses incorporating anthropology, economics, history, sociology, psychology, marketing, and consumer behavior. Applications of existing fashion concepts and theories to contemporary environments. Recommended: Undergraduate course in social psychology of dress and appearance or consumer behavior related to apparel. PRQ: Consent of school.

668. READINGS IN TEXTILES, APPAREL, AND MERCHANDISING (3). Analysis of selected readings including research in textiles, apparel, and merchandising. PRQ: Consent of school.

672. HISTORIC TEXTILES (3). Methods of textile formation and textile design processes over time and in diverse cultures. Recommended: Undergraduate course in fiber and fabric analysis. PRQ: Consent of school.

674. 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. Recommended: Undergraduate course in social psychology of dress and appearance. PRQ: Consent of school.

684. THE FAMILY WITH ADOLESCENTS (3). Developmental tasks of the family with adolescents; parental and adolescent roles, communication networks, adolescent identity and sexuality. PRQ: Applied Family and Child Studies graduate student or consent of school.

685. FAMILY STRESS AND STRUCTURAL DIVERSITY (3). Analysis of the possible problems and strengths of families that have experienced nonnormative stressors or reflect structural diversity. PRQ: FCNS 601 or consent of school.

689. READINGS IN FAMILY AND CHILD STUDIES (3). Analysis of normative, developmental, and ecological changes across the life span. Focus on developmental transitions such as childbirth, adolescence, and aging. PRQ: Upper-division course in family or child studies or consent of school.

691. ASSESSMENT IN MARRIAGE AND FAMILY THERAPY (3). Assessment and in-depth understanding of presenting issues and contexts in marriage and family therapy. Awareness of treatment approaches in marriage and family therapy. PRQ: Consent of school.

## 170 FAMILY, CONSUMER, AND NUTRITION SCIENCES

692. PROFESSIONAL ISSUES IN FAMILY THERAPY (3). Survey and discussion of ethical, legal, and contextual issues in the practice of marriage and family therapy. PRQ: Consent of school.

693. ADDICTION AND SUBSTANCE ABUSE IN MARRIAGE AND FAMILY THERAPY (3). Assessment and treatment of addiction and substance abuse from a family systems perspective. Attention given to developmental level and issues of diversity. PRQ: FCNS 784 or consent of school.

694. MARRIAGE AND FAMILY THERAPY STRATEGIES: TREATMENT OF CHILDREN AND ADOLESCENTS (3). Examination, application, and analysis of strategies for treating child and adolescent mental health issues from a family systems perspective. Integration of race, ethnicity, culture, gender, sexual orientation, religion, socioeconomic status, power, and privilege issues throughout the course. PRQ: FCNS 784 or consent of school.

695. APPROACHES TO MARRIAGE AND FAMILY THERAPY (3). Exploration of the specific perceptual, conceptual, and intervention skills of traditional and current family therapy approaches with emphasis on psychodynamic, intergenerational, and experiential approaches. Exploration of process and outcome research in marriage and family therapy. Restricted to students admitted to the Specialization in Marriage and Family Therapy. PRQ: FCNS 784 or consent of school.

696. STRUCTURAL FAMILY THERAPY (3). Exploration of the specific perceptual, conceptual, and intervention skills of structural family therapy, developed by Salvador Minuchin. PRQ: Consent of school.

697. MARRIAGE AND FAMILY THERAPY STRATEGIES: TREATMENT OF COUPLES (3). Examination and application of advanced marriage and family clinical strategies and theories for the assessment and treatment of couples from a relational/systemic perspective. Topics include sex therapy, domestic violence, same sex couples, and sexual functioning. Integration of race, ethnicity, culture, gender, sexual orientation, religion, socioeconomic status, power, and privilege issues throughout the course. Restricted to students admitted to the Specialization in Marriage and Family Therapy. PRQ: FCNS 784 or consent of school.

698. PROJECT (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. May be repeated to a maximum of 6 semester hours. PRQ: FCNS 604 or consent of school.

699A. THESIS (1-6). Individual investigation of a problem under supervision of an adviser. May be repeated to a maximum of 6 semester hours. Continuous enrollment is required until the thesis is completed. S/U grading. PRQ: FCNS 604 or consent of adviser.

699B. ONE-PERSON SHOW (1-6). Preparation of one-person show and documentation from point of view of both content and form. May be repeated to a maximum of 6 semester hours. Continuous enrollment is required until the show is completed. S/U grading. PRQ: Major in textiles and clothing (field of design) and consent of school.

701. PROBLEMS IN FAMILY, CONSUMER, AND NUTRITION SCIENCES (1-3). Independent study, individual problems, action, or other research. May be repeated to a maximum of 6 semester hours. PRQ: Consent of school.

705. INTRODUCTION TO MEDICAL FAMILY THERAPY AND COUNSELING (3). *Crosslisted as CAHC 705X*. Introduction to a biopsychosocial/family systems approach to assessment and intervention with patients and families experiencing a physical illness, trauma, or disability. Examination of issues involved in providing mental health services in medical settings. Open only to students admitted to the Medical Family Therapy and Counseling Post Masters Certificate program.

706. MEDICAL FAMILY THERAPY AND COUNSELING: FAMILIES, DISABILITY AND CHRONIC ILLNESS (3). *Crosslisted as CAHC 706X*. Exploration of the major forms of disability and chronic illness, the impact of these conditions on individuals and family members experiencing them, and resources for those who are impacted by them. Implications for medical family therapy and counseling. PRQ: FCNS 605 or consent of school.

707X. MEDICAL FAMILY THERAPY AND COUNSELING: FAMILIES STAYING WELL AND COPING WITH ILLNESS (3). *Crosslisted as CAHC 707*. Examination of medical family therapy and counseling approaches for maintaining family wellness and facilitating family responses to illness across the developmental life cycle. PRQ: FCNS 605 or consent of school.

708X. CULTURAL AND SPIRITUAL DIMENSIONS OF MEDICAL FAMILY THERAPY AND COUNSELING PRACTICE (3). *Crosslisted as CAHC 708*. Impact of individual and family beliefs, narratives, and meanings, with particular emphasis on cultural and spiritual contexts, upon the experience of illness and medical treatment, pain, and grieving and acceptance of death. Techniques for eliciting patient and/or family beliefs pertaining to internal resources and spiritual practices and for working with family belief systems around health and illness, and for strengthening a culturally sensitive provider/patient/family relationship. PRQ: FCNS 607X or consent of school. CRQ: FCNS 609X.

709X. MEDICAL FAMILY THERAPY AND COUNSELING PRACTICUM (3). *Crosslisted as CAHC 709*. Supervised medical family therapy and counseling practicum at Northern Illinois Proton Treatment and Research Center. Collaborate with attending physicians and on-site treatment team; provide supervised medical family therapy and counseling to individuals, couples, and families. Individual and/or group supervision of live and recorded sessions. A minimum of 100 clock hours of direct patient contact is required. S/U grading. PRQ: FCNS 607X and consent of school. CRQ: FCNS 608X.

710. TEACHING COLLEGE-LEVEL FAMILY, CONSUMER, AND NUTRITION SCIENCES (1-3). Teaching experience supervised by a faculty member. May be repeated to 12 semester hours. A maximum of 3 semester hours may be applied toward a master's degree. PRQ: Consent of school.

714. MEDICAL FAMILY THERAPY AND COUNSELING INTERNSHIP (6). *Crosslisted as CAHC 714X*. Supervised participation in provision of family therapy, counseling, and psychoeducation to individuals, couples, and families in a medical setting. A minimum of 200 clock hours of direct patient contact is required. S/U grading. PRQ: FCNS 609X and consent of school.

784. THEORETICAL FOUNDATIONS OF FAMILY THERAPY (3). *Crosslisted as CAHC 784X*. Examination and discussion of the historical development and theoretical foundations of family therapy, with focus on the traditional and current models of therapy in the field. PRQ: Consent of school.

# Department of Military Science (MILS)

Chair: Lieutenant Colonel Stephen A. Ashpesl

## Faculty

Lieutenant Colonel Stephen A. Ashpes, professor, M.A., Webster University  
 Captain William Stanley, assistant professor, B.S., California State University, Fresno  
 Captain Eric N. Weyenberg, assistant professor, B.S., University of Wisconsin, Madison

The Department of Military Science offers graduate students training and experience in the art of organizing, motivating, and leading others, while completing their studies for a degree in an academic discipline of their own choice. Completion of the program leads to a commission in the U.S. Army. The Reserve Officers' Training Corps is open to all eligible students, both male and female. The curriculum is centered around an applied leadership training program which is designed to develop those personal traits and qualities essential to successful leadership in civilian life, as well as the military environment. Those who complete the advanced program will serve as commissioned officers with National Guard, U.S. Army Reserve, or regular U.S. Army units.

## Program

Army ROTC offers a two-year program which meets the needs of most graduate students. To enter this program students usually attend a 28-day leader's training course the summer before entering the advanced courses. Applications are accepted throughout the year. Students are paid while attending the training course. Upon completion of the course students may enter directly into the advanced course and start receiving a monthly stipend.

## Veterans' Option

In most cases, prior military service will qualify for placement credit so that veterans may enroll directly in the advanced course. Veterans are permitted to receive G.I. Bill benefits and state benefits as well as the monthly stipend while enrolled in the advanced course.

## Eligibility

Interested students should contact the department on enrollment procedures and specific eligibility requirements. Generally, to enroll in the military science program leading to an officer's commission the student must

- be a citizen of the United States or have been lawfully admitted to the U.S. for permanent residence under applicable provisions of the Immigration and Naturalization Act and be at least 17 years of age;

- be enrolled as a full-time student at NIU with at least four semesters remaining at NIU;

- be able to complete the ROTC program prior to reaching 30 years of age (Age requirements may be waived in some cases.);

- be physically and mentally qualified and of good moral character; and

- be selected by the professor of military science.

## Commissioning Requirements

There are four requirements for a graduate student to be commissioned as either a Reserve or Active Duty Second Lieutenant in the U.S. Army. The graduate student must hold an undergraduate degree in any major, complete or earn credit for the four years of military science undergraduate classes, complete the advanced internship in military science, and complete a military history class.

## Leadership Laboratory

A leadership laboratory is required each week for all military science students. Content varies with the student year-group and military science class.

## Course List (Advanced Courses)

Credit earned in military science is not applicable toward graduate degree requirements.

- 301. ADAPTIVE TACTICAL LEADERSHIP (3)
- 302. LEADERSHIP IN CHANGING ENVIRONMENTS (3)
- 325. BASIC INTERNSHIP IN MILITARY SCIENCE (3)
- 350. ADVANCED INTERNSHIP IN MILITARY SCIENCE (3)
- 401. DEVELOPING ADAPTIVE LEADERS (4)
- 402. LEADERSHIP IN A COMPLEX WORLD (4)
- 495. INDEPENDENT STUDY (3)

# School of Nursing and Health Studies (NURS, PHHE)

Chair: Brigid Lusk

## Graduate Faculty

Karen Baldwin, associate professor, Ph.D., University of Illinois, Chicago  
 Virginia Cassidy, professor, Ed.D., Northern Illinois University  
 James R. Ciesla, professor, Ph.D., University of South Carolina  
 Sarah Conklin, professor, Ph.D., University of Pennsylvania  
 Carolinda Douglass, professor, Ph.D., RAND Graduate School of Policy Studies  
 Judith Hertz, associate professor, Ph.D., University of Texas at Austin  
 Arlene Keddie, assistant professor, Ph.D., University of Texas Health Science School of Public Health  
 Jinsook Kim, assistant professor, Ph.D., University of California, Los Angeles  
 Daniel Klein, associate professor, Ph.D., Southern Illinois University  
 Ayhan A. Lash, professor, Ph.D., University of Chicago  
 Brigid Lusk, professor, Ph.D., University of Illinois, Chicago  
 Diana Mertens, supportive professional staff, Dr.P.H., University of Illinois, Chicago  
 Donna Munroe, professor, Ph.D., University of Southern California  
 William A. Oleckno, Distinguished Teaching Professor, emeritus, H.S.D., Indiana University  
 Donna Plonczynski, associate professor, Ph.D., University of Illinois, Chicago  
 Lola Prince, assistant professor, Ph.D., Loyola University  
 Julie Robertson, professor, Ed.D., Northern Illinois University  
 Jeanette Rossetti, associate professor, Ed.D., Northern Illinois University  
 Maribel Valle, assistant professor, Ph.D., University of Illinois, Chicago

The School of Nursing and Health Studies offers programs of graduate study leading to a Master of Science (M.S.) in nursing, a Master of Public Health (M.P.H.); three post-master's certificates of graduate study—family nurse practitioner, oncology nurse practitioner, and nursing education; and two certificates of graduate study—health education and public health. The school also offers the opportunity for simultaneous enrollment in the M.S. in nursing and M.P.H. degree programs to qualified graduate students. In addition, students seeking initial teacher certification or endorsement in health education may qualify for the M.A.T. or M.S.T. degrees with specialization in health education.

The M.S. in nursing specialization prepares students for certification as adult nurse practitioners, family nurse practitioners, and adult clinical nurse specialists. Students can also select the nursing education specialization to prepare for roles in academic and practice settings or the community health nurse specialist field of clinical study to prepare for leadership roles in health promotion and disease prevention focused on populations and communities. The M.S. in nursing is fully accredited by the Commission on Collegiate Nursing Education.

The M.P.H. curriculum prepares students for leadership positions in health services management and health promotion.

Students learn skills in leadership, problem solving, and planning and promoting change in public health and health care systems. The M.P.H. program is fully accredited by the Council on Education for Public Health (CEPH), an independent accrediting agency for

schools of public health, as well as community health education and community health/preventive medicine programs located outside of schools of public health. The Council on Education for Public Health is recognized by the U.S. Department of Education. The M.P.H. program is also an institutional member of the Association for Prevention Teaching and Research (APTR), a professional organization whose purpose is to set standards for the academic preparation of students in the fields of public health, disease prevention, and health promotion.

The M.A.T. and M.S.T. degrees are administered by the university through the Graduate School with specializations in various teaching content areas. The M.A.T. with specialization in health education leads to initial teacher certification in health education for candidates with baccalaureate degrees. The M.S.T. with specialization in health education leads to endorsement to teach health education 6-12 and middle school for candidates who already hold a secondary teaching certificate in another content area.

## Criminal Background Checks and Drug Screening

Students in nursing and the M.A.T. are required to undergo criminal background checks and drug screening. The nursing program and the M.A.T. specialization in health education may be unable to place students in a clinical or student teaching settings if they have a positive drug screen or criminal record; therefore, the student may not be able to complete the program of required courses.

## Grading Policies for Master's Degree and Certificate Students

Students must earn a minimum grade of B in each required course in their program of study.

Any required course in which a grade of C or lower is earned must be repeated and a grade of B or higher earned prior to progressing in program course work. Students who earn two grades of C in the same course or any combination of courses will be dismissed from the graduate and certificate programs.

## Master of Science in Nursing

**Specialization in Adult Clinical Nurse Specialist Specialization in Adult Nurse Practitioner Specialization in Family Nurse Practitioner Specialization in Nursing Education Community Health Nurse Specialist**

A minimum of four semesters is required for completion of the M.S. in nursing program. Graduates are prepared for the nurse educator role or for an advanced practice role as either a nurse practitioner or a clinical nurse specialist in a selected field of specialization and are eligible to sit for national examinations for certification as a family nurse practitioner, an adult nurse practitioner, or an adult clinical nurse specialist, by completing the program with the appropriate specialization.

Current licensure with no encumbrance as a registered nurse in Illinois is prerequisite to enrollment in all nursing courses unless otherwise specified. Registered nurses who hold the

baccalaureate in nursing may enroll in graduate nursing courses as students-at-large. With the approval of the student's faculty adviser, a maximum of 9 semester hours of student-at-large credit may be applied to degree requirements. However, admitted students receive priority over students-at-large in registering for courses. (See "Admission" below.) Enrollment in the internship courses (NURS 677, NURS 678, NURS 679, and NURS 695) requires that planning be completed with appropriate faculty during the semester preceding each internship experience and that an intent to enroll form is completed one year prior to enrollment in the first internship.

To maintain enrollment in the graduate program, evidence of current registered nurse licensure, professional liability insurance, CPR certification, and absence of active tuberculosis is required. Graduate students must be in compliance with all clinical requirements prior to enrollment in the first nursing course.

All internship courses are permit courses. In order to receive a permit for the course a student must complete the appropriate prerequisite courses and submit documentation of compliance with clinical requirements to the College of Health and Human Sciences, Wirtz 227F. Clinical requirements include evidence of current registered nurse licensure, professional liability insurance, appropriate CPR certification, and required immunizations.

The graduate faculty may determine that a student not continue in the master's program in nursing for failure to maintain professional standards.

Graduate students plan their program of study in consultation with an assigned adviser. With the advice and consent of the adviser, a student may elect a thesis option, which requires completion of an additional 3 semester hours. A maximum of 6 semester hours of credit may be transferred from another college or university.

## Admission

Admission to graduate study in nursing requires compliance with the following standards of the nursing program.

Current licensure with no encumbrance as a registered nurse in the U.S. (Prior to beginning course work, students must hold or have applied for licensure in Illinois.)

A baccalaureate degree from a school accredited by the Commission on Collegiate Nursing Education (CCNE), or the National League of Nursing Accrediting Commission, or from a program seeking initial accreditation which includes an upper-division major in nursing equivalent to the undergraduate nursing major at NIU. If the applicant is a graduate of a nongraded baccalaureate program in nursing, CCNE accreditation or National League of Nursing accreditation is required. The applicant must provide documentation of course work which is essentially equivalent to that required in the nursing major at NIU.

A minimum 3.00 GPA (based on a 4.00 system) for the last 60 hours of the baccalaureate program, or completion of 9 semester hours of graduate work in nursing at NIU with a GPA of 3.20 or better.

Each applicant must provide a writing sample to be reviewed by the nursing program.

Two letters of reference from employer, supervisor, or professor which provide supportive evidence of the applicant's professional qualifications.

The approval of the nursing program Graduate Admissions Committee.

The applicant may be required to have a personal interview with the university and/or the nursing program Graduate Admissions Committee.

Applicants to the nursing education specialization must have completed a minimum of 2,000 hours of clinical practice experience in a specialty area within the three years prior to admission. A "specialty" means clinical practice in one specific area such as medical-surgical, pediatrics, community health, psychiatric nursing, etc.

Admission decisions are normally made within three weeks of receipt of the complete application.

## Requirements

### Non-Thesis Option

ETR 521 - Educational Statistics I (3),

OR another intermediate graduate statistics course approved by the nursing program

NURS 613 - Scientific Inquiry in Advanced Practice Nursing (3)

NURS 616 - Advanced Practice Nursing Within the Health Care Delivery System (3)

One of the following specializations (25-39)

### Specialization as an Adult Clinical Nurse Specialist (39)

NURS 612 - Theoretical Perspectives for Advanced Practice Nursing (3)

NURS 614 - Actualizing the Advanced Practice Nursing Role (3)

NURS 615 - Diversity Within Community Systems for Advanced Nursing Practice (3)

NURS 617 - Pathophysiological Concepts in Nursing (4)

NURS 618 - Clinical Pharmacology and Therapeutics in Advanced Nursing Practice (4)

NURS 619 - Health Assessment (3)

NURS 619A - Health Assessment Clinical Laboratory (1)

NURS 625 - Adult Responses to Health and Illness I (3)

NURS 626 - Adult Responses to Health and Illness II (3)

NURS 678 - Internship: Women's Health (4), and NURS 679 -

Internship: Adult Health (8),

OR NURS 679 - Internship: Adult Health (12)

### Specialization as an Adult Nurse Practitioner (39)

NURS 612 - Theoretical Perspectives for Advanced Practice Nursing (3)

NURS 614 - Actualizing the Advanced Practice Nursing Role (3)

NURS 615 - Diversity Within Community Systems for Advanced Nursing Practice (3)

NURS 617 - Pathophysiological Concepts in Nursing (4)

NURS 618 - Clinical Pharmacology and Therapeutics in Advanced Nursing Practice (4)

NURS 619 - Health Assessment (3)

NURS 619A - Health Assessment Clinical Laboratory (1)

NURS 625 - Adult Responses to Health and Illness I (3)

NURS 626 - Adult Responses to Health and Illness II (3)

NURS 678 - Internship: Women's Health (4), and NURS 679 -

Internship: Adult Health (8),

OR NURS 679 - Internship: Adult Health (12)

### Specialization as a Family Nurse Practitioner (39)

NURS 612 - Theoretical Perspectives for Advanced Practice Nursing (3)

NURS 614 - Actualizing the Advanced Practice Nursing Role (3)

NURS 615 - Diversity Within Community Systems for Advanced Nursing Practice (3)

NURS 617 - Pathophysiological Concepts in Nursing (4)

NURS 618 - Clinical Pharmacology and Therapeutics in Advanced Nursing Practice (4)

NURS 619 - Health Assessment (3)

NURS 619A - Health Assessment Clinical Laboratory (1)

NURS 674 - Primary Care I: Infant, Child, and Adolescent (3)

NURS 675 - Primary Care II: Adult (3)

NURS 677 - Internship: Infant and Child Health (4)

NURS 678 - Internship: Women's Health (4)

NURS 679 - Internship: Adult Health (4)

**Specialization in Nursing Education (25-26)**

NURS 617 - Pathophysiological Concepts in Nursing (4)  
 OR NURS 671 - Advanced Community Health Nursing: Analysis and Application (3)  
 NURS 619 - Health Assessment (3)  
 NURS 619A - Health Assessment Clinical Laboratory (1)  
 NURS 640 - Theoretical Foundations of Nursing Education (3)  
 NURS 641 - Nursing Curriculum Development (3)  
 NURS 642 - Evaluation of Learner and Program Outcomes in Nursing Programs and Health Care Settings (3)  
 NURS 643 - Internship: Nursing Education I (3)  
 NURS 644 - Internship: Nursing Education II (3)  
 Cognate Course (3)

**Community Health Nurse Specialist (27)**

NURS 612 - Theoretical Perspectives for Advanced Practice Nursing (3)  
 NURS 615 - Diversity Within Community Systems for Advanced Nursing Practice (3)  
 NURS 671 - Advanced Community Health Nursing: Analysis and Application (3)  
 NURS 673 - Advanced Community Health Nursing: Health Promotion (3)  
 NURS 695 - Advanced Internship in Community Health Nursing (6)  
 PHHE 539 - Funding for Programs in Public Health (3)  
 PHHE 613 - Principles and Methods of Epidemiology (3)  
 Cognate course (3)

**Thesis Option**

Same requirements as non-thesis option, except 3 semester hours of NURS 699, Master's Thesis, must be included.

With the approval of the nursing program, a student may substitute an alternative field of clinical study, of 12-18 semester hours in nursing, appropriate to the student's professional interest.

**Master of Public Health (M.P.H.)**

The M.P.H. program prepares professionals for leadership positions in public health and health-related agencies. Students may specialize in health promotion or health services management. The M.P.H. with a health promotion specialization prepares students to take the Certified Health Education Specialist (C.H.E.S.) examination given by the National Commission for Health Education Credentialing, Inc. Students who complete the M.P.H. with a specialization in health services management are eligible to take the Illinois Nursing Home Administrators Licensing Examination if certain electives have been completed.

**Admission**

Potential applicants for this program should consult with a program adviser about recommended course work. Admission to the program requires approval of an admissions committee. Preference is given to applicants who have had work or extensive volunteer experience in a public health or related agency.

Procedures for admission to the program and other detailed information are available from the public health and health education programs office.

**Non-Thesis Option**

A total of 43-46 semester hours of graduate credit is required for the degree with the non-thesis option.

Students may apply a maximum combined total of 18 semester hours of graduate credit earned as a student-at-large at NIU or in NIU graduate courses taken outside the U.S. or as transfer credit from another institution toward the M.P.H. degree; however, no more than 15 semester hours of combined transfer and study-abroad credit can be used toward this 18 semester hour total.

**Requirements**

PHHE 601 - Introduction to Health Systems in the United States (3)  
 PHHE 603 - Behavioral and Social Aspects of Public Health (3)  
 PHHE 605 - Quantitative Methods in Public Health (3)  
 PHHE 607 - Health Services Management (3)  
 PHHE 609 - Problems and Issues in Environmental Health (3)  
 PHHE 611 - Applied Research Methods in Public Health (3)  
 PHHE 613 - Principles and Methods of Epidemiology (3)  
 PHHE 669 - Community Health Planning (3)  
 PHHE 695 - Internship in Public Health (3-6)  
 PHHE 698 - Master's Comprehensive Examination (1)  
 One of the following specializations with adviser's approval (15)

**Specialization in Health Promotion**

PHHE 620 - Primary Prevention and Health Promotion (3)  
 PHHE 631 - Community Health Promotion Programs (3)  
 Additional course work (9)

**Specialization in Health Services Management**

PHHE 651 - Health Economics for Health Services Managers (3)  
 PHHE 653<sup>2</sup> - Financial Decision Making for Health Services Managers (3)  
 PHHE 655 - Human Resource Management in the Health Care Setting (3)  
 Additional course work (6)

**Thesis Option**

Same requirements as the non-thesis option except that 6 additional semester hours of PHHE 699, Master's Thesis, are required.

**Simultaneous Enrollment in M.P.H. and M.S. in Nursing Degree Programs**

The School of Nursing and Health Studies offers the opportunity for simultaneous enrollment in the M.S. in nursing and M.P.H. degree programs to qualified graduate students. Students must be admitted to both the M.S. program in nursing and the public health program; admission to both programs must be within 18 months of each other. The requirements under the simultaneous enrollment plan and the allowance of 15 semester hours of dually used course work do not apply to students enrolled in only one of the programs. Students must have consent of the school to enroll in the programs simultaneously. Students should contact a graduate program adviser for further information.

Under the simultaneous enrollment plan, students are required to take at least 64 semester hours as follows.

**Courses Applied to M.P.H. Degree (28)**

PHHE 601 - Introduction to Health Systems in the United States (3)  
 PHHE 603 - Behavioral and Social Aspects of Public Health (3)  
 PHHE 607 - Health Services Management (3)  
 PHHE 609 - Problems and Issues in Environmental Health (3)  
 PHHE 611 - Applied Research Methods in Public Health (3)  
 PHHE 669 - Community Health Planning (3)  
 PHHE 698 - Master's Comprehensive Examination (1)  
 PHHE electives (9)

**Courses Applied to Both Programs (15)**

NURS 695 - Advanced Internship in Community Health Nursing (6)  
 Area of clinical study must be in public/community health.  
 PHHE 539 - Funding for Programs in Public Health (3)  
 PHHE 605 - Quantitative Methods in Public Health (3)  
 PHHE 613 - Principles and Methods of Epidemiology (3)

<sup>1</sup> Available only to qualified health care professionals with accredited degrees in medicine, dentistry, nursing, or related health care specialties.

<sup>2</sup> May be waived for students who have received a C or better in PHHE 453 or equivalent. However, another appropriate course must be taken with the consent of the student's adviser.

**Courses Applied to M.S. in Nursing (21)**

NURS 612 - Theoretical Perspectives for Advanced Practice Nursing (3)  
 NURS 613 - Scientific Inquiry in Advanced Practice Nursing (3)  
 NURS 615 - Diversity Within Community Systems for Advanced Nursing Practice (3)  
 NURS 616 - Advanced Practice Nursing Within the Health Care Delivery System (3)  
 NURS 671 - Advanced Community Health Nursing: Analysis and Application (3)  
 NURS 673 - Advanced Community Health Nursing: Health Promotion (3)  
 NURS elective (3)

**Master of Arts in Teaching (M.A.T.)****Specialization in Health Education, 6-12 and Middle School**

A Master of Arts in Teaching (M.A.T.) with specialization in Health Education prepares candidates with a baccalaureate degree to apply for secondary certification (Type 09) and middle school endorsement to teach health in Illinois secondary and middle schools. Successful completion of this specialization leads to health education initial teacher certification. Certification is granted on the basis of completion of an accredited program of study in health education, two recommended courses regarding middle school students and schools, and passing the required ICTS tests. By completing these requirements, students will demonstrate knowledge, skills, and dispositions related to assessment, diversity and special needs, human development and learning, and pedagogy in the content area.

**Admission**

All applicants to the M.A.T. program must meet requirements for admission to the Graduate School and be accepted for admission by the faculty admissions committee of the specialization in health education. The completed application must include GRE scores, official transcripts verifying the applicant's baccalaureate degree, two letters of recommendation from professors or supervisors that can provide supportive evidence of the applicant's professional qualifications and potential for success in graduate study, and a writing sample that describes the applicant's career goals and philosophy of health education.

Students may apply a maximum combined total of 18 semester hours of graduate credit earned as a student-at-large at NIU or as transfer credit, with their adviser's approval, from another institution toward the M.A.T. degree.

Admitted candidates must pass the ICTS Basic Skills Test prior to enrolling in PHHE 622.

**Deficiency Study**

Students are expected to enter the degree program with background in anatomy, physiology, nutrition, current health concepts including first aid and CPR, an introductory psychology course, and a basic educational technology course. Students may demonstrate their basic psychology knowledge by taking EPS 300 or its equivalent. Students may demonstrate their basic knowledge of the use of computers in education by completing ETT 229 or by passing a competency test. Students with inadequate background in health content knowledge may be required to make up these deficiencies with faculty adviser approval.

**Requirements**

The student must complete at least 46 semester hours of graduate course work; at least 34 of the 46 semester hours must be in health education. All courses outside health education must be approved by the school in advance.

The student must follow a program of study. This program will be designed by the student and his or her adviser and will be built upon the program requirements below.

In lieu of a comprehensive examination, the student must submit a completed capstone research-based project in the form of an electronic portfolio of a Teacher Work Sample to be reviewed by the faculty adviser. The portfolio is completed in the last semester of course work and contains required artifacts and reflections that demonstrate mastery of the professional teaching standards and degree requirements. If a student's portfolio fails to pass as the capstone project, it may be repeated once with permission of the faculty member and approval of the school.

**Program Requirements****Assessment (3)**

ETR 520 - Introduction to Educational Research (3)

**Diversity (3)**

TLSE 557 - Systems for Integrating the Exceptional Student in the Regular Classroom (3)

**Human Development and Learning (6)**

EPS 519 - The Middle School Child (3)

TLCI 522 - Middle School Organization and Instruction (3)

**Pedagogy in Health Education (34-42)**

PHHE 502 - Community Health Programs and Issues (3)

PHHE 504 - Drug Education (3)

PHHE 506 - Sexuality Education (3)

PHHE 508 - Mental and Emotional Health (3)

PHHE 620 - Theories and Principles in Health Promotion (3)

PHHE 622 - Curriculum Development in School Health Education (3)

PHHE 624 - School Health Programs: Planning, Managing, and Evaluating (3)

PHHE 626 - Methods and Materials in School Health Education (3)

PHHE 682 - Clinical/Field Experience in School Health Education (1-3)

PHHE 684 - Middle School Student Teaching in Health Education (3-6)

PHHE 686 - Secondary School Student Teaching in Health Education (3-6)

One course from the following:

FCNS 602 - Issues in Eating Disorders and Obesity (3)

PHHE 510 - Death Education (3)

PHHE 512 - Consumer Health (3)

PHHE 605 - Biostatistics in Public Health (3)

**Master of Science in Teaching (M.S.T.)****Specialization in Health Education, 6-12 and Middle School**

The Master of Science in Teaching (M.S.T.) with specialization in Health Education prepares teachers with secondary certification (Type 09) in another content area to teach health in Illinois secondary and middle schools. Successful completion of this specialization leads to health education and middle school endorsements. The endorsement is granted on the basis of 24 semester hours in health education, two recommended courses regarding middle school students and schools, and passing the ICTS Subject Area Test of Content Knowledge in Health Education. By completing these requirements, students will demonstrate knowledge, skills, and dispositions related to assessment, diversity and special needs, human development and learning, and pedagogy in the content area.

## Admission

All applicants to the M.S.T. program must meet requirements for admission to the Graduate School and be accepted for admission by the faculty admissions committee of the specialization in health education. The completed application must include GRE scores, official transcripts verifying the applicant's baccalaureate degree, evidence of a current Type 09 Illinois Teaching Certificate in a secondary content area other than health education, two letters of recommendation from professors or supervisors that can provide supportive evidence of the applicant's professional qualifications and potential for success in graduate study, and a writing sample that describes the applicant's career goals and philosophy of health education.

Students may apply a maximum combined total of 18 semester hours of graduate credit earned as a student-at-large at NIU or as transfer credit, with their adviser's approval, from another institution toward the M.S.T. degree.

## Deficiency Study

Students are expected to enter the degree program with background in anatomy, physiology, nutrition, current health concepts including first aid and CPR, an introductory psychology course, and a basic educational technology course. Students may demonstrate their basic psychology knowledge by taking EPS 300 or its equivalent. Students may demonstrate their basic knowledge of the use of computers in education by completing ETT 229 or by passing a competency test. Students with inadequate background in health content knowledge may be required to make up these deficiencies with faculty adviser approval.

## Requirements

The student must complete at least 36 semester hours of graduate course work; at least 24 of the 36 semester hours must be in health education. All courses outside health education must be approved by the school in advance.

The student must follow a program of study. This program will be designed by the student and his or her adviser and will be built upon the program requirements below.

In lieu of a comprehensive examination, the student must submit a completed capstone research-based project in the form of an electronic portfolio of a Teacher Work Sample to be reviewed by the faculty adviser. The portfolio is completed in the last semester of course work and contains required artifacts and reflections that demonstrate mastery of the professional teaching standards and degree requirements. If a student's portfolio fails to pass as the capstone project, it may be repeated once with permission of the faculty member and approval of the school.

## Program Requirements

### Assessment (3)

ETR 520 - Introduction to Educational Research (3)

### Diversity (3)

TLSE 557 - Systems for Integrating the Exceptional Student in the Regular Classroom (3)

### Human Development and Learning (6)

EPS 519 - The Middle School Child (3)

TLCI 522 - Middle School Organization and Instruction (3)

### Pedagogy in Health Education (24)

PHHE 502 - Community Health Programs and Issues (3)

PHHE 504 - Drug Education (3)

PHHE 506 - Sexuality Education (3)

PHHE 508 - Mental and Emotional Health (3)

PHHE 620 - Theories and Principles in Health Promotion (3)

PHHE 622 - Curriculum Development in School Health Education (3)

PHHE 624 - School Health Programs: Planning, Managing, and Evaluating (3)

One course from the following:

FCNS 602 - Issues in Eating Disorders and Obesity (3)

PHHE 510 - Death Education (3)

PHHE 512 - Consumer Health (3)

PHHE 605 - Biostatistics in Public Health (3)

PHHE 626 - Methods and Materials in School Health Education (3)

## Certificates of Graduate Study

### Master's Level Certificates

Two certificates of graduate study can be earned as a master's student.

### Health Education (15)

This certificate is designed for students who are seeking endorsement on a current teaching certificate, for students who are also seeking initial teacher certification, and for students pursuing continuing education regarding health teaching methods and content. Course work for this certificate may be applied toward state endorsement requirements; however, additional course work may be necessary depending on prior course work. In addition, students who have previously obtained a baccalaureate degree may apply these courses toward initial teacher certification.

Potential applicants for the certificate should consult with a program adviser. Admission to the certificate requires the approval of an admissions committee. Procedures for admission to study toward the certificate and other detailed information are available from the public health and health education programs office.

### Requirements

PHHE 620 - Theories and Principles in Health Promotion (3)

PHHE 622 - Curriculum Development in School Health Education (3)

PHHE 624 - School Health Programs: Planning, Managing, and Evaluating (3)

Two of the following (6)

FCNS 600A, Seminar in Nutrition and Dietetics (3),

FCNS 602 - Issues in Eating Disorders and Obesity (3),

FCNS 611 - Maternal and Child Nutrition (3)

PHHE 502 - Community Health Programs and Issues (3)

PHHE 504 - Drug Education (3)

PHHE 506 - Sexuality Education (3)

PHHE 508 - Mental and Emotional Health (3),

OR PHHE 510 - Death Education (3),

OR FCNS 584 - Family Theories (3)

PHHE 512 - Consumer Health (3)

PHHE 600 - Special Topics in School Health Education (3)

PHHE 603 - Behavioral and Social Aspects of Public Health (3)

PHHE 609 - Problems and Issues in Environmental Health (3),

OR TLCI 520 - Environmental Quality Education (3),

OR TLCI 530 - Teaching Environmental Ethics (3)

PHHE 626 - Methods and Materials in School Health Education (3)

SOCI 663 - Women's Health Issues (3)

### Public Health (15)

Students interested in this certificate should contact the public health and health education programs office as early as possible so they can be assigned an adviser. Admission to the certificate requires approval of the admissions committee. Procedures for admission to the certificate and other detailed information are available from the public health and health education programs office.

## Requirements

PHHE 601 - Introduction to Health Systems in the United States (3)  
 PHHE 603 - Behavioral and Social Aspects of Public Health (3)

Course work from the following (3-9)

PHHE 607 - Health Services Management (3)  
 PHHE 613 - Principles and Methods of Epidemiology (3)  
 PHHE 620 - Primary Prevention and Health Promotion (3)  
 PHHE 669 - Community Health Planning (3)

Course work from the following (0-6)

PHHE 533 - Principles of Long-Term Care Administration (3)  
 PHHE 535 - Ethical Decision Making for Health Professionals (3)  
 PHHE 537 - Assessment, Treatment, and Prevention of Drug and Alcohol Addiction (3)  
 PHHE 539 - Funding for Programs in Public Health (3)  
 PHHE 609 - Problems and Issues in Environmental Health (3)  
 PHHE 631 - Community Health Promotion Programs (3)  
 PHHE 651 - Health Economics for Health Services Managers (3)  
 PHHE 653 - Financial Decision Making for Health Services Managers (3)

## Post Master's Certificates

Two post-master's Certificate of Graduate Study programs are offered in the School of Nursing and Health Studies. The curriculum for each program is configured for part-time students and takes a minimum of four semesters to complete. Students may choose to complete the program more slowly or enroll full time if they have prerequisites to complete. Students who have deficiencies in prerequisite courses may be able to take them at the same time they are taking the series of courses. Students must receive a minimum grade of B in all classes taken for the certificate and their prerequisites and maintain a minimum graduate GPA of 3.00 to remain in the course of study.

Admission to pursue the certificate of graduate study program requires compliance with the following standards of the nursing program.

Completion of a special application available from the nursing program.

Written statement regarding personal goals for completing the certificate program.

Current licensure as a registered nurse in Illinois with no encumbrances.

Completion of an NLN or CCNE accredited nursing master's degree program.

Two letters of recommendation from persons who are familiar with the individual's clinical expertise, ability to function in an independent role, and motivation to complete a certificate of graduate study program of study.

An interview may be requested by the nursing program's Graduate Admissions Committee.

## Family Nurse Practitioner (29)

The Family Nurse Practitioner certificate requires 29 semester hours of post-master's study which includes class lectures, simulated laboratory experiences, and 659 hours of clinical experiences with designated preceptors. The purpose of the course of study is to provide the course work and clinical experience to become family nurse practitioners upon the successful completion of the nationally administered Family Nurse Practitioner Certification Examination.

Prerequisites for admission into the course of study leading toward the certificate include a master's degree in nursing from a program accredited by the National League of Nursing (NLN) Accrediting Commission or the Commission on Collegiate Nursing Education (CCNE), an introductory health assessment course (equivalent to

NURS 306 and NURS 306A), a graduate-level pathophysiology course within the last ten years, and an advanced community health nursing analysis and application course (equivalent to NURS 615 or NURS 671). Courses included in master's degrees other than NIU's will be evaluated on an individual basis.

## Required Courses

NURS 614 - Actualizing the Advanced Practice Nursing Role (3)  
 NURS 618 - Clinical Pharmacology and Therapeutics in Advanced Nursing Practice (4)  
 NURS 619 - Health Assessment (3)  
 NURS 619A - Health Assessment Clinical Laboratory (1)  
 NURS 674 - Primary Care I: Infant, Child, and Adolescent (3)  
 NURS 675 - Primary Care II: Adult (3)  
 NURS 677 - Internship: Infant and Child Health (4)  
 NURS 678 - Internship: Women's Health (4)  
 NURS 679 - Internship: Adult Health (4)

## Nursing Education (12)

This Nursing Education certificate requires 12 semester hours of post-master's study which includes class lectures, simulated laboratory experiences, and 134 clock hours of teaching experiences. The purpose of the course of study is to provide the course work and the classroom and clinical teaching experiences to become a nurse educator in a variety of educational and clinical settings.

Prerequisites for admission into the course of study leading toward the certificate include a master's degree in nursing from a program accredited by the National League of Nursing (NLN) Accrediting Commission or the Commission on Collegiate Nursing Education (CCNE).

## Required Courses

NURS 640 - Theoretical Foundations of Nursing Education (3)  
 NURS 641 - Nursing Curriculum Development (3)  
 NURS 642 - Evaluation of Learner and Program Outcomes in Nursing Programs and Health Care Settings (3)  
 NURS 643 - Internship: Nursing Education I (3),  
 OR NURS 644 - Internship: Nursing Education II (3)

## Oncology Nurse Practitioner (18)

This certificate requires 18 semester hours of post-master's study, which includes class lectures and 540 hours of clinical experiences with designated preceptors. At completion of the certificate, graduates will be eligible to sit for the Advanced Oncology Certified Nurse Practitioner Examination.

Prerequisites for admission into the course of study leading towards the certificate include a master's degree in nursing from a program accredited by the National League of Nursing (NLN) Accrediting Commission or the Commission on Collegiate Nursing Education (CCNE), and licensure in the State of Illinois as a Family Nurse Practitioner or an Adult Nurse Practitioner. The certificate has been designed to enable graduates to apply physical, psychosocial, and spiritual aspects of advanced practice cancer nursing care.

## Required Courses

NURS 650 - Advanced Practice Oncology Nursing I (3)  
 NURS 651 - Advanced Practice Oncology Nursing II (3)  
 NURS 652 - Internship: Oncology Nursing (12)

## Middle School Endorsement in Health Education

A middle school endorsement in health education requires 18 semester hours of course work in health education, 3 semester hours of course work in middle school philosophy, curriculum and instructional methods, and 3 semester hours of course work in educational psychology focusing on early adolescents. To be eligible for the endorsement, a student must currently possess teacher certification in another subject area. A student seeking a middle school endorsement in health education should plan a program of study with the faculty adviser in health education.

## High School Endorsement in Health Education

An endorsement in health education requires 24 semester hours of course work. To be eligible for the endorsement, a student must currently possess teacher certification in another subject area. A student seeking an endorsement in health education should plan a program of study in consultation with the faculty adviser in health education.

## Secondary Certification in Health Education

The health education entitlement program is designed to prepare students for teaching positions in secondary schools. A student seeking initial teacher certification in health education at the graduate level should plan a program of study in consultation with the faculty adviser in health education. This program will include courses which meet the professional education requirements for secondary education and required health education course work. Successful completion of the ICTS Basic Skills Test is required for entry into the health education teacher certification program. Also see "Teacher Certification Information."

## Course List

### Nursing (NURS)

580. SEMINAR IN CLINICAL NURSING (1-3). Exploration of solutions to the development of nursing services in meeting current modern health needs. May include experimentation with new formats for communicating relevant information in fields requiring nursing expertise. May be repeated to a maximum of 9 semester hours if topic changes.

602. CONCEPTUAL BASIS FOR FAMILY HEALTH NURSING FOR THE ADVANCED PRACTICE NURSE (2-3). Theoretical and conceptual bases for family nurse practitioner practice. Advanced practice nursing roles in relation to levels of care and case management of families across the life span. Includes didactic and clinical experiences when taken for 3 semester hours, while the 2-semester-hour class involves didactic experiences only. PRQ: An undergraduate health assessment course and consent of school.

612. ADVANCED THEORETICAL PERSPECTIVES FOR NURSING PRACTICE (3). Exploration of links between theory, research, and knowledge guiding advanced nursing practice. Evaluation of various theoretical perspectives for their applicability to practice phenomena. Consideration of the research process as a source of nursing knowledge.

613. ADVANCED SCIENTIFIC INQUIRY IN NURSING PRACTICE (3). Evaluation of selected research methods to identify client-focused clinical nursing problems and appropriate interventions in advanced practice. Use of databases to analyze selected client-related epidemiological problems. Analysis of selected clinical problems and methods for integration of research into advanced practice. PRQ: Undergraduate research course. CRQ: ETR 521 and consent of school.

614. ACTUALIZING THE ADVANCED PRACTICE NURSING ROLE (3). Economic, social, political, ethical, and legal issues impacting advanced nursing practice. Components of professionalism and their effect on clinical decision making. Selected clinical experiences supplement the course.

615. DIVERSITY WITHIN COMMUNITY SYSTEMS FOR ADVANCED NURSING PRACTICE (3). Exploration, analysis, and application of epidemiological principles, group processes, and change theory within community health systems. Emphasis on physiological, cultural, racial, ethnic, age, and gender group variants that might influence assessment and strategic planning for meeting the health needs of populations. Selected clinical experiences supplement this course.

616. NURSING PRACTICE WITHIN THE HEALTH CARE DELIVERY SYSTEM (3). Analysis of the U.S. health care system and its components using a systems approach to health care policy and financing. Concepts in organizational structure and theory and political processes as they influence health care policy and delivery.

617. PATHOPHYSIOLOGICAL CONCEPTS IN NURSING (4). Underlying principles common to disease processes. Physiology and pathophysiology of selected systems and subsystems illustrating altered states across the life span. Integration of current research from nursing and other disciplines.

618. CLINICAL PHARMACOLOGY AND THERAPEUTICS IN ADVANCED NURSING PRACTICE (4). Principles of pharmacology for the primary care of individuals across the life span. Emphasis on prescribing and monitoring procedures for the various drug regimens used to treat common health alterations. Identification of risks associated with drug reactions and interactions and with self-medication. Selected clinical experiences.

619. HEALTH ASSESSMENT (3). Advanced practice health assessment knowledge base derived from research and theory. Emphasis on knowledge of the variants of normal and deviations from normal based on culture, race, gender, and age. Introduction to clinical reasoning processes. PRQ: Undergraduate health assessment course. CRQ: NURS 619A and consent of school.

619A. HEALTH ASSESSMENT CLINICAL LABORATORY (1). Clinically simulated and practice experiences to develop advanced health assessment skills for culturally diverse clients across the life span. Emphasis on the implementation of systematic processes for effectively and efficiently eliciting and recording subjective and objective data and guided application of the clinical reasoning. PRQ: Undergraduate health assessment course. CRQ: NURS 619 and consent of school.

625. ADULT RESPONSES TO HEALTH AND ILLNESS I (3). Advanced nursing practice in health promotion and management of health responses to health alterations across the adult life span. Focus on epidemiology, symptomatology, interventions, and case management. Emphasis on selected alterations in cardiovascular, immune, respiratory, and genitourinary systems of individuals within the context of the family. PRQ: NURS 612, NURS 613, NURS 614, NURS 615, NURS 616, NURS 617, NURS 618, or consent of school. CRQ: NURS 619 and NURS 619A, or consent of school.

626. ADULT RESPONSES TO HEALTH AND ILLNESS II (3). Advanced nursing practice in health promotion and management of human responses to health alterations across the adult life span. Focus on epidemiology, symptomatology, interventions, and case management. Emphasis on selected alterations in endocrine, neurological, musculoskeletal, gastrointestinal, and integumentary systems of individuals within the context of the family. PRQ: NURS 612, NURS 613, NURS 614, NURS 615, NURS 616, NURS 617, and NURS 618, or consent of school. CRQ: NURS 619 and NURS 619A, or consent of school.

630. INDEPENDENT STUDY (1-3). Independent study under faculty supervision. May be repeated to a maximum of 6 semester hours. PRQ: Consent of school.

631. PRACTICUM IN NURSING EDUCATION (1-3). Independent experience in nursing education under faculty supervision. May be repeated to a maximum of 9 semester hours. Credit not applicable toward the M.S. in nursing. PRQ: Consent of school.

632. PRACTICUM IN NURSING RESEARCH (1-3). Independent experience under faculty supervision in selected components of the nursing research process. Activities may include proposal development, literature review, data collection, computer data entry, data analysis, and report writing. May be repeated to a maximum of 9 semester hours. Credit not applicable toward the M.S. in nursing. PRQ: Consent of school.

636. CLINICAL EXPERIENCE: PHYSICAL ASSESSMENT (1). Laboratory experience in clinical setting wherein physical assessment skills are developed and evaluated. Experiences scheduled on Saturdays. PRQ: Consent of school.

638. EMERGENCY AND TRAUMA NURSING (3). Investigation of the role of the nurse in the management of patients and families with trauma and other emergency health care needs within the community context. Exploration of the scientific basis for establishing priorities of care. Specific clinical problems are selected for study.

639. ONCOLOGY NURSING SEMINAR (3). Selected topics related to the illness trajectory for individuals experiencing alterations in cellular proliferation. Emphasis on the role of the nurse in advanced practice in enhancing adaptation of the individual and family.

640. THEORETICAL FOUNDATIONS OF NURSING EDUCATION (3). Exploration of the philosophical and theoretical bases, role socialization, legal and ethical parameters, sociopolitical and cultural factors affecting nursing education.

641. NURSING CURRICULUM DEVELOPMENT (3). Planning and development of nursing curricula. Principles of teaching-learning including the use of educational technology. Applications made to associate and baccalaureate degree nursing programs and health care settings. PRQ: NURS 613, NURS 616, NURS 617 or NURS 671, NURS 619, NURS 619A, and NURS 640, or consent of school.

642. EVALUATION OF LEARNER AND PROGRAM OUTCOMES IN NURSING PROGRAMS AND HEALTH CARE SETTINGS (3). Formative and summative evaluation strategies are explored and applied to learners in a variety of settings in which nursing education occurs. Emphasis is placed on evaluation of students' clinical performance in acute care, long-term care, or community settings. PRQ: NURS 640, and NURS 641, or consent of school.

643. INTERNSHIP: NURSING EDUCATION I (3). Internship focuses on teaching nursing in the classroom environment. Student participates in the evaluation of learner and program outcomes. PRQ: NURS 640. CRQ: NURS 641 and consent of school.

644. INTERNSHIP: NURSING EDUCATION II (3). Internship focuses on teaching nursing in the clinical settings. Student participates in the evaluation of learner and program outcomes. PRQ: NURS 640 and NURS 641. CRQ: NURS 642 and consent of school.

650. ADVANCED PRACTICE ONCOLOGY NURSING I (3). Scientific basis of advanced oncology nursing practice with an emphasis on pathophysiology, genetics, epidemiology, pharmacotherapy, and other treatment modalities. PRQ: Consent of school.

651. ADVANCED PRACTICE ONCOLOGY NURSING II (3). Advanced nursing practice for the management of patients with cancer and their families. Emphasis on common cancers and management issues with a focus on the psychological and cultural implications of the cancer experience. PRQ: NURS 650 or consent of school.

652. INTERNSHIP: ONCOLOGY NURSING (4). Clinical internship focuses on the practice of oncology nursing at the advanced level, within scope of certification, with an emphasis on risk assessment, prevention, detection, treatment, rehabilitation, palliation, and end of life care for culturally diverse patients. May be repeated to a maximum 12 credit hours. S/U grading. CRQ: NURS 650 or NURS 651 or consent of school.

671. ADVANCED COMMUNITY HEALTH NURSING: ANALYSIS AND APPLICATION (3). Exploration, analysis, and application of epidemiologic studies, community health care delivery systems, and the planning, implementing, and evaluating of nursing services within these systems. Theory validated in the practice setting. PRQ: PHHE 655, NURS 613, and undergraduate health assessment course, or consent of school. CRQ: NURS 616 or consent of school.

672. ADVANCED COMMUNITY HEALTH NURSING: HOME HEALTH CARE (3). Exploration of advanced nursing practice in home health care within a complex health care delivery system. Theory validated in the practice setting. PRQ: NURS 671 or consent of school.

673. ADVANCED COMMUNITY HEALTH NURSING: HEALTH PROMOTION (3). Exploration of advanced nursing practice within a health promotion paradigm. Theory validated in the practice setting. PRQ: NURS 671 or consent of school.

674. PRIMARY CARE I: INFANT, CHILD, AND ADOLESCENT (3). Principles underlying the longitudinal management of common health and illness issues in infants, children, and adolescents in the primary care setting. Emphasis on the impact of health and illness on the individual within the context of culturally diverse families. PRQ: NURS 612, NURS 613, NURS 614, NURS 615, NURS 616, NURS 617, and NURS 618, or consent of school. CRQ: NURS 619 and NURS 619A, or consent of school.

675. PRIMARY CARE II: ADULT (3). Principles underlying the longitudinal management of factors affecting health and common illnesses in adults in the primary care setting. Emphasis on the impact of health and illness on the individual within the context of culturally diverse families. PRQ: NURS 612, NURS 613, NURS 614, NURS 615, NURS 616, NURS 617, and NURS 618, or consent of school. CRQ: NURS 619 and NURS 619A, or consent of school.

677. INTERNSHIP: INFANT AND CHILD HEALTH (4). Clinical internship with focus on the management of common health and illness conditions in primary care of infants, children, and adolescents. Emphasis on integration of health promotion and preventive measures in assessing and teaching of culturally diverse families. PRQ: NURS 612, NURS 613, NURS 614, NURS 615, NURS 616, NURS 617, NURS 618, NURS 619, and NURS 619A, and consent of school. CRQ: NURS 674 and consent of school.

678. INTERNSHIP: WOMEN'S HEALTH (4). Clinical internship with focus on the management of women's health care in the primary care setting. Emphasis on health promotion, maintenance and preventive measures from puberty through the reproductive years, menopause, and postmenopausal years. PRQ: NURS 612, NURS 613, NURS 614, NURS 615, NURS 616, NURS 617, NURS 618, NURS 619, and NURS 619A, and consent of school. CRQ: NURS 625 or NURS 626 for adult nurse practitioner and adult clinical nurse specialist students; NURS 675 for family nurse practitioner students and consent of school.

679. INTERNSHIP: ADULT HEALTH (4). Clinical internship with focus on the management of common health and illness conditions in primary care of young adults through older adulthood. Emphasis on integration of health promotion, health maintenance, preventive measures, and health restoration in assessing, managing, and teaching culturally diverse adult clients and families. May be repeated to a maximum of 12 semester hours. PRQ: NURS 612, NURS 613, NURS 614, NURS 615, NURS 616, NURS 617, NURS 618, NURS 619, and NURS 619A, and consent of school. CRQ: NURS 625 or NURS 626 for adult nurse practitioner and adult clinical nurse specialist students; NURS 675 for family nurse practitioner students and consent of school.

695. ADVANCED INTERNSHIP IN COMMUNITY HEALTH NURSING (6). Individualized internship to increase competency in advanced community health nursing. Completion of a clinically focused project involving community-based program planning required. May be repeated to a maximum of 12 semester hours. PRQ: NURS 671 and NURS 673, and consent of school.

699. MASTER'S THESIS (1-3). Open only to students who elect to write a thesis for the M.S. degree in nursing. Student enrolls with faculty member directing the thesis. Microfilming of thesis with University Microfilms required. May be repeated to a maximum of 3 semester hours. Continuous enrollment required until thesis completed. PRQ: NURS 613 and consent of school.

### Public Health and Health Education (PHHE)

502. COMMUNITY HEALTH PROGRAMS AND ISSUES (3). Provides conceptual tools for understanding community and school health issues, introduces principles and methods for promoting health, emphasizes community health perspectives based on the multilevel nature of health, discusses development of effective health promotion programs based on interaction and interdependence of factors.

504. DRUG EDUCATION (3). Development and evaluation of curricula appropriate for school and other settings. Emphasis on issues, techniques, and resources necessary for the health educator to interact within the school, community, and home environments. Examination of theories underlying preventive and rehabilitative substance abuse programs.

506. SEXUALITY EDUCATION (3). Emphasis on understanding values and beliefs concerning sexuality and on developing and implementing educational programs in school and community settings.

508. MENTAL AND EMOTIONAL HEALTH (3). Study of personality traits and interpersonal relationships. Emphasis on development and maintenance of positive mental and emotional health.

510. DEATH EDUCATION (3). Study of death as an integral phase of the life cycle. Examination of values and coping behaviors related to death and dying.

512. CONSUMER HEALTH (3). Examination of issues, information, products, and services that influence the quality of life for the individual and community. Emphasis on skills necessary to assess and select appropriate products and services to maintain or improve health.

533. PRINCIPLES OF LONG-TERM CARE ADMINISTRATION (3). Overview of long-term care services, personnel, and the roles of the administrator. Emphasis on organizational management and operations control. Resident care issues, federal and state regulations, and licensing and certification also addressed.

535. ETHICAL DECISION MAKING FOR HEALTH PROFESSIONALS (3). Introduction to common ethical dilemmas involved in health services delivery. Emphasis on applied ethical decision making. Formal organizational structures related to ethical dilemmas such as written policies, committee composition, and reporting and documentation requirements.

537. ASSESSMENT, TREATMENT, AND PREVENTION OF DRUG AND ALCOHOL ADDICTION (3). Drug and alcohol addiction viewed from physiological, interpersonal, and cultural perspectives. Treatment techniques and programs to prevent drug and alcohol addiction.

539. FUNDING FOR PROGRAMS IN PUBLIC HEALTH (3). Seminar in identifying significant public health problems and preparing competitive grant proposals. Students gain experience in writing and evaluating grant proposals and identifying potential funding agencies.

563. PUBLIC HEALTH INFORMATICS (3). Introduction to the systematic application of information and computer science and technology to public health practice, theory, and research. Information on the various aspects of public health informatics including surveillance, digital literacy, data management, and ethical issues regarding health data.

572. CURRENT ISSUES: HEALTH EDUCATION (1-3). Topics announced. May be repeated to a maximum of 6 semester hours when subject varies.

573. TOPICS IN PUBLIC HEALTH AND HEALTH EDUCATION (1-3). Examination of contemporary issues and problems in public health and health education. May be repeated to a maximum of 6 semester hours.

600. SPECIAL TOPICS IN SCHOOL HEALTH EDUCATION (1-3). Topics announced. May be repeated as often as desired; however, degree-seeking students may count only 6 semester hours toward the degree and may not repeat topics.

601. INTRODUCTION TO HEALTH SYSTEMS IN THE UNITED STATES (3). Evaluation of health care controversies using critical thinking and knowledge of the sources, uses, and analysis of the health literature, especially data. Overview of the structure, function, and evolution of the U.S. health system. Systems approach to the organization, financing and delivery of health care and public health services. Topics include the role of technology, health system structure and labor force, services financing methods, mental health, primary care, inpatient services, insurance and managed care, long-term care, the role of the public policy process, the public health infrastructure and others. PRQ: Consent of school.

603. BEHAVIORAL AND SOCIAL ASPECTS OF PUBLIC HEALTH (3). Examination of the ways in which psychological, social, cultural, and political structures impact the health of populations. Discussion of the types and distributions of health problems within communities. Introduction to strategies for disease and injury prevention including an overview of needs assessment and theory for public health practice. Discussion of the relationships among concepts of health, disease, and values. PRQ: Consent of school.

605. BIostatISTICS IN PUBLIC HEALTH (3). Introduction to the use of biostatistical analysis of health indicators, vital statistics, population and demographic variables, and other data important to the practice of public health. Includes basic descriptive and analytical statistical concepts, visual presentation of data, and use of public access data sets with emphasis on the use of biostatistics in designing, implementing, and evaluating public health programs, measures that complement epidemiological techniques, and statistical methods commonly used in biomedical and health research. PRQ: Consent of school.

607. HEALTH SERVICES MANAGEMENT (3). Analysis of techniques in leadership and management applicable to the public health field. Topics include change theory, power dynamics, creative problem solving, marketing concepts and ideas, and leadership image. Emphasis on leadership challenges, research findings on experimental exercises, and case histories involving applied leadership and management skills in health service organizations. PRQ: Consent of school.

609. PROBLEMS AND ISSUES IN ENVIRONMENTAL HEALTH (3). Analysis of contemporary environmental problems and issues related to public health. Topics include principles of environmental toxicology, environmental risk assessment and risk communication, food safety, air quality, water contamination, solid and hazardous waste management, occupational injuries and diseases, and environmental health legislation and policy. CRQ: PHHE 605 or consent of school.

611. APPLIED RESEARCH METHODS IN PUBLIC HEALTH (3). Study of the research process applied to public health practice with the main emphasis on conceptual understanding and skill development. Integration of research methods and statistics applicable to the health setting. CRQ: PHHE 605, or consent of school.

613. PRINCIPLES AND METHODS OF EPIDEMIOLOGY (3). Presentation and discussion of the principles and methods of the design, conduct, and interpretation of epidemiological studies. Focus on the evaluation and interpretation of the validity of findings from published epidemiological research. Examples from public health and biomedical literature used to illustrate concepts, methods, and interpretation. PRQ: Consent of school.

620. THEORIES AND PRINCIPLES IN HEALTH PROMOTION (3). Analysis of primary prevention and health education theories, principles, and data including cultural, social, and behavioral factors. Developing plans for implementing and evaluating individual, community, and global strategies using research-based health promotion practices. PRQ: PHHE 603 or consent of school.

622. CURRICULUM DEVELOPMENT IN SCHOOL HEALTH EDUCATION (3). Application of fundamental principles and concepts of curriculum development to comprehensive school health education. PRQ: Consent of school.

624. SCHOOL HEALTH PROGRAMS: PLANNING, MANAGING, AND EVALUATING (3). Analysis of the principles of initiating, implementing, conducting, and maintaining effective school health education programs including pertinent supervision and staffing issues. PRQ: Consent of school.

626. METHODS AND MATERIALS IN SCHOOL HEALTH EDUCATION (3). Health education programs in middle and secondary schools. Methodologies, strategies, materials, and resources for teaching health education. PRQ: Consent of school.

631. COMMUNITY HEALTH PROMOTION PROGRAMS (3). Overview of the major components of health promotion practice with emphasis on planning health promotion interventions. Includes experiential involvement in health promotion programming, community assessment, material development, community capacity building, and preparation of health promotion activities. PRQ: PHHE 620 and consent of school.

651. HEALTH ECONOMICS FOR HEALTH SERVICES MANAGERS (3). Study of principles, concepts, and methods of economic analysis applicable to the U. S. health sector. Applications include special characteristics of health care as a commodity and of the patient as a consumer; health insurance; determinants of cost and utilization; and effects on performance of different market structures, regulatory policies, and payment mechanisms. PRQ: Consent of school.

653. FINANCIAL DECISION MAKING FOR HEALTH SERVICES MANAGERS (3). Theory, principles, concepts, and tools necessary to participate in the financial management process of health services organizations. Emphasis on assisting line managers to make informed decisions regarding the financial resources of any health services organization. Discussion of health care financing via third-party payers, cash flow, capital projects, analysis and forecasting, budgeting, and other relevant topics. PRQ: Consent of school.

655. HUMAN RESOURCE MANAGEMENT IN THE HEALTH CARE SETTING (3). Reading, discussion, and practice of techniques in the field of human resource management. Organizational practices to improve employee morale, health, motivation, and productivity. PRQ: Consent of school.

669. COMMUNITY HEALTH PLANNING (3). Study of the development of community health planning goals, objectives, and activities through understanding of data collection, analysis, and evaluation. Discussion of social values and political processes in planning and plan implementation. PRQ: PHHE 605 or consent of school.

673. WORKSHOP IN HEALTH SERVICES DELIVERY (1-3). Advanced workshop designed for students, community professionals, and health-related board members to study a selected contemporary issue or problem in the field of health services delivery. Content varies to provide the opportunity to study current problems. May be repeated to a maximum of 12 semester hours. PRQ: Consent of school.

682. CLINICAL/FIELD EXPERIENCE IN SCHOOL HEALTH EDUCATION (1-6). Supervised clinical/field experience in school health education with emphasis on health instruction, health facilities, and a healthful environment. May be repeated to a maximum of 6 semester hours. PRQ: Admission to health education certification program or consent of school.

684. MIDDLE SCHOOL STUDENT TEACHING IN HEALTH EDUCATION (3-6). Student teaching for eight weeks in middle school health education. Includes seminars of current issues in teaching. Assignments to be arranged with the health education teacher certification coordinator. See "Teacher Certification Requirements." S/U grading. PRQ: Pass ICTS Subject Area Test of Content Knowledge in Health Education, complete all other certification requirements, and consent of school.

686. SECONDARY SCHOOL STUDENT TEACHING IN HEALTH EDUCATION (3-6). Student teaching for eight weeks in secondary school health education. Includes seminars of current issues in teaching. Assignments to be arranged with the health education teacher certification coordinator. See "Teacher Certification Requirements." S/U grading. PRQ: Pass ICTS Subject Area Test of Content Knowledge in Health Education, complete all other certification requirements, and consent of school.

695. INTERNSHIP IN PUBLIC HEALTH (1-9). Work individually in practical public health situations under the guidance of an agency staff member and a university supervisor. May be repeated to a maximum of 12 semester hours. S/U grading. PRQ: Consent of school.

697. INDEPENDENT STUDY IN PUBLIC HEALTH AND HEALTH EDUCATION (1-3). Independent study of current topics in public health and health education under faculty supervision. May be repeated or taken concurrently to a maximum of 6 semester hours. PRQ: Consent of school.

698. MASTER'S COMPREHENSIVE EXAMINATION (1). Independent project completed over a time period specified by the school. May be repeated only once. S/U grading. PRQ: Consent of school.

699. MASTER'S THESIS (1-6). May be repeated to a maximum of 6 semester hours. Continuous enrollment required until completion of the thesis. PRQ: Consent of school.

797. INDEPENDENT RESEARCH IN HEALTH EDUCATION (1-3). Independent research at post-master's degree levels under faculty supervision. Research topic must be approved by supervisor prior to registration. May be repeated to a maximum of 6 semester hours. PRQ: Consent of faculty member who will direct research.

# College of Liberal Arts and Sciences

**Dean: Christopher K. McCord, Ph.D.**

**Acting Associate Dean for Academic Administration: Amy Levin, Ph.D.**

**Associate Dean for Undergraduate Affairs: Sue Warrick Doederlein, Ph.D.**

**Associate Dean for Research and Graduate Affairs: Susan Mini, Ph.D.**

Department of Anthropology  
 Department of Biological Sciences  
 Department of Chemistry and Biochemistry  
 Department of Communication  
 Department of Computer Science  
 Department of Economics  
 Department of English  
 Department of Foreign Languages and Literatures  
 Department of Geography  
 Department of Geology and Environmental Geosciences  
 Department of History  
 Department of Mathematical Sciences  
 Department of Philosophy  
 Department of Physics  
 Department of Political Science  
 Department of Psychology  
 Department of Sociology

## College Mission Statement

The College of Liberal Arts and Sciences fosters the generation, dissemination, and preservation of knowledge as the foundation of a liberal education. The mission of the college is to provide high-quality education that contributes to the intellectual growth, self-discovery, and enhanced expertise of all members of the university community. The college makes available to the widest possible audience the rich cultural and scientific legacy represented by the disciplines that make up the liberal arts and sciences. Because bodies of knowledge do not exist in isolation, the college promotes interdisciplinary inquiry and is committed to the integration of teaching, scholarship, and service. The research and scholarship in the college permeate teaching and service, generating a wide range of opportunities for faculty and students to work together in transmitting, expanding, and applying knowledge. The college programs are designed to serve the university, its students, and the residents of the region, the country, and the world. These programs link basic and applied research and scholarly endeavors to the interests and needs of individuals and society.

## Certificates of Graduate Study

### Lesbian, Gay, Bisexual, and Transgender Studies (12)

**Coordinator: Diana Swanson (Women's Studies Program and Department of English) and Sarah Conklin (Nursing and Health Studies)**

This interdisciplinary certificate fosters research and teaching related to sexual orientation and gender identity. Course work leading to this certificate includes study of sexuality and

gender identity and their significance, through a systematic engagement with theories and methods in lesbian, gay, bisexual, and transgender studies and their application in a variety of disciplinary and interdisciplinary contexts. The certificate is recommended for all students interested in examining issues of gender and sexual orientation in order to incorporate such concerns into their scholarly work as well as to function as informed citizens and successful professionals in the 21st century. The certificate is particularly appropriate for students preparing for or currently working in a variety of disciplines or careers in business, communications, the arts, education, health, social sciences, humanities, and human services.

This certificate of graduate study is available to any graduate-level student in good standing. Students must consult with the coordinator of lesbian, gay, bisexual, and transgender studies for approval of the course of study.

ILAS 650 - Lesbian, Gay, Bisexual, and Transgender Studies (3)

One of the following (3)

ILAS 651 - Research in Lesbian, Gay, Bisexual, and Transgender Studies (3)

ILAS 602 - Internship (3), or an equivalent internship course approved by the coordinator. The internship experience must include activities related to LGBT Studies.

Two of the Following<sup>2</sup> (6)

ANTH 522 - Gender in Southeast Asia (3)

ANTH 568 - Anthropology of Gender (3)

CAHC 766 - Human Sexuality Counseling (3)

COMS 640 - Seminar in Communication and Gender (3)

COMS 760<sup>1</sup> - Seminar in Rhetoric (3)

ENGL 607<sup>1</sup> - Topics in Literature (3)

HIST 502 - Gender and Sexuality in History (3)

ILAS 602 - Internship (3)

PHHE 506 - Sexuality Education (3)

WOMS 610<sup>1</sup> - Topics in Women's Studies (3)

WOMS 620 - Feminist Theory (3)

### Museum Studies (15)

This certificate is jointly administered by the College of Liberal Arts and Sciences, the College of Education, and the College of Visual and Performing Arts. See the section on Inter-College Interdisciplinary Certificates for a complete description of this certificate.

### Women's Studies (12)

Women's studies is an interdisciplinary program which fosters research and teaching related to gender. Course work leading to the certificate of graduate study in women's studies permits study of gender and its significance through a systematic engagement with feminist theory and criticism, research methods, and scholarship and results in recognition of that study on the student's transcript. Since the Women's Studies Program is not a degree-offering unit, all graduate degrees are obtained through the student's major department, whose special requirements must be met. The certificate is available to students in good standing in any graduate program in the university. Students-at-large in good standing may also pursue the certificate. Faculty who regularly teach courses which contribute to the certificate or participate in the core courses come from a variety of departments.

<sup>1</sup> May be counted toward the certificate when topic is appropriate.

<sup>2</sup> Any graduate-level special topics course or independent or directed study course focused on sexual orientation and/or gender identity may be counted toward the certificate with the approval of the coordinator of lesbian, gay, bisexual, and transgender studies.

A student who wishes to pursue this certificate should consult early in graduate studies with both her or his major department faculty adviser and the women's studies director. Students may earn transcript credit for the certificate by completing 12 hours in courses approved by the director of the Women's Studies Program, including the two required interdisciplinary core courses. For the other 6 required hours, in addition to the approved electives listed below, any graduate-level special topics course or directed study focused on gender may be counted toward the certificate with the approval of the director of women's studies. Students may enroll in internships combining their professional interests with their preparation in women's studies.

Students interested in pursuing this certificate are advised to consult with the director of women's studies as early as possible in their graduate program to determine the program of courses to be used toward the certificate.

### Requirements (12)

WOMS 620 - Feminist Theory (3)

WOMS 630 - Research in Women's Studies (3)

Two of the following (6)

ANTH 522 - Gender in Southeast Asia (3)

ARTH 785<sup>1</sup> - Topics in Art History (3)

CAHC 592<sup>1</sup> - Special Topics in Counseling (3)

CAHC 595 - Women and Careers (3)

CAHC 766 - Human Sexuality Counseling (3)

COMS 640 - Seminar in Communication and Gender (3)

COMS 656 - Feminist Film Theory (3)

ENGL 602D - Literary Theory and Criticism (3)

ENGL 607<sup>1</sup> - Topics in Literature (3)

EPFE 590<sup>1</sup> - Workshop in Education (3)

EPFE 703 - Seminar: Gender Issues in Educational Thought (3)

FCNS 600B<sup>1</sup> - Seminar: Family and Child Studies (3)

HIST 513 - Family, Sexuality, and Society Since 1400 (3)

HIST 573 - Topics in Women's History (3)

HIST 610<sup>1</sup> - Reading Seminar in U.S. History (3)

ILAS 650 - Lesbian, Gay, Bisexual, and Transgender Studies (3)

MGMT 528 - Equal Opportunity and Employment (3)

PSYC 595<sup>1</sup> - Seminar in Special Topics (3)

SOCI 557 - Families in Global Perspective (3)

SOCI 663 - Women's Health Issues (3)

WOMS 530 - Special Topics in Women's Studies (3)

WOMS 534 - Language and Gender (3)

WOMS 602 - Internship in Women's Studies (3-6)

WOMS 610 - Topics in Women's Studies (3)

WOMS 625X - Museums: Gender, Race, and Class (3)

WOMS 639 - Independent Study in Women's Studies (1-3)

Independent study and topics courses in a variety of departments may meet the certificate requirements, with the approval of the director of the women's studies program, when substantial treatment of women's studies is included in the course.

### Faculty Associates

Diana Swanson, associate professor of English, Ph.D., acting director

Alexandra G. Bennett, associate professor of English, Ph.D.

Sarah Blue, assistant professor of geography, Ph.D.

Georgia Brown, instructor of computer science, M.S.

Barbara Burrell, associate professor of political science, Ph.D.

Kathryn A. Cady, assistant professor of communication, Ph.D.

Louise Ciallella, associate professor of foreign languages and literatures, Ph.D.

Cassandra Crawford, assistant professor of sociology, Ph.D.

Sabiha Daudi, assistant professor of teaching and learning, Ph.D.

Deborah De Rosa, associate professor of English, Ph.D.

Mayra Daniel, associate professor of literacy education, Ph.D.

Jill Dunlap, Women's Resource Center

Kerry Ferris, assistant professor of sociology, Ph.D.

Reva Freedman, associate professor of computer science, Ph.D.

Valerie Garver, assistant professor of history, Ph.D.

Carla Goar, assistant professor of sociology, Ph.D.

LaVerne Gyant, Center for Black Studies, Ed.D.

Amy K. Levin, professor of English, Ph.D.

Lichuan Liu, assistant professor of electrical engineering, Ph.D.

Margaret Asalele Mbilizi, professor of counseling, adult and higher education, Ph.D.

Elizabeth Miller, associate professor of family, consumer, and nutrition sciences, Ph.D.

Robin Moreman, associate professor of sociology, Ph.D.

Adele Morrison, associate professor of law, Ph.D.

Helen Nagata, assistant professor of art history, Ph.D.

Diane Pospisil-Kinney, Counseling and Student Development Center, M.S.Ed., NCC

Emily Prieto, Latino Resource Center, Ph.D.

Regina Rahn, assistant professor of industrial and systems engineering, Ph.D.

Patricia Rickett, instructor of English, M.A.

Leslie S. Rigg, associate professor of geography, Ph.D.

Amy Rose, professor of adult and higher education, Ed.D.

Linda Saborio, assistant professor of foreign languages and literatures, Ph.D.

Brian Sandberg, assistant professor of history, Ph.D.

Krissi Staikidis, assistant professor of art education, Ed.D.

Sharon Sytsma, associate professor of English, Ph.D.

Carol Walther, assistant professor of sociology, Ph.D.

Corrine Wickens, assistant professor of literacy education, Ph.D.

Kerith Woodyard, assistant professor of communication, Ph.D.

## Secondary Teacher Certification

Several departments in the College of Liberal Arts and Sciences administer programs leading to initial teacher certification. See "Teacher Certification Information" for a complete list of teacher certification entitlement programs offered by NIU. Students interested in teaching in a subject area offered by a department in the College of Liberal Arts and Sciences should see individual department listings in this catalog and seek departmental advisement concerning standards for admission and retention unique to each departmental certification program.

### Requirements Common to All Accredited Teacher Certification Programs in Liberal Arts and Sciences

All of the teacher certification programs offered in the College of Liberal Arts and Sciences meet or exceed minimum requirements of the Illinois State Board of Education (ISBE); consequently, students completing the requirements for any of the programs will be recommended for certification under ISBE entitlement. Students with a baccalaureate degree from an accredited institution interested in secondary teacher certification in any of the above subject areas must

be admitted to the university as a postgraduate, student-at-large, or a graduate student. Admission to a degree program does not guarantee admission to the certification program in any department. (Students should seek transcript evaluation and advisement from the appropriate department certification adviser concerning departmental requirements for admission to the teacher certification program.)

meet departmental requirements for the teaching subject-area.

complete general education course work as mandated by ISBE.

complete a minimum of 100 clock hours of clinical experiences approved by the department prior to student teaching.

complete professional education courses as mandated by ISBE. Consult the adviser in the appropriate certification program (see above list) for information about courses which meet these requirements.

<sup>1</sup> May meet the certificate requirements when substantial treatment of women's studies is included.

complete the subject-area department teaching methods course.

pass both the State of Illinois Basic Skills Examination and the appropriate subject matter examination administered by the Illinois Certification Testing System.

complete the student teaching course offered by the subject-area department. Student teaching assignments and sites must be authorized by the subject-area department. See the appropriate department adviser for information about timely application and regulations governing the student teaching assignment.

A satisfactory academic record is not the only criterion for admission to and retention in a certification program. Written evaluations of any candidate's performance which demonstrate deficiencies in organizational and communication skills or attitudes and behaviors unsuitable for working with students will result in that candidate not being recommended for certification.

See department certification adviser. Also see "Teacher Certification Information."

## Interdisciplinary Courses Offered by the College of Liberal Arts and Sciences (ILAS, WOMS)

### Interdisciplinary Liberal Arts and Sciences (ILAS)

520. INSTITUTE FOR INTERDISCIPLINARY INSTRUCTION OF GIFTED CHILDREN (3).

- A. General Introduction
- B. Elementary School
- C. Middle School
- D. High School

Design of interdisciplinary instruction for gifted children. Topics include the characteristics, identification, and evaluation of gifted children, the rationale for gifted education, program prototypes, and an introduction to differentiated curriculum. PRQ: Consent of college.

521. INTRODUCTION TO THE GIFTED EDUCATION NETWORK (3). Training in use of technology with the gifted and talented, designing and developing materials for use as either stand alone or with an Internet connection to the World Wide Web. New skills put into practice by developing teaching units. Open only to teachers who have received level 1 and 2 gifted institute training. PRQ: Permit only.

544. COMPARATIVE URBANIZATION (3). Cross-cultural and interdisciplinary analysis of urbanization focusing on selected developing areas and the United States. Topics include cross-cultural definitions of urbanism, functions and services of secondary cities, and cross-cultural comparison of problems associated with urban growth and rural developments. PRQ: Junior, senior, or graduate standing.

590. ADVANCED TOPICS IN INTERDISCIPLINARY STUDIES (3). Topics from sciences, social sciences, and/or humanities treated from an interdisciplinary perspective. May be repeated to a maximum of 6 semester hours when topic varies.

602. INTERNSHIP (3-12). Work as an intern in activities related to one of the majors in the college. Reading and paper preparation under supervision of a faculty member in the College of Liberal Arts and Sciences. May be repeated to a maximum of 12 semester hours. PRQ: Consent of department and college; graduate standing.

650. LESBIAN, GAY, BISEXUAL, AND TRANSGENDER STUDIES (3). Systematic overview of issues and schools of theory in lesbian, gay, bisexual, and transgender studies. Interdisciplinary study of sexual orientation and gender identity, with attention to race, ethnicity, and class. Implications for scholarly research.

651. RESEARCH IN LESBIAN, GAY, BISEXUAL, AND TRANSGENDER STUDIES (3). Systematic overview of methodological and practical issues and problems in formulating and conducting research in lesbian, gay, bisexual, and transgender studies, both within specific academic fields and as an interdisciplinary effort, with attention to evaluation and interpretation of source materials, field research methods, and critical issues. Implications for scholarly research.

655. SEMINAR ON COMPARATIVE URBANIZATION (3). A multidisciplinary seminar focusing on interdependent problems of urban and rural development with comparison between the United States and selected Third World areas. PRQ: ILAS 544 or consent of department.

690. WORKSHOP IN TEACHING SOUTHEAST ASIAN STUDIES (1-3). Designed for those who want to introduce knowledge about Southeast Asia into the classroom. Includes production of lesson plans and teaching modules for K-12 teachers. May be repeated to a maximum of 6 semester hours as topic varies.

691. SEMINAR IN SOUTHEAST ASIAN STUDIES (1-3). May be repeated to a maximum of 6 semester hours as topic varies.

### Women's Studies (WOMS)

530. SPECIAL TOPICS IN WOMEN'S STUDIES (3). May be repeated to a maximum of 6 semester hours as topic changes, but only 3 semester hours may be applied toward the certificate of graduate study in women's studies

534. WOMEN, MEN, AND LANGUAGE. (3). Examination of empirical evidence pertaining to language variation by sex and gender identity within the framework of sociolinguistics. Focus on characteristics of feminine and masculine speech and conversational styles, societal attitudes towards them, and their implications for men and women in society. Biological foundations and sociogenesis of sex differences in language; interaction effects on language variation of other social variables such as age, class, and ethnic identity; and crosscultural differences.

602. INTERNSHIP IN WOMEN'S STUDIES (3-6). Work as an intern in activities related to women's studies. Reading and paper preparation under supervision of a faculty member. May be repeated in subsequent semesters to a maximum of 6 semester hours. S/U grading. PRQ: Consent of director.

610. TOPICS IN WOMEN'S STUDIES (3). Topics announced. May be repeated to a maximum of 6 semester hours when topic varies. PRQ: Consent of director.

620. FEMINIST THEORY (3). Concepts, methods, and development of feminist theories; systematic overview of schools of feminist theory as they are grounded in different social identities and epistemological perspectives; implications of feminist theories for scholarly research.

625X. MUSEUMS: GENDER, RACE, AND CLASS (3). *Crosslisted as ART 625*. Interdisciplinary, multicultural study of museum theory and practice as it pertains to diversity of race, class, and gender. A case study approach will be used.

630. RESEARCH IN WOMEN'S STUDIES (3). Interdisciplinary analysis of principles, methods, and bibliographic resources for the study of gender and for evaluating the relevance of scholarship in women's studies to traditional disciplines. Focus on theoretical perspectives and methodological issues central in feminist inquiry and development of skills in integrating gender-related research and criticism in students' area of academic specialization. PRQ: WOMS 620 or consent of department.

639. INDEPENDENT STUDY IN WOMEN'S STUDIES (1-3). Student must present research prospectus approved by a faculty member before a permit is granted. PRQ: WOMS 620 and WOMS 630, or permission of the director of women's studies.

# Department of Anthropology (ANTH)

Chair: Judy L. Ledgerwood

## Graduate Faculty

Giovanni Bennardo, associate professor, Ph.D., University of Illinois  
Winifred Creamer, Presidential Research Professor, Ph.D., Tulane University

Daniel L. Gebo, Distinguished Research Professor, Presidential Teaching Professor, Board of Trustees Professor, Ph.D., Duke University

Michael J. Kolb, Ph.D., University of California at Los Angeles  
Sibel Kusimba, associate professor, Ph.D., University of Illinois

Judy L. Ledgerwood, professor, Ph.D., Cornell University

Mark W. Mehrer, associate professor, Ph.D., University of Illinois

Andrea K. Molnar, associate professor, Ph.D., Australian National University

Leila Porter, associate professor, Ph.D., Stony Brook University

Susan D. Russell, professor, Ph.D., University of Illinois

Kendall Thu, professor, Ph.D., University of Iowa

The Department of Anthropology offers graduate courses and research opportunities leading to the M.A. degree. Graduate work in this field is designed to prepare students for teaching or research in anthropology, and for advanced study.

Applicants to the Graduate School desiring to pursue the graduate curriculum in anthropology are urged to consult with the departmental graduate adviser prior to admission. Students admitted to the graduate curriculum in anthropology should consult with their appointed departmental graduate advisers in order to insure that the requirements of the department will be met by the program of courses elected.

## Master of Arts in Anthropology

Applicants for admission to this degree program are expected to have completed at least 15 undergraduate semester hours in anthropology and a course in statistics. A student lacking this background will be required to take compensatory work during his or her graduate program.

### Requirements (30)

A minimum of one course taken for graduate credit from each of the four following subfields of anthropology (12)

Archaeology

Cultural-social anthropology (ANTH 521, ANTH 526, ANTH 527, ANTH 551, ANTH 560, ANTH 563, ANTH 565, ANTH 567, ANTH 625)

Linguistic anthropology

Physical anthropology

At least 18 additional semester hours, of which at least 12 must be in anthropology courses (18)

Independent study courses may not be substituted for required courses without the consent of the student's adviser and the department chair.

Each student in the master's degree program must demonstrate to the satisfaction of his or her faculty committee proficiency in either statistics or a foreign language useful for the student's research and must choose one of the following options.

### Thesis Option

Students choosing this option must register for at least 3 semester hours of credit in ANTH 699, Master's Thesis, and satisfactorily complete the departmental qualifying examination in their primary subfield of anthropology. Approval of a written preliminary thesis proposal is required before registration in ANTH 699. Although the student may seek approval of the preliminary thesis proposal at any time, successful completion of the qualifying examination in the student's major subfield of anthropology is a prerequisite to formal registration in ANTH 699.

ANTH 699 - Master's Thesis (1-6)

### Non-Thesis Option

Students choosing this option must successfully complete the comprehensive examination in anthropology, covering all four subfields of anthropology, and must take an additional 6 hours for graduate credit in anthropology.

## Course List (ANTH)

502. PEOPLES AND CULTURES OF THE PACIFIC ISLANDS (3). Ethnographic and ethnological survey and analysis of the societies and cultures of the Pacific Islands. Primary focus on the lifeways of the indigenous peoples of the area with a secondary focus on the role which information about the lifeways of peoples of the Pacific Islands has played in the development of anthropological theory.

503. PEOPLES AND CULTURES OF AFRICA SOUTH OF THE SAHARA (3). Descriptive and analytic examination of representative African societies dealing with their culture, histories, and economic, political, and social organization, as well as religion and arts. Contemporary problems of culture change and social transformation within the context of decolonization.

505. PEOPLES OF MESOAMERICA (3). Cultural background of Mesoamerican ethnic groups; historical and contemporary sociocultural systems of Indian, black, and mestizo groups in rural and urban areas. Attention to the processes of acculturation, urbanization, and current cultural modifications influenced by contemporary society.

507. PEOPLES AND CULTURES OF INSULAR SOUTHEAST ASIA (3). Introduction to the social and cultural diversity of insular Southeast Asia, especially Indonesia, Malaysia, and the Philippines. Emphasis on the region's geography, colonial experience, and patterns of social organization, kinship, religious belief, ethnic pluralism, and authority.

508. PEOPLES AND CULTURES OF MAINLAND SOUTHEAST ASIA (3). Introduction to the social and cultural diversity of mainland Southeast Asia - Burma, Thailand, Laos, Cambodia, and Vietnam. Emphasis on the area's geography, history, kinship and social organization, religious beliefs (especially Theravada Buddhism), ethnic diversity, and contemporary problems.

510. ARCHAEOLOGY OF AFRICA (3). Detailed, analytical survey of African prehistory from the earliest evidence of human occupation to the time of extra-African contact.

511. ARCHAEOLOGY OF EUROPE (3). Origins and development of prehistoric cultures in Europe from the Palaeolithic to the Neolithic.

512. ANCIENT NORTH AMERICA (3). Survey of ancient peoples and archaeological cultures throughout North America with attention to their lifeways, artifacts, and natural settings.

513. ILLINOIS ARCHAEOLOGY (3). Examination of the current state of knowledge of Illinois archaeology. Recent archaeological discoveries in our state provide a much improved picture of prehistoric life here. Time covered is from the first arrival of people in what is now Illinois until the establishment of cities during the last century. Emphasis on the technology, natural setting, chronology, subsistence, population, settlement, and social structure for each archaeological tradition and time period.
514. ARCHAEOLOGY OF MESOAMERICA (3). Descriptive and analytical examination of pre-Columbian cultures of Mexico and Central America.
515. ARCHAEOLOGY OF THE AMERICAN SOUTHWEST (3). Origins and diversification of prehistoric cultures in the Southwest.
517. ARCHAEOLOGY OF SOUTH AMERICA (3). Description and analysis of human occupation of the South American continent from its initial occupation to the arrival of the Spanish conquistadores. Emphasis on interrelationships between areas; models purporting to explain sociopolitical evolution.
518. APPLIED ARCHAEOLOGY (3). Detailed examination of the operational framework, methods, and techniques of applied archaeology and scrutiny of their rationales. Instruction in skills needed in the new working environment of most of the archaeology that is done within the United States.
519. ARCHAEOLOGY OF MEDITERRANEAN CIVILIZATIONS (3). Detailed analysis of the rise of civilizations in the Mediterranean basin from the Neolithic to the Iron Age. A comparative course focusing on the regions of the Balkans, Egypt, Greece, the Levant, and Italy.
521. SOCIAL ORGANIZATION (3). Description of social systems, an exploration of the regularities and variations in the several facets of social structure emphasizing the interrelatedness of the parts of culture as a functioning entity.
522. GENDER IN SOUTHEAST ASIA (3). Detailed analysis of conceptions of gender across Southeast Asia. Review of theoretical approaches in gender studies and ethnographic material from the region.
525. ENVIRONMENT AND ANTHROPOLOGY (3). Human adaptation to the natural environment, including interconnections between ideologies, social systems, economics, political structures, and ecology. Historical development of environmental studies in anthropology, particularly ecological anthropology, up through and including the emergence of political ecology and environmental anthropology. Topics include ecological adaptation of non-industrial societies, communal resources, world food and population, industrial food systems, contemporary environmentalism, and the relationship between science, policy and the state.
526. POLITICAL ANTHROPOLOGY (3). Political activities and how they articulate with other institutions. Presentation of various interpretations and theories that have been applied to the data.
527. ECONOMIC ANTHROPOLOGY (3). Analysis of economic behavior and institutions and how they articulate with other aspects of culture.
528. RITUAL AND MYTH (3). In-depth examination of the approaches, theories, and methodologies in the anthropological study of ritual and myth. Topics include the feasibility of distinguishing ritual from nonritual both cross-culturally and within particular societies, most recent studies of ritual focusing on sacrifice, ritual as performative action, ritual symbolism, ritual function versus form, types of rituals, the study of myths, structural-symbolic analysis of sacred myths, phenomenological-symbolic analysis of myths, myths of origin and myths of death, relationship between myth and ritual. Ritual and myth also considered in relation to ideas about the maintenance of cosmological and sociopolitical systems.
533. FUNDAMENTALS OF COGNITIVE ANTHROPOLOGY (3). Examination of relationships between human mind and human culture. Critical analysis of major areas of cognitive anthropological research in kinship, ethnobiology, cultural models, distributed cognition, and spatial relationships. Consideration of the interface of contemporary cognitive anthropology and general cognitive science.
535. SPACE IN LANGUAGE AND CULTURE (3). *Crosslisted as GEOG 535X*. Exploration of how various languages express spatial relationships by using different parts of speech, how culture shapes ways of organizing and using space in daily and ritual behavior, and the mental organization of spatial knowledge, with emphasis on universal patterns that generate cultural and individual realizations.
538. CULTURAL MODELS: THE LANGUAGE OF CULTURE (3). Cultural models as intermediary mental organizations of meaning that stand between universal concepts and culturally bound realizations. Origin of the concept in various disciplines such as anthropology, artificial intelligence, linguistics, and cognitive psychology. Research on cultural models in various cultures.
540. FOSSIL HUMANS (3). The human fossil record. Emphasis on interpretation of morphology and theory in human paleontology.
541. SEX AND GENDER IN PRIMATES (3). Theories of the evolution of sex differences and associated gender roles in human and non-human primates including primate mating systems, sperm competition, mate choice, parental care, aggression, and cooperation.
542. BIOCULTURAL PERSPECTIVES ON THE HUMAN SKELETON (3). Topical and interpretative study of the human skeleton with relation to the study of past human populations, especially in relation to the analysis of prehistoric economy, social behavior, and physical interaction with the biocultural environment. Reconstruction of paleodiet, impact of undernutrition on growth and development, bone microstructure, dental disease, other markers of stress, impact of specific behavioral repertoires on the human skeleton, and masticatory and nonmasticatory adaptations of the craniofacial complex.
543. HUMAN ADAPTATION AND VARIATION (3). History of the concept of race; current approaches to human variability. Selective aspects of continuous and discontinuous traits: blood groups, hemoglobins, etc.; race and I.Q.; sex differences. Ecological influences on human variation.
544. PRIMATE ECOLOGY AND CONSERVATION (3). Study of living non-human primates with an understanding of how primates have adapted to their environment and how this information is essential for conservation planning. .
545. PRIMATE EVOLUTION (3). *Crosslisted as BIOS 535X*. Primate fossil record, emphasis on adaptatin and phylogeny.
546. THE HUMAN SKELETON (3). Detailed study of human bones and teeth, including growth, sex identification, aging and stature estimation, and bone pathologies.
547. PRIMATE ANATOMY (3). The skeletal anatomy of living primates including primate dental and skeletal adaptations, phylogeny, speciation, and biogeography.
550. ETHICS AND RESEARCH DESIGN IN ANTHROPOLOGY (3). Examination of ethical decision-making in anthropological procedures and an introduction to research designs and organizational skills in the practice of anthropology.
551. HISTORY AND THEORY OF ANTHROPOLOGY (3). Overview of the history of anthropological institutions and the historical development of anthropological concepts. Attention given to schools of thought and associated leading anthropologists in all major fields of anthropology.
552. CONTEMPORARY CULTURE THEORY (3). Examination of the development of anthropological culture theory starting with structuralism and moving on through symbolism to postmodernism. Focus on the writings of the major theorists.
553. ARCHAEOLOGICAL THEORY (3). Development of archaeological theory from the mid-19th century to the present. Connections of archaeological theory to major anthropological issues.

560. METHODS IN ETHNOGRAPHY (3). Theory and practice in methods of ethnographic research. Problems and techniques in participant observation, structured and nonstructured interviews, questionnaires, indirect measures, documentation, and recording. Ethics of ethnographic research. Not open for credit to students having credit in SOCI 677.

561. METHODS IN ARCHAEOLOGY (3). Introduction to the analysis of ceramics, lithics, botanical remains, faunal remains, settlements, and other archaeological material. Emphasis on selecting techniques for analysis and interpreting analytical results.

562. MUSEUM METHODS (3). Lectures and practical experience in various aspects of museum work; design and construction of museum exhibits in anthropology. May be repeated to a maximum of 6 semester hours.

563. ETHNOHISTORY (3). Approaches to locating, evaluating, and utilizing oral and written historical sources in ethnographic and anthropological investigations.

565. MEDICAL ANTHROPOLOGY (3). Survey of interactions between infectious and parasitic diseases, genetic predispositions, and specific cultural habits, attitudes, and beliefs. Includes cognitive systems as they relate to disease theory in various cultures and examples of folk medical practices and beliefs.

566. HUNTERS-GATHERERS AND THE TRANSITION TO FOOD PRODUCTION (3). Hunter-gatherers as a societal type and the foraging of wild foods as an economic activity. Topics include defining "hunter-gatherers," the origins and evolution of hunting and gathering, optimal foraging theory, the cross-cultural analysis of foraging societies, the origins of food production, and the persistence of foraging as an economic activity among food producing societies. The scope and limits of diversity among societies and practices associated with the exploitation of wild food resources are also considered.

567. APPLIED ANTHROPOLOGY (3). Uses of anthropological concepts, knowledge, and insights to maintain or change cultures and societies combined with a consideration of the ethical problems in programs of directed culture change.

568. ANTHROPOLOGY OF GENDER (3). Survey of current theory and research on gender, sexuality, and representations of the body. Examination of debates about the significance of gender and sex in primate and human evolution, physical anthropology, and sociobiology. In seminar format, students also explore cross-cultural notions of gender and analyze the intersection of race/class/gender and the historical construction of sexuality and conceptions about "the body" in the sciences, the arts, ethnography, and popular culture.

569. THE ARCHAEOLOGY OF EMPIRES (3). An archaeological perspective on the formation, character, and fall of ancient empires, including militarism, urbanism, state ideology, provincial life, infrastructure, social and ethnic relations, economic interactions, and collapse. The course is comparative, drawing from both Old World and New World empires.

590. ANTHROPOLOGICAL RESEARCH TRAINING (3-6).

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

Training and experience in field and/or laboratory research. Students will participate, under supervision, in basic research projects. Any lettered section may be repeated to a maximum of 6 semester hours. Total credit may not exceed 6 semester hours.

591. CURRENT TOPICS IN ANTHROPOLOGY (3). May be repeated to a maximum of 6 semester hours.

592. PROSEMINAR IN ANTHROPOLOGY (3). Intensive seminar work on selected topics in anthropology. May be repeated to a maximum of 6 semester hours.

593. ANTHROPOLOGY FIELD STUDY (1-6).

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

Directed field study or field school. Each topic may be repeated to a maximum of 12 semester hours.

596X. HISTORY AND SOCIAL SCIENCE INSTRUCTION IN GRADES 6-12 (3). *Crosslisted as HIST 596*. Organization and presentation of materials for history and social science courses at the middle school, junior high, and senior high school levels. PRQ: Admission to the history or social science teacher certification program and permission of Department of History's office of teacher certification.

610. ARCHAEOLOGY AND PREHISTORY (3). Critical analysis of original works of major importance in the development and current state of archaeological methods and prehistory.

611. ARCHAEOLOGICAL INTERPRETATIONS (3). Detailed examination of theories and methods basic to cultural, temporal, and environmental interpretation of archaeological data. Relationships with other anthropological subdisciplines and with other sciences will be stressed.

620. CULTURAL AND SOCIAL ANTHROPOLOGY (3). Critical analysis of original works of major importance in the development and current state of cultural and social anthropology.

621. ADVANCED TOPICS IN SOUTHEAST ASIAN ETHNOLOGY (3). Intensive seminar on a selected topic of current interest regarding the ethnology of Southeast Asia. May be repeated to a maximum of 6 semester hours.

625. SYMBOLIC ANTHROPOLOGY (3). Anthropological approaches to the role of symbols in culture.

626. LATIN AMERICAN PEASANTS AND SOCIAL CHANGE (3). Anthropological perspectives on rural economic structure and social change in Latin America, with emphasis on geographical regions from central Mexico to the Andes that have high proportions of indigenous peoples. Methodological emphasis on comparative historical analyses of agricultural systems, ethnic identity, peasant social movements, and the relationship between economy and culture.

627. SOUTHEAST ASIAN PEASANT ECONOMY (3). Anthropological perspectives on the nature of Southeast Asian peasant socioeconomic institutions. Comparative analysis of how political and economic policies have affected processes of change in both lowland and highland peasant cultures over time.

628. RELIGION AND COSMOLOGY IN SOUTHEAST ASIA (3). Perspectives of cultural anthropology on the folk religions and world views of peoples of Southeast Asia. Comparative analysis of the impact of different religious and secular ideologies on everyday political and economic thought and behavior of common people in various urban and rural settings of the past and present.

633. COGNITIVE ANTHROPOLOGY (3). Study of cognition through the formal semantic analysis of kinship systems, folk taxonomies, and other terminological networks with emphasis on how such analyses relate to nonlinguistic aspects of the cultures in which they are embedded.

640. PHYSICAL ANTHROPOLOGY (3). Critical analysis of original works of major importance in the development and current state of physical anthropology.

653. CULTURE THEORY (3). Detailed examination of theories basic to studies of individual cultures and to cross-cultural comparison: structuralism, functionalism, cultural ecology, cultural evolution, network analysis, and other viewpoints.

679X. CULTURAL PERSPECTIVES ON HUMAN DEVELOPMENT (3). *Crosslisted as EPS 679 and PSYC 679X*. Cultural perspectives on parenting, home-school relations, psychological development, and education. Case materials drawn from western and non-western societies.

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

- A. Cultural Anthropology
- B. Ethnology
- C. Archaeology
- D. Physical Anthropology
- E. Ethnohistory
- 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. PRQ: Written permission of the department.

699. MASTER'S THESIS (1-6). May be repeated to a maximum of 6 semester hours.

790. SEMINAR IN ANTHROPOLOGY (3).

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

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

# Department of Biological Sciences (BIOS)

Chair: Barrie P. Bode

## Graduate Faculty

Richard J. Becker, assistant chair for business and operations, Ph.D., Northern Illinois University  
 Barrie P. Bode, professor, Ph.D., University of Florida  
 Neil W. Blackstone, professor, Ph.D., Yale University  
 Jozef J. Bujarski, Distinguished Research Professor, Ph.D., Adam Mickiewicz University (Poznan, Poland)  
 Ana Calvo, professor, Ph.D., University of Alcalá (Madrid)  
 Melvin Duvall, professor, Ph.D., University of Minnesota, St. Paul  
 Kenneth W. Gasser, associate professor, Ph.D., Washington State University  
 Richard Hahin, professor, Ph.D., University of Maryland  
 Laszlo Hanzely, Distinguished Teaching Professor, adjunct, Ph.D., Southern Illinois University  
 Stuart Hill, associate professor, Ph.D., University of Montana  
 Gabriel P. Holbrook, associate professor, Ph.D., University of York (U.K.)  
 Christopher J. Hubbard, associate professor, Ph.D., Wake Forest University  
 Michael E.S. Hudspeth, professor, Ph.D., Wayne State University  
 Mitrick A. Johns, associate professor, Ph.D., University of Oregon  
 Barbara P. Johnson-Wint, associate professor, Ph.D., Michigan State University  
 Bethia H. King, professor, Ph.D., Purdue University  
 Richard B. King, associate professor, Ph.D., Purdue University  
 David P. Lotshaw, associate professor, Ph.D., State University of New York, Albany  
 Rangaswamy Meganathan, Distinguished Research Professor, Ph.D., Oklahoma State University  
 Peter L. Meserve, Distinguished Research Professor, Ph.D., University of California, Irvine  
 Jon S. Miller, associate professor, Ph.D., University of Nebraska at Lincoln  
 John L. A. Mitchell, Distinguished Research Professor, adjunct, Ph.D., Princeton University  
 Virginia L. Naples, professor, Ph.D., University of Massachusetts  
 J. Michael Parrish, Distinguished Research Professor, adjunct, Ph.D., University of Chicago  
 Neil O. Polans, associate professor, Ph.D., University of California, Davis  
 Thomas L. Sims, associate professor, Ph.D., University of Oregon  
 Joel P. Stafstrom, associate professor, Ph.D., University of Colorado  
 Ronald Toth, adjunct professor, Ph.D., University of Massachusetts  
 Patricia S. Vary, Distinguished Research Professor, adjunct, Ph.D., Stanford University  
 Carl N. von Ende, associate professor, Ph.D., University of Notre Dame  
 Linda S. Yasui, associate professor, Ph.D., Florida State University  
 Shengde Zhou, assistant professor, Ph.D., Auburn University

The Department of Biological Sciences offers graduate programs leading to the M.S. and Ph.D. degrees.

## Master of Science in Biological Sciences

The minimum requirement for admission to the master of science degree program is a baccalaureate degree with a major in an area of biological sciences or in a closely related field such as biochemistry or biophysics. The baccalaureate degree should have courses equivalent to those required for the B.S. degree at NIU, including organismal diversity; two semesters of principles of biology, and genetics; chemistry through one year of organic; one year of physics; and mathematics through introductory calculus. Such courses not completed before admission to the Graduate School, as well as other undergraduate courses deemed appropriate to the pursuit of the master's degree in a particular specialty in biological sciences, may be required and must be taken early in the student's program. Students with deficiencies may find that the total number of semester hours required exceeds that stated under the requirements for the degree/specialization.

Although applicants are not required to submit scores other than the GRE General Test score required for admission to the Graduate School, the submission of scores on either the GRE Subject Test in biology or biochemistry, or on the MCAT, could enhance their application.

## Requirements for Degree without a Specialization

BIOS 570X - General Biological Chemistry (3),  
 OR BIOS 572X and BIOS 573X - Biological Chemistry I and II (6)  
 BIOS 670 - Biostatistical Analysis (3),  
 OR ETR 521 and ETR 522 - Educational Statistics I and II (6)  
 BIOS 761 - Seminar (minimum of 2 semester hours of credit)

A minimum of 30 semester hours is required for the M.S. degree without a specialization, and no more than 12 semester hours of combined credit in BIOS 699 and BIOS 770 may be applied toward those 30 hours. If a student has completed the equivalent of BIOS 570X (or BIOS 572X and BIOS 573X) and/or BIOS 670 with a grade of C or better, the course may be waived as a requirement in the graduate program, and other course work substituted, with the approval of the department. The student is required to pass a final oral comprehensive examination.

Each student will declare, with the consent of the departmental graduate committee, one of the following two options.

## Thesis Option

The thesis option is intended primarily for students wishing to focus on certain areas of biology and for those considering further graduate education. Each student must enroll in BIOS 699, Master's Thesis, and submit a written thesis. A maximum of 12 semester hours of combined credit in BIOS 699 and BIOS 770 may be applied toward the degree. The student's research adviser will serve as chair of the graduate committee that will administer a final oral comprehensive examination including a defense of thesis.

**Non-Thesis Option**

The non-thesis option is intended primarily for students wishing to become generalists by taking course work in several areas within the biological sciences. This option may be appropriate for students who desire to qualify for careers that require such breadth in biology, for example, teaching in a secondary school or community college, administration, or interpretive work in parks and nature centers.

The student's program will be designed with the advice and approval of the departmental graduate coordinator, with a minimum of 3 semester hours to be earned in each of six of the following seven areas of study. A course may satisfy a requirement in only one area of study.

- Animal biology
- Cellular, molecular, and developmental biology
- Ecology and evolution
- Genetics
- Microbiology
- Physiology
- Plant biology

In addition, the student must take a total of 4 semester hours of BIOS 770, Independent Study, under the guidance of a faculty member, and submit an acceptable research paper on a topic approved by the student's final examination committee. This committee shall include the faculty member directing the student's work in BIOS 770. The enrollment in BIOS 770 must begin within the first 15 semester hours that are to be part of the student's program of courses for the degree, and must span at least two terms.

Courses taken for an undergraduate degree may be used to satisfy the non-thesis option distribution requirements, with the consent of the department, providing that a grade of B or better was earned. Such courses, however, cannot be credited toward the master's degree.

**Specialization in Bioinformatics**

A minimum of 30 semester hours is required for the M.S. degree with a specialization in bioinformatics. The specialization in bioinformatics is designed to teach the skills necessary for the analysis of large amounts of biological information using computer technology. The student must have taken, or take as deficiency course work, BIOS 300, Cell Biology, BIOS 308, Genetics, CSCI 240, Computer Programming in C, and CSCI 241, Intermediate Programming in C and C++, or the equivalent(s). Deficiency work must be satisfied with a grade of C or better during the first two semesters of enrollment in the program.

If the student has completed the equivalent of BIOS 567, BIOS 570X (or BIOS 572X and BIOS 573X), BIOS 635, BIOS 643, BIOS 646, and/or BIOS 670 as an undergraduate with a grade of C or better, the course may be waived as a requirement in the graduate program, and other course work substituted, with the approval of the student's graduate committee.

Students must pass a final comprehensive oral and written examination covering course material.

**Requirements**

- BIOS 567 - Molecular Biology of Eukaryotes (3),  
OR BIOS 635 - Molecular Genetics of Prokaryotes (3)
- BIOS 570X - General Biological Chemistry (3)
- BIOS 643 - Bioinformatics (3)
- BIOS 646 - Programming for Bioinformatics (3)
- BIOS 670 - Biostatistical Analysis (3),  
OR ETR 521 and ETR 522 - Educational Statistics I and II (6)
- BIOS 691 - Recombinant DNA Techniques Laboratory (4)
- BIOS 761 - Seminar (2-3)

- BIOS 699 - Master's Thesis (4-6),  
OR BIOS 790 - Cooperative Education (3),  
OR BIOS 770 - Independent Study (4-6)
- Two of the following<sup>2</sup> (6-7)
  - BIOS 513 - Microbial Physiology (3)
  - BIOS 539 - Molecular Evolution (3)
  - BIOS 565 - Cellular Physiology (3)
  - BIOS 567<sup>1</sup> - Molecular Biology of Eukaryotes (3)
  - BIOS 576 - Plant Genetics (3)
  - BIOS 579 - Biotechnology Applications and Techniques (3)
  - BIOS 616 - Plant Metabolism (3)
  - BIOS 635<sup>1</sup> - Molecular Genetics of Prokaryotes (3)
  - BIOS 663 - Evolutionary Genetics (3)
  - BIOS 700M - Research Methods (3)
  - CHEM 674 - Enzymes (3)
  - CHEM 675 - Physical Chemistry of Macromolecules (3)
  - CSCI 661 - Techniques of Computer Programming and Algorithmic Processes (3)
  - MATH 560 - Modeling Dynamical Systems (3)
  - STAT 573 - Statistical Methods and Models I (3), and STAT 573A - Statistical Computing Packages (1)
  - STAT 574 - Statistical Methods and Models II (3)

**Specialization in Human Anatomical Sciences**

A minimum of 31-35 semester hours is required for the M.S. degree with a specialization in human anatomical sciences. The nonthesis option is intended to equip the graduate to teach human anatomy and human physiology at the community college level, while the thesis option is directed toward research. The course work is designed to provide students with a solid background in the human anatomical sciences, including skills in the dissection of human cadavers.

Students pursuing this specialization must have previously taken, or must take as deficiency course work, BIOS 355, Human Physiology (4), and BIOS 359, Human Neurobiology (4).

If the student has completed the equivalent of BIOS 545, BIOS 546, BIOS 570X (or BIOS 572X and BIOS 573X), and/or BIOS 670 as an undergraduate with a grade of C or better, the course may be waived as a requirement in the graduate program, and other course work substituted, with the approval of the student's graduate committee.

**Non-Thesis Option**

- BIOS 545 - Human Histology (4)
- BIOS 546 - Gross Human Anatomy (6)
- BIOS 570X - General Biological Chemistry (3)
- BIOS 626 - Methods of Teaching Human Anatomy (1-6)
- BIOS 629 - Human Embryology (3)
- BIOS 670 - Biostatistical Analysis (3),  
OR ETR 521 and ETR 522 - Educational Statistics I and II (6)
- BIOS 761 - Seminar (minimum of 2 semester hours credit)
- BIOS 770 - Independent Study (1-9)
- One of the following electives (3-4)
  - BIOS 540 - Immunobiology (3)
  - BIOS 547 - Comparative Vertebrate Anatomy (4)
  - BIOS 554 - Developmental Biology (4)
  - BIOS 555 - Comparative Physiology (3)
  - BIOS 561 - Endocrinology (3)
  - BIOS 565 - Cellular Physiology (3)
  - BIOS 567 - Molecular Biology of Eukaryotes (3)
  - BIOS 577 - Human Genetics (3)

Students must take a minimum of 4 semester hours of BIOS 770, Independent Study, under the guidance of an anatomy faculty member in the Department of Biological Sciences, and submit for that course an acceptable teaching project on a topic approved by the student's graduate committee. This committee must be formed within the student's first 9 semester hours of enrollment in the M.S. program and must be chaired by the anatomy faculty member directing the student's work in BIOS 770.

<sup>1</sup> If not used to meet requirement above.

<sup>2</sup> Alternate courses may be substituted at the discretion of the student's committee.

Students must pass a final written and oral comprehensive examination covering course material and the teaching project. 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.

### Thesis Option

Same as the non-thesis option except students are required to take neither BIOS 626 nor the elective but must enroll in BIOS 699 and submit a written thesis. A maximum of 12 semester hours of combined credit in BIOS 699 and BIOS 770 may be applied toward the degree. The student's research adviser will serve as the chair of the graduate committee that will administer a final written and oral comprehensive examination covering course material and including a defense of thesis. A student who fails the examination may, with the permission of the department, repeat it once.

### Specialization in Biology Teaching

A minimum of 36 semester hours is required for the M.S. degree with specialization in biology teaching. Students pursuing this specialization must have a B.S. degree in the natural sciences (biology, chemistry, earth and space science, or physics) and a current ISBE teaching certificate (Type 09 certificate or a B.S. degree with a Type 03 certificate and a minimum of 32 semester hours of science content). The candidate must have one year or more of teaching experience in science.

The student will be required to take a proficiency examination in biology at the beginning and end of their program. In addition, the student will be required to conduct an approved action research project including submitting a written paper as well as present and defend the project (BIOS 770 or BIOS 699). The action research project will be developed under the supervision of the graduate adviser and conducted in a school setting with district approval.

If the student has completed the equivalent of BIOS 570X (or BIOS 572X and BIOS 573X), and ETR 521 and ETR 522 (or BIOS 670) as an undergraduate with a grade of C or better, the courses may be waived as a requirement in the graduate program and other course work substituted with the approval of the student's graduate committee.

### Requirements

BIOS 570X - General Biochemistry (3)  
 BIOS 605 - Institute for Science Teachers in Biology (3)  
 BIOS 684 - The Processes and Practices of Science (3)  
 BIOS 761 - Seminar (minimum of 2 semester hours credit)  
 BIOS 770 - Independent Study (4-6),  
     OR BIOS 699 - Masters Thesis (4-6)  
 ETR 521 and ETR 522 - Educational Statistics I and II (6)  
 EPS 523 - Application of Psychological Research to Educational Practice (3)  
 PHYS 605 - Institute for Science Teachers: Instructional Technology (3)

#### Biology Electives

Minimum of 9 semester hours of credit of graduate-level courses within the department

### Doctor of Philosophy in Biological Sciences

A student seeking admission to the Ph.D. program in biological sciences must meet all the requirements for admission to the Graduate School; must have a baccalaureate or master's degree in the biological sciences or a related field; and should have courses equivalent to those required for the B.S. degree

at Northern Illinois University, including organismal diversity, two semesters of principles of biology, and genetics; chemistry through one year of organic, one year of physics, and mathematics through introductory calculus. Such courses not completed before admission to the program, as well as other undergraduate courses deemed appropriate to the pursuit of the Ph.D. degree in a particular area of biological sciences, may be required and must be taken early in the student's program.

Although applicants are not required to submit scores other than the GRE General Test score required for admission to the Graduate School, the submission of scores on either the GRE Subject Test in biology or biochemistry, or on the MCAT, could enhance their application.

During the admissions process, the student must indicate an area of study in the department and obtain a faculty adviser in that area who will agree to plan the student's first year of study.

### Requirements

Each student's program must consist of at least 90 semester hours of graduate credit, including successful completion of the following courses.

BIOS 570X - General Biological Chemistry (3),  
     OR BIOS 572X and BIOS 573X - Biological Chemistry I and II (6)  
 BIOS 670 - Biostatistical Analysis (3),  
     OR ETR 521 and ETR 522 - Educational Statistics I and II (6)  
 BIOS 761 - Seminar (4) (to be taken for a minimum of 4 hours of credit, at least 2 of which shall be taken after the first 30 graduate-level semester hours in the student's program)  
 BIOS 799 - Doctoral Dissertation (enrollment each semester after being admitted to candidacy, until all requirements for the degree are complete)

If a student has completed the equivalent of BIOS 570X (or BIOS 572X and BIOS 573X) and/or BIOS 670 with a grade of C or better, the course may be waived as a requirement in the graduate program, and other course work substituted, with the approval of the department.

By the end of the student's second semester, the chair of his or her doctoral committee will be selected with the approval of the department chair. The department chair, in consultation with the chair of the doctoral committee and the student, will nominate a doctoral committee to be appointed by the dean of the Graduate School. This committee will consist of no fewer than five members, including at least one person from outside the student's research field. Adjunct graduate faculty may serve on the doctoral committee; a majority of the committee, however, must be regular members of the graduate faculty in the Department of Biological Sciences. Replacements which may be required on the committee will be nominated by the remaining committee members and the department chair from among qualified faculty in consultation with the student.

The doctoral committee will consult with the student in the formulation of a program of courses and research study for the duration of the Ph.D. program. The committee will meet with the student at least once a year to evaluate progress toward completion of the degree requirements. This evaluation may include written and oral presentations required of the student by the committee. This committee assessment of the student's progress will appraise the student's background knowledge and his or her competence in carrying out original independent research and will determine whether the student will be retained in the Ph.D. program.

The Department of Biological Sciences research-tool requirement is fulfilled by completing BIOS 670 and either BIOS 570X or BIOS 572X and BIOS 573X, which are required for the doctoral program.

<sup>2</sup> Alternate courses may be substituted at the discretion of the student's committee.

The student must pass a candidacy examination consisting of written and oral portions and administered by the doctoral committee. This examination will include a comprehensive coverage of the student's academic background to enable the committee to evaluate the student's potential for successful completion of the Ph.D. degree program. This examination will be taken at a time designated by the doctoral committee, but no sooner than the completion of the first 27 graduate-level semester hours and no later than the completion of the first 60 graduate credit hours, to be applied to the Ph.D. program. A student who fails this examination may, with the permission of the committee, repeat it once; the repeated examination will be at a time designated by the committee, but no sooner than the lapse of one semester and no later than eight months before granting of the degree.

After the student has completed all other requirements for the degree, including the writing of a dissertation on a research topic approved by the student's doctoral committee, an oral defense of the dissertation will be conducted by the doctoral committee.

The doctoral candidate will present a public lecture, based on his or her dissertation.

Following approval of the dissertation by the doctoral committee, acceptable copies must be submitted to the Graduate School.

## Certificate of Graduate Study

### Bioinformatics (16-17)

This certificate is primarily designed for individuals already working in the bioinformatics field who want to improve their skills through formal course work. Credit earned for work on the certificate may be applied toward the specialization in bioinformatics, with permission of the department.

- BIOS 567 - Molecular Biology of Eukaryotes (3),  
 OR BIOS 635 - Molecular Genetics of Prokaryotes (3)  
 BIOS 643 - Bioinformatics (3)  
 BIOS 646 - Programming for Bioinformatics (3)  
 BIOS 761 - Seminar (1)  
 Two of the following<sup>2</sup> (6-7)  
 BIOS 513 - Microbial Physiology (3)  
 BIOS 539 - Molecular Evolution (3)  
 BIOS 565 - Cellular Physiology (3)  
 BIOS 567<sup>1</sup> - Molecular Biology of Eukaryotes (3)  
 BIOS 570X - General Biological Chemistry (3)  
 BIOS 576 - Plant Genetics (3)  
 BIOS 579 - Biotechnology Applications and Techniques (3)  
 BIOS 616 - Plant Metabolism (3)  
 BIOS 635<sup>1</sup> - Molecular Genetics of Prokaryotes (3)  
 BIOS 663 - Evolutionary Genetics (3)  
 BIOS 691 - Recombinant DNA Techniques Laboratory (4)  
 BIOS 700M - Special Topics in Biology: Research Methods (3)  
 CHEM 670 - Enzymes (3)  
 CHEM 675 - Physical Chemistry of Macromolecules (3)  
 CSCI 661 - Techniques of Computer Programming and Algorithmic Processes (3)  
 MATH 560 - Modeling Dynamical Systems (3)  
 STAT 573 - Statistical Methods and Models I (3), and STAT 573A - Statistical Computing Packages (1)  
 STAT 574 - Statistical Methods and Models II (3)

If the student has completed the equivalent of BIOS 567, BIOS 635, BIOS 643, or BIOS 646<sup>1</sup> as an undergraduate with a grade of C or better, the course may be waived as a requirement in the graduate program, and other course work substituted, with the approval of the department.

## Course List (BIOS)

505. AMERICAN ECOSYSTEMS (1-8). Laboratory and field analysis of environments. Lectures and laboratories on campus plus extensive field experience. May be repeated to a maximum of 8 semester hours.

506. CONSERVATION BIOLOGY (4). Ecological bases for conservation of biological diversity, resource management, ecosystem restoration, and relationship of conservation practices to human welfare. Laboratory includes computer simulations and applied conservation field work in local nature preserves. Field trips required.

511. PLANT PHYSIOLOGY (4). Physical and chemical aspects of the functions of higher plants. Two hours of lecture and four hours of laboratory.

512. MYCOLOGY (4). Culture, morphology, and economic significance of the fungi. PRQ: BIOS 205 and BIOS 209, or consent of department.

513. MICROBIAL PHYSIOLOGY (3). Physical and chemical aspects of the functions of bacteria and other microorganisms.

515. WATER MICROBIOLOGY (3). Designed to acquaint the student with normal and pollutional microorganisms found in water, their sources and control. Standard methods of detection and enumeration as well as new experimental approaches will be stressed in the laboratory.

517. PATHOGENIC MICROBIOLOGY (4). Consideration of human viruses, bacteria, and fungi and their host-parasite relations.

518. HUMAN HEREDITY (3). Inheritance in humans. Not open for credit toward the major in biological sciences.

520. PLANT PATHOLOGY (3). Specific causal agents of plant diseases, their identification and control measures. Parasitism and the economy of crop disease. Two hours of lecture and two hours of laboratory.

522X. PLANT-SOIL INTERACTIONS (4). *Crosslisted as GEOG 522*. Chemical and physical properties of soils affecting vegetation, segregation of natural plant communities, and managed systems. Lecture, laboratory, and field experience.

523. PRINCIPLES OF VIROLOGY (3). Essential principles of viral biology including the foundations of virology, elements of virus life cycle, viral pathogenesis, and means of virus control and evolution, with the emphasis on molecular structures and processes.

530. PLANT SYSTEMATICS (4). Systematics and evolution of higher plants including contemporary phylogeny.

533. BEHAVIORAL ECOLOGY (3). Examples and theories of how behavior influences survival and reproduction in different environments.

535X. PRIMATE ANATOMY AND EVOLUTION (3). *Crosslisted as ANTH 545*. Primate fossil record, emphasis on adaptation and phylogeny.

537X. PRIMATE ANATOMY (3). *Crosslisted as ANTH 547*. The skeletal anatomy of living primates including primate dental and skeletal adaptations, phylogeny, speciation, and biogeography.

539. MOLECULAR EVOLUTION (3). Evolution of nucleic acids and proteins and the modifying actions of mutational events. Survey of different types of molecular data and methods of determination and analysis. Consideration of the broader implications of molecular changes for our improved understanding of macroevolution and phylogeny retrieval. Two hours of lecture and three hours of laboratory per week.

540. IMMUNOBIOLOGY (3). Biochemistry and interactions of antigens, antibodies, and lymphocytes; development of the immune system; and medical applications and current immunological techniques.

<sup>1</sup> If not used to meet requirement above.

<sup>2</sup> Alternate courses may be substituted at the discretion of the student's committee.

542. EVOLUTION AND THE CREATIONIST CHALLENGE (3). Evolutionary theory and tenets of present-day anti-evolutionists with emphasis on providing students with the skills to articulate the theory of evolution as it applies to the biological sciences. Not designed as a substitute for a formal course in evolutionary theory. Recommended for students pursuing careers in secondary science education.
544. CELL AND TISSUE CULTURE (3). Basic laboratory techniques in plant and animal tissue culture. Topics include growth analysis, mutation induction, hybridoma production, cell cycle analysis, and cell fusion. Topics and experiments from recent literature will be emphasized. One hour of lecture and two three-hour laboratories per week.
545. HUMAN HISTOLOGY (4). Microscopic anatomy of human cells and tissues. Emphasis on correlating cell structure at the light and ultramicroscopic level with physiology in individual tissue and organs of the human body. Two hours of lecture and four hours of laboratory.
546. GROSS HUMAN ANATOMY (6). Gross anatomy of the human body, including dissection, with functional, histological, developmental, and clinical correlates.
547. COMPARATIVE VERTEBRATE ANATOMY (4). Relationships of vertebrate classes as demonstrated by embryological, morphological, and paleontological evidence. Three hours of lecture and four hours of laboratory.
548. AQUATIC ECOLOGY (4). Structure and function of freshwater communities as influenced by biotic and abiotic interactions. Two hours of lecture and five hours of laboratory per week.
550. MOLECULAR BIOLOGY OF CANCER (3). Topics include carcinogenesis, metastasis, angiogenesis, cancer genetics (DNA damage/repair, genetic instability, oncogenes, tumor suppressor genes), regulation of cell proliferation, apoptosis, treatment of cancer (radiation, chemotherapy, and surgery).
553. ENTOMOLOGY (3). Insects and other terrestrial arthropods: anatomy, behavior, classification, ecology, economic importance, and physiology. Two hours of lecture and one 3-hour laboratory per week.
554. DEVELOPMENTAL BIOLOGY (4). Mechanisms of eukaryotic development. Emphasis on model animal systems. Two hours of lecture and four hours of laboratory per week.
555. COMPARATIVE PHYSIOLOGY (3). General physiological principles and functions in vertebrates and invertebrates. Three hours of lecture and three hours of laboratory per week..
556. BIOLOGY OF FISHES, AMPHIBIANS, AND REPTILES (4). Evolution, taxonomy, physiology, behavior, ecology, and distribution of fishes, amphibians, and reptiles. Laboratory work and field trips emphasize identification of Illinois forms.
557. BIOLOGY OF BIRDS AND MAMMALS (4). Evolution, taxonomy, physiology, behavior, ecology, and distribution of birds and mammals. Laboratory work and field trips emphasize identification of Illinois forms.
558. VERTEBRATE PALEONTOLOGY (3). *Crosslisted as GEOL 558X*. Survey of the history of vertebrates, focusing on key evolutionary innovations such as the evolution of bone, the invasion of land, and the origin of endothermy. Examination of fossils and the interpretation of them in the context of their geological setting.
561. ENDOCRINOLOGY (3). Classic mammalian endocrine systems examined with emphasis on cellular and molecular mechanisms of action. Topics include endocrine cell signaling, molecular mechanisms of hormone action, and some discussion of endocrine pathology. Lecture material and readings from the current professional literature.
562. BIOGEOGRAPHY (3). Role of ecological, evolutionary, and historical factors in explaining the past and current distributions of plants and animals. Current theory and applications to species preservation and nature reserve design. Three hours of lecture.
564. CELL SIGNALLING (3). Principles of chemical communication between cells. Detailed examination of chemical messengers, receptors, and intracellular signal transduction mechanisms involved in regulation of cell function, growth, and development.
565. CELLULAR PHYSIOLOGY (3). Principles underlying cellular activity. Topics include the biochemistry of cells, cell organelles, cell environment, membranes, and energy conversions.
567. MOLECULAR BIOLOGY OF EUKARYOTES (3). Mechanisms of gene expression and regulation of gene activity in eukaryotic organisms.
- 568X. GEOMICROBIOLOGY (3). *Crosslisted as GEOL 568*. Role of microorganisms in diverse environments at and below the surface of the earth. Topics include life in extreme environments, biodegradation and remediation, biogeochemical cycling, and astrobiology examined from the perspectives of geochemistry, microbial ecology, molecular biology, and ecosystem studies.
- 569X. INVERTEBRATE PALEONTOLOGY (3). *Crosslisted as GEOL 570*. Principal invertebrate fossil forms of the geologic record, treated from the standpoint of their evolution, and the identification of fossil specimens. several field trips required.
- 570X. GENERAL BIOLOGICAL CHEMISTRY (3). *Crosslisted as CHEM 570*. Overall view of biochemistry including structure, properties, function, and metabolism of biologically important compounds. PRQ: Consent of department.
- 571X. BIOLOGICAL CHEMISTRY LABORATORY (3). *Crosslisted as CHEM 571*. Experiments in the isolation, purification, and characterization of biomolecules by chromatographic, electrophoretic, and centrifugation techniques; enzyme kinetics; electron transport in mitochondria and microsomes. CRQ: CHEM 570 or CHEM 572, or consent of department.
- 572X. BIOLOGICAL CHEMISTRY I (3). *Crosslisted as CHEM 572*. Detailed study of the structure and properties of proteins, carbohydrates, lipids, and nucleic acids. Properties of enzymes. Bioenergetics including oxidative phosphorylation and photosynthesis. PRQ: Consent of department.
- 573X. BIOLOGICAL CHEMISTRY II (3). *Crosslisted as CHEM 573*. Detailed study of the metabolism of carbohydrates, lipids, and nitrogenous compounds, including proteins and nucleic acids. Metabolic regulation. Genetic information. PRQ: CHEM 572 or BIOS 572X, or consent of department.
575. NEURAL DEVELOPMENT (3). Examination of the principles that govern the development of the nervous system from a single fertilized cell in various organisms. PRQ: BIOS 555, or consent of department.
576. PLANT GENETICS (3). Examination of plant genetic variation at the level of the genome, population, and higher taxa, using both classical and molecular approaches. How natural and domesticated plant populations are shaped by evolutionary and human forces.
577. HUMAN GENETICS (3). Study of human genes, genome organization, and genetic diseases, with emphasis on DNA-based techniques.
578. BIOINSTRUMENTATION FOR CELL AND MOLECULAR BIOLOGY (4). Classroom instruction and hands-on training on contemporary equipment used in cell and molecular biology, including analysis of data generated by the equipment. Pipetting (calibration, precision, and accuracy), protein/DNA gel electrophoresis, transblotting and immunodetection, image acquisition and analysis, isoelectric focusing, PCR, centrifugation, column chromatography, spectrophotometry/spectrofluorometry, and confocal microscopy. Two hours lecture, six hours laboratory including open laboratory.
579. BIOTECHNOLOGY APPLICATIONS AND TECHNIQUES (3). Detailed study of the methodology, techniques and applications of biotechnology in both plant and animal systems with an emphasis on the use of genomics and genetic engineering approaches in agricultural and medical biotechnology.

580. BIOCUMPING (3). Computing technology as a multifaceted tool applicable to a wide range of biology subdisciplines through the development of a broad range of computing skills related to the Windows/ NetWare environment. Experience in application of general and specialty software in addressing various biological questions. Three hours of lecture and laboratory.
581. VISION AND THE VISUAL SYSTEM (3). Anatomy and physiology of the human and animal visual system, including descriptions of phototransduction, retinal representation in the cortex, perception of motion and depth, motion blindness, color vision, face recognition, and interpretation and processing of information in the brain.
582. BIOLOGY OF FORENSIC ANALYSIS (4). Topics include DNA analysis, forensic pathology, forensic dentistry, fingerprints, craniofacial reconstruction, and blood spatter analysis. Three hours of lecture and three hours of laboratory per week.
587. CONSERVATION GENETICS (3). Examination of the genetic characteristics of organisms and their environments. Application of genetic principles to conservation biology. Topics include genetics of small populations, genetic monitoring, and genetic restoration.
588. APPLIED MICROBIAL BIOTECHNOLOGY (3). Topics include applications of microorganisms for industrial processes related to the production of energy, food, chemicals, pharmaceuticals, as well as bioremediation. Two hours of lecture and 3 hours of laboratory per week.
605. INSTITUTE FOR SCIENCE TEACHERS IN BIOLOGY (1-8). Lectures, demonstrations, laboratory work, and field trips designed for the secondary biology teacher. Subject matter will help enhance and update the current science teacher in the biological sciences. Topics will be drawn from those that also integrate relevant topics in chemistry, physics, the earth sciences, and technology, as well as the best practices in teaching and leadership. May be repeated to a maximum of 16 semester hours. PRQ: Consent of department.
616. PLANT METABOLISM (3). Biochemical and physiological aspects of metabolism in plants, including interpretation of current scientific literature. .
623. GRADUATE TEACHING AND RESEARCH ORIENTATION (1). Instruction in methods for teaching in the biological sciences and developing a thesis/dissertation research topic in the graduate program in the biological sciences.
625. ELECTRON MICROSCOPY (4). 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.
626. METHODS OF TEACHING HUMAN ANATOMY (1-6). Instruction in teaching methods for human gross anatomy. Emphasis on dissection techniques plus laboratory and lecture material as it pertains to a human gross anatomy course that utilizes cadaver material. May be repeated to a maximum of 6 semester hours. PRQ: BIOS 546 or consent of department.
- 627X. NEUROANATOMICAL BASES OF BEHAVIOR (3). *Crosslisted as PSYC 627*. 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; and neuroanatomical mechanisms in the regulation of behavior. PRQ: Graduate standing, PSYC 603, or consent of department.
- 628X. NEUROANATOMICAL BASES OF BEHAVIOR: LABORATORY (3). *Crosslisted as PSYC 628*. Gross, microscopic, and ultramicroscopic examination of tissues from the nervous systems of selected species. PRQ or CRQ: BIOS 627X.
629. HUMAN EMBRYOLOGY (3). Progression of human embryonic development from fertilization to parturition. Emphasis on description of development in major organ systems of the body and selected cellular and molecular mechanisms that induce these systems. PRQ: BIOS 546 or consent of department.
- 630X. NEUROCHEMICAL BASES OF BEHAVIOR (3). *Crosslisted as PSYC 630*. Biochemistry of the nervous system; chemical composition, metabolism, and chemistry of neurons and glia; chemical bases of learning, motivation, and other categories of behavior. PRQ: Graduate standing, PSYC 629, or consent of department.
632. RADIATION BIOLOGY (3). Effects of radiation upon cells and organisms.
635. MOLECULAR GENETICS OF PROKARYOTES (3). Mechanisms of molecular, bacterial, and viral genetics including genetic recombination, mutagenesis, gene regulation and expression, transposons, genetic engineering, and genomics. Emphasis on recent literature. Familiarity with molecular biology concepts assumed.
636. EXPERIMENTS IN MOLECULAR GENETICS OF PROKARYOTES (2). Experiments with current techniques of molecular genetics of prokaryotes in genetic exchange, mutagenesis, transposition, gene cloning, and analysis. CRQ: BIOS 635 or consent of department.
640. ADVANCED IMMUNOLOGY (3). The genetics of the immune response, inheritance, and structure of membrane antigens, function of B and T lymphocytes, mechanism of cell mediated immunity, and genetics of immunoglobulin molecules. PRQ: BIOS 540 or consent of department.
643. BIOINFORMATICS (3). Introduction to theory, strategies, and practice of data management and analysis in molecular biology. Topics include DNA and protein sequence analysis, biological databases, genomic mapping, and analysis of gene expression data.
646. PROGRAMMING FOR BIOINFORMATICS (3). Introduction to computer programming and programming techniques for bioinformatics, with emphasis on currently used programming techniques in the bioinformatics field. Applications to bioinformatics and analysis of biological data. PRQ: BIOS 643 and CSCI 240, or consent of department.
655. MICROBIAL DIVERSITY (3). Detailed study of microbial diversity. In-depth familiarization with the evolutionary perspective on microbial relationships, development of an understanding of the morphological, ecological, and biochemical diversity of the microbial world, and classical and molecular approaches by which microbial diversity is studied. Scheduled laboratory period.
659. NEUROPHYSIOLOGY (3). Processing of information in the nervous system with emphasis on propagation of information along a single cell and between cells in the peripheral nervous system and in the spinal cord. PRQ: BIOS 565, or BIOS 555; or consent of department. Recommended: One semester of calculus.
670. BIostatistical ANALYSIS (3). Principles and procedures of statistical analysis of biological data. Includes use of statistical packages and computers in the laboratory.
675. POPULATION ECOLOGY (3). Structure and dynamics of animal populations and communities.
680. COMMUNITY ECOLOGY (3). Concepts of classification, organization, structure, and change in biotic communities over ecological and evolutionary time. Role of physical factors and biotic interactions as well as hypotheses of community equilibria, stability, and composition.
684. THE PROCESS AND PRACTICES OF SCIENCE (3). Examination of major concepts of science. Compares and contrasts the role and practice of science and its interaction with technology and society.
690. TOPICS IN MOLECULAR AND CELLULAR CONTROL MECHANISMS (3). Mechanisms of regulation of biological systems at the cellular and molecular levels, considering current scientific literature. May be repeated to a maximum of 9 semester hours as topic varies. PRQ: BIOS 570X or consent of department.
691. RECOMBINANT DNA TECHNIQUES LABORATORY (4). Advanced experiments using recombinant DNA techniques. PRQ: Consent of department.

699. MASTER'S THESIS (1-12). Research leading to writing of a master's thesis. Students eligible to register only after their research problems have been approved. May be repeated to a maximum of 30 semester hours. PRQ: Consent of department.

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

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

Lectures, discussions, and reports on topics of special interest in a particular field of biology. One to 9 semester hours as scheduled; each field may be repeated to a maximum of 9 semester hours. PRQ: Consent of department.

761. SEMINAR (1).

- A. Microbiology
- B. Ecology and Evolution
- C. Teaching Human Anatomy
- D. Cell Biology
- E. Plant Sciences

May be repeated to a maximum of 12 semester hours, but no more than 4 semester hours may be counted toward the M.S. degree.

770. INDEPENDENT STUDY (1-9). Independent study of problems under the supervision of an adviser. May be repeated, but no more than 6 semester hours may be counted toward the M.S. degree. PRQ: Consent of department.

790. COOPERATIVE EDUCATION (1-3). Work experience related to biological sciences. Credit to be determined by the graduate coordinator. Enrollment restricted to students formally participating in NIU's cooperative education program. May be repeated, but no more than 3 semester hours may be applied toward any one degree. PRQ: Consent of the department and the university's director of cooperative education.

799. DOCTORAL DISSERTATION (1-12). May be repeated with permission of the department to a maximum of 120 semester hours. PRQ: Admission to Ph.D. candidacy and consent of department.

# Department of Chemistry and Biochemistry (CHEM)

Chair: Jon W. Carnahan

## Graduate Faculty

Gary M. Baker, associate professor, Ph.D., Purdue University  
David S. Ballantine, Jr., associate professor, Ph.D., University of Maryland

Jon W. Carnahan, professor, Ph.D., University of Cincinnati

Robert F. Cunico, professor emeritus, Ph.D., Purdue University

James E. Erman, Distinguished Research Professor, emeritus, Ph.D., Massachusetts Institute of Technology

Elizabeth R. Gaillard, associate professor, Ph.D., University of Texas

Thomas M. Gilbert, associate professor, Ph.D., University of California, Berkeley

Heike Hofstetter, adjunct assistant professor, Ph.D., University of Tübingen (Germany)

Oliver Hofstetter, associate professor, Ph.D., University of Tübingen (Germany)

James Horn, assistant professor, Ph.D., University of Iowa

Narayan S. Hosmane, Distinguished Research Professor, Board of Trustees Professor, Ph.D., Edinburgh University

Dimitry Kadnikov, assistant professor, Ph.D., Iowa State University

Dennis N. Kevill, Distinguished Research Professor, emeritus, Ph.D., University of London

Douglas Klumpp, professor, Ph.D., Iowa State University

Chhiu-Tsu Lin, Distinguished Teaching Professor, Distinguished Research Professor, Ph.D., University of California, Los Angeles

W. Roy Mason III, professor emeritus, Ph.D., Emory University

Victor V. Ryzhov, associate professor, Ph.D., Case Western Reserve University

Lee Sunderlin, associate professor, Ph.D., University of California, Berkeley

Petr Vanýsek, professor, Ph.D., Czechoslovak Academy of Sciences

Lidia Vitello, adjunct associate professor, Ph.D., Clarkson University

Tao Xu, assistant professor, Ph.D., University of Alabama

Qingwei Yao, associate professor, Ph.D., University of Illinois, Chicago

Chong Zheng, professor, Ph.D., Cornell University

The Department of Chemistry and Biochemistry offers programs leading to the M.S. and Ph.D. degrees. Bulletins describing graduate programs in chemistry are available from the department chair.

Admission to graduate programs in chemistry requires a baccalaureate degree in chemistry or a related area.

## Master of Science in Chemistry

Students who wish to enter the M.S. program should have a baccalaureate degree in a life, physical, or mathematical science, or engineering, including one year of physics; one year of general chemistry; one year of physical chemistry; mathematics consisting of either three semesters of calculus or two semesters of calculus and one semester of differential equations; and four courses in other areas of chemistry at the 300-400 level. Students deficient in these requirements may satisfy them after admission, but the courses may not be taken for graduate credit and must be approved by the Graduate Program Committee after

consultation with the department faculty in the student's primary area of interest. These deficiencies must be satisfied with a grade of C or better during the first two semesters of enrollment in the program.

Prior to registration the student is required to take background examinations in the fields of analytical, inorganic, organic, and physical chemistry. These examinations are usually given a week before registration to aid the adviser in the preparation of a course of study for the student. A passing level has been established so that these examinations can also serve as proficiency examinations for required undergraduate courses. (Students will be informed in advance that undergraduate deficiencies may be satisfied in this manner.)

The student must fulfill all requirements for the M.S. degree within five consecutive years from entry into the program.

## Thesis Option

A minimum of 30 semester hours of graduate work is required. The student must successfully complete a minimum of five courses (15 semester hours, excluding CHEM 615, CHEM 690, CHEM 698, and CHEM 699), of which at least 9 semester hours are to be in chemistry, for graduate credit. At least one of these courses must be CHEM 644, CHEM 645, or CHEM 646, or an equivalent physical chemistry graduate course. A minimum of two courses must be outside the primary area of study. Only graduate courses from accredited institutions in which the student has earned a grade of B or better may be accepted towards an advanced degree, subject to approval of the department and the Graduate School.

CHEM 615, Chemistry Seminar, must be taken each semester unless a written waiver is given by the Director of Graduate Studies.

A thesis incorporating the results of an approved research problem and successfully defended as part of a comprehensive oral examination is required. CHEM 698, Independent Study, should be taken as soon as possible, with enrollment to continue each term until enrollment in CHEM 699, Master's Thesis, is begun.

## Essay Option

A minimum of 36 semester hours of graduate work is required. The student must successfully complete a minimum of six courses for graduate credit (18 semester hours, excluding CHEM 615, CHEM 690, CHEM 698, CHEM 699, and CHEM 799), of which at least 12 semester hours are to be in chemistry. At least one of these courses must be CHEM 644, CHEM 645, or CHEM 646, or an equivalent physical chemistry graduate course. A minimum of two courses must be outside the primary area of study. Only graduate courses from accredited institutions in which the student has earned a grade of B or better may be accepted towards an advanced degree, subject to approval of the department and the Graduate School.

Students earning an M.S. degree through the Essay Option must have passed the qualifying examination and the research oral (candidacy) examination described under the Ph.D. program.

In addition, students must submit a paper describing original research (a Master's Essay) to their examining committee. Approval of this research paper by at least three members of the examining committee and deposition of a copy of the research paper in the departmental office is required.

CHEM 615, Chemistry Seminar, must be taken each semester unless a written waiver is given by the Director of Graduate Studies.

### Teacher Certification Option

Students in this option must meet the requirements for teacher certification, in consultation with the discipline coordinator.

In addition, the student must successfully complete a minimum of four courses (12 semester hours) for graduate credit from courses numbered CHEM 505 to CHEM 700, excluding CHEM 590 to CHEM 599, CHEM 615, CHEM 690, CHEM 698, and CHEM 699. At least one of the four courses must be CHEM 644, CHEM 645, or CHEM 646, or an equivalent physical chemistry graduate course. Only graduate courses from accredited institutions in which the student has earned a grade of B or better may be accepted towards an advanced degree, subject to approval of the department and the Graduate School.

The student must pass a comprehensive examination in chemistry and chemistry education.

A minimum of 30 semester hours of graduate work to be determined by the department is required. In most cases, the number of semester hours will exceed 30. Retention in the program requires adherence to Graduate School and teacher certification requirements and regulations.

## Doctor of Philosophy in Chemistry

The prospective candidate for the Ph.D. in chemistry may do advanced study and research in the areas of analytical, biological, inorganic, organic, or physical chemistry; or in interdisciplinary nanotechnology.

Students who wish to enter the Ph.D. program should have a baccalaureate degree in a life, physical, or mathematical science, or engineering, including one year of physics; one year of general chemistry; one year of physical chemistry; and mathematics consisting of either three semesters of calculus or two semesters of calculus and one semester of differential equations. Also required are four courses in other areas of chemistry at the 300-400 level, except for doctoral students in the nanotechnology area, for whom two other courses in other areas of chemistry at the 300-400 level are required. Students deficient in these requirements may satisfy them after admission, but the courses may not be taken for graduate credit and must be approved by the Graduate Program Committee after consultation with department faculty in the student's primary area of interest. These deficiencies must be satisfied with a grade of C or better during the first two semesters of enrollment in the program.

### Course Requirements

A minimum of eight courses (24 semester hours, excluding CHEM 615, CHEM 690, CHEM 698, CHEM 699, and CHEM 799) must be taken for graduate credit. At least 15 semester hours are to be in chemistry except for students in the interdisciplinary nanoscience specialization, for whom at least 12 semester hours must be in chemistry. At least one of these courses must be CHEM 644, CHEM 645, or CHEM 646, or an equivalent physical chemistry graduate course. A minimum of three courses must be outside the primary area of study. Further requirements for the nanoscience specialization are given in the "Interdisciplinary Academic Centers and Courses" section of the catalog under "Institute of Nanoscience, Engineering, and Technology (INSET)."

Only graduate courses from accredited institutions in which the student has earned a grade of B or better may be accepted towards an advanced degree, subject to approval of the department and the Graduate School.

CHEM 615, Chemistry Seminar, must be taken each semester unless a written waiver is given by the Director of Graduate Studies.

There is no general language/research skill requirement. However, a student's research adviser may require that such skills appropriate for the student's research be obtained, and course work to achieve this may also be included in the student's program of courses.

The student must complete the degree requirements with a cumulative GPA of 3.20 or above in all NIU graduate course work included on the doctoral program of courses.

CHEM 799, Doctoral Research and Dissertation, should be taken as soon as possible after passing the qualifying examination, with enrollment to continue each semester until graduate work terminates.

### Examinations

Background examinations are required at the time of entering the program (described above in the requirements for the master's degree).

A qualifying examination must be satisfactorily completed in the primary area. This examination will test comprehensive knowledge of the area at the graduate level. Faculty in each area will establish the graduate course(s) that will contribute towards the material upon which the examination is based. The qualifying examination must be taken no later than the fourth semester of enrollment as a graduate student. Students must have a GPA of at least 3.20 in previous graduate work to attempt the examination. A prospective doctoral candidate who has received an M.S. degree in chemistry from NIU must take the examination at the first offering following the awarding of the M.S. degree. Qualifying examinations will be given three times a year, in September, January, and May. A student who fails to pass this examination must retake it at the next offering. Failure on the second attempt will terminate further work toward the doctorate but not the master's degree.

Within one year of passing the qualifying examination in the primary field, the student must complete a research oral examination on his or her field of research encompassing the background literature in the area, the current state of the student's research, and the proposed direction of the research. The examination committee will be formed from faculty representing the primary area and a secondary area and will constitute the student's examining committee for all future examinations, with the addition of an extradepartmental representative for the final dissertation oral defense. The student's research adviser will chair the research oral committee. This examination will serve as the admission to candidacy examination. A student who fails to pass this examination must retake it no earlier than four nor later than six months after the first attempt. Failure on the second attempt will terminate further work toward the doctorate.

Each doctoral candidate will give an oral presentation of her or his research once a year. The student's examining committee will evaluate the presentation and inform the student of its opinion in writing.

Appeals against dismissal for failure to satisfy above examination requirements shall be directed to the Graduate Program Committee, whose recommendation shall be passed on to the faculty. The decision of the latter shall be final.

## Dissertation

The student must complete an approved research problem and incorporate the results in a dissertation. The dissertation will be a substantial contribution to knowledge in which the student exhibits original scholarship and the ability to conduct independent research. A successful defense of the dissertation before the student's doctoral committee is required for its final approval.

## Limitation of Time

All requirements for the Ph.D. degree in chemistry must be completed within seven consecutive years from entry into an NIU graduate program in chemistry

## Course List (CHEM)

**Course numbering system.** Courses offered by the Department of Chemistry and Biochemistry are divided into different areas as a general guide to students using the following numbering system.

- 00, special topics
- 15, seminar
- 01 to -19, general chemistry
- 20 to -29, analytical chemistry
- 30 to -39, organic chemistry
- 40 to -49, physical chemistry
- 50 to -59, nanochemistry
- 60 to -69, inorganic chemistry
- 70 to -79, biochemistry
- 80 to -99, research, dissertation, and miscellaneous

505. CHEMICAL INSTRUMENTATION (3). Measurements of signals generated by chemical instrumentation. Applications of active and passive components in amplifiers, comparison circuits, filter circuits, and mathematical function circuits in relation to chromatographic, electroanalytical, and spectrochemical systems. Electrical noise as a function of frequency is discussed in the context of signal sampling and achieving maximum signal-to-noise ratios. Analog and digital data acquisition and computer controlled measurements. Two lectures and 3 hours of laboratory per week. PRQ: CHEM 440 or CHEM 540, or consent of department.

525. ANALYTICAL CHEMISTRY II (4). Fundamentals of physicochemical techniques of chemical analysis focusing on spectrometric and electrochemical techniques. Fundamentals, instrumentation, and applications of optical and mass molecular and atomic spectrometries, and electrochemical methods. Three hours of lecture and one 4-hour laboratory period a week. Not offered for graduate credit for chemistry majors. PRQ: CHEM 325, and CHEM 440 or CHEM 540, or consent of department.

540. PHYSICAL CHEMISTRY I (3). Study of the gaseous, liquid, and solid states; thermodynamics; chemical equilibrium; and kinetic theory. Three lectures a week plus a recitation section. Not offered for graduate credit for chemistry majors. PRQ: CHEM 211T, CHEM 213, PHYS 251 or PHYS 251A, and MATH 230, or consent of department.

541. PHYSICAL CHEMISTRY II (3). Atomic and molecular structure, spectroscopy, kinetics, and chemical statistics. Three lectures a week plus a recitation section. Not offered for graduate credit for chemistry majors. PRQ: CHEM 440 or CHEM 540, and either MATH 232 or MATH 336, or consent of department.

560. INORGANIC CHEMISTRY OF THE TRANSITION METALS (3). Introduction to symmetry elements and point group classification. Structures, bonding, and physical properties of transition metal complexes, as identified by electronic, vibrational, and diffraction methods. Kinetics and thermodynamics of transition metal reactions. Organometallic chemistry and catalysis. Bioinorganic transition metal chemistry. Three lectures per week. Not offered for graduate credit for chemistry majors. PRQ: CHEM 325, CHEM 337, and CHEM 440 or CHEM 540, or consent of department.

561. INORGANIC CHEMISTRY LABORATORY (1). Microscale synthesis and characterization of compounds of both main group elements and transition elements. Experimental examination of magnetic and spectroscopic properties of inorganic complexes. Use of glovebox techniques in the handling of air-sensitive materials. Not offered for graduate credit for chemistry majors. One 4-hour laboratory per week. PRQ: CHEM 332 or CHEM 339 or consent of department. PRQ or CRQ: CHEM 460 or CHEM 560, or consent of department.

562. INORGANIC CHEMISTRY OF THE MAIN GROUP ELEMENTS (3). Atomic structure and periodicity. Theories of ionic and covalent bonding, including ionic lattices. Acid-base theories and their application to synthesis. Descriptive chemistry and bioinorganic chemistry of main group elements. Not offered for graduate credit for chemistry majors. Three lectures per week. PRQ: Consent of department.

570. GENERAL BIOLOGICAL CHEMISTRY (3). *Crosslisted as BIOS 570X*. Overall view of biochemistry including structure, properties, function, and metabolism of biologically important compounds. PRQ: Consent of department.

571. BIOLOGICAL CHEMISTRY LABORATORY (3). *Crosslisted as BIOS 571X*. Experiments in the isolation, purification, and characterization of biomolecules by chromatographic, electrophoretic, and centrifugation techniques; enzyme kinetics; electron transport in mitochondria and microsomes. CRQ: CHEM 570 or CHEM 572, or consent of department.

572. BIOLOGICAL CHEMISTRY I (3). *Crosslisted as BIOS 572X*. Detailed study of the structure and properties of proteins, carbohydrates, lipids, and nucleic acids. Properties of enzymes. Bioenergetics including oxidative phosphorylation and photosynthesis. PRQ: Consent of department.

573. BIOLOGICAL CHEMISTRY II (3). *Crosslisted as BIOS 573X*. Detailed study of the metabolism of carbohydrates, lipids, and nitrogenous compounds, including proteins and nucleic acids. Metabolic regulation. Genetic information. PRQ: CHEM 472, CHEM 572, BIOS 472X, or BIOS 572X; or consent of department.

594. USE OF TECHNOLOGY IN CURRICULUM DEVELOPMENT AND CHEMISTRY TEACHING (3). Use of web-based teaming technology to track, design, and implement new science curricula. Includes use of SharePoint to develop collaboratively a standards-aligned instructional module on the web as part of a three-semester project including ILAS 300 and/or ILAS 401, and CHEM 497. Not available for credit except to students pursuing the Teacher Certification option. PRQ: Consent of department. CRQ: CHEM 301X and ILAS 301, or consent of department.

595X. TEACHING OF PHYSICAL SCIENCES (3). *Crosslisted as PHYS 495*. Preparation for certification in grades 6-12 in one or more of the fields of physical science: physics, chemistry, earth science, general science. Examination and analysis of modern curricula; classroom and laboratory organization; microteaching and observation of teaching; lesson planning; multicultural education; teaching science to the exceptional child; reading and the teaching of science; methods of evaluation. PRQ: Consent of department. CRQ: ILAS 401 or consent of department.

596. TRANSITION TO THE PROFESSIONAL CHEMISTRY TEACHER (1). A transitioning experience in which the certification candidate achieves closure on the initial phase of professional preparation and, upon that foundation, charts a path for continuing professional growth as a practicing teacher. The candidate reflects on the preparatory experience and provides complete documentation demonstrating ability to perform as a qualified chemistry teacher. Such documentation must include, but not be limited to, the electronic portfolio, a professional development plan, and a resume. CRQ: CHEM 497 or CHEM 597, or consent of department.

597. STUDENT TEACHING (SECONDARY) IN CHEMISTRY/PHYSICAL SCIENCES (7-12). Student teaching for a minimum of 10 weeks. Assignments to be arranged with the discipline coordinator of teacher certification after approval by the Department of Chemistry and Biochemistry. PRQ: CHEM 495X or CHEM 595X, and consent of department.

600. SELECTED TOPICS IN CHEMISTRY (1-3).

- A. Inorganic
- B. Analytical
- C. Organic
- D. Physical
- E. Biological
- G. Nanochemistry

Lecture and discussions of special topics for beginning graduate students. One to 3 semester hours as scheduled; course may be repeated up to a maximum of 9 semester hours. PRQ: Consent of department.

615. CHEMISTRY SEMINAR (½). Required of thesis option master's and doctoral students each semester in residence except summer session. May be repeated to a maximum of 8 semester hours. PRQ: Consent of department.

622. ANALYTICAL SEPARATIONS (3). Fundamental principles of chemical separations and measurements with emphasis on instrumental methods. Survey of both traditional and emerging techniques. PRQ: CHEM 441 or CHEM 541, or consent of department.

623. MASS SPECTROMETRY (3). Fundamentals of mass spectrometry, including modern ionization techniques, major types of mass analyzers, and interface to separation techniques. Survey of biochemical, pharmaceutical, and environmental applications.

624. OPTICAL METHODS IN ANALYTICAL CHEMISTRY (3). Theoretical and practical applications of spectral measurements to research and chemical analysis, with emphasis on absorption, emission, and luminescence techniques in the principal regions of the electromagnetic spectrum. PRQ: CHEM 425 or CHEM 525, or consent of department.

626. ELECTROANALYTICAL CHEMISTRY (3). Theory, practice, and applicability of electroanalytical measurements in analysis and research. Traditional and emerging techniques of electroanalytical chemistry and electrochemical kinetics are emphasized. PRQ: CHEM 425 or CHEM 525, or consent of department.

631. ORGANIC SYNTHESIS (3). Systematic presentation of methods of assembling carbon skeletons, functional group interconversions, and analysis of synthetic pathways. PRQ: CHEM 331 or CHEM 337.

632. PHYSICAL ORGANIC CHEMISTRY (3). Mechanism and structure in organic chemistry including structural theory, stereochemistry, and the study of the reactive intermediates of organic chemistry. PRQ: CHEM 331 or CHEM 337, and CHEM 441 or CHEM 541, or consent of department.

635. SPECTROSCOPIC IDENTIFICATION OF ORGANIC MOLECULES (3). Application of spectroscopic techniques to the determination of organic structures. PRQ: CHEM 440 or CHEM 540, or consent of department.

643. QUANTUM CHEMISTRY I (3). Postulatory basis of quantum theory. The time-independent Schrodinger equation and its applications. Operator techniques are emphasized. PRQ: CHEM 646 and either MATH 334 or MATH 336, or consent of department.

644. CHEMICAL THERMODYNAMICS (3). Fundamental laws of thermodynamics and applications to chemical problems. Calculation of thermodynamic quantities. PRQ: CHEM 441 or CHEM 541, or consent of department.

645. KINETICS (3). Theories and applications of rates of chemical reactions including reactions in the gas phase and in solution. Thermodynamic foundations of chemical reaction rates. Applications of kinetics in the determination of reaction mechanisms. PRQ: CHEM 441 or CHEM 541, or consent of department.

646. THEORETICAL CHEMISTRY (3). Continuation of CHEM 540 and CHEM 541. Atomic structure, chemical bonding, and introduction to elementary quantum mechanics. Three lectures a week. PRQ: CHEM 441 or CHEM 541, or consent of department.

650. NANOCHEMISTRY (3). Fundamental theory and experimental techniques underlying fabrication methods and applications of nanoscale materials and devices. PRQ: CHEM 441 or CHEM 541, or consent of department.

663. INORGANIC CHEMISTRY III (3). Chemical applications of group theory including vibrational spectra, molecular orbitals, and ligand field theory. Theoretical basis for physical methods in inorganic chemistry. Selected topics in modern structural inorganic chemistry: organometallic compounds, cluster compounds including rings and polymers, and bioinorganic chemistry. Three lectures a week. PRQ: CHEM 460 or CHEM 560, or consent of department.

674. ENZYMES (3). Basic principles of the concepts of enzyme kinetics, theory and design of experimental methods, and interpretation of enzyme mechanisms. Three lectures a week. PRQ: CHEM 470 or CHEM 570, or consent of department. Recommended: CHEM 645.

675. PHYSICAL CHEMISTRY OF MACROMOLECULES (3). Comprehensive introduction to the use of physical chemistry in the study of macromolecules. Three lectures a week. PRQ: CHEM 441 or CHEM 541, or consent of department.

690. APPLIED TOPICS IN THE CHEMISTRY PROFESSION (1-2). Issues regarding the chemistry profession, teaching methods in chemistry, research tools, information presentation, advanced research, and other subjects not normally considered as part of more traditional chemistry courses. May be repeated to a maximum of 6 semester hours. S/U grading. PRQ: Consent of department.

695. IN-SERVICE EXPERIENCE IN CHEMISTRY (1-4). Work individually or in small groups in an academic, industrial, or government setting under the guidance of a professional staff member(s) in an approved lecture and/or laboratory program. May be repeated to a maximum of 9 semester hours. PRQ: Consent of department.

698. INDEPENDENT STUDY (1-12). Independent study of problems under the supervision of an adviser. May be repeated to a maximum of 55 semester hours, but no more than 15 combined semester hours of CHEM 698 and CHEM 699 may be applied toward the M.S. degree. S/U grading. PRQ: Consent of department.

699. MASTER'S THESIS (1-12). Research for and writing of a master's thesis. Students are eligible to register only after receiving approval from their thesis adviser. May be repeated to a maximum of 12 semester hours, but no more than 15 semester hours of combined credit in CHEM 698 and CHEM 699 may be applied toward the M.S. degree. S/U grading. PRQ: Consent of department.

700. SPECIAL TOPICS IN CHEMISTRY (1-3).

- A. Inorganic
- B. Analytical
- C. Organic
- D. Physical
- E. Biological
- G. Nanoscience

Lectures, discussions, and reports on topics of special interest in a particular field of chemistry. One to 3 semester hours as scheduled; course may be repeated to a maximum of 9 semester hours. PRQ: Consent of department.

799. DOCTORAL RESEARCH AND DISSERTATION (1-12). May be repeated to a maximum of 100 semester hours, but no more than 40 semester hours may be applied toward the Ph.D. degree. PRQ: Admission to Ph.D. candidacy and consent of department.

# Department of Communication (COMS, JOUR)

Acting Chair: Jeffrey Burns

## Graduate Faculty

Kyle Andrews, assistant professor, Ph.D., Michigan State University  
 Gretchen Bisplinghoff, assistant professor, Ph.D., Northwestern University  
 Robert Brookey, associate professor, Ph.D., University of Minnesota  
 Ferald J. Bryan, associate professor, Ph.D., University of Missouri  
 Gary Burns, professor, Ph.D., Northwestern University  
 Kathryn Cady, assistant professor, Ph.D., University of Iowa  
 William Cassidy, associate professor, Ph.D., University of Oregon  
 Jeffrey Chown, Distinguished Teaching Professor, Ph.D., University of Michigan  
 Sabryna Cornish, assistant professor, University of Illinois  
 David Gunkel, Presidential Teaching Professor, Ph.D., DePaul University  
 Janice D. Hamlet, associate professor, Ph.D., Ohio State University  
 E. Johanna Hartelius, assistant professor, Ph.D., University of Texas, Austin  
 David Henningsen, associate professor, Ph.D., University of Wisconsin  
 Mary Lynn Henningsen, associate professor, Ph.D., University of Wisconsin  
 Richard Holt, associate professor, Ph.D., University of Illinois  
 Induk Kim, assistant professor, Ph.D., Pur  
 Betty LaFrance, associate professor, Ph.D., Michigan State University  
 Mary S. Larson, professor emeritus, Ed.D., Northern Illinois University  
 Robert Miller, associate professor, Ph.D., Northwestern University  
 Orayb Najjar, professor, Ph.D., Indiana University  
 Thomas Oates, assistant professor, University of Iowa  
 Joseph Scudder, associate professor, Ph.D., Indiana University  
 Craig Seymour, associate professor, Ph.D., University of Maryland  
 Kathleen S. Valde, associate professor, Ph.D., University of Iowa  
 Laura Vazquez, associate professor, Ph.D., Northwestern University  
 Karen Whedbee, associate professor, Ph.D., University of Wisconsin  
 Kerith Woodyard, assistant professor, Ph.D., University of Utah

The Department of Communication offers a graduate program leading to the M.A. degree in communication studies. This graduate program is adapted to the student's individual needs and academic background. Each student plans a program in consultation with an adviser from the graduate faculty of the department. With the approval of the adviser, the student may elect a maximum of 12 semester hours in allied studies in other departments.

With the adviser's consent, the student may choose to pursue the degree with or without a thesis. The number of credits transferred from another school or taken as a student-at-large to be approved as part of the student's program of courses will be determined by the student's departmental advisory committee.

## Master of Arts in Communication Studies

A student may pursue the primary portion of graduate study for the M.A. in communication studies in communication theory, rhetorical studies, journalism, or media studies.

## Requirements

The student must earn a minimum of 33 semester hours of graduate credit and must take at least one 600- or 700-level course in three of the following four areas: journalism, communication theory, rhetorical studies, and media studies. COMS 691, Research in Communication Studies (3), is required of all students and must be taken during the first 12 semester hours of graduate work.

With the adviser's advice and consent, the student must fulfill the requirements of either the thesis or non-thesis option.

COMS 691 - Research in Communication Studies (3)

### Thesis Option

A thesis must be submitted and approved. From 3 to 6 semester hours may be allotted to thesis research and writing. A maximum of 6 semester hours may be taken in a combination of COMS 697, Directed Individual Study, and COMS 699, Master's Thesis.

During the semester in which degree requirements are completed, the student must pass a written examination and an oral examination on the thesis and course work.

COMS 697 - Directed Individual Study (1-6)

COMS 699 - Master's Thesis (1-6)

### Non-Thesis Option

A maximum of 3 semester hours may be earned in COMS 697, Directed Individual Study. This course should only be used for unique educational opportunities, new projects, and research endeavors not otherwise available through current course offerings. For this reason, the course may not be employed to work on the scholarly paper or to revise papers or projects already undertaken in another course.

During the semester in which degree requirements are completed, the student must pass a written examination and an oral examination, both of which will assess knowledge and ability in the area of special interest.

The comprehensive examination includes the submission by the student, for evaluation by the committee, of an expanded scholarly paper growing out of previous course work or directed individual study.

COMS 697 - Directed Individual Study (1-6)

(Only 3 semester hours may be used toward degree requirements.)

## Course List

### Communication Studies (COMS)

#### Communication Theory

607. SEMINAR IN SMALL-GROUP COMMUNICATION (3). Theories of communication in small-group interaction, especially in decision-making and conflict resolution; examination of the experimental literature.

609. TOPICS IN COMMUNICATION THEORY (3). Special issues, problems, methods, or applications related to communication theory. Methodological focus varies. May be repeated to a maximum of 6 semester hours when topic varies.

610. SYMBOLIC BEHAVIOR AND COMMUNICATION (3). Description of the nature of symbols and the major forms of symbolic systems used in speech communication.

611. INTERPERSONAL INFLUENCE (3). Communication-based theories of interpersonal influence, compliance-gaining, and responses to compliance. Focus on the social scientific research on interpersonal influence from the seminar research in the area to recent theoretical and methodological advances. Topics such as strategies of compliance-gaining, theories of interpersonal influence, the role of personality in compliance-gaining interactions, and compliance-gaining resistance are covered.

661. SEMINAR IN INTERNAL ORGANIZATIONAL COMMUNICATION (3). Analysis of communication systems in complex organizations with a focus on communication and organizational goals. Research methodologies emphasizing field study methods.

662. SEMINAR IN INTERCULTURAL COMMUNICATION (3). Intensive study of the means whereby individuals communicate, perpetuate, and develop their world views and ethos, with emphasis on the nature and function of communication among, between, and/or within cultures.

663. SEMINAR IN INTERPERSONAL COMMUNICATION (3). Exploration of the functions of interpersonal communication such as uncertainty reduction, social support, self-presentation, influence, and relationship maintenance; examines sociocultural expectations for verbal and nonverbal interaction.

664. SEMINAR IN COMMUNICATION THEORY (3). Analysis of motives for developing and criteria for evaluating communication theories. Introduces empirical, interpretive, and critical communication theories, including theories focused on specific contexts such as close relationships, organizational networks, and media processing.

671. SEMINAR IN ORGANIZATIONAL LEADERSHIP AND COMMUNICATION (3). Communication in the development and practice of leadership in modern organizations. Theory and research concerning leadership and communication.

672. SEMINAR IN ORGANIZATIONAL DEVELOPMENT AND COMMUNICATION (3). Use of communication to identify performance gaps and direct informed organizational change. Theory and research concerning the central role of communication in organizational development.

673. SEMINAR IN EXTERNAL ORGANIZATIONAL COMMUNICATION (3). Focus on such functions as public relations, marketing, advertising, lobbying, fund raising, long-range planning, government relations, crisis management, sales, and media relations. Theory and research concerning the use of external communication in accomplishing organizational goals.

680. SEMINAR IN CONFLICT MANAGEMENT AND NEGOTIATION (3). Communication theory and research about conflict management, negotiation/bargaining, and mediation; emphasis on interpersonal, group, and organizational contexts.

707. SEMINAR IN PERSUASION (3). Selected areas of research on persuasion and application of various theories to persuasive situations such as political campaigns, advertising, and social issues. May be repeated to a maximum of 9 semester hours provided there is no duplication of subject matter.

### Rhetorical Studies

503. FREEDOM OF SPEECH AND COMMUNICATION ETHICS (3). Social responsibilities of the public and private oral communicator, as sender and receiver; the issues of freedom of speech and exploration of problems of ethics in speech communication.

519. POLITICAL COMMUNICATION IN AMERICA (3). Communication theory and practices within the context of American politics. Modern campaigns, political communication consultants, issue definition and dissemination, communication strategies of administrative control, and communication within the presidency and within congress. Special focus on the mass media.

600. 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.

602. 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, Ernesto Grassi, Michel Foucault, and Jurgen Habermas.

603. SEMINAR IN PUBLIC RHETORIC (3). Significant public speeches and rhetorical discourse throughout American history on major intellectual, social, and political issues. May be repeated to a maximum of 9 semester hours provided no major duplication of subject matter occurs.

604. METHODS OF RHETORICAL CRITICISM (3). Examination of the nature and function of rhetorical criticism in regard to diverse texts and contexts.

605. THEORY AND USES OF ARGUMENT (3). Study of modern theories of argument and a critical examination of the function of debate in the determination of public policy.

606. COMMUNICATION ETHICS (3). Conceptual perspectives for evaluation of ethics in interpersonal, small group, organizational, and mass media communication settings. Exploration of potential standards, controversial issues, and case studies. Instructional approaches to communication ethics in academic and nonacademic contexts.

619. SEMINAR IN PRESIDENTIAL RHETORIC (3). Examination of the definitional, theoretical, and methodological issues relevant to the rhetoric of the American presidency. Focus on the rhetorical practices of recent presidents from FDR to Reagan.

620. RHETORICAL APPROACHES TO SOCIAL MOVEMENTS (3). Examination of definitional, theoretical, and methodological issues unique to rhetorical criticism of social movements as articulated in contemporary scholarly debates such as the nature of a rhetorical movement, the role of communication in development of rhetorical movements, method(s) appropriate to study of modes of symbolic activity in rhetorical movements, and the ethical status of the critic of rhetorical movements. Issues explored through consideration of particular case studies.

640. SEMINAR IN COMMUNICATION AND GENDER (3). Examination of the relationship between communication and gender, current research regarding gender differences in communication, theoretical and critical perspectives that emphasize gender, and contemporary communication problems and issues for which gender plays a pivotal role (e.g., pornography and sexual harassment).

760. SEMINAR IN RHETORIC (3). Intensive studies of selected topics such as postmodern issues, communication and culture, power and identity, alternative critical perspectives, and free speech/free press. May be repeated to a maximum of 9 semester hours provided there is no duplication of subject matter.

### Media Studies

526. ADVANCED FIELD PRODUCTION (3).

A. Documentary. PRQ: COMS 358 and COMS 557 and successful portfolio review, or consent of department.

B. Narrative. PRQ: COMS 562 or COMS 556C or COMS 556D and successful portfolio review, or consent of department.

Video production based on application of appropriate theories and aesthetics for documentary or narrative production. Projects utilize digital editing, audio track mixing, digital video camera(s), and locations as needed.

546. DESIGNING FOR THE INTERNET (3). Conceptualization of appropriate design criteria for an attractive and efficient Internet site. Techniques for site construction. Appropriate software used for image manipulation and page construction and design.

549. AUDIO PRODUCTION (3). Production of radio programs or other audio projects of a complex nature, emphasizing recording, editing, and mixing techniques. PRQ: COMS 357 and successful portfolio review, or consent of department.

554. TRANSNATIONAL COMMUNICATION AND MEDIA (3). Study of the development, structure, functions, and control of international communications media systems and activities as they affect world relations.

555. MEDIA LAW AND ETHICS (3). Development, structure, theory, and functions of legal controls and ethical constraints on media production and programming.

556. HISTORY OF FILM (3).

C. Before 1950

D. After 1950

Each lettered topic may be taken only once.

557. THE DOCUMENTARY TRADITION (3). Theories, techniques, history, and criticism of the documentary.

559. HISTORY OF BROADCASTING (3). History of radio and television broadcasting in the United States from its inception to the present.

562. FILM THEORY AND CRITICISM (3). Major theoretical and critical perspectives for analysis of film.

563. ADVANCED STUDIO PRODUCTION (3). Production of studio-based programs utilizing multiple cameras in a live or live-on-tape format. PRQ: COMS 357 and successful portfolio review, or consent of department. CRQ: COMS 526 or consent of department.

566. NARRATIVE SCRIPTWRITING (3). Focus on structure, development, and execution of a 100-page narrative fiction script for media. Emphasis on creativity, critical ability, and discipline in writing. PRQ: COMS 355 or consent of department.

569. INTERACTIVE MEDIA PRODUCTION II (3). Advanced technologies and techniques for creating Web-based, interactive multimedia. Theories of media integration and interaction design, development of practical skills with Web-based production technologies beyond basic HTML (i.e., CSS, ASP, XML, Flash, and JavaScript), and creation of several interactive projects for e-commerce, education, and public service applications. PRQ: COMS 359 or consent of department.

641. DVD AND DIGITAL MEDIA (3). Effects of DVD and other emerging digital technologies on the film and media industries. Critical evaluation of applications and implications of these new technologies.

647. COMMUNICATION TECHNOLOGY (3). Investigation of computer-mediated communication including but not limited to the Internet, cyberspace, and virtual reality. Examination of the economic, social, political, and philosophical aspects of technology as well as practical experience with computer-based communication and information systems.

649. MEDIA AND CULTURE IN IRELAND (3). Survey of Irish film and television against the historical, political, and cultural traditions of Ireland. Irish media as it has developed in competition with Hollywood and British representation of Ireland.

650. SEMINAR IN MEDIA STUDIES (3). Intensive study of selected topics in media studies. Topics vary. May be repeated to a maximum of 9 semester hours provided that no repetition of subject matter occurs.

651. SEMINAR IN MEDIA STUDIES: CHILDREN AND ADOLESCENTS (3). The role and impact of the media in the lives of children and adolescents, with primary attention to television and the Internet.

652. ADVANCED PROBLEMS OF MEDIA 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.

653. TOPICS IN BROADCAST MEDIA MANAGEMENT (3). Topics 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.

654. MEDIA AND SOCIETY (3). Focus on how media shape an individual's creation of social reality with regard to such areas as interpersonal communication, politics and government, religion, and community involvement.

655. THEORIES OF TELEVISION (3). Focus on the fundamental nature of television, how it differs from film and other media, its aesthetic characteristics, and how it is constituted technologically, industrially, and socially. Major theoretical and critical approaches to television will be examined.

656. FEMINIST FILM THEORY (3). Historical and methodological development of the feminist perspective in film analysis. Use and influence of sociological, psychoanalytical, Marxist, and semiological tools in a feminist approach to understanding film and how it works in a patriarchal society.

657. DOCUMENTARY THEORY AND PRACTICE (3). Survey of major documentary theories. Students put theory into practice while producing their own documentary videotapes.

658. SEMINAR IN MEDIA CRITICISM (3). Examination of mass communication theories, history of media criticism, current trends in media criticism, and major critical methods.

### Research, Communication Education and Internship

608. SPECIAL TOPICS IN COMMUNICATION STUDIES (1-3). May be repeated to a maximum of 9 semester hours when topic varies.

630. SEMINAR IN COMMUNICATION EDUCATION (3). Issues relevant to communication education.

639. INTERNSHIP IN COMMUNICATION STUDIES (1-12). For graduate students preparing to enter fields where internship experience is available and desirable. Study of problems related to teaching, media application, and communication systems. Experience will be supervised and evaluated. May be repeated to a maximum of 12 semester hours. No more than 3 semester hours may be included in the degree program. Grades awarded are S, U, or I.

691. RESEARCH IN COMMUNICATION STUDIES (3). Focus on the nature and development of research questions and methods typical of scholarship in such areas as communication theory, rhetorical studies, and media studies.

697. DIRECTED INDIVIDUAL STUDY (1-6). Supervised readings and research or production of a creative project. May be repeated to a maximum of 6 semester hours, but no more than 3 semester hours may be applied toward the M.A.

699. MASTER'S THESIS (1-6). May be repeated to a maximum of 6 semester hours.

### Journalism (JOUR)

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

621. SEMINAR IN SPECIAL TOPICS IN JOURNALISM (3). May be repeated to a maximum of 6 semester hours when topics vary.

635. PUBLIC RELATIONS CASES, CONCEPTS, AND CAMPAIGNS (3). Practice in planning and conducting campaigns to achieve specific goals and to anticipate and solve specific public relations problems, including pre and posttesting to measure results. Case method approach.

652. SEMINAR IN MEDIA CONVERGENCE (3). Development, structure, and future of print-broadcast-online journalism. Examination of how news media have changed and are changing, with focus on economic, political, and social systems. Advanced techniques for reporting, producing, and managing news for multiple platforms.

682. THE PRESS AND WORLD AFFAIRS (3). Communication problems of the press in international affairs; 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.

683. 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. May be repeated to a maximum of 6 semester hours when topics vary.

# Department of Computer Science (CSCI)

Acting Chair: Nicholas T. Karonis

## Graduate Faculty

Kirk Duffin, associate professor, Ph.D., Brigham Young University  
 Raimund Ege, associate professor, Ph.D., Oregon Graduate  
 Institute for Science and Technology  
 Reva Freedman, associate professor, Ph.D., Northwestern  
 University  
 George Henry, associate professor, Ed.D., Northern Illinois  
 University  
 Minmei Hou, assistant professor, Ph.D., Pennsylvania State  
 University  
 H. Joel Jeffrey, professor, Ph.D., University of Colorado  
 Nicholas T. Karonis, professor, Ph.D., Syracuse University  
 Ibrahim Onyuksel, professor, Ph.D., University of Michigan  
 Robert Zerwekh, associate professor, Ph.D., University of Illinois  
 Jia Zhang, associate professor, Ph.D., University of Illinois,  
 Chicago  
 Jie Zhou, associate professor, Ph.D., Concordia University

For admission to the graduate program in computer science, students must have a bachelor's degree in computer science or a closely related field. Students without such a background may also be admitted, but may be required to take from one to four deficiency courses and earn a grade of B or higher in each.

## Master of Science in Computer Science

Students pursuing the M.S. in computer science must complete at least ten graduate-level courses of 3 or 4 semester hours each. At least eight of the ten required courses must be in the Department of Computer Science. Students must obtain prior departmental approval to apply courses not offered by the Department of Computer Science to their programs of study.

For students who write a master's thesis, 6 semester hours of CSCI 699 will count as two of the ten courses required.

A program of study designed by the student and the adviser must be approved by the Department of Computer Science.

All students must pass a comprehensive examination, and must be enrolled for at least 2 semester hours of credit in the semester in which the exam is taken. Students who fail the examination may, with permission of the department, repeat it once.

## Required Courses (15-17)

CSCI 640 - Data Structures in Assembly Language (3)

Students must complete two two-semester areas of study, as indicated below (12-14):

Enterprise Computing Systems

CSCI 565 - Enterprise Application Environments (4)

CSCI 641 - Enterprise Operating Systems (3)

Web Services and Services Computing

CSCI 546 - Web Services and Internet Technologies (3)

CSCI 647 - Web Services and Services Computing (3)

Database

CSCI 566 - Databases (4)

CSCI 688 - Database Concepts (3)

System Design and Analysis

CSCI 567 - Introduction to Software Engineering (4)

CSCI 663 - Systems Design and Analysis (3)

Networking

CSCI 630 - Computer Networks (3)

CSCI 631 - Network Applications Programming (3)

Contracted Area

Two courses of at least 3 semester hours each, designated by the Director of Graduate Studies in consultation with the student and a supervising faculty member

## Course List (CSCI)

546. WEB SERVICES AND INTERNET TECHNOLOGIES (3). State of the art of modern Internet technologies in the context of Services Computing. Major topics include: Internet computing, XML, Web services and SOA, Web services engineering, Web services testing, J2EE-based modern enterprise computing technology, Internet and services security and privacy, semantic Web, grid and utility computing, cloud computing, mobile computing, SOA-based business process and integration management, and e-Commerce technologies. PRQ: Admission to the graduate program in computer science or consent of department.

565. ENTERPRISE APPLICATION ENVIRONMENTS (4). File organization, job control languages, file access methods, and utilities; security, and high-throughput data-intensive applications. Extensive laboratory work. PRQ: Admission to the graduate program in computer science or consent of department. CRQ: CSCI 540.

566. DATABASES (4). Software development in a representative current database system. Extensive laboratory work. PRQ: Admission to the graduate program in computer science or consent of department.

567. INTRODUCTION TO SOFTWARE ENGINEERING (4). Phases of the systems development life cycle and the tools used by the analyst in planning, specifying, and implementing a complex computer-based system. Related topics include documentation standards, interaction with users, and design of interfaces. Assignments include at least one major group project. PRQ: Admission to the graduate program in computer science or consent of department.

580. PRINCIPLES OF OPERATING SYSTEMS (4). Principles and practices of modern operating system design. Includes file systems organization; memory management; multitasking; windowing interfaces; interprocess communication, including communications across a network; and client-server models of processing. Extensive laboratory work. PRQ: Admission to the graduate program in computer science or consent of department.

621. PARALLEL PROCESSING (3). Principles of parallel computation and advanced computer architectures. Topics include vector processors, multiprocessors, concurrency control, parallel programming environments, and software support. PRQ: Admission to the graduate program in computer science or consent of department.

630. COMPUTER NETWORKS (3). Basic principles concerning the technology and architecture of data and computer communications. Focus on design approaches and standards with emphasis on applications in specific areas of current technology. PRQ: Admission to the graduate program in computer science or consent of department.

631. NETWORK APPLICATIONS PROGRAMMING (3). Principles used to develop networking software and case studies of existing network applications. Includes principles of sockets programming and alternative strategies of network programming. Assignments include implementing several programming projects on a UNIX-based system. PRQ: Admission to the graduate program in computer science or consent of department.

640. DATA STRUCTURES IN ASSEMBLY LANGUAGE (3). In-depth study of data structures and their implementation in a modern assembly language. Internal and external subroutines, conditional assembly, and the definition and use of macros. Implementation of complex data structures in assembler. Extensive laboratory work. PRQ: Admission to the graduate program in computer science or consent of department.

641. ENTERPRISE OPERATING SYSTEMS (3). Detailed study of a modern enterprise operating system. Processes and threads, including multitasking, synchronization, interrupt handling, file systems, and memory management. Emphasis on implementation, with extensive laboratory work. PRQ: CSCI 640 or consent of department.

645. NEURAL NETWORKS (3). Topics include Hopfield networks, back propagation, competitive learning, the Kohonen feature map and counterpropagation. Applications and examples provided, and future directions for these networks discussed. PRQ: Admission to the graduate program in computer science or consent of department.

647. WEB SERVICES AND SERVICES COMPUTING (3). Core techniques of Web services modeling, publishing, and discovery. Service Oriented Architecture (SOA) paradigm and SOA solution architecture. SOA and Web services standard stack including XML, WSDL, SOAP, UDDI, and BPEL. Foundations of Cloud Computing. Advanced techniques include multidimensional services modeling, dynamic services invocation, federated services discovery, services relationship modeling, and solution-level Quality of Service (QoS) in SOA. PRQ: Admission to the graduate program in computer science or consent of department.

650. PRINCIPLES OF COMPUTER SECURITY (3). Survey of security considerations as they apply to computer and information systems. Topics include access control, security models and architecture, physical security, networking security, cryptography, disaster mitigation and recovery, and legal and ethical issues.

652. TELECOMMUNICATIONS AND NETWORKING SECURITY (3). Survey of security threats and countermeasures as they apply to a telecommunication and networking system. Topics covered include network security threats, security protocol and implementation, firewall design, wireless network security, and network security architecture. PRQ: Admission to the graduate program in computer science or consent of department.

654. COMPUTER SECURITY MANAGEMENT (3). Survey of security considerations as they apply to the management of business processes and information. Topics include planning, policies, protocols of security practices, access models and frameworks, incident response plans, asset protection and recovery. PRQ: Admission to the graduate program in computer science or consent of department.

659. CISSP REVIEW (3). Preparation for the Certified Information Systems Security Professional certification exam. Topics include the 10 domain areas of the CISSP exam.

661. TECHNIQUES OF COMPUTER PROGRAMMING AND ALGORITHMIC PROCESSES (3). Advanced course in algorithmic processes and computer programming. A major higher-level language used in developing applications and the solutions of current problems. Knowledge of programming is required. PRQ: Admission to the graduate program in computer science or consent of department.

662. ANALYSIS OF DATA PROCESSING SYSTEMS (3). Detailed and in-depth analysis of large and complex computerized data processing systems. PRQ: CSCI 567 or consent of department.

663. SYSTEMS DESIGN AND ANALYSIS (3). Software development in multiperson projects, focusing on requirements analysis, design, and testing. All relevant aspects, both technical and nontechnical, and their interactions. Planning, estimating, and tracking software development; collaboration between software teams; increasing software productivity. Manager-developer interactions. Testing as a decision-making activity in the various phases of the software development process. Case studies and real-world examples used to illustrate concepts and techniques. PRQ: CSCI 567 or consent of department.

664. DATA STRUCTURES IN ASSEMBLY LANGUAGE (4). In-depth study of the theory and the programming techniques related to the storage and management of various forms of data. Programming assignments require advanced understanding of assembler language. Extensive laboratory work. PRQ: CSCI 360, CSCI 640, or consent of department.

668. SYSTEMS PROGRAMMING (4). Detailed study of systems programming on a third-generation computer. Emphasis on the logical organization of the computer used. Extensive laboratory work. PRQ: CSCI 664 or consent of department.

669. SOFTWARE ENGINEERING (3). Topics in improved programming technology, data structures, and analysis of algorithms. Focus on problems encountered in the design and implementation of large software systems. Includes both individual and group programming projects. PRQ: Admission to the graduate program in computer science or consent of department.

670. SIMULATION METHODS (3). Modeling and simulation concepts. Topics include generating pseudo random numbers and data, writing simulation programs in a general purpose programming language such as C and in a special purpose simulation language such as GPSS, and interpreting simulation results using statistical analysis techniques. PRQ: Admission to the graduate program in computer science or consent of department.

675. WEB DEVELOPMENT (3). Practical examination of web application development. Technical topics include HTML, Cascading Style Sheets, JavaScript, and cross-browser compatibility. Aesthetic topics include designing an effective user interface with color, graphics, navigation, and related topics. Extensive laboratory work. PRQ: Admission to the graduate program in computer science or consent of department.

677. PATTERN RECOGNITION ALGORITHMS AND APPLICATIONS (3). Concepts, algorithms of pattern recognition, and applications in various domains. Topics include pattern clustering and classification, feature extraction, and selection. Applications include automatic image recognition and intelligent mining of biomedical data. PRQ: Admission to the graduate program in computer science or consent of department.

679. DISTRIBUTED SYSTEMS (3). Design and analysis of distributed systems. Concurrency and distributed communication, fault tolerance, security, distributed object-based systems, and distributed file systems. Students are required to implement several programming projects on a UNIX-based system. PRQ: Admission to the graduate program in computer science or consent of department.

680. TOPICS IN COMPUTER SCIENCE (3).

- A. Artificial Intelligence
- B. Computer Graphics
- D. Operating System Principles and Practices
- E. Programming Language Concepts and Methods
- G. Database Theory and Applications
- J. Storage Technology and Architectures
- K. Computer Systems
- M. Computer Applications
- N. Programming Techniques
- Q. Image Processing
- U. Computer Security
- V. Windows Programming.

Each lettered topic may be repeated to a maximum of 6 semester hours when subject changes. Students may repeat multiple lettered topics, each to its maximum. PRQ: Admission to the graduate program in computer science or consent of department.

688. DATABASE CONCEPTS (3). Principles of database design. Comparison of the features of currently available database systems, as well as an introduction to current research in database technology. Role of database systems in both batch and on-line environments. PRQ: CSCI 566.

689. OBJECT-ORIENTED DESIGN AND PROGRAMMING (3). Fundamental elements of the object-oriented model. Techniques for object-oriented design studied with an opportunity to synthesize these concepts and apply the methodology through an object-oriented programming language such as C++. PRQ: Admission to the graduate program in computer science or consent of department.

690. INTERNSHIP (3-6). Work in a computer-related industrial environment. Normally only available to students who have no prior computer-related work experience. May be repeated to a maximum of 6 semester credit hours. No more than 6 semester hours in CSCI 690 and/or CSCI 696 may be included in the master's degree. S/U grading. PRQ: Consent of department.

695. SEMINAR IN COMPUTER SCIENCE (3). May be repeated to a maximum of 9 semester hours as topic changes. PRQ: Consent of department.

696. RESEARCH AND DEVELOPMENT INTERNSHIP (1-6). Work as a paid intern. Reading and preparation of a paper under faculty supervision. May be repeated. No more than 3 semester hours in CSCI 696 may be included in the master's degree. S/U grading. PRQ: Admission to the graduate program in computer science and consent of department. Consent is competitive.

697. GRADUATE READING IN COMPUTER SCIENCE (1-6). Individual reading in computer science. May be repeated to a maximum of 6 semester hours. PRQ: Consent of department.

699. THESIS (1-6). Master's thesis. May be repeated to a maximum of 6 semester hours. PRQ: consent of department.

767. APPLIED SYSTEMS PROGRAMMING (3). Examination of the role of the systems programmer. Topics include operating system initialization, tuning, and maintenance, as well as operating system software development. Study of current operating system emphasizing modern methods and future trends. PRQ: CSCI 641.

768. ADVANCED SYSTEMS PROGRAMMING (3). Interpretive systems; assemblers, loaders, compilers, library monitoring systems, input-output scheduling, executive programs, job scheduling, multiaccess systems, multiprogramming, multiprocessing. PRQ: CSCI 641.

# Department of Economics (ECON)

Chair: Carl Campbell III

## Graduate Faculty

Evan Anderson, assistant professor, Ph.D., University of Chicago  
Carl Campbell III, associate professor, assistant chair, Ph.D., Princeton University

Jeremy Groves, assistant professor, Ph.D., Washington University  
Neelam Jain, associate professor, Ph.D., University of Minnesota  
Stephen Karlson, associate professor, Ph.D., University of Wisconsin

Eliakim Katz, professor, Ph.D., University of London  
Mohammad Mirhosseini, assistant professor, Ph.D., University of Illinois

Khan A. Mohabbat, professor, Ph.D., State University of New York, Buffalo

Susan Porter-Hudak, associate professor, Ph.D., University of Wisconsin

George Slotsve, associate professor, Ph.D., University of Wisconsin  
Virginia L. Wilcox-Gök, associate professor, Ph.D., Washington University

Wei Zhang, assistant professor, Ph.D., University of Wisconsin

The Department of Economics offers graduate programs leading to the M.A. and Ph.D. degrees. A procedures manual describing graduate programs in economics in greater detail is available from the department chair 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 in Economics

The M.A. in economics is suitable either for students intending to pursue a Ph.D. in economics or for those seeking a practical program of study to prepare them for technical or administrative positions in business or government.

The M.A. program in economics requires 30 semester hours of graduate credit.

## Course Requirements

ECON 660 - Microeconomic Analysis I (3)

ECON 661 - Macroeconomic Analysis I (3)

ECON 690 - Econometrics I (3)

ECON 690A - Econometrics Laboratory (1)

ECON 699A - Master's Thesis (6),

OR ECON 699B - Master's Research Paper (3),

OR a substantial research paper written in a 500- or 600-level economics course and approved by the professor teaching the course.

Students with an interest in applied economics are expected to choose elective courses in applied fields such as public economics, labor economics, or financial economics for the remaining hours. Those whose interests are in general economics or who plan to enter the Ph.D. program may elect work in nonapplied areas. In either case, with the prior written consent of the director of graduate studies, students may elect to enroll in up to 6 semester hours of courses related to the student's field of study offered outside the department.

## Comprehensive Examinations

Comprehensive examinations in microeconomic and macroeconomic analysis will normally be taken by each student in the master's degree program the first time that these examinations are offered following the completion of ECON 660 and ECON 661.

A student who fails either of these examinations twice will generally not be permitted to continue in the M.A. program. However, in extenuating circumstances a student may submit a written appeal to the department to take an examination a third and final time.

Students having a grade below B in ECON 660 will be required to pass a comprehensive examination in microeconomic theory. Those having a grade below B in ECON 661 will be required to pass a comprehensive examination in macroeconomic theory.

## Doctor of Philosophy in Economics

A person who has earned the doctorate in economics is qualified both to teach economics at the university level and to do original research in academe, government, and the private sector. The doctoral program in economics features a strong core of courses in theory and econometrics and a focus on the three applied fields of labor economics, public finance, and financial economics. Other fields may be approved by the department's director of graduate studies, subject to student demand and faculty availability.

## Course Requirements

All doctoral students must satisfactorily complete a minimum of 60 semester hours of graduate course work, including ECON 648, Introduction to Game Theory (3), ECON 690, Econometrics I (3), ECON 690A, Econometrics Laboratory (1), ECON 760, Microeconomic Analysis II (3), and ECON 761, Macroeconomic Analysis II (3). Prerequisites for these courses include ECON 590, ECON 591, ECON 660, and ECON 661. Students who have not satisfactorily completed these courses or their equivalents will normally be required to do so.

In addition, each student must take three courses in each of two applied fields and must earn at least a B in each field course. Courses in the applied fields that are the primary focus of the department will be offered on a regular basis. Information about the availability of course work in other applied fields may be obtained by consulting the department's director of graduate studies.

All doctoral students must earn 6 semester hours in ECON 798, Current Research Colloquium (1). At least 2 of these hours must be taken after the student has passed the candidacy examinations.

### Research-Tool Requirement

The Department of Economics research-tool requirement is fulfilled by successfully completing ECON 590, ECON 591, ECON 690, and ECON 690A, which are required in the doctoral program

### Admission to Candidacy

All students are required to take candidacy examinations in microeconomic theory and in macroeconomic theory. Students must take the candidacy examination in microeconomics the first time it is offered after satisfactory completion of ECON 660/ECON 760 and must take the candidacy examination in macroeconomics the first time it is offered after satisfactory completion of ECON 661/ECON 761. A student who fails either of these examinations may, with the permission of the examining committee, repeat it after the lapse of at least one semester. A student who fails either of these examinations a second time will be dismissed from the doctoral program.

After successfully completing the candidacy examinations, each student must write a research paper in one of his or her applied fields and present the results in ECON 798. The paper will generally serve as a basis for the student's dissertation. The department's chair and director of graduate studies will appoint a committee of three faculty members (who may later serve on the student's doctoral dissertation committee) who will evaluate the paper and the oral presentation. Upon receiving a satisfactory evaluation, the student will be admitted to candidacy. Failure to receive a satisfactory evaluation within one year after completing the course work for the applied fields will result in dismissal from the doctoral program. Under exceptional circumstances this time limit may be extended by the department's Graduate Committee.

### Course List (ECON)

502. 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. PRQ: ECON 300; ECON 360 or ECON 361; or consent of department.

503. ECONOMICS OF HUMAN RESOURCES (3). Analysis of factors affecting demand for and supply of labor. Human capital analysis, discrimination, labor market operations, and public policy. PRQ: ECON 360 or consent of department.

520. ANTITRUST ECONOMICS (3). Detailed analysis of monopoly, near monopoly, and various business practices. Examination of legal and economic foundations of current and past public policies toward monopoly. PRQ: ECON 360 or consent of department.

523. PUBLIC UTILITIES (3). General economic characteristics of and governmental policy toward public utilities. Problems such as pricing, finance, and private, cooperative, and public ownership. PRQ: ECON 360 or consent of department.

525. ECONOMIC EDUCATION (1-3). Exploration of selected economic concepts, topics, and classroom materials/applications to assist elementary or secondary teachers in developing K-12 economics curricula and instructional activities that meet the State of Illinois Standards. Not open for credit toward the M.A. or Ph.D. in economics. May be repeated to a maximum of 3 semester hours when topic varies. PRQ: Consent of department.

543. ECONOMIC DEVELOPMENT (3). Analysis of major problems and issues of a theoretical and a policy nature concerning developing economies. PRQ: ECON 360 or ECON 361, or consent of department.

550. PUBLIC ECONOMICS (3). Analysis of the structure and effects of the national, state, and local revenue and outlay systems. PRQ: ECON 360 or consent of department.

552. FISCAL POLICY (3). 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. PRQ: ECON 361 or consent of department.

554. 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. PRQ: ECON 360 or consent of department.

566. BUSINESS CYCLES (3). History of business fluctuations; theories and techniques of analysis; countercyclical monetary and fiscal policies; and survey of selected forecasting techniques. PRQ: ECON 361 or consent of department.

570. HISTORY OF ECONOMIC THOUGHT (3). Development of economic thought to the mid-19th century. Emphasis on Adam Smith, Ricardo, Malthus, Mill, and Marx. PRQ: ECON 260 and ECON 261, or consent of department.

571. MODERN ECONOMIC THOUGHT (3). Evolution of neoclassical and modern theories of value, distribution, and income. Emphasis on Walras, Menger, Jevons, Marshall, Chamberlain, Robinson, and Keynes. PRQ: ECON 260 and ECON 261 or consent of department.

574. ECONOMIC HISTORY OF THE UNITED STATES (3). Evolution and development of American economic institutions and processes from colonial times to the 20th century. Modern economic approach developed and applied to various topics. PRQ: ECON 260 and ECON 261, or consent of department.

585. URBAN ECONOMIC PROBLEMS AND POLICIES (3). Economic analysis of urban growth and land use and selected urban problems such as urban transportation, public finance, housing, poverty, and environmental quality. PRQ: ECON 360 and ECON 385; or consent of department.

589. SEMINAR IN ECONOMIC ANALYSIS (3). Economic analysis of a topic beyond the level usually reached in undergraduate courses. Examples of topics include aspects of economic growth and development, industrial organization, international economics, labor economics, health economics, monetary economics, public finance, agricultural economics, quantitative economics, financial economics, and economic theory. May be repeated once in subsequent semester when topics change. PRQ: ECON 360, ECON 361, and MATH 211 or MATH 229 or consent of department.

590. ECONOMIC STATISTICS AND ECONOMETRICS (3). Topics include descriptive statistics, probability, estimation, hypothesis testing, correlation, and regression analysis, as applied to economic models. PRQ: MATH 230 or consent of department.

591. MATHEMATICAL METHODS FOR ECONOMICS (3). Mathematical methods used in economics with applications. PRQ: ECON 360, ECON 361, and MATH 229, or consent of department.

593. SEMINAR IN POLITICAL ECONOMY (3). *Crosslisted as POLS 593X.*

A. Decision Making in the Public Sector

B. International Relations

C. Metropolitan Studies

D. Human Resources and Training Policy

Topics announced. Each lettered topic may be taken once. PRQ: Consent of department.

595. SEMINAR IN CURRENT PROBLEMS (3). Issues and policies in government, politics, and economics. Course may be repeated without limit in subsequent semesters for each new topic, but each topic may be repeated only once in a subsequent semester. PRQ: Consent of department.

596X. HISTORY AND SOCIAL SCIENCE INSTRUCTION IN GRADES 6-12 (3). *Crosslisted as HIST 596.* The organization and presentation of materials for history and social science courses at the middle school, junior high, and senior high school levels. PRQ: Admission to the history or social science teacher certification program and permission of Department of History's office of teacher certification.

597. INDEPENDENT STUDY IN ECONOMICS (3). Individually arranged study within the various fields of economics. Not open to economics graduate students. PRQ: ECON 360 and ECON 361, or consent of department.
600. LABOR MARKET ANALYSIS I (3). Wage, employment, and human resource theory, empirical findings, and policy implications. Emphasis on human capital, household production, discrimination, and other sources of wage and employment difference. PRQ: ECON 360 and consent of department.
601. LABOR MARKET ANALYSIS II (3). Various theories of unemployment. Collective bargaining analysis. The economic impact of unions on prices, productivity, wages, and resource allocation. Collective bargaining and wage theory. The economic impact of unions. PRQ: ECON 360 and consent of department.
612. MONETARY THEORY (3). Theoretical and empirical analysis of supply of and demand for money; interrelationships between money and interest, prices, and output, with particular attention to monetary aspects of macroeconomic theory. PRQ: Consent of department.
613. 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. PRQ: Consent of department.
621. STRUCTURE OF INDUSTRY (3). Analysis of the determinants of the number of sellers in an industry, and whether industries with few sellers are less competitive, more profitable, or more innovative than those with a large number of sellers. PRQ: ECON 590 and ECON 660, or consent of department.
622. INDUSTRIAL ORGANIZATION (3). Analysis of contracts between traders, including vertical integration, price discrimination, tying contracts, requirements contracts, resale price maintenance, market division, and exclusive dealing. Additional topics include antitrust policy, patents, and other issues in law and economics. PRQ: ECON 590 and ECON 660, or consent of department.
625. TOPICS IN ECONOMIC EDUCATION (1-3). Designed to assist elementary or secondary teachers with the integration of economics into the K-12 classroom curricula, focusing on the economic concepts in the State of Illinois Learning Standards. Not open for credit toward the M.A. or Ph.D. in economics. May be repeated to a maximum of 12 semester hours in subsequent semester when topic varies. PRQ: ECON 525 or consent of department.
630. INTERNATIONAL TRADE THEORY (3). PRQ: ECON 660 or consent of department.
632. INTERNATIONAL MONETARY ECONOMICS (3). PRQ: ECON 661 or consent of department.
640. 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. PRQ: ECON 660 or consent of department.
648. INTRODUCTION TO GAME THEORY (3). An introduction to the tools and application of game theory. Topics include concepts of equilibrium, information, dynamic games, evolutionary games, reputation and repeated games, the folk theorem, perfect Bayesian equilibria, common knowledge, moral hazard, adverse selection, signaling in education, and bargaining games. PRQ: ECON 660 or consent of department.
650. ECONOMICS OF THE PUBLIC SECTOR (3). 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. PRQ: ECON 360 or consent of department.
651. 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. PRQ: ECON 360 or consent of department.
660. MICROECONOMIC ANALYSIS I (3). Domestic and international price systems with regard to resource allocation, welfare, and income distribution. Brief introduction to concepts involved in input-output analysis and linear programming. PRQ: ECON 360 and ECON 591, or consent of department.
661. MACROECONOMIC ANALYSIS I (3). Factors determining levels of aggregate income, employment, and prices. PRQ: ECON 360, ECON 361, and ECON 591, or consent of department.
664. 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. Not open to students who are economics majors or students who have taken ECON 360 or its equivalent. PRQ: Consent of department.
665. 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. Not open to students who are economics majors or students who have taken ECON 361 or its equivalent. PRQ: Consent of department.
670. HISTORY OF ECONOMIC ANALYSIS I (3). Detailed treatment of the development of tools and concepts of theoretical economics up to the decline of the classical school. PRQ: Consent of department.
671. HISTORY OF ECONOMIC ANALYSIS II (3). Continuation of ECON 670 beyond the classical school to the analytics of the late 19th and early 20th centuries. PRQ: ECON 670 or consent of department.
685. REGIONAL ECONOMICS (3). Interregional trade and factor mobility, regional economic growth, economic analysis of industrial location, and quantitative methods useful in urban and regional planning with some computer applications. PRQ: Consent of department.
686. URBAN ECONOMICS (3). Economic analysis of urban location and land use, urban economic growth, and problems of urban transportation, public finance, and housing. Quantitative methods of urban analysis useful in urban planning, with some computer applications. PRQ: Consent of department.
690. ECONOMETRICS I (3). Specification and estimation of economic models with emphasis on single equation models. PRQ: ECON 360, ECON 361 and ECON 590, or consent of department. CRQ: ECON 690A.
- 690A. Econometrics Laboratory (1). Use of various statistical and matrix language computer packages pertaining to econometrics. Topics include the use of such packages to perform estimation and inference with linear and nonlinear models. CRQ: ECON 690 or consent of department.
695. SPECIAL TOPICS IN ECONOMICS (3). Topics not dealt with in other courses. May be repeated once in a subsequent semester as topic varies. PRQ: ECON 660 and ECON 661, or consent of department.
697. ECONOMIC RESEARCH PRACTICUM (3). Use of empirical data, statistical techniques (and computer software programs), and economic theory to do research needed by a business firm, government agency, or other economic organization, especially in the labor, public finance, and financial economics areas. Technical and nontechnical report writing. PRQ: Consent of department. Recommended: ECON 690.

## 698. INDEPENDENT STUDY IN ECONOMICS (3).

- A. General Economics and Teaching
- B. History of Economic Thought, Methodology, and Heterodox Approaches
- C. Mathematical and Quantitative Methods (including Econometrics)
- D. Microeconomics (Theory and Applications)
- E. Macroeconomics and Monetary Economics
- G. International Economics
- J. Financial Economics
- K. Public Economics
- M. Health, Education, and Welfare
- N. Labor and Demographic Economics
- Q. Law and Economics
- R. Industrial Organization
- T. Economic History
- U. Economic Development, Technological Change, and Growth
- V. Economic Systems
- W. Agricultural and Natural Resource Economics; Environmental and Ecological Economics
- Y. Urban, Rural, and Regional Economics
- AA. Other Special Topics

Each topic may be repeated to a maximum of 6 semester hours. PRQ: Consent of department.

699A. MASTER'S RESEARCH COMPONENT: MASTER'S THESIS (1-6). May be repeated to a maximum of 6 semester hours.

699B. MASTER'S RESEARCH COMPONENT: MASTER'S RESEARCH PAPER (3).

700. SEMINAR IN APPLIED LABOR ECONOMICS AND LABOR RELATIONS (3). The economics of labor and of labor-management relations. Emphasis on individual research. With consent of department, may be repeated once for credit in a subsequent semester. PRQ: Consent of department.

740. FINANCIAL ECONOMICS I (3). Introduction to theoretical financial economics with a focus on asset pricing in discrete time, complete and incomplete markets, agency theory, and financial intermediation. Additional topics may include market microstructure theory and optimal security design. PRQ: ECON 660 and ECON 690 or consent of the department.

742. THE ECONOMICS OF CONTINGENT CLAIMS (3). Advanced analysis of markets for contingent claims, the derivative markets. Introduction to elements of stochastic calculus, dynamic portfolio choice, the Black-Scholes Model and extensions, the term structure of interest rates, American and European option pricing, and, if time permits, the Heath-Jarrow-Morton Model and exotic options. Advanced mathematical and computational techniques applied to the study of derivative markets. PRQ: ECON 660, ECON 690, and FINA 555, or consent of department.

743. FINANCIAL ECONOMICS II (3). Advanced financial economic theory and an introduction to financial econometrics. Topics include dynamic portfolio choice, consumption-based asset pricing, and linear factor models. Additional topics may include option pricing and the term structure of interest rates. PRQ: ECON 740, ECON 761, and ECON 790, or consent of department.

745. SEMINAR IN FINANCIAL ECONOMICS (3). Selected topics in theoretical and empirical aspects of financial economics. May be repeated once for credit in a subsequent semester with consent of department. PRQ: Consent of department.

750. SEMINAR IN APPLIED PUBLIC ECONOMICS (3). Theory and institutional aspects of public finance. Emphasis on microeconomic problems as they relate to public finance. With consent of department, may be repeated once for credit in a subsequent semester. PRQ: Consent of department.

760. MICROECONOMIC ANALYSIS II (3). Continuation of ECON 660 including new and advanced topics. PRQ: Consent of department. Recommended: ECON 660.

761. MACROECONOMIC ANALYSIS II (3). Continuation of ECON 661 including new and advanced topics. PRQ: Consent of department. Recommended: ECON 661.

785. SEMINAR IN APPLIED URBAN AND REGIONAL ECONOMICS (3). Selected topics in urban and regional economics. May be repeated once for credit in a subsequent semester, with consent of department. PRQ: Consent of department.

790. ECONOMETRICS II (3). Advanced topics in estimation and inference with linear and nonlinear models. PRQ: Consent of department. Recommended: ECON 690.

793. SEMINAR IN QUANTITATIVE ECONOMICS (3). Application of mathematical and statistical techniques to the analysis of economic problems. May be repeated once for credit in a subsequent semester. PRQ: Consent of department.

795. INTERNSHIP IN ECONOMICS (2-15). May be repeated to a maximum of 15 semester hours. PRQ: Written consent of department Graduate Committee.

798. CURRENT RESEARCH COLLOQUIUM (1). Discussion by faculty and graduate students of their current research. May be repeated to a maximum of 6 semester hours. Doctoral students must satisfactorily complete at least 6 semester hours, at least 2 of which must be taken after passing the candidacy examinations. A maximum of 6 semester hours can be applied towards the doctoral degree. S/U grading. PRQ: Consent of department.

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

# Department of English (ENGL)

Chair: Philip E. Eubanks

## Graduate Faculty

Gülsat Aygen, associate professor, Ph.D., Harvard University  
 William Baker, Distinguished Research Professor, Board of Trustees Professor, Ph.D., University of London  
 Scott Balcerzak, assistant professor, Ph.D., University of Florida  
 Alexandra G. Bennett, associate professor, Ph.D., Brandeis University  
 Betty J. Birner, professor, Ph.D., Northwestern University  
 David Bywaters, associate professor, Ph.D., Washington University  
 Susan Callahan, associate professor, Ph.D., University of Louisville  
 Edward Callary, associate professor, Ph.D., Louisiana State University  
 Nicole Clifton, associate professor, Ph.D., Cornell University  
 Michael J. Day, associate professor, Ph.D., University of California, Berkeley  
 Deborah C. DeRosa, associate professor, Ph.D., University of North Carolina, Chapel Hill  
 Susan E. Deskis, associate professor, Ph.D., Harvard University  
 Sue W. Doederlein, associate professor, Ph.D., Northwestern University  
 Jeffrey Einboden, assistant professor, Ph.D., University of Cambridge  
 Philip E. Eubanks, associate professor, Ph.D., University of Illinois  
 Keith Gandal, professor, Ph.D., University of California, Berkeley  
 Ibis Gómez-Vega, associate professor, Ph.D., University of Houston  
 David J. Gorman, associate professor, Ph.D., Columbia University  
 Jeffrey Johnson, professor, Ph.D., University of Missouri  
 William C. Johnson, Distinguished Teaching Professor, Ph.D., University of Iowa  
 Mark Kipperman, professor, Ph.D., University of Pennsylvania  
 John V. Knapp, professor, Ph.D., University of Illinois, Ph.D., University of Wisconsin  
 Amy K. Levin, professor, Ph.D., City University of New York  
 Doris M. Macdonald, associate professor, Ph.D., Louisiana State University  
 Brian T. May, associate professor, Ph.D., University of Virginia  
 Amy Newman, professor, Ph.D., Ohio University  
 Bradley T. Peters, associate professor, Ph.D., University of Iowa  
 Kathleen Renk, associate professor, Ph.D., University of Iowa  
 Jessica Reyman, assistant professor, Ph.D., University of Minnesota  
 Timothy Ryan, assistant professor Ph.D., University of Nevada, Reno  
 John D. Schaeffer, professor, Ph.D., St. Louis University  
 Sean N. Shesgreen, Distinguished Research Professor, Ph.D., Northwestern University  
 Diana L. Swanson, associate professor, Ph.D., University of Minnesota  
 David Sweet, assistant professor, Ph.D., Columbia University  
 Mark W. Van Wiene, associate professor, Ph.D., University of Illinois

The Department of English offers graduate programs leading to degrees at both the master's and doctoral levels. The scores on the GRE General Test are required as admission credentials. Well prepared students with baccalaureate degrees may begin work immediately to fulfill the requirements for the doctorate. ENGL 601, Bibliography and Methods of Research, ENGL 608, Research Methods in Linguistics, or ENGL 625, Methods of Research in Professional Writing, is required of all graduate students in English, and should be taken early in a student's program of studies. No more than 15 semester hours of transfer course work and/or credit earned as a student-at-large may be applied toward a graduate degree in English.

## Advising

Students are assigned a departmental adviser upon admission to a degree program and must consult their adviser before or during the first semester of course work to select courses and design a program of study to be filed with the Graduate School. After doctoral students decide on fields of study, they must select an adviser from one of their fields who must be approved by the department.

## Master of Arts in English

The Department of English offers two tracks leading to the M.A. degree, the choice of which depends on the student's academic and professional goals. Track I requires a minimum of 30 semester hours, and track II requires 36 semester hours. All students pursuing the M.A. in English are required to take a final comprehensive examination after completing a minimum of 24 semester hours in the Department of English.

Students pursuing the M.A. in English may choose one of seven areas of study: British and American literature; English education; film and literature; linguistics; literature and rhetoric/composition; rhetoric and professional writing; and teaching English as a second language/TESOL (for students and educators who wish to study teaching English as a Second Language [ESL], English as a Foreign Language [EFL], bilingual education, or applied linguistics). Substitutions within each area of study may be made at the discretion of the department's director of graduate studies.

### Track I

Track I requires a minimum of 30 semester hours of graduate credit in the Department of English and is designed to prepare students for graduate work at the doctoral level. Students in this track must pass a proficiency examination in one foreign language. Foreign language proficiency may be demonstrated in French, German, Greek (classical or koine), Italian, Latin (classical or medieval), Russian, or Spanish, or in another language approved by the director of graduate studies on the basis of demonstrated need. The student's graduate adviser may permit limited study in fields closely related to English (subject to the approval of the director of graduate studies).

**Track II**

Track II requires a minimum of 36 semester hours of credit, including 27 semester hours in the Department of English. This track is designed for students who are currently teaching in secondary schools or community colleges or who plan to teach at one of these levels, whether in literature, composition, or professional, technical writing; students who plan to teach English as a second language; students who seek careers as technical writers, editors, or trainers; students interested in other careers, such as business or public relations, that require strong written communication skills; and practicing professionals in any other professional field seeking to sharpen their written communication skills. A graduate adviser and the student design a program of study (subject to the approval of the director of graduate studies) which must include 9 semester hours of study in subjects other than English and American literature, such as courses within and outside the department in the teaching of English, rhetoric, creative writing and composition, technical writing, linguistics, reading, mass media, public relations, or others that contribute to the student's professional development.

**Areas of Study****British and American Literature**

ENGL 601 - Bibliography and Methods of Research (3)  
 Course work in literature, with consent of adviser (24 or 27)  
 Course work in nonliterature courses (0-9)

**English Education**

This area of study is primarily designed for English language arts professionals who are currently teaching in the schools. Students interested in initial teacher certification in English should consult the discipline coordinator as soon as possible.

ENGL 601 - Bibliography and Methods of Research (3)  
 Three of the following (9)  
 ENGL 604 - Topics in Materials for the English Classroom (3)  
 ENGL 622 - Theories and Methods of Teaching English to Speakers of Other Languages (3)  
 ENGL 623 - Second Language Acquisition (3)  
 ENGL 646 - The Teaching of Literature in Middle and High Schools (3)  
 ENGL 647 - The Teaching of Writing in Middle and High Schools (3)  
 ENGL 648 - Materials and Methods of Teaching English in Middle and High Schools (3)  
 ENGL 697 - English Institute (3)  
 Course work in language, literature, and rhetoric chosen in consultation with the adviser, with at least two courses from literature, one course from linguistics, and one course from rhetoric (15-24)  
 Electives chosen in consultation with adviser (0-9)

**Film and Literature**

Available in Track II only.  
 ENGL 601 - Bibliography and Methods of Research (3)  
 ENGL 604<sup>1</sup> - Topics in Materials for the English Classroom (3)  
 ENGL 690 - Literature and Film (3)  
 ENGL 691 - Topics in Literature and Film (6)  
 Electives in modern British and American literature, rhetoric, or theory and criticism (24)  
 Course work in communication studies, instructional technology, history, and/or philosophy may be used as electives with consent of adviser.

**Linguistics**

ENGL 608 - Research Methods in Linguistics (3)  
 ENGL 615 - Descriptive English Linguistics (3)  
 ENGL 617 - Phonology (3)  
 ENGL 618 - Syntax (3)  
 ENGL 620 - Semantics (3),  
 OR ENGL 633 - Pragmatics and Discourse (3)

At least one course from the following

ENGL 611 - History of the English Language (3)  
 ENGL 616 - Grammars of Modern English (3)  
 ENGL 619 - Varieties of English (3)  
 ENGL 620 - Semantics (3)  
 ENGL 621 - Topics in Linguistics (3)  
 ENGL 623 - Second Language Acquisition (3)  
 ENGL 633 - Pragmatics and Discourse (3)  
 ENGL 634 - Linguistics and Literature (3)  
 ENGL 714 - Seminar: English Linguistics (3)  
 Course work in anthropology, computer science, English, language, philosophy, and/or psychology, chosen in consultation with the adviser (12-18)

**Literature and Rhetoric/Composition**

ENGL 601 - Bibliography and Methods of Research (3),  
 OR ENGL 625 - Methods of Research in Professional Writing (3)  
 ENGL 603 - Traditions in Written Rhetoric (3)  
 ENGL 610 - Rhetoric of Prose Composition (3)  
 Course work in rhetoric and communication (6-9)  
 If ENGL 601 is chosen, 9 semester hours are required in rhetoric and communication.  
 ENGL 600 - Internship in the College Teaching of English (3)  
 ENGL 602A - Literary Theory and Criticism: History of Literary Theory (3)  
 ENGL 604 - Topics in Materials for the English Classroom (3)  
 ENGL 626 - Technical Writing (3)  
 ENGL 627 - Technical Editing (3)  
 ENGL 629 - Topics in Rhetoric (3)  
 ENGL 630 - Theory and Research in Rhetoric and Professional Writing (3)  
 ENGL 632 - Writing for Electronic Media (3)  
 ENGL 700 - Topics in the Teaching of College English (3)  
 ENGL 703 - Seminar: Rhetorical Studies (3)  
 COMS 600 - The Classical Tradition in Rhetorical Theory (3)  
 COMS 602 - Contemporary Rhetorical Theory (3)  
 COMS 603 - Seminar in Public Rhetoric (3)  
 COMS 604 - Methods of Rhetorical Criticism (3)  
 COMS 605 - Theory and Uses of Argument (3)  
 COMS 606 - Communication Ethics (3)  
 COMS 610 - Symbolic Behavior and Communication (3)  
 COMS 640 - Seminar in Communication and Gender (3)  
 COMS 707 - Seminar in Persuasion (3)  
 COMS 760 - Seminar in Rhetoric (3)  
 When topic is contemporary social movements or political rhetoric.  
 Electives in literature (12-15)  
 If ENGL 625 is chosen, 15 semester hours are required in literature.

**Rhetoric and Professional Writing**

ENGL 610 - Rhetoric of Prose Composition (3)  
 ENGL 625 - Methods of Research in Professional Writing (3)  
 ENGL 699 - Master's Thesis (3)  
 Course work from the following (9)  
 ENGL 609 - Creative Writing (3)  
 ENGL 624 - Professional Writing Institute (1-6)  
 ENGL 626 - Technical Writing (3)  
 ENGL 627 - Technical Editing (3)  
 ENGL 628 - Internship in Technical Writing, or Editing (1-12)  
 ENGL 632 - Writing for Electronic Media (3)  
 ENGL 692 - Nonfiction Writing (3)  
 Two of the following (6)  
 ENGL 603 - Traditions in Written Rhetoric (3)  
 ENGL 629 - Topics in Rhetoric (3)  
 ENGL 630 - Theory and Research in Rhetoric and Professional Writing (3)  
 ENGL 631 - Topics in Professional Writing (3)  
 ENGL 703 - Seminar: Rhetorical Studies (3)  
 Two of the following (6)  
 ENGL 614 - Introduction to Linguistics (3)  
 ENGL 615 - Descriptive English Linguistics (3)  
 ENGL 618 - Syntax (3)  
 ENGL 620 - Semantics (3)  
 ENGL 633 - Pragmatics and Discourse (3)  
 ENGL 634 - Linguistics and Literature (3)  
 Electives (0-6)

<sup>1</sup> When topic is teaching film.

Students in this area must demonstrate a competence in English grammar and usage by passing ENGL 207 or by passing the grammar exemption examination.

### Teaching English as a Second Language/TESOL

Students are strongly encouraged to enroll in ENGL 615 and ENGL 622 in their first semester, if offered.

ENGL 608 - Research Methods in Linguistics (3)

ENGL 615 - Descriptive English Linguistics (3)

ENGL 617 - Phonology (3)

ENGL 618 - Morphology and Syntax (3)

ENGL 622 - Theories and Methods of Teaching English to Speakers of Other Languages (3)

ENGL 623 - Second Language Acquisition (3)

Course work in anthropology, education, English, language, philosophy, rhetoric, and/or psychology, chosen in consultation with the adviser (12-18)

### Doctor of Philosophy in English

The Ph.D. program in English offers study in such areas as British and American literature, rhetoric and composition, language and linguistics, professional and technical writing, and film and literature. Distribution requirements direct students into applied as well as theoretical course work, preparing them for academic and nonacademic careers.

A graduate faculty member, after analysis of the applicant's background and training, will counsel the student in planning an appropriate program. Small graduate seminars enable the student to develop the critical and investigative skills and insights necessary to perform successful scholarship and teaching. Fellowships and teaching assistantships are available for qualified students. Full-time students should be able to complete all the requirements for the doctoral degree in five years beyond the baccalaureate degree or four years beyond the master's degree.

The doctoral degree in English is granted to candidates who not only satisfactorily complete a definite number of prescribed courses but who also are recognized for their high attainments and ability as shown by passing the required candidacy examinations (as detailed below) and by the preparation and defense of a dissertation.

### Admission

For admission to the program leading to candidacy for the Ph.D. in English, the student ordinarily must have successfully completed 30 semester hours of graduate work or hold a master's degree. Exceptional students who hold only a baccalaureate degree may apply directly to the doctoral program.

### Requirements

English Ph.D. students must normally complete a minimum of 90 semester hours. These include 60 hours of course work (30 of which may be approved M.A. course work) and 30 hours of ENGL 799, Doctoral Dissertation. Students and assigned advisers design a program to prepare students for areas of study leading to field examinations, a dissertation, and professional expertise.

When selecting courses, students must include at least two courses with a pedagogical or other applied component; these must come from two of the fields of language, literature, and rhetoric (e.g., ENGL 600, ENGL 604, ENGL 610, ENGL 616, ENGL 621, ENGL 622, ENGL 628, ENGL 647, ENL 696, ENGL 697, ENGL 700, ENGL 702, ENGL 703). Students must also include at least four 700-level seminars.

Students should select 700-level courses only if they have studied the period or subject at the undergraduate or master's level. Exceptions may be made at the discretion of the instructor and with the approval of the director of graduate studies.

### Core Requirements (9)

One course from each of the following groups

Research Methodology (3): ENGL 601, ENGL 608, ENGL 625  
Issues in Criticism (3): ENGL 602A, ENGL 602B, ENGL 602C,  
ENGL 602D, ENGL 603

History of the Language (3): ENGL 611, ENGL 612, ENGL 613

### British and American Literature (18)

At least one course from each of the following groups

Medieval: ENGL 635, ENGL 636, ENGL 637, ENGL 639, ENGL  
736, ENGL 737

Renaissance: ENGL 638, ENGL 640, ENGL 641, ENGL 642,  
ENGL 643, ENGL 644, ENGL 738, ENGL 741, ENGL 742,  
ENGL 744

18th Century: ENGL 656, ENGL 657, ENGL 658, ENGL 659, ENGL  
756

19th Century British: ENGL 660, ENGL 661, ENGL 662, ENGL 663,  
ENGL 664, ENGL 762, ENGL 764

Pre-1900 American: ENGL 676, ENGL 677, ENGL 678, ENGL 679,  
ENGL 776, ENGL 777

Post-1900 British, American, and Postcolonial: ENGL 665, ENGL  
666, ENGL 667, ENGL 668, ENGL 671, ENGL 681, ENGL 682,  
ENGL 684, ENGL 685, ENGL 687, ENGL 693A, ENGL 693B,  
ENGL 693C, ENGL 693D, ENGL 765, ENGL 783

### Language, Linguistics, and Rhetoric (9)

At least one course from each of the following groups

Language/Linguistics: ENGL 614, ENGL 615, ENGL 616, ENGL  
617, ENGL 618, ENGL 619, ENGL 620, ENGL 681, ENGL 622,  
ENGL 623, ENGL 633, ENGL 634, ENGL 714

Rhetoric: ENGL 602A, ENGL 602B, ENGL 602C, ENGL 602D,  
ENGL 610, ENGL 624, ENGL 626, ENGL 627, ENGL 628, ENGL  
629, ENGL 630, ENGL 631, ENGL 703

### Foreign Language Requirement

All Ph.D. students must demonstrate a knowledge of two foreign languages with average proficiency or one foreign language with high proficiency. The choice of languages is subject to departmental approval. The proficiency examinations must be passed before students take the candidacy examinations. (For means of demonstrating language proficiency, refer to "Language and Research-Tool Requirement" in the Requirements for Graduate Degrees section of this catalog.)

### Candidacy Examinations

All Ph.D. students must successfully complete three Ph.D. candidacy examinations.

Two of these are written examinations in two fields of study selected from the following.

Rhetoric

Linguistics or philology

Medieval literature (Old English literature and Middle English  
literature)

English literature from 1500 to 1600

English literature from 1600 to 1660

British literature from 1660 to 1800

British literature from 1800 to 1900

British literature since 1900

American literature to 1865

American literature since 1865

African-American literature

British and American women's literature since 1750

Film and Literature

A special field as determined by an examination committee and  
student in consultation

The third is an oral examination which consists of an explanation and defense of the student's dissertation proposal, including its relation to the larger body of relevant knowledge and to the teaching of English or to other professional pursuits.

Students may request permission of the director of graduate studies in English to take the examinations when they have successfully completed 20 semester hours of course work beyond the M.A. degree (or 50 semester hours beyond the baccalaureate degree).

### Dissertation

Candidates must write a dissertation that contributes to literary or linguistic knowledge and exhibits original scholarship and the ability to conduct independent research. Candidates must pass an oral defense of the dissertation. Chaired by the dissertation director, who must be a senior member of the graduate faculty in English, the dissertation committee shall consist of at least three members of the graduate faculty. The dean of the Graduate School or a dean's designee may also serve as an ex officio, nonvoting member of the dissertation defense committee.

### Certificates of Graduate Study

The Department of English offers two certificates of graduate study. Courses used to satisfy the requirements of the certificate may also be applied toward a graduate degree in English.

#### English Education (18)

This certificate recognizes the successful completion of a set of courses intended to enhance the professional qualifications of teachers of English in the secondary schools.

At least 9 semester hours from the following

ENGL 604 - Topics in Materials for the English Classroom (3)  
ENGL 607 - Topics in Literature (3) Must have approved pedagogical topic.

ENGL 610 - Rhetoric of Prose Composition (3)

ENGL 622 - Theories and Methods of Teaching English to Speakers of Other Languages (3)

ENGL 629 - Topics in Rhetoric (3) Must have approved pedagogical topic.

ENGL 646\* - The Teaching of Literature in Middle and High Schools (3)

ENGL 647 - The Teaching of Writing in Middle and High Schools (3)

ENGL 648\* - Materials and Methods of Teaching English in Middle and High Schools (3)

ENGL 697 - English Institute (1-6)

One 600-level literature course (3)

One course from the following: (3)

ENGL 601 - Bibliography and Methods of Research (3)

ENGL 602 - Literary Theory and Criticism (3)

ENGL 603 - Traditions in Written Rhetoric (3)

ENGL 609 - Creative Writing (3)

ENGL 690 - Literature and Film (3)

ENGL 692 - Nonfiction Writing (3)

One course from the following (3)

ENGL 611 - History of the English Language (3)

ENGL 614 - Introduction to Linguistics (3)

ENGL 616 - Grammars of Modern English (3)

ENGL 619 - Varieties of English (3)

ENGL 623 - Second Language Acquisition (3)

#### Technical Writing (18)

This certificate recognizes the successful completion of a set of courses intended to enhance the professional qualifications of technical writers.

ENGL 626 - Technical Writing (3) Students with credit in ENGL 308 must substitute a 3 semester hour elective for ENGL 626.

ENGL 627 - Technical Editing (3) Students with credit in ENGL 403 must substitute a 3 semester hour elective for ENGL 627.

Course work from the following (12)

ENGL 624 - Professional Writing Institute (1-6). With approval of the certificate adviser, students may select up to 6 semester hours of electives from other English courses in rhetoric, language, linguistics, or writing or from appropriate courses in such other areas as communication, instructional technology, computer science, art, and business.

ENGL 625 - Methods of Research in Professional Writing (3)

ENGL 628 - Internship in Technical Writing, or Editing (6). With approval of the certificate adviser, students may select up to 6 semester hours of electives from other English courses in rhetoric, language, linguistics, or writing or from appropriate courses in such other areas as communication, instructional technology, computer science, art, and business.

ENGL 630 - Theory and Research in Rhetoric and Professional Writing (3)

ENGL 631 - Topics in Professional Writing (3)

ENGL 632 - Writing for Electronic Media (3)

### Teacher Certification

The initial teacher certification program in English qualifies students for the Standard High School Certificate (6-12) issued by the state of Illinois and offers the opportunity for middle-grades endorsement. The state issues certificates upon the recommendation of the Department of English and Northern Illinois University. Admission to the program requires formal application by candidates to the department's coordinator of initial teacher certification and formal approval by the department's Committee on Initial Teacher Certification.

Also see "Teacher Certification Information."

#### Admission Requirements

Application in writing to the coordinator.

A passing score on the Basic Skills Test.

Submission of a portfolio demonstrating competence in several written genres. (Consult the coordinator for specific portfolio requirements.)

Completion of the courses in mathematics, speech, and writing required for general education core competency or courses at least equivalent to these.

One of the following

Admission to a graduate program in English at NIU.

A graduate or undergraduate degree in English with a cumulative GPA of at least 2.75 and a GPA in English of at least 3.00, and completion of at least 6 semester hours of graduate courses in English at NIU with a GPA of at least 3.00.

Completion of at least 12 semester hours of graduate courses in English at NIU with a GPA of at least 3.00.

#### Retention

Good academic standing.

GPA of 3.00 or higher in all work required for certification taken at NIU.

A grade of B or better in ENGL 647 and ENGL 648, and a GPA of 3.00 or higher in all English courses required for certification.

A satisfactory review of progress toward the certificate with the coordinator each semester.

#### Courses in English Required for Certification (42-45)

ENGL 207 - Fundamentals of English Grammar (3), unless exempted by examination

At least 6 semester hours of American literature, ordinarily to include work in American literature before 1865

At least 12 semester hours of English literature, ordinarily to include Shakespeare

At least 3 semester hours of linguistics

At least 3 semester hours of advanced writing or rhetoric

ENGL 647 - The Teaching of Writing in Middle and High Schools (3)  
ENGL 646 - The Teaching of Literature in Middle and High Schools (3)

ENGL 648 - Materials and Methods of Teaching English in Middle and High Schools (3)

Twelve semester hours in student teaching (ENGL 649)

ENGL 647, ENGL 646, and ENGL 648 must be taken in that order and in separate semesters.

Students who have not satisfied all requirements in English as part of their undergraduate programs may satisfy the remaining requirements, except for student teaching, with graduate-level courses. Upon the approval of the director of graduate studies in English, such courses may also be included in the program of studies for the graduate degree. Students seeking both a degree and certification should be careful to consult regularly with the director of graduate studies in English and with the coordinator of teacher certification about using courses to satisfy requirements in both programs.

Students are admitted to ENGL 485, Student Teaching (Secondary) in English, only after completing all other work required for the certificate and upon application to the coordinator. The methods course must be taken in the semester immediately preceding student teaching.

### Courses Required outside Department

#### Clinical Experiences (100 clock hours)

The state of Illinois requires 100 clock hours of substantial, varied, and sequential clinical experience prior to student teaching. This requirement may be satisfied in a variety of ways; it will be met, in most instances, by successfully completing ILAS 201, ILAS 301, and ENGL 482.

Credit for clinical experiences may not be included in the program of studies for a graduate degree in English. Candidates should consult the coordinator of teacher certification in English about satisfying this requirement as soon as they have been admitted to the certification program.

#### Other State Certification Requirements

Other state requirements include educational psychology (including human growth and development), history and/or philosophy of education, and psychology of exceptional children. Students normally satisfy the requirement in educational psychology with EPS 406, Issues in Human Development and Learning in the Middle School and High School Years (3). Students should consult with the certification coordinator in English to determine which courses are approved for satisfying the additional requirements. Students must also pass the state of Illinois certification examination in English.

#### Foreign Language

Students must satisfy the foreign language requirement for the B.A. in English at NIU, or the equivalent.

### Course List (ENGL)

#### General

601. BIBLIOGRAPHY AND METHODS OF RESEARCH (3). Introduction to the philosophy and methods of literary research.

604. TOPICS IN MATERIALS FOR THE ENGLISH CLASSROOM (3). Analysis of new curriculum materials in English, with focus on language, literature, or composition. May be repeated to a maximum of 6 semester hours when topic varies.

607. TOPICS IN LITERATURE (3). Study of special topics and periods of literature. May be repeated to a maximum of 9 semester hours when topic varies.

609. CREATIVE WRITING (3). A workshop/pedagogy course in poetry or fiction for students who wish to further their knowledge of literature through practice of the art, and for those who intend to become practicing writers and critics. May be repeated to a maximum of 9 semester hours as the topic changes.

646. THE TEACHING OF LITERATURE IN MIDDLE AND HIGH SCHOOLS (3). Methods, materials, and curriculum materials for teaching literature and reading in the middle and high schools. Attention is given to teaching literature and reading to diverse students and to using appropriate instructional technology. PRQ: ENGL 647 or consent of department. CRQ: ILAS 301 or consent of department.

647. THE TEACHING OF WRITING IN MIDDLE AND HIGH SCHOOLS (3). Approaches to teaching and evaluating composition in the middle and high school, with emphasis on the multicultural classroom. PRQ: Admission to teacher certification in English or consent of department. CRQ: ILAS 301 or consent of department.

648. MATERIALS AND METHODS OF TEACHING ENGLISH IN MIDDLE AND HIGH SCHOOLS (3). Methods, devices, techniques, and curriculum materials for teaching English in the middle and high school. Attention given to teaching English to diverse students. PRQ: ENGL 646, ENGL 647, and six semester hours of graduate-level course work in literature in the department, or consent of department. CRQ: ENGL 482 or consent of department.

649. STUDENT TEACHING (SECONDARY) IN ENGLISH (7-12). Student teaching for one semester. Assignments arranged with the coordinator of teacher education in English after approval by the Department of English. PRQ: ENGL 648 and consent of department.

692. NONFICTION WRITING (3). Workshop in aspects of nonfiction writing for students seeking to enhance their writing abilities through study of nonfiction genres, style, and writing processes. May be repeated to a maximum of 9 semester hours as topic changes.

696. PRACTICUM IN THE TEACHING OF COLLEGE ENGLISH (3). Supervised and evaluated experience in designing and conducting a course in English. May be repeated to a maximum of 15 semester hours; however, only 3 hours may be applied toward a graduate degree in English. S/U grading. PRQ: Consent of department.

697. ENGLISH INSTITUTE (1-6). Studies in selected topics of special interest to teachers of English. May be repeated to a maximum of 12 semester hours as the topic changes. May not be included in a program of courses for a graduate degree in English except with the approval of the Graduate Studies Committee. S/U grading may be used. PRQ: Permission of director of graduate studies in English.

698. INDEPENDENT READING (1-3). Normally open only to students who have completed 30 semester hours in an M.A. program. May be repeated to a maximum of 6 semester hours when topic varies. S/U grading. PRQ: Permission of director of graduate studies in English.

699. MASTER'S THESIS (3). May be taken upon the appointment of a thesis director and the approval of a prospectus.

702. SEMINAR: TEXTUAL STUDIES (3). Advanced study of analytical bibliography, either descriptive or textual. May be repeated to a maximum of 9 semester hours when topic varies. PRQ: ENGL 601 or consent of department.

707. SEMINAR: TOPICS IN LITERATURE (3). Advanced study of special topics and periods of literature. May be repeated to a maximum of 9 semester hours when topic varies.

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

## Rhetoric and Literary Criticism

600. INTERNSHIP IN THE COLLEGE TEACHING OF ENGLISH (3). For teaching interns only. May be repeated to a maximum of 6 semester hours, all of which may be counted toward program requirements for the doctoral degree and for track II of the master's degree. Only 3 semester hours may be applied toward track I of the master's degree. S/U grading.

602. LITERARY THEORY AND CRITICISM (3).

A. History of Literary Theory

B. Contemporary Literary Theory

C. Interpretation of Literary Texts

D. Feminist Literary Theory and Criticism

Study of the history, movements, and applications of literary criticism and theory. Each lettered topic may be taken only once.

603. TRADITIONS IN WRITTEN RHETORIC (3). Survey of major rhetoricians, theories, and movements that have contributed to those rhetorical traditions determining or influencing the production and analysis of written text.

610. RHETORIC OF PROSE COMPOSITION (3). Introduction to contemporary rhetorical theories and methods of written discourse and their pedagogical and practical applications. Required of students focusing on rhetoric.

624. PROFESSIONAL WRITING INSTITUTE (1-6). Studies in selected topics of special interest to students, teachers, and practitioners of written technical communication. May be repeated to a maximum of 12 semester hours as topic changes. May not be included in a program of courses for a graduate degree in English except upon approval of the director of graduate studies in English. PRQ: Permission of director of graduate studies in English.

625. METHODS OF RESEARCH IN PROFESSIONAL WRITING (3). Survey of theoretic, quantitative, and qualitative methods used by academic scholars and workplace professionals to conduct written technical communication research. Analysis of the strengths and weaknesses of different methodologies and their appropriateness for particular research goals and inquiries.

626. TECHNICAL WRITING (3). Principles and strategies of planning, writing, and revising technical documents common in business and industry. Application in case studies and practical projects.

627. TECHNICAL EDITING (3). Principles and strategies of preparing technical documents for publication, including editing for content, organization, style, and layout. Application in case studies and practical projects.

628. INTERNSHIP IN TECHNICAL WRITING, OR EDITING (1-12). Job-related experience involving primarily writing or editing and supervised cooperatively by the department's internship coordinator and by the sponsoring company or organization. May be repeated to a maximum of 12 semester hours, but only 3 semester hours may be applied toward a graduate degree in English. S/U grading. PRQ: Consent of department internship coordinator.

629. TOPICS IN RHETORIC (3). Topics in rhetorical theory and analysis. May be repeated to a maximum of 6 semester hours when topic varies.

630. THEORY AND RESEARCH IN RHETORIC AND PROFESSIONAL WRITING (3). Theories of rhetoric and composition as related to the research, teaching, and practice of written professional, technical communication.

631. TOPICS IN PROFESSIONAL WRITING (3). Study of specific topics in written technical communication, such as the history of technical writing, online documentation, emerging technologies and technical writing, or the rhetoric of scientific writing. May be repeated to a maximum of 6 semester hours when topic varies.

632. WRITING FOR ELECTRONIC MEDIA (3). Theories, principles, and strategies for designing, writing, and editing online texts such as mail messages, web pages, and hypertext online documentation. Application in case studies and practical projects.

700. TOPICS IN THE TEACHING OF COLLEGE ENGLISH (3). May be repeated to a maximum of 6 semester hours when topic varies. PRQ: Consent of director of graduate studies.

703. SEMINAR: RHETORICAL STUDIES (3). Advanced study of special topics in the history of written rhetoric, theories of prose composition, writing practicum, rhetoric and stylistics, and applied discourse analysis. May be repeated to a maximum of 9 semester hours when topic varies.

## Language

606. MORPHOLOGY (3). Investigation of linguistic processes of word structure; the nature of morphological systems; what morphology consists of; basic skills for analyzing word structure; awareness of morphological properties of English and other languages.

608. RESEARCH METHODS IN LINGUISTICS (3). Introduction to doing and interpreting research in linguistics. Discussion and application of theory in both qualitative and quantitative research.

611. HISTORY OF THE ENGLISH LANGUAGE (3). Linguistic analysis and description of the development of English from its earliest Anglo-Saxon stages to present-day British and American English.

612. OLD ENGLISH (3). Introduction to English at the earliest period of its history (i.e., before the Norman Conquest in 1066) with focus on the grammatical analysis of short prose works and the careful reading of several important poems.

613. MIDDLE ENGLISH (3). Analysis and description of the process by which Old English lost most of its Germanic inflections and gained an enormous Romance vocabulary in the wake of the Norman Conquest, with special attention to the persistence of dialectal variety as well as to the rise of a London standard.

614. INTRODUCTION TO LINGUISTICS (3). Survey of language and language study: elements of language, language change, language universals, first and second language acquisition, dialects, language and the brain, development of writing and contemporary writing systems, nonhuman communication, language change. Recommended as a preliminary course for students with little linguistic background.

615. DESCRIPTIVE ENGLISH LINGUISTICS (3). Survey of analytical techniques and methods of describing phonological, morphological, and syntactic systems of language.

616. PEDAGOGICAL GRAMMAR (3). Analysis and exemplification of the grammatical structures of English with particular attention paid to developing meta-language and explanatory adequacy for presenting grammatical concepts.

617. PHONOLOGY (3). Introduction to the sound systems of language: phones, allophones, and the nature of phonological systems; segments and natural classes of sounds; allophonic and process rules.

618. SYNTAX (3). Investigation of linguistic processes of word order and sentence structure; the nature of syntactic systems; what syntax consists of; basic skills for analyzing sentence structure; awareness of syntactic properties of English and other languages.

619. VARIETIES OF ENGLISH (3). Survey of methods and materials of the major varieties of English: regional, social, ethnic, gender, and situational varieties. Standard language and dialects. Attitudes toward varieties of language. World Englishes.

620. SEMANTICS (3). Survey of linguistic approaches to word and sentence meaning. Types and sources of meaning, current theories of semantics and semantic relationships, representation of semantic meaning, tracking of meaning through extended discourse, and links between semantics and pragmatics.

621. TOPICS IN LINGUISTICS (3). Focus on specific topics in theoretical or applied linguistics, usually not explored in depth in more general language/linguistics courses. May be repeated to a maximum of 6 hours when the topic changes.

622. THEORIES AND METHODS OF TEACHING ENGLISH TO SPEAKERS OF OTHER LANGUAGES (3). Survey of theoretical principles, interdisciplinary approaches, methodology, and practical applications essential for teaching English as a second/foreign language or as a second dialect. Emphasis on linguistic, psychological, and social backgrounds of language learning in a bilingual or multilingual setting.

623. SECOND LANGUAGE ACQUISITION (3). Overview of the major theories and processes of second language acquisition including analyses of current empirical research in learner language and language-learning processes.

633. PRAGMATICS AND DISCOURSE (3). Linguistic analysis of the functions and structures of oral language above the level of the sentence. Genres of oral texts investigated include conversation, exposition, and narrative.

634. LINGUISTICS AND LITERATURE (3). Exploration of the linguistic foundations of 20th century literary theory and criticism, with particular focus on linguistic methods of analyzing literary style.

714. SEMINAR: ENGLISH LINGUISTICS (3). May be repeated to a maximum of 9 semester hours when topic varies.

### English Literature Before 1660

635. MIDDLE ENGLISH LITERATURE (3). Studies in important Middle English works (AD 1100-1500). May include prose, romance, lyric, religious allegory, and/or drama.

636. BEOWULF (3). A close and thorough reading of this important early poem. Considers issues of grammar, poetics, and literary and social history. Requires reading knowledge of Old English.

637. CHAUCER (3). Focus on the poetry, with additional consideration of historical background and literary antecedents.

638. 16TH CENTURY PROSE AND POETRY (3). Survey of Tudor prose and poetry (1485-1603), as reflected in the works of such writers as Skelton, More, Sidney, and Spenser.

639. ENGLISH DRAMA TO 1600 (3). Examination of the development of English pre-Shakespearean drama and theatre through study of such authors as Lyly, Kyd, and Marlowe.

640. ENGLISH DRAMA: 1600-1660 (3). Representative drama, excluding Shakespeare, including works by such playwrights as Dekker, Heywood, Marston, Jonson, Beaumont, and Fletcher.

641. SHAKESPEARE (3). Survey of representative comedies, histories, and tragedies, with special attention to Shakespeare's development as a playwright.

642. 17TH CENTURY PROSE AND POETRY (3). Survey of major Stuart and Commonwealth writers (1603-1660), including figures such as Bacon, Donne, Browne, Herbert, Jonson, and Marvell, but excluding Milton and Dryden.

643. SPENSER (3). Intensive study of Spenser's development as a major poet, from *The Shepheardes Calendar* through *The Faerie Queene*.

644. MILTON (3). Intensive survey of Milton's poetry, prose, and drama, focusing on such works as *Lycidas*, *Comus*, and *Paradise Lost*.

736. SEMINAR: MEDIEVAL LITERATURE (3). May be repeated to a maximum of 9 semester hours when topic varies.

737. SEMINAR: CHAUCER (3). May be repeated to a maximum of 9 semester hours when topic varies.

738. SEMINAR: 16TH CENTURY ENGLISH LITERATURE (3). May be repeated to a maximum of 9 semester hours when topic varies.

741. SEMINAR: SHAKESPEARE (3). May be repeated to a maximum of 9 semester hours when topic varies.

742. SEMINAR: 17TH CENTURY ENGLISH LITERATURE (3). May be repeated to a maximum of 9 semester hours when topic varies.

744. SEMINAR: MILTON (3). May be repeated to a maximum of 9 semester hours when topic varies.

### English Literature After 1660

656. RESTORATION AND EARLY 18TH CENTURY LITERATURE (3). Study of English literature (excluding fiction and drama) 1660-1740, including such writers as Dryden, Swift, and Pope.

657. LATER 18TH CENTURY ENGLISH LITERATURE (3). Study of English literature (excluding fiction and drama) 1740-1800, including such writers as Gray and Johnson.

658. ENGLISH DRAMA: 1660-1800 (3). Study of English drama 1660- 1800, including such playwrights as Congreve and Sheridan.

659. 18TH CENTURY ENGLISH NOVEL (3). Study of English fiction 1700-1800, including such writers as Defoe, Richardson, and Fielding.

660. BRITISH ROMANTIC PERIOD (3). British literature, 1780-1830, with emphasis on the poetry of Blake, the Wordsworths, Coleridge, Keats, Shelley, and Byron, with attention to theoretical and historical issues surrounding the critical term "romantic."

661. VICTORIAN POETRY: 1830-1880 (3). Study of Victorian poetry including such poets as Arnold, the Brownings, Hardy, Morris, Swinburne, and Tennyson.

662. 19TH CENTURY BRITISH PROSE (3). Exploration of diverse nonfiction forms such as journalism, scientific writing, biography, journals, and letters, by such writers as Arnold, the Carlyles, Darwin, Hazlitt, the Mills, Morris, Ruskin, and Wilde.

663. 19TH CENTURY BRITISH NOVEL (3). Survey of the British novel from Austen to Hardy and Eliot.

664. BRITISH LITERATURE: 1880-1920 (3). Survey of British literature during the transitional period between the Victorian age and the rise of modernism, including works by such writers as Wilde, Gissing, Kipling, Stevenson, Wells, Woolf, and Richardson.

665. BRITISH LITERATURE SINCE 1900 (3). Survey of 20th century British literature, including fiction, drama, and poetry. Major literary movements, such as modernism and postmodernism, as well as writers such as Conrad, Shaw, Rhys, Eliot, Woolf, Byatt, Lessing, and Pinter.

666. 20TH CENTURY BRITISH POETRY (3). Developments in English poetry in the 20th century, including works by Eliot, Auden, Yeats, Sitwell, Levertov, and Boland.

667. 20TH CENTURY BRITISH DRAMA (3). Survey of major plays and playwrights of the 20th century British theatre, including such writers as Shaw, Beckett, Pinter, Stoppard, and Ayckbourn.

668. 20TH CENTURY BRITISH FICTION (3). Novels and short fiction of the 20th century; analysis of major literary styles and movements; texts by such writers as Conrad, Woolf, Lawrence, Joyce, Drabble, Rushdie, Mansfield, and Carter.

756. SEMINAR: RESTORATION AND 18TH CENTURY ENGLISH LITERATURE (3). May be repeated to a maximum of 9 semester hours when topic varies.

762. SEMINAR: 19TH CENTURY ENGLISH LITERATURE (3). May be repeated to a maximum of 9 semester hours when topic varies.

764. SEMINAR: ENGLISH LITERATURE, 1880-1920 (3). May be repeated to a maximum of 9 semester hours when topic varies.

765. SEMINAR: 20TH CENTURY ENGLISH LITERATURE (3). May be repeated to a maximum of 9 semester hours when topic varies.

## American Literature

676. AMERICAN LITERATURE TO 1830 (3). Survey of literature of European colonization and settlement, New England Puritanism, the Enlightenment, and the revolutionary and early national periods.

677. AMERICAN LITERATURE: 1830-1865 (3). American romantic literature, focusing on the major transcendentalists (Emerson, Fuller, Thoreau) and such novelists as Hawthorne and Melville.

678. AMERICAN LITERATURE: 1865-1900 (3). Studies in the fiction, poetry, and prose of the United States, from the Civil War until the turn of the century, including such writers as Howells, Dickinson, James, Twain, Woolson, Norris, and Wharton.

679. 19TH CENTURY AMERICAN NOVEL (3). Studies in the American novel, including the romance, woman's fiction, realism, and naturalism, and such writers as Sedgwick, Cooper, Hawthorne, Stoddard, James, Twain, Phelps, Norris, and Wharton.

681. AMERICAN LITERATURE: 1900-1960 (3). Study of drama, fiction, and poetry, including such writers as Cather, O'Neill, Williams, Faulkner, Hemingway, and Stevens.

682. AMERICAN LITERATURE SINCE 1960 (3). Study of drama, fiction, and poetry, including such writers as Bellow, Tyler, Rich, Erdrich, Kushner, and Morrison.

684. 20TH CENTURY AMERICAN POETRY (3). Study of American poetry from the imagists and modernists to the beats and the postmodernists, including such writers as Stevens, Frost, Pound, Cummings, Bishop, Ginsberg, Berryman, Lowell, Rich, and Ammons.

685. 20TH CENTURY AMERICAN FICTION (3). Study of American fiction from the realists and naturalists to the modernists and postmodernists, including such writers as Dreiser, Cather, Anderson, Fitzgerald, Hemingway, Faulkner, Wright, Ellison, O'Connor, and Morrison.

687. 20TH CENTURY AMERICAN DRAMA (3). Major American plays and playwrights of the 20th century, including such authors as O'Neill, Williams, Miller, Albee, Mamet, and Shepard.

693. ETHNIC AMERICAN LITERATURE (3).

A. African American Literature

B. Native American Literature

C. Latina/Latino American Literature

D. Special Topics

Study of the contributions of diverse cultural groups to American literature. ENGL 693A-C may be taken once each; ENGL 693D may be repeated to a maximum of 6 semester hours when topic varies.

776. SEMINAR: AMERICAN LITERATURE TO 1830 (3). May be repeated to a maximum of 9 semester hours when topic varies.

777. SEMINAR: 19TH CENTURY AMERICAN LITERATURE (3). May be repeated to a maximum of 9 semester hours when topic varies.

783. SEMINAR: 20TH CENTURY AMERICAN LITERATURE (3). May be repeated to a maximum of 9 semester hours when topic varies.

## Additional Genres and Literatures

670. THE SHORT STORY (3). Studies of history, form, and authorship in the short story as a genre in British, American, and world literature.

671. POSTCOLONIAL LITERATURES IN ENGLISH (3). Study of one or more postcolonial literatures in English, such as Caribbean, Irish, South Asian, Australian, and African literatures.

690. LITERATURE AND FILM (3). Relationship between literature and film as narrative forms. Significance of literary modes such as romanticism and realism for film content and structure. Analysis of the adaptation of literary works to the medium of film.

691. TOPICS IN LITERATURE AND FILM (3). Topics in film theory, history, and criticism, such as authorship, narrativity, adaptation, and popular genres, that have interdisciplinary value for English studies. May be repeated to a maximum of 6 semester hours when topic varies.

# Department of Foreign Languages and Literatures (FL--)

Chair: Anne L. Birberick

## Graduate Faculty

Katharina Barbe, associate professor, Ph.D., Rice University, assistant chair

John R. Bentley, associate professor, Ph.D., University of Hawaii

Anne L. Birberick, associate professor, Ph.D., University of Virginia

Dennis E. Brain, associate professor, Ph.D., University of Texas at Austin

Louise Ciallella, associate professor, Ph.D., University of Wisconsin

James Collins, professor, Ph.D., University of Chicago

Jessamine Cooke-Plagwitz, associate professor, Ph.D., Queen's University, Kingston, Ontario

Mary L. Cozad, assistant professor, Ph.D., University of California, Berkeley

William F. Harrison, associate professor, Ph.D., University of New Mexico

John F. Hartmann, Presidential Teaching Professor, Ph.D., University of Michigan

Patricia B. Henry, associate professor, Ph.D., University of Michigan

Frances Jaeger, associate professor, Ph.D., University of Illinois

Joanna Kot, associate professor, Ph.D., University of Chicago

Maryline Lukacher, professor, Ph.D., University of California, San Diego

Eloy E. Merino, associate professor, Ph.D., University of Miami

Michael C. Morris, associate professor, Ph.D., University of Iowa

Christopher Nissen, associate professor, Ph.D., University of California, Berkeley

Robert V. Reichle, assistant professor, University of Texas A&M

Linda K. Saborio, assistant professor, Ph.D., University of North Carolina, Chapel Hill

Francisco Solares-Larrave, associate professor, Ph.D., University of Illinois

Stephen Vilaseca, assistant professor, Ph.D., University of Minnesota, Twin Cities

Philippe Willems, associate professor, Ph.D., University of Colorado, Boulder

The Department of Foreign Languages and Literatures offers a graduate program leading to the M.A. degree. Students may pursue a specialization in French or Spanish. The program permits selective enhancement of particular skills, such as translation, linguistics, or cultural and literary analysis. The curriculum provides a core experience consisting of courses in linguistics, culture, and literature culminating in a practicum (applied project or internship) or thesis. It also allows for the exploration of related interdisciplinary fields.

On admission to the program, each student will be assigned a graduate advisory committee appointed by the chair of the department. This committee will consist of three members and will be chaired by one person designated as the student's adviser. Responsibility for approving the student's program of courses rests with this committee, which will also assess any work done at other institutions and grant up to 6 semester hours of transfer credit for graduate work deemed acceptable, subject to subsequent approval by the Graduate School. Student-at-large hours may not exceed 9 semester hours for students pursuing a master's degree in foreign languages, except in special

circumstances with consent of department. The committee will also be responsible for the administration of the thesis or practicum and for the supervision of an exit examination to test oral proficiency.

Students seeking admission to the M.A. program in foreign languages should have completed an undergraduate major in French or Spanish or have a demonstrated proficiency at an equivalent level. Students also must possess a practical command of the target language (determined by interview) and be able to follow lectures in it. Admission to the program is on a competitive basis.

## Master of Arts in Foreign Languages

### Requirements

Students are required to complete a minimum of 30 semester hours of graduate credit, at least 15 hours of which must be taken in 500-level courses. Students are required to complete a specialization in French or Spanish. A student's program of courses should be formally approved by the advisory committee early in the program of study.

Students who wish to complete a program that includes a focus on a second language are required to take 12 additional semester hours in the second language (3-6 hours in translation and 6-9 hours in culture and literature) for a total of 42 semester hours of graduate credit, at least 21 of which must be taken in 500-level courses.

During their last semester of study, candidates are required to pass an oral comprehensive examination demonstrating a satisfactory level of communicative competence and the ability to integrate effectively a knowledge of language, literature, and culture. If a focus is taken in a second language, a second, similar examination must be passed for that language.

### Specialization in French

#### Linguistics (3-9)

FLAL 583 - Applied Linguistics and the Romance Languages (3)

FLFR 581 - French Phonetics and Phonemics (3)

FLFR 582 - History of the French Language (3)

FLST 683A - Research Seminar in Languages and Linguistics:

French (3)

#### Translation (6-9)

FLFR 583 - *Theme Et Version* (3)

FLFR 584 - Advanced Translation (3)

FLFR 585 - Initiation to Consecutive Translation (3)

FLST 684A - Research Seminar in Translation: French (3)

#### Culture and Literature (9-15)

FLFR 531 - 17th Century French Literature (3)

FLFR 533 - 18th Century French Literature (3)

FLFR 535 - 19th Century French Literature (3)

FLFR 538 - 20th Century French Literature (3)

FLFR 541 - Medieval French Literature (3)

FLFR 543 - French Literature of the Renaissance (3)

FLFR 563 - *La France Contemporaine* (3)

FLFR 564 - Paris: City of Lights (3)

FLST 640A - Research Seminar in Literature: French (3)

FLST 661A - Research Seminar in Civilization and Culture:

French (3)

**Elective (3)**

With the consent of their graduate advisory committee, students may select from the following language-related courses, or they may select other graduate-level courses which have direct bearing on their program of study.

- COMS 554 - Transnational Communication and Media (3)
- ENGL 601 - Bibliography and Methods of Research (3)
- ENGL 602 A-D - Literary Theory and Criticism (3)
- ENGL 614 - Introduction to Linguistics (3)
- HIST 518 - European Cultural History 1870-Present (3)

**Practicum/Thesis (3)**

- FLST 590 - Practicum (3),
- OR FLST 699 - Master's Thesis (1-3)

**Specialization in Spanish****Linguistics (3-9)**

- FLAL 583 - Applied Linguistics and the Romance Languages (3)
- FLSP 580 - Introduction to Hispanic Linguistics (3)
- FLSP 581 - Spanish Phonology (3)
- FLSP 585 - Spanish Syntax (3)
- FLSP 586 - Contrastive Grammatical Structures in Spanish and English (3)
- FLSP 587 - Hispanic Dialectology (3)
- FLSP 591 - History of the Spanish Language (3)
- FLST 683D - Research Seminar in Languages and Linguistics: Spanish (3)

**Translation (6-9)**

- FLSP 583 - Techniques of Spanish Translation (3)
- FLSP 584 - Advanced Spanish Translation (3)
- FLST 684D - Research Seminar in Translation: Spanish (3)

**Culture and Literature (9-15)**

- FLSP 531 - Spanish Golden Age Poetry (3)
- FLSP 532 - Medieval Spanish Literature (3)
- FLSP 533 - Classical Spanish Drama (3)
- FLSP 534 - Cervantes: The Quixote (3)
- FLSP 535 - Spanish Golden Age Prose (3)
- FLSP 536 - Spanish Romanticism and Realism (3)
- FLSP 537 - The Generation of 1898 (3)
- FLSP 538 - Contemporary Spanish Literature (3)
- FLSP 540 - Spanish American Poetry and Theater (3)
- FLSP 541 - Spanish American Novel (3)
- FLSP 545 - Latin American Women Writers (3)
- FLSP 551 - Literature of the Andean Republics (3)
- FLSP 552 - Literature of the Caribbean (3)
- FLSP 553 - Literature of Uruguay, Argentina, and Chile (3)
- FLSP 554 - Mexican Literature (3)
- FLSP 555 - Spanish-American Short Story (3)
- FLSP 556 - Colonial Latin American Literature (3)
- FLSP 557 - 19th Century Spanish American Literature (3)
- FLSP 558 - Spanish American Modernismo and Vanguardias: 1880-1945 (3)
- FLSP 559 - Spanish American Historical Novels (3)
- FLSP 560 - Contemporary Spanish American Literature (3)
- FLSP 561 - Spanish Civilization (3)
- FLSP 562 - Spanish-American Civilization (3)
- FLST 640D - Research Seminar in Literature: Spanish (3)
- FLST 661D - Research Seminar in Civilization and Culture: Spanish (3)

**Elective (3)**

With the consent of their graduate advisory committee, students may select from the following language-related courses, or they may select other graduate-level courses which have a direct bearing on their program of study.

- COMS 554 - Transnational Communication and Media (3)
- ENGL 601 - Bibliography and Methods of Research (3)
- ENGL 602A-D - Literary Theory and Criticism (3)
- ENGL 614 - Introduction to Linguistics (3)
- HIST 518 - European Cultural History 1870-Present (3)

**Practicum/Thesis (3)**

- FLST 590 - Practicum (3),
- OR FLST 699 - Master's Thesis (1-3)

**Certificates of Graduate Study****Foreign Language Instructional Technology (18)**

This certificate is designed to combine foreign language study with the development of proficiency in the use of technology to allow the candidates to integrate technology into their foreign language pedagogy. Students who wish to pursue this certificate must have a B.A. or M.A. degree in a foreign language (preferably a language taught at NIU). Previous experience with computers is highly recommended.

- FLTE 591 - Integrating Technology into the Foreign Language Curriculum (3)
- FLTE 592 - Development of Technology-Based Materials for the Foreign Language Classroom (3)
- FLTE 593 - Foreign Language Learning Center Administration (3)
- FLTE 594 - Implementation of Technology-Enhanced Language Learning (3)

At least two of the following (6)

- ETT 510 - Instructional Media and Technology (3)
- ETT 535 - Distance Education: Design and Delivery (3)
- ETT 538 - Developing Educational Software (3)
- ETT 539 - Courseware Systems Development (3)
- ETT 590 - Workshop in Instructional Technology (1-3)
- ETT 592<sup>1</sup> - Special Topics in Instructional Technology (1-3)

**German Language, Literature, and Culture (18)**

This certificate is designed to enhance individuals' knowledge of German language, language teaching, literature, and culture and to be of interest not only to teachers who desire continuing professional education, but also to post-baccalaureate students with general or business/translation interests.

- FLGE 511 - Modern German (3)
- FLGE 561 - German Culture and Civilization 800-1832 (3),
- OR FLGE 562 - German Culture and Civilization 1832-1945 (3),
- OR FLGE 563 - *Deutschland Heute* (3)
- FLGE 581 - The Structure of Modern German (3)
- FLIS 581<sup>2</sup> - Independent Study in a Foreign Language (1-6)

Two of the following (6)

- FLGE 512 - Business German I (3)
- FLGE 514 - Business German II (3)
- FLGE 532 - Enlightenment, Through Weimar Classicism (3)
- FLGE 533 - German Romanticism (3)
- FLGE 535 - Modern German Literature: 1900-1945 (3)
- FLGE 537 - Contemporary German Literature (3)
- FLGE 582 - Techniques of Translation I (3)
- FLGE 584 - Techniques of Translation II (3)

**Spanish Language, Literature, and Culture (18)**

This certificate is designed to enhance individuals' knowledge of the Spanish language, literature, and culture and should be of interest not only to teachers who desire continuing education, but who do not wish to commit to the M.A. program, and also to post-baccalaureate students with general or business/translation interests. This certificate may be of particular interest to graduate students in business or the social sciences.

- FLSP 580 - Introduction to Hispanic Linguistics (3)
  - FLSP 561 - Spanish Civilization (3),
  - OR FLSP 562 - Spanish-American Civilization (3)
- Two of the following (6)
- FLSP 514 - Spanish Business Communications (3)
  - FLSP 581 - Spanish Phonology (3)
  - FLSP 582 - Foundations in Spanish Sociolinguistics (3)
  - FLSP 583 - Techniques of Spanish Translation (3)
  - FLSP 585 - Spanish Syntax (3)
  - FLSP 586 - Contrastive Grammatical Structures in Spanish and English (3)
  - FLSP 587 - Hispanic Dialectology (3)
  - FLSP 591 - History of the Spanish Language (3)
- Two 500-level Spanish or Spanish-American literature courses (6)

<sup>1</sup> Topic must be on software tools for instruction.

<sup>2</sup> Must be taken for 3 semester hours with work done in German.

## Course List

### French (FLFR)

512. COMMERCIAL FRENCH (3). Practice in business and administrative correspondence in French.
531. 17TH CENTURY FRENCH LITERATURE (3).
533. 18TH CENTURY FRENCH LITERATURE (3).
535. 19TH CENTURY FRENCH LITERATURE (3).
538. 20TH CENTURY FRENCH LITERATURE (3).
541. MEDIEVAL FRENCH LITERATURE (3). Literary expression in France to the end of the 15th century, with emphasis on the 12th and 13th centuries.
543. FRENCH LITERATURE OF THE RENAISSANCE (3).
545. FRENCH WOMEN WRITERS (3). Works of selected French women writers from the Middle Ages to the present.
563. *LA FRANCE CONTEMPORAINE* (3). Political, social, and cultural development of France since 1945.
564. PARIS: CITY OF LIGHTS (3). Study of urban changes in Paris from the Middle Ages to the present.
581. FRENCH PHONETICS AND PHONEMICS (3).
582. HISTORY OF THE FRENCH LANGUAGE (3). Internal development of the French language from its origins to the present with consideration of external social influences. Attention given to the relationship of French to the other Romance languages through elements of phonology, morphology, syntax, and vocabulary.
583. *THEME ET VERSION* (3). Translation of selected literary passages, alternating between French and English. May be repeated to a maximum of 9 semester hours.
584. ADVANCED TRANSLATION (3). Intensive training in accurate translation of business, administrative, and technical texts. May be repeated to a maximum of 9 semester hours. .
585. INITIATION TO CONSECUTIVE TRANSLATION (3). Initiation to the tools, methodology, and terminology of consecutive translation.

### Italian (FLIT)

581. SPECIAL TOPICS IN ITALIAN LITERATURE (3). Study of a major author, genre, theme, period, or literary movement.
582. SPECIAL TOPICS IN ITALIAN LINGUISTICS (3). Focus on linguistic topics such as the history of the Italian language, Italian dialectology, or Italian structure.

### Spanish (FLSP)

514. SPANISH BUSINESS COMMUNICATIONS (3). Practice in contemporary business and administrative communications and correspondence in Spanish.
531. SPANISH GOLDEN AGE POETRY (3). Study and analysis of the major poetic works of the Spanish 16th and 17th centuries. Poets treated will be Spanish Petrarchists of the Renaissance, "Mannerist," and Baroque periods, including some of the greatest poets of all Spanish literature.
532. MEDIEVAL SPANISH LITERATURE (3). Through the 15th century.
533. CLASSICAL SPANISH DRAMA (3).
534. CERVANTES: THE QUIXOTE (3).
535. SPANISH GOLDEN AGE PROSE (3). Study and analysis of the prose of the Spanish Golden Age, including the chivalric, picaresque, and mystic genres. Includes the works of Miguel de Cervantes (with the exception of *Don Quixote*).

536. SPANISH ROMANTICISM AND REALISM (3).

537. THE GENERATION OF 1898 (3).

538. CONTEMPORARY SPANISH LITERATURE (3).

540. SPANISH AMERICAN POETRY AND THEATER (3). Critical study of poetry and theater as literary genres; in-depth study of representative works which may date from the period of European contact to the present day.

541. SPANISH AMERICAN NOVEL (3). Critical study of the novel as genre, accompanied by an in-depth study of representative works by Spanish American writers of the 19th, 20th, and 21st centuries.

545. LATIN AMERICAN WOMEN WRITERS (3). General study of the works of Latin American women writers and the evolution of feminist thought in Latin America.

551. LITERATURE OF THE ANDEAN REPUBLICS (3). The literature of Peru, Ecuador, and Bolivia with emphasis on the 20th century.

552. LITERATURE OF THE CARIBBEAN (3). The literature of Colombia, Venezuela, Central America, and the Spanish-speaking West Indies with emphasis on the 19th and 20th centuries.

553. LITERATURE OF URUGUAY, ARGENTINA, AND CHILE (3). The regional literature of the River Plate republics and Chile with emphasis on the period since 1914.

554. MEXICAN LITERATURE (3). Mexican literature with emphasis on the 20th century.

555. SPANISH-AMERICAN SHORT STORY (3). Authors from the various Spanish-American countries with emphasis on the 20th century.

556. COLONIAL LATIN AMERICAN LITERATURE (3). Spanish American literature during the Colonial period (before 1900) including pre-Columbian literature.

557. 19TH CENTURY SPANISH AMERICAN LITERATURE (3). The adaptation and development of periods such as romanticism, realism, and naturalism in the Spanish American cultural context, involving issues such as the politics of national identity and the effect of language and history.

558. SPANISH AMERICAN MODERNISMO AND VANGUARDIAS: 1880-1945 (3). Focus on issues such as the influence of modernity, the politics of literary expression, and the artistic movements in Europe that led Spanish American writers to define their role in a globalized world.

559. SPANISH AMERICAN HISTORICAL NOVELS (3). Study of historical novels depicting such important events from the history of Spanish America as discovery and conquest, the wars of independence, and other important historical events or time periods. Issues of verisimilitude, historical and historiographical criticism, and the concept of history.

560. CONTEMPORARY SPANISH AMERICAN LITERATURE (3). Spanish American prose, poetry, and theater from 1945 to the present.

561. SPANISH CIVILIZATION (3). Development of the Spanish pattern of civilization from pre-Roman times to the present.

562. SPANISH-AMERICAN CIVILIZATION (3). Evolution of the Spanish-American pattern of civilization from the pre-Hispanic period to the present.

580. INTRODUCTION TO HISPANIC LINGUISTICS (3). Introduction to the core areas of the linguistic study of Spanish language: phonology, morphology, syntax, semantics, history of the language, and dialectology. Provides necessary background for advanced studies in Spanish linguistics or general linguistics.

581. SPANISH PHONOLOGY (3). Introduction to the sound patterns of the Spanish language and the linguistic principles underlying them. Focus on how these patterns and principles apply across languages of the world as well as on the normative rules of pronunciation.

582. FOUNDATIONS IN SPANISH SOCIOLINGUISTICS (3). Introduction to the basic principles of Spanish sociolinguistics. Provides necessary background for advanced studies in Spanish sociolinguistics.

583. TECHNIQUES OF SPANISH TRANSLATION (3). Development of skill and techniques of translation from Spanish to English and English to Spanish. May be repeated to a maximum of 9 semester hours.

584. ADVANCED SPANISH TRANSLATION (3). Intensive training in accurate and idiomatic translation of business, administrative, and technical texts from Spanish to English and English to Spanish. May be repeated to a maximum of 9 semester hours.

585. SPANISH SYNTAX (3). Introduction to the patterns of sentence structure of the Spanish language and the linguistic principles underlying them. Emphasis on the functionality of syntactical patterns and their relationship to normative rules of writing.

586. CONTRASTIVE GRAMMATICAL STRUCTURES IN SPANISH AND ENGLISH (3). Provides the student with a knowledge of the basic structural differences between Spanish and English. Taught in both languages to demonstrate fundamental interrelationships between the two languages. Emphasis also on sensitivity to language interference and other problems of language acquisition.

587. HISPANIC DIALECTOLOGY (3). Introduction to the study of variation within the Spanish language in both Spain and the Americas. Focus on the intricate matrix of social, political, and historical factors that underlie the natural processes of dialect formation, bilingualism, and multilingualism across linguistic communities around the world.

591. HISTORY OF THE SPANISH LANGUAGE (3). Introduction to the origin and evolution of the Spanish language. Emphasis on the phonetic, phonological, and morphosyntactic changes that Latin underwent and eventually gave rise to the Spanish language and on the social, political, and historical circumstances that have shaped the map of the Spanish-speaking world.

### Portuguese (FLPO)

561. BRAZILIAN CIVILIZATION (3). Contributions of Africans and Indians to the history and literature of Brazil. Classes conducted in English with English and Portuguese bibliography.

### German (FLGE)

511. MODERN GERMAN (3). Current usages in spoken and written German with emphasis on contemporary vocabulary, idiomatic expressions, and syntax. In German.

512. BUSINESS GERMAN I (3). Techniques of spoken and written communication necessary in the business world. Discussion of basic features of the export-oriented German economy.

514. BUSINESS GERMAN II (3). Advanced practice in business communication, with analysis of authentic contemporary materials. Preparation for the optional Pruefung Wirtschaftspruefung International offered by the Goethe Institute on an annual basis. Lectures, exercises, films.

532. ENLIGHTENMENT, THROUGH WEIMAR CLASSICISM (3). Literary, philosophical, and political experience of Germany in the 18th century as reflected in the works of Lessing, Herder, Wieland, Goethe, Schiller, and others.

533. GERMAN ROMANTICISM (3). Background, theory, and major texts of German Romanticism.

534. GERMAN REALISM AND NATURALISM (3). Realism and naturalism in 19th century Germany as reflected in the prose, poetry, and drama of Stifter, Keller, Hebbel, Storm, Fontane, Hauptmann, and others.

535. MODERN GERMAN LITERATURE: 1900-1945 (3). Literary trends from 1890 to 1945, including impressionism, neo-romanticism, expressionism, the new realism of the Weimar Republic, the Third Reich, the inner Emigration, and the Other Germany in exile. Includes representative writers such as Wedekind, Schnitzler, Hofmannsthal, Rilke, Thomas Mann, Kafka, Hesse, and Brecht. .

537. CONTEMPORARY GERMAN LITERATURE (3). German literature from 1945 to the present, including the postwar period, the East- West division of the Cold War, and the conflicts since the reunification of 1990, but also the separate developments in Austria and Switzerland. Texts by such representative writers as H. Boll, G. Grass, C. Wolf, and others.

561. GERMAN CULTURE AND CIVILIZATION 800-1832 (3). Social and cultural developments in the German-speaking lands from 800-1832. Taught in German.

562. GERMAN CULTURE AND CIVILIZATION 1832-1945 (3). Critical approach to German culture and society from 1832-1945 with emphasis on the Wilhelminian era, the Weimar Republic, and the Third Reich. Analysis of essential texts and the lives of representative Germans. Lectures, discussions, films. Taught in German.

563. *DEUTSCHLAND HEUTE* (3). A critical approach to postwar and contemporary German culture, society, and everyday life from 1945 to the present, with emphasis on the developments since the reunification of 1990. Analysis of essential texts and the lives of representative Germans. Lectures, discussions, films. Taught in German.

581. THE STRUCTURE OF MODERN GERMAN (3). Survey of modern German and the use of contemporary linguistic methods to analyze and contrast its major structures and their functions.

582. TECHNIQUES OF TRANSLATION I (3). Development of skills and techniques of translation of a variety of text types from German to English and English to German.

584. TECHNIQUES OF TRANSLATION II (3). Intensive training in accurate and idiomatic translation from German to English and English to German with emphasis on administrative, political, and technical texts.

585. HISTORY OF THE GERMAN LANGUAGE (3). A survey of the German language from its origins to the present with a consideration of the political, social, and literary forces influencing the language. Topics include grammar and phonology, and the relationship of German to other languages and to older Germanic dialects.

### Russian (FLRU)

512. BUSINESS RUSSIAN (3). Techniques of spoken and written communication necessary to doing business in post-Soviet Russia, with attention to linguistic etiquette.

531. 19TH CENTURY RUSSIAN LITERATURE (3). Readings, lectures, and discussion of classic writers in various genres. Taught in English.

532. RUSSIAN LITERATURE AND CULTURE (3). Readings, lectures, and discussion of works chosen on the basis of their genre or particular thematic content. Taught in English.

533. RUSSIAN MODERNIST LITERATURE: 1881-1930 (3). Readings, lectures, and discussion of masterpieces of the modernist period. Taught in English.

534. 20TH CENTURY RUSSIAN LITERATURE (3). Readings, lectures, and discussion of works by major authors of the 20th century in various genres. Taught in English.

561. CONTEMPORARY RUSSIAN CULTURE (3). Students of Russian are given an opportunity to apply their linguistic skills in areas of topical interest relating to Soviet culture. A better understanding of contemporary Soviet culture is acquired by following closely, and analyzing, media coverage of current events of cultural interest. PRQ: FLRU 301 or consent of department.

580. MODERN RUSSIAN (3). Advanced study of contemporary Russian. Emphasis on development of reading, writing, and speaking skills, and translation techniques with recent material from science, economics, politics, and the arts. May be repeated to a maximum of 9 semester hours.

### Classical Languages (FLCL)

583. DIRECTED READINGS IN CLASSICAL LANGUAGES (1-3). Independent study of a classical author under the direction of a faculty member. May be repeated to a maximum of 6 semester hours.

### Indonesian (FLIN)

521. INTRODUCTION TO INDONESIAN LITERATURE (3). Survey of the development of Indonesian literature. Selected readings in regional languages in translation using traditional and contemporary Indonesian literature.

### Foreign Language Instructional Technology (FLTE)

591. INTEGRATING TECHNOLOGY INTO THE FOREIGN LANGUAGE CURRICULUM (3). Use of communication technologies and related foreign language materials with emphasis on pedagogically sound integration of these technologies and materials into foreign language curriculum.

592. DEVELOPMENT OF TECHNOLOGY-BASED MATERIALS FOR THE FOREIGN LANGUAGE CLASSROOM (3). Use of computer and Internet-based applications to develop related foreign language materials with emphasis on pedagogically sound integration of these technologies and materials into the foreign language curriculum. PRQ: FLTE 591 or consent of department.

593. FOREIGN LANGUAGE LEARNING CENTER ADMINISTRATION (3). Overall goals and practical procedures for overseeing and running a multimedia language learning center.

594. IMPLEMENTATION OF TECHNOLOGY-ENHANCED LANGUAGE LEARNING (3). Includes independent research on a topic related to foreign language pedagogy and foreign language instructional technology utilizing the Foreign Language Multimedia Learning and Training Center facilities. PRQ: Consent of department.

### General (FLAL, FLIS, FLMT, FLST)

FLAL 583. APPLIED LINGUISTICS AND THE ROMANCE LANGUAGES (3). Survey of the principles of linguistic theory as they apply to the teaching of the major romance languages. Emphasis on taxonomic and transformational linguistics.

FLIS 581. INDEPENDENT STUDY IN A FOREIGN LANGUAGE (1-6). Independent research on a cultural, linguistic, or literary topic. Detailed outline of proposed research required prior to enrollment. May be repeated to a maximum of 6 semester hours. PRQ: Three 400-level courses in the language and consent of department.

FLMT 590. TEACHING METHODOLOGIES FOR THE ELEMENTARY SCHOOL FOREIGN LANGUAGE CLASSROOM (3). Development of an effective foreign language program at the elementary school level with emphasis on development of materials and techniques for such programs.

FLMT 591. METHODOLOGIES FOR THE TEACHING OF FOREIGN LANGUAGES AT THE UNIVERSITY LEVEL (2). Study and practice of current theories, methodologies, and instructional materials used in the teaching of modern foreign languages at the university level. Emphasis on practical application and incorporation of techniques into classroom instruction. Required course for new teaching assistants in the Department of Foreign Languages and Literatures. S/U grading.

FLST 581. SPECIAL TOPICS IN LITERATURE I (3). Study of a major author, genre, theme, period, or literary movement. Topics announced. May be repeated to a maximum of 9 semester hours as topic changes. PRQ: Consent of department.

FLST 582. SPECIAL TOPICS IN LITERATURE II (3). Study of a major author, genre, theme, period, or literary movement. Topics announced. May be repeated to a maximum of 9 semester hours as topic changes. PRQ: Consent of department.

FLST 583. SPECIAL TOPICS IN LINGUISTICS (3). Topics announced. May be repeated to a maximum of 6 semester hours as topic changes. PRQ: Consent of department.

FLST 590. PRACTICUM (3). Professional experience related to the work environment utilizing foreign language translation and/or communication skills. Normally only available to students who have no prior foreign language-related work experience. PRQ: Consent of department.

FLST 640. RESEARCH SEMINAR IN LITERATURE (3).

- A. French
- B. German
- C. Russian
- D. Spanish

Study of special subjects and periods of literature. May be repeated to a maximum of 15 semester hours as the subject and/or period varies. PRQ: Consent of department.

FLST 661. RESEARCH SEMINAR IN CIVILIZATION AND CULTURE (3).

- A. French
- B. German
- C. Russian
- D. Spanish

Selected subjects in civilization and culture of the language area indicated, announced in the Schedule of Classes. Any one language area may be repeated to a maximum of 12 semester hours when the subject varies. PRQ: Consent of department.

FLST 683. RESEARCH SEMINAR IN LANGUAGES AND LINGUISTICS (3).

- A. French
- B. German
- C. Russian
- D. Spanish

Focus on specific subjects in linguistics as related to an individual language area. May be repeated to a maximum of 9 semester hours as the subject changes. PRQ: Consent of department.

FLST 684. RESEARCH SEMINAR IN TRANSLATION (3).

- A. French
- B. German
- C. Russian
- D. Spanish

Graduate training in translation with a focus on specific subjects related to the various foreign languages. May be repeated to a maximum of 9 semester hours. PRQ: Consent of department.

FLST 699. MASTER'S THESIS (1-3). May be taken upon the appointment of a thesis director and the approval of a prospectus. May be repeated to a maximum of 3 semester hours. PRQ: Consent of department.

# Department of Geography (GEOG, MET)

Chair: Andrew J. Krmeneč

## Graduate Faculty

Walker S. Ashley, associate professor, Ph.D., University of Georgia  
 Mace L. Bentley, associate professor, Ph.D., University of Georgia  
 Sarah A. Blue, assistant professor, Ph.D., University of California  
 David Changnon, Presidential Teaching Professor, Board of Trustees  
 Professor, Ph.D., Colorado State University  
 Xuwei Chen, assistant professor, Ph.D., Texas State University  
 David Goldblum, assistant professor, Ph.D., University of Colorado  
 Richard Greene, associate professor, Ph.D., University of  
 Minnesota  
 Michael E. Konen, associate professor, Ph.D., Iowa State  
 University  
 Andrew J. Krmeneč, professor, Ph.D., Indiana University  
 Wei Luo, associate professor, Ph.D., Washington University  
 Lesley S. Rigg, associate professor, Ph.D., University of  
 Melbourne  
 Jie Song, associate professor, Ph.D., University of Delaware

The Department of Geography offers a graduate program leading to the M.S. degree.

## Master of Science in Geography

The department welcomes applications from students with interests in geography, earth science, and atmospheric science. All new students who are admitted to a major in geography leading to the M.S. degree are required to consult with the department's graduate studies coordinator before registering for courses. The coordinator will assist students in identifying an appropriate regular adviser who will form a committee to arrange a program of study. A student must choose either a thesis or a non-thesis option, subject to the consent of the adviser. Students must have the approval of their adviser to register for geography courses each semester and must meet with their committee each year to discuss progress made toward the degree. A student whose background is deficient may be required to take additional course work at the undergraduate level. Deficiencies should be resolved in the first year and do not normally carry graduate credit toward the degree.

## Requirements

GEOG 600 - Geography Seminar (½) (must accumulate at least 2 semester hours prior to graduation; hours do not count toward required hours for the degree)  
 GEOG 604 - Concepts in Geography (3)  
 GEOG 661 - Advanced Quantitative Methods for Geographic Research (3)  
 GEOG 663 - Geographic Research Procedures (3)  
 Satisfactory performance on a comprehensive written examination  
 Satisfactory completion of the requirements for either the thesis or non-thesis option.  
 No more than 6 semester hours of GEOG 602 may be applied to degree requirements.

## Thesis Option

The thesis option consists of a minimum of 30 semester hours, including at least 24 semester hours of course work and a thesis. Students are required to present findings of the thesis at the Geography Seminar (GEOG 600) and to present one paper or poster at a state, regional, or national professional meeting. Complete instructions for writing and submitting the thesis are in the department's "Graduate Student Handbook" (consult adviser).

## Non-Thesis Option

The non-thesis option consists of a minimum of 36 semester hours. Students must submit two major research papers. The first paper must be submitted and accepted prior to completion of 24 semester hours. Papers must be completed under GEOG 672. Findings of one non-thesis paper will be presented at the Geography Seminar (GEOG 600). Complete instructions for writing and submitting the research papers are available in the department's "Graduate Student Handbook."

## Doctor of Philosophy in Geography

A student seeking admission to the Ph.D. program in geography must meet all the requirements for admission to the Graduate School; must have a baccalaureate or master's degree in geography, environmental science, meteorology, soil science or related field; and should have a background equivalent to that required for the B.S. degree at Northern Illinois University.

## Requirements

The Ph.D. program in geography consists of at least 90 semester hours of graduate credit beyond the baccalaureate degree, or 60 semester hours beyond the master's degree. Students who are admitted to the doctoral program without a master's degree must, as part of the doctoral program, complete a master's degree in geography. Continuation in the doctoral program is subject to a recommendation from the department upon completion of the M.S. degree. All students are required to register for GEOG 600, Geography Seminar, each fall and spring semester prior to admission to candidacy; complete 9 semester hours in core courses (GEOG 604, GEOG 661, and GEOG 663), at least 6 semester hours in topical advanced course work, at least 6 hours of applications experience under GEOG 602, and at least 9 semester hours in cognate fields outside the department. GEOG 799, Doctoral Research and Dissertation, should be taken as soon as possible after passing the candidacy examination, with enrollment each semester until completion.

The department chair, in consultation with the student's adviser, will nominate an advisory committee to be appointed by the dean of the Graduate School. The advisory committee will consist of no fewer than four members, including at least one adjunct or external faculty member. The advisory committee will consult on selection of cognate and elective courses and also serve as the student's candidacy examination, dissertation, and dissertation defense committees.

<sup>1</sup> Not available for credit to students who have earned the certificate of undergraduate study in geographic information systems; other course work within the certificate should be substituted.

### Core Courses

- GEOG 600 - Geography Seminar (½)  
 (Registration in GEOG 600 is required each fall and spring semester prior to approval of the dissertation proposal; hours do not count toward required hours for the degree)
- GEOG 604 - Concepts in Geography (3)
- GEOG 661 - Advanced Quantitative Methods for Geographic Research (3)
- GEOG 663 - Geographic Research Procedures (3)

### Advanced Topics Courses

- At least 6 semester hours of topical advanced courses chosen from the following:
- GEOG 622 - Advanced Vegetation Geography (3)
- GEOG 662 - Advanced Urban Geography (3)
- GEOG 664 - Advanced Economic Geography (3)
- GEOG 670 - Advanced Climatology (3)
- GEOG 702 - Advanced Soil Landscapes (3)
- GEOG 753 - Advanced Human-Environmental Interaction (3)
- GEOG 760 - Advanced Geospatial Science (3)

### Cognate Elective Courses

Each student will complete at least 9 semester hours of electives in one or more cognate fields outside the department. Cognate elective courses must be appropriate to the student's program of study and approved by the advisory committee.

### Applications Experience

Each student must complete 6-9 semester hours of applications experience in a research setting with industry, a public or private research organization, or a government agency. This experience must be appropriate to the student's program and approved by the advisory committee. Semester hours shall be completed under GEOG 602, Internship.

### Dissertation

The student must undertake an approved research problem and incorporate the results in a dissertation. The dissertation will be a substantial contribution to knowledge, exhibiting original scholarship and the ability to conduct independent research. An oral defense of the student's work and dissertation is required in accordance with Graduate School policy. The dissertation should be completed and successfully defended within three years after admission to candidacy.

### Candidacy Examination

The candidacy examination is a written examination based on the core courses, advanced topics courses, cognate courses, and other elective graduate courses. The examination is to be taken within one semester of completion of 30 semester hours of course work after the master's. The student will be admitted to candidacy after successful completion of the candidacy examination and oral presentation of a dissertation research proposal approved by the advisory committee.

### Language/Research-Tool Requirements

The research-tool requirement for the Ph.D. in Geography is fulfilled by successfully completing GEOG 661, which is required in the doctoral program. There is no general language requirement; the applicability of a language tool will relate to the student's field of study and will be made in consultation with the student's advisory committee.

### Additional Requirements

At least once a year after admission to candidacy, each student will give an oral presentation of progress on dissertation research to the advisory committee.

Students in the doctoral program are required to present one or more research papers at national or international scientific conferences. These paper presentations may derive from research conducted with members of the advisory committee, course requirements, the applications experience, or from the dissertation.

## Certificate of Graduate Study

### Geographic Information Analysis (16-18)

This certificate is designed for graduate students in all disciplines and for professionals seeking advanced education in geographic information systems, mapping science, and applications. Students should consult with the graduate certificate adviser prior to registering for any courses.

- Course work from the following (16-18)
- GEOG 503 - Soil Geography and Land Use Planning (3)
- GEOG 556<sup>1</sup> - Fundamentals of Mapping (3)
- GEOG 557<sup>1</sup> - Fundamentals of GIS (3)
- GEOG 558 – Geovisualization (3)
- GEOG 559<sup>1</sup> - Geographic Information Systems (3)
- GEOG 568 – Workshop in GIS (3)
- GEOG 560 - Remote Sensing of the Environment (3)
- GEOG 564 - Location Analysis (3)
- GEOG 568 - Workshop in GIS (3)
- GEOG 593 - Computer Methods and Modeling (1-3)
- GEOG 602J - Internship: Methods and Techniques (1-6)
- GEOG 602K - Internship: Mapping/Geovisualization (1-6)
- GEOG 656 - GIS Design and Data (3)
- GEOG 659 - Regional Planning (3)
- GEOG 660 - Advanced Spatial Analysis (3)
- GEOG 568 - Workshop in GIS (3)
- GEOG 665 - Advanced Field Methods (3-6)
- GEOG 671J - Independent Research: Methods and Techniques (1-3)
- GEOG 671K - Internship: Mapping/Geovisualization (1-3)
- GEOG 690 - Community Geography (3)
- GEOG 790J - Seminar: Methods and Techniques (1-3)
- GEOG 790K - Internship: Mapping/Geovisualization (1-3)

## Course List (GEOG)

502. PEDOLOGY (4). Soil genesis, distribution, and classification. Environment, geomorphology, and soil formation relationships. Soil description, mapping, and interpretation for land use. Lecture, laboratory, and field experience.

503. SOIL GEOGRAPHY AND LAND USE PLANNING (3). Regional and local problems of soil utilization and management. Strategies for using soil data in land use plans and legislation.

506. NATURAL HAZARDS AND ENVIRONMENTAL RISK (3). Examination of processes that create environmental and atmospheric hazards, the spatial and temporal discontinuities associated with hazards, and societal aspects that affect and compound disasters. Historical and contemporary case studies are utilized to investigate the interaction between society and natural hazards.

507. TECHNICAL HAZARDS (3). Study of the spatial problems associated with technical (human-made) hazards and the geographic scope of their impacts on human activities and the environment. Spatial dimension of risk and the role of geospatial information in mitigation, emergency response, planning, and management. Examination of the social and cultural contexts associated with technical hazards and regulatory issues in risk management. Emphasis on risk perception, risk analysis, hazard assessment and hazard management from geospatial and cultural perspectives. PRQ: GEOG 557 or consent of department.

508. TROPICAL ENVIRONMENTAL HAZARDS (3). Examination of natural hazards focusing on Southeast Asia. Tsunamis, monsoons, typhoons, flooding, droughts, and urban hazards are explored. Interactions among three major systems are analyzed with respect to shaping these hazards: the physical environment, social and demographic characteristics, and components of the built environment.

513. FOREST ECOLOGY AND MANAGEMENT (3). Forest species regeneration, growth, and mortality. Past and present environmental conditions, disturbances, and forest processes. Tree identification, forest measures, and field methods. Lecture, laboratory, and field experience.

522. PLANT-SOIL INTERACTIONS (4). *Crosslisted as BIOS 522X*. Chemical and physical properties of soils affecting vegetation, segregation of natural plant communities, and managed systems. Lecture, laboratory, and field experience.

530. POPULATION GEOGRAPHY (3). Geographic perspective on overpopulation, immigration, environmental degradation, development, and human rights. Fundamentals of fertility, mortality, migration, and composition. Discussion of both conceptual and empirical approaches focusing on national and international population and public policy issues.

532. GEOGRAPHY OF HEALTH (3). Geographic dimensions of health in local and regional populations across the globe. Topics include disease ecology, infectious and chronic diseases, geographic mobility, biometeorology, nutrition, development and health, geographic disparities in health, healthcare resources and access, medical systems, concepts of health and place, therapeutic spaces, GIS and public health. Measurement in vital statistics and surveillance data with statistical, geospatial and modeling applications.

535X. SPACE IN LANGUAGE AND CULTURE (3). *Crosslisted as ANTH 535*. Exploration of how various languages express spatial relationships by using different parts of speech, how culture shapes ways of organizing and using space in daily and ritual behavior, and the mental organization of spatial knowledge, with emphasis on universal patterns that generate cultural and individual realizations.

542X. GEOMORPHOLOGY (3). *Crosslisted as GEOL 542*. Systematic study of the geologic processes affecting the evolution of the earth's surface. Emphasis on glacial, fluvial, and coastal processes and their relationship to the development of landforms under diverse climates of the past and present. Lecture, laboratory, and field trips.

551. POLITICAL GEOGRAPHY (3). Study of political phenomena in a real context. Emphasis on temporal and spatial attributes of the state. Core areas and capitals, boundaries, administration of territory. Geopolitics, power, multinational organizations, and modern theories about states. Geographic concepts applied to in-depth analysis of selected conflict regions.

552. GEOSPATIAL DIMENSIONS OF HOMELAND SECURITY (3). Planning and practicing homeland security and emergency response from a geospatial perspective. Integrating homeland security across jurisdictions and geographic scales, from local to national. Practical value of GIS, spatial data, and geospatial methods in planning, risk assessment and mitigation. Lecture and laboratory.

553. ENVIRONMENTAL MANAGEMENT (3). Human-environment geography perspective on natural resource planning, environmental conservation, and sustainable development throughout the world. Advanced analysis of environmental issues in a variety of geographic contexts and at scales ranging from local to global. Emphasis on critical and analytical thinking skills.

555. LAND-USE PLANNING (3). Study of processes and policies in landuse and land development decisions. Mapping and GIS decision-making techniques applied to the analysis of land-use patterns and management conflicts at national, state, regional, and local government scales. Lecture, laboratory, and field experience.

556. FUNDAMENTALS OF MAPPING (3). For graduate students with little formal background in mapping. Maps as models, tools of visualization, and forms of graphic communication. Processes of map production, including imagery and surveying. Principles of map design.

557. FUNDAMENTALS OF GIS (3). For graduate students with little formal background in GIS or computer mapping. Principles, components, and uses of geographic information systems. PRQ: GEOG 552 or GEOG 556, or consent of department..

558. GEOVISUALIZATION (3). Theories, principles and approaches of geographic visualization. Fundamentals of cartographic representation, theoretical and practical issues of geovisualization, and developing methods in exploratory spatial data analysis, animation, 3D representation, and virtual environments. Lecture and laboratory. PRQ: GEOG 557 or consent of department.

559. GEOGRAPHIC INFORMATION SYSTEMS (3). Study of the conceptual framework and development of geographic information systems. Emphasis on the actual application of a GIS to spatial analysis. Two hours of lecture and two hours of laboratory. PRQ: GEOG 557 or consent of department.

560. REMOTE SENSING OF THE ENVIRONMENT (3). Introduction to the principles of acquiring and interpreting data from remote sensing systems. Extraction of the earth resource information through image processing techniques and applications of satellite remote sensing in earth and atmospheric sciences. Use of remote sensing for mapping, measuring, and detecting atmospheric motion and weather systems, and assessing environmental change. Lecture, laboratory, and field experience. PRQ: Consent of department.

561. APPLIED STATISTICS IN GEOGRAPHIC RESEARCH (3). Application of descriptive and inferential statistics in geographic research: the general linear model, spatial statistics, computer analysis, and research design and presentation.

563. URBAN GEOGRAPHY (3). Examination of the internal patterns and dynamics of urban areas. Spatial, economic, political, social, and behavioral approaches to the study of cities. Major focus is on U.S. cities.

564. LOCATION ANALYSIS (3). Examination of the location patterns of human social and economic activities. Principles of optimal location for agricultural, industrial, retail, transportation, and urban functions. Use of GIS and other spatial methods in location analysis. Lecture and laboratory. PRQ: GEOG 556.

567. WORKSHOP IN CARTOGRAPHY (3). Problems and techniques of map development. Projects vary but include the processes of design and production, editing and quality control, and final implementation as a printed product. Directed individual study. PRQ: GEOG 556 and consent of department.

568. WORKSHOP IN GIS (3). Problems and techniques of GIS prototype development. Emphasis on GIS development and spatial database management for public sector applications such as land parcel mapping, emergency services, facilities management, and homeland security. The processes of design and production, editing and quality control, and final implementation of an operational product are stressed through applied projects. PRQ: GEOG 557 and consent of department.

569. EDUCATION METHODS AND MATERIALS IN GEOGRAPHY (3). Strategies of presenting geographic concepts. Evaluation of techniques and materials. PRQ: EPS 505 or EPS 507, or consent of department.

592. HYDROLOGY (3). *Crosslisted as GEOL 592X*. Quantitative examination of the properties, occurrence, distribution, and circulation of water near the earth's surface and its relation to the environment. Emphasis on applying fundamental physical principles to understand surface and subsurface hydrological processes. Lecture, laboratory, and field trip.

593. COMPUTER METHODS AND MODELING (3). Programming topics in geographic or meteorological research problems, computer graphics, simulation techniques, regional modeling, geographic information systems applications, and climate modeling. Lecture and laboratory. May be repeated to a maximum of 6 semester hours as topic varies. PRQ: Consent of department.

595X. TEACHING OF PHYSICAL SCIENCES (3). *Crosslisted as PHYS 495*. Preparation for certification in grades 6-12 in one or more of the fields of physical science: physics, chemistry, earth science, and general science. Examination and analysis of modern curricula; classroom and laboratory organization; microteaching and observation of teaching; lesson planning; multicultural education; teaching science to the exceptional child; reading and the teaching of science; methods of evaluation. PRQ: Consent of department. CRQ: ILAS 401 or consent of department.

596X. HISTORY AND SOCIAL SCIENCE INSTRUCTION IN GRADES 6-12 (3). *Crosslisted as HIST 596*. Organization and presentation of materials for history and social science courses at the middle school, junior high, and senior high school levels. PRQ: Admission to the history or social science teacher certification program and permission of Department of History's office of teacher certification.

598. SEMINAR IN CURRENT PROBLEMS (3).

- A. Physical Geography
- B. Environmental Management
- C. Meteorology/Climatology
- D. Regional Geography
- E. Human Geography
- G. Urban/Economic Geography
- J. Methods and Techniques
- K. Mapping/Geovisualization

Selected topics in the various subfields of geography. May be repeated to a maximum of 6 semester hours as the topic changes. PRQ: Consent of department.

600. GEOGRAPHY SEMINAR (½). Current research and policy developments in geography and related spatial sciences. Each graduate student in geography must accumulate 2 semester hours of credit prior to graduation, but hours may not be applied toward semester-hour requirements for the M.S. degree. May be repeated to a maximum of 12 semester hours. S/U grading.

602. INTERNSHIP (1-6).

- A. Physical Geography
- B. Environmental Management
- C. Meteorology/Climatology
- D. Regional Geography
- E. Human Geography
- G. Urban/Economic Geography
- J. Methods and Techniques
- K. Mapping/Geovisualization

Work as an intern in an off-campus agency or firm. A student completes intern tasks as assigned, does readings, and prepares a paper under the supervision of a faculty member. May be repeated to a maximum of 12 semester hours. S/U grading. PRQ: Consent of department.

604. CONCEPTS IN GEOGRAPHY (3). Exploration of the origin, development, and application of fundamental concepts in human and physical geography. Emphasis on contemporary issues.

606. 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. May be repeated to a maximum of 8 semester hours. PRQ: Consent of institute director.

622. ADVANCED VEGETATION GEOGRAPHY (3). Spatial distributions of vegetation from micro to continental scales. Emphasis on natural processes and controls and human impacts on vegetation dynamics.

651. GEOPOLITICAL PERSPECTIVES (3). Application of political geographic ideas, concepts, and perspectives to a range of current global issues, e.g., territorial nationalism, conflict over natural resources, population growth, and migration.

656. GIS DESIGN AND DATA (3). Designing and implementing a geographic information system. Field collection of spatial data. Georeferencing systems. Spatial meta-data standards and data-quality: precision, accuracy standards, accuracy testing. Data management, ownership, and liability.

658. READINGS IN GEOGRAPHY (1-3). Directed readings in those phases of geographic literature needed by the student to strengthen background knowledge. May be repeated to a maximum of 6 semester hours.

659. REGIONAL PLANNING (3). Geographic basis and practice of regional mapping, GIS, and spatial decision processes applied to land-use, social services, transportation, and environmental management concerns. Problems of integrating land, transportation, and environmental management over a multijurisdictional geography.

660. ADVANCED SPATIAL ANALYSIS (3). Statistical and analytical procedures for the analysis of spatial data. Includes descriptive spatial statistics; point, line, and area pattern analysis; multivariate spatial patterns; spatial autocorrelation; spatial process models and kriging. Limitations of asymptotic-theory hypothesis test procedures and introduction to randomization tests. Emphasis on the development and application of operational spatial analysis routines for use in GIS, applied, and basic spatial research.

661. ADVANCED QUANTITATIVE METHODS FOR GEOGRAPHIC RESEARCH (3). Introduction to multivariate data analysis: matrix algebra, MANOVA, discriminant functions, principal components, and other procedures in geographic research.

662. ADVANCED URBAN GEOGRAPHY (3). Contemporary understanding of the city; its form and structure, population, employment and economy; its relationship to the region and to national/global systems of cities.

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

664. ADVANCED ECONOMIC GEOGRAPHY (3). The spatial organization and dynamics of production and distribution systems.

665. 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. Lecture, laboratory, and field experience. May be repeated to a total of 6 semester hours.

668. HISTORY OF GEOGRAPHIC THOUGHT (3). Evolution of concepts pertaining to the nature, scope, and methodology of geography since classical times; emphasis on the modern period.

670. ADVANCED CLIMATOLOGY (3). Physical processes associated with the global energy balance, the hydrologic cycle, and the atmosphere's general circulation, and their linkage to the climate system. Climate controls to understand climates of various spatial scales. Past, present, and future climate variability and change. Applications to climate-sensitive environmental systems.

671. INDEPENDENT RESEARCH (1-3).

- A. Physical Geography
- B. Environmental Management
- C. Meteorology/Climatology
- D. Regional Geography
- E. Human Geography
- G. Urban/Economic Geography
- J. Methods and Techniques
- K. Mapping/Geovisualization

Independent research under the supervision of adviser. May be repeated to a maximum of 6 semester hours.

672. MASTER'S RESEARCH PAPER (1-3). 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 6 semester hours.

690. COMMUNITY GEOGRAPHY (3). Team research project focusing on an issue of practical concern to the northern Illinois community. Application of geography and/or meteorology tools and methods to contemporary issues. Variable topics. May be repeated to a maximum of 6 semester hours. PRQ: At least 15 semester hours of geography or meteorology at the graduate or undergraduate level.

699. MASTER'S THESIS (1-6). May be repeated to a maximum of 6 semester hours.

702. ADVANCED SOIL LANDSCAPES (3). The development and distribution of soils in relation to landscape processes, climate, vegetation geography, and human use.

753. ADVANCED HUMAN-ENVIRONMENTAL INTERACTION (3). The human-environmental perspective in geography. Environmental impacts on human activities, human efforts to control the environment, and the spatial implications of environmental management from local to global scale and across cultures.

760. ADVANCED GEOSPATIAL SCIENCE (3). Developments in the measurement, sensing, computation, visualization, and analysis of spatial data in human and environmental geography.

790. SEMINAR (1-3).

- A. Physical Geography
- B. Environmental Management
- C. Meteorology/Climatology
- D. Regional Geography
- E. Human Geography
- G. Urban/Economic Geography
- J. Methods and Techniques
- K. Mapping/Geovisualization

Lectures, discussions, and reports on topics of special interest in a particular field of geography. Each field may be repeated to a maximum of 6 semester hours; students may register for multiple sections under different topics simultaneously.

799. DOCTORAL RESEARCH AND DISSERTATION (1-15). May be repeated to a maximum of 36 semester hours. PRQ: Admission to Ph.D. candidacy and consent of department.

## Meteorology (MET)

510. WEATHER DYNAMICS I (4). Statics, conservation of mass, linear momentum and energy, shallow water equations, scale analysis, geostrophic, gradient and thermal winds, circulation and vorticity theorems, and introduction to the planetary boundary layer. Three hours of lecture and two hours of laboratory. PRQ: Consent of department.

511. WEATHER DYNAMICS II (4). Waves in the atmosphere, quasigeostrophic flow theory, introduction to numerical weather prediction and dynamic instability theory. Three hours of lecture and two hours of laboratory. PRQ: MET 510 or consent of department.

521. ADVANCED SYNOPTIC METEOROLOGY (3). Applications of synoptic analysis, forecast techniques, and fluid dynamics to the diagnosis and forecasting of mid-latitude weather systems. Examination of the lifecycle of mid-latitude cyclones using quasigeostrophic theory. Two hours of lecture and two hours of laboratory. PRQ: Consent of department.

530. MICROMETEOROLOGY (3). Study of physical processes in the turbulent transfer of momentum, heat, and moisture in the atmospheric boundary layer. Field installation and operational use of meteorological instrumentation. Assessment of precision, accuracy, and calibration of sensors. Data processing and interpretation. Lecture and field experience. PRQ: Consent of department.

531. APPLICATIONS IN CLIMATOLOGY (3). Team research projects that apply climatological theory and statistical approaches to develop climate relationship-decision models for use in agriculture, water resources, utilities, construction, transportation, and recreation. Lecture and field experience.

540. CLIMATE DYNAMICS I (3). Global scale tropospheric convection and wave processes on time scales from the Brunt-Vaisalla frequency to multiples of the Milankovitch cycle. Deterministic chaos and climate variability. Sensitivity of the troposphere to solar forcing, volcanism, orbital changes, anthropogenic effects, and atmosphere-ocean coupling. PRQ: MET 511 or consent of department.

541. CLIMATE DYNAMICS II (3). Detailed systematic investigation into the macroscale dynamics of the climate system as a continuation of MET 540. Additional topics include the Lorenz equations, energy balance models, Milankovitch theory of climate, Golitsyn similarity theory of planetary atmospheric circulation, and the development of a threedimensional tropospheric general circulation model. PRQ: MET 540 or consent of department.

544. MESOSCALE METEOROLOGY (3). Structure, evolution, forcing, and prediction of weather phenomena with short temporal and spatial scales. Observing systems and numerical weather predictions applied to mesoscale phenomena such as severe thunderstorms, tornadoes, and heavy snow. Two hours of lecture and two hours of laboratory.

550. NUMERICAL ANALYSIS AND FORECASTING (3). Finite difference schemes, numerical stability, forward, backward, and centered differencing, numerical relaxation techniques, finite element methods, and spectral techniques. PRQ: MET 511 or consent of department.

585. ATMOSPHERIC PHYSICS (3). Fundamentals of radiation transfer theory, cloud and precipitation physics, satellite remote sensing techniques, and physics of the middle and upper atmosphere. Lecture and laboratory. PRQ: Consent of department.

# Department of Geology and Environmental Geosciences (GEOL)

Chair: Colin J. Booth

## Graduate Faculty

Jonathan H. Berg, Distinguished Research Professor, emeritus, Ph.D., University of Massachusetts

Colin J. Booth, professor, Ph.D., Pennsylvania State University

Phillip J. Carpenter, professor, Ph.D., New Mexico Institute of Mining and Technology

Mark P. Fischer, professor, Ph.D., Pennsylvania State University

Mark R. Frank, assistant professor, Ph.D., University of Maryland

Melissa E. Lenczewski, associate professor, Ph.D., University of Tennessee

Paul Loubere, Distinguished Research Professor, Ph.D., Oregon State University

Carla W. Montgomery, professor emeritus, Ph.D., Massachusetts Institute of Technology

Eugene C. Perry, Jr., professor, Ph.D., Massachusetts Institute of Technology

Ross D. Powell, Distinguished Research Professor, Board of Trustees Professor, Ph.D., Ohio State University

Reed P. Scherer, Presidential Research Professor, Ph.D., Ohio State University

Paul R. Stoddard, associate professor, Ph.D., Northwestern University

Jay A. Stravers, associate professor, Ph.D., University of Colorado

James A. Walker, professor, Ph.D., Rutgers University

Heather Watson, assistant professor, Ph.D., Rensselaer Polytechnic Institute

The Department of Geology and Environmental Geosciences offers graduate programs leading to the M.S. and Ph.D. degrees.

Because the number of places in the graduate program in geology is limited, the graduate committee may wait to make admission decisions until the majority of applications for a given semester are complete. In the case of an applicant presenting superior credentials for admission, however, a decision may be made immediately upon receipt of the completed application.

## Master of Science in Geology

The M.S. degree prepares one for professional work in geology or environmental geosciences, 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.

Students are normally expected to meet the geology and environmental geosciences, chemistry, physics, and mathematics requirements for the B.S. in geology and environmental geosciences at NIU. However, students whose undergraduate major was in a science other than geology are encouraged to apply. Such students may be required to complete a core sequence of undergraduate geology and environmental geosciences courses in consultation with their adviser and the graduate committee.

## Requirements

A minimum of 30 semester hours of graduate credit taken under either the thesis or non-thesis option is required. This will normally include at least 24 semester hours in geology and environmental geosciences.

With the approval of the department and the office of the dean of the Graduate School, a maximum combined total of 15 semester hours of graduate courses taken as a student-at-large at NIU, plus credit earned in NIU courses taught outside of the U.S., plus graduate credit for courses accepted in transfer from other accredited institutions, may be counted toward meeting the master's degree requirements.

In or prior to the first semester of course work, the student is required to participate in an oral interview with four faculty chosen by the departmental graduate committee. These interviews are to aid the adviser in the preparation of the program of courses for the student.

## Thesis Option

At least 24 semester hours of graduate course work, excluding GEOL 699, plus a thesis which must be successfully defended as part of a comprehensive oral examination. Ordinarily, no more than 3 semester hours of independent study courses (GEOL 670 and/or GEOL 770) may be included in the minimum 24 non-thesis semester hours. Additional independent-study hours may be counted toward this total only with the approval of the departmental graduate committee. Each student is required to make a public presentation of the results of the thesis research through a departmental colloquium as well as a defense of the thesis.

Each M.S. candidate is required to meet with his or her thesis committee at least once each academic year, beginning in the student's second semester. This meeting is to evaluate the progress of the candidate in the thesis research and toward the degree. The committee's assessment will be shared with the candidate.

## Non-Thesis Option

At least 30 semester hours. During the first semester in the program, a student must petition the department's graduate committee to obtain permission to pursue this option. The student is required to pass a written comprehensive examination in his or her final term.

## Master of Science in Teaching

The M.S.T. is designed for certified teachers seeking teaching endorsements at the master's level in disciplines approved by the university. All students pursuing the degree will be required to complete core experiences in which they demonstrate knowledge, skills, and dispositions related to assessment, diversity and special needs, human development and learning, and pedagogy in their content area.

## Admission

All applicants for the M.S.T. program must meet requirements for admission to the Graduate School and be accepted for admission by the faculty of the specialization.

## Specialization in Geoscience Education

The Department of Geology and Environmental Geosciences offers a master's degree specialization in Geoscience Education. Applicants admitted to the program must be certified to teach secondary school Science, Technology, Engineering, and Mathematics (STEM) (6-12) or certified to teach in the elementary school (K-9) and who are actively seeking a science endorsement. Successful completion of this specialization will provide the student with the courses and background necessary to pass the State of Illinois Science Content Exam. After successful completion of the program and passing the Illinois State Exam, students may apply for their Earth and Space and/or Environmental Science Endorsement(s) through the State of Illinois. Other endorsements such as teacher-leadership are also possible depending upon the individual's selection of elective course work.

The central goal of the program is to empower teachers to implement generative and transformative pedagogy by using research-based instructional practices and geoscience content. Five strands permeate the program: (1) active learning through such approaches as project-based learning and inquiry, (2) adolescent identity development, (3) meeting the challenges of diverse and special needs students, (4) assessment of student learning in science, and (5) geoscience content knowledge. All participants will show mastery of these strands through experiences targeting action research and teacher leadership.

## Requirements

The student must complete at least 34 semester hours of graduate work. At least 28 of the 34 hours must be in the geosciences. All courses outside the geosciences must be approved by the department in advance. There are 22 hours of required core courses all candidates must successfully complete. In coordination with their adviser, students will select the additional content courses from the general geoscience graduate catalog per the candidate's choice of endorsement(s) and their previous background.

### Core Requirements in Department (22)

- GEOL 529 - Inquiry-Based Field Experiences for Earth Science Teachers (3)
- GEOL 595X - Teaching of Physical Sciences (3)
- GEOL 610 - Geoscience Fundamentals I: Environments, Life and Global Cycles (4)
- GEOL 611 - Geoscience Fundamentals II: The Composition, Dynamics and Structure of the Earth (4)
- GEOL 612 - Geoscience Fundamentals III: Field Experiences and Applications (4-6)
- GEOL 613 - Identity Development, Literacy and Inquiry Methodologies in the Geoscience Classroom I (2)
- GEOL 614 - Identity Development, Literacy and Inquiry Methodologies in the Geoscience II (2)

### Additional Required Electives (12)

Geology graduate-level courses 500 or above (12). May include up to 6 semester hours in approved graduate-level courses outside the department in such disciplines as Biology, Chemistry, Geography, or Physics.

## Doctor of Philosophy in Geology

Any student who has earned a baccalaureate or master's degree in geology or environmental geosciences, biology, chemistry, engineering, geography, mathematics, physics, or soil science from an accredited college or university is eligible to apply for admission. Every candidate for the Ph.D. must complete the requirements specified below.

## Course Requirements

Ph.D. students must normally complete a minimum of 90 semester hours as part of the degree program. In computing this total, a maximum of 30 semester hours may be included from the M.S. or equivalent program, provided they are consistent with the student's Ph.D. program objectives. At least 24 semester hours must be taken in approved courses in the student's field of study. A maximum of 39 semester hours may be counted for Ph.D. dissertation research and writing (GEOL 799). The remaining hours must be selected from electives and an internship program, with the consent of the adviser.

With the approval of the department and the office of the dean of the Graduate School, a maximum combined total of 15 semester hours of graduate courses beyond the master's degree taken as a student-at-large at NIU, plus credit earned in NIU courses taught outside of the U.S., plus graduate credit for courses accepted in transfer from other accredited institutions, may be counted toward meeting doctoral degree requirements.

The complete doctoral program is arranged as follows.

1. Field of study	24-30	semester hours
2. Electives	21-30	semester hours
3. Internship	0-9	semester hours
4. Dissertation (GEOL 799)	30-39	semester hours
	90	semester hours minimum

The student should expect to take a significant portion of the elective course work in allied science departments, particularly chemistry, mathematics, and physics, as is appropriate to round out the doctoral program. Entering students with particularly sound preparation in geology and environmental geosciences may, with approval, substitute graduate courses in other departments for required geology and environmental geosciences courses. Conversely, non-majors entering the doctoral program will need to strengthen their background in fundamental geologic principles.

The student entering the Ph.D. program with a B.S. or B.A. degree who does not elect to undertake a master's thesis must take the non-thesis option M.S. examination in the semester in which he or she will have completed 30 semester hours of graduate study. The student must complete this examination satisfactorily in order to continue in the Ph.D. program.

## Candidacy Examination

No later than the semester in which 30 semester hours of graduate study beyond the M.S. (or beyond satisfactory performance on the non-thesis M.S. examination—see above) are completed, but at least 8 months before the dissertation defense, the student must successfully complete a candidacy examination consisting of both written and oral portions. Details concerning this examination may be obtained from the Department of Geology and Environmental Geosciences.

## Language Requirement

There is no general foreign language/research tool requirement for the Ph.D. degree in geology. Each doctoral student's adviser will identify any language/tool competencies to be required for that student and will decide when satisfactory competence has been achieved.

## Internship

Before or during tenure in the Ph.D. program, the student must intern for a minimum period of one semester with industry, a public or private research organization, or a government agency. The internship position and arrangements must be approved by the department. The internship must be in a geoscience setting or organization and appropriate to the candidate's program. This requirement may be waived in special cases where a degree candidate has previous practical experience in the subject matter.

## Dissertation

The student must complete an approved research project and prepare a dissertation. It must be a substantial contribution to knowledge, in which the student exhibits original scholarship and the ability to conduct independent research. An oral defense of the student's work and dissertation is required; this will be held before the university community and under the supervision of the student's doctoral committee, in accordance with Graduate School regulations.

Each doctoral candidate is required to make an oral presentation of research progress once each academic year to his or her dissertation director and to a dissertation progress committee chosen by the student and the dissertation director. The committee will evaluate the presentation and will inform the student in writing of its assessment of the progress of the research.

Each doctoral candidate is required to make at least one public presentation of his or her research results through a departmental colloquium.

## Certificate of Graduate Study

### Earth Science Education (18)

This certificate is designed for individuals wishing to attain graduate-level preparation in content and pedagogy for teaching earth science in middle and high schools. It is open to those concurrently pursuing an initial teaching certificate. Credit earned for the certificate may be applied toward the M.S. degree in geology with approval of the department.

EPS 501 - Psychological Foundations of Education (3),  
 OR EPS 508 - Theories and Research in Adolescent Behavior and Development (3)  
 GEOL 529 - Inquiry-Based Field Experiences for Earth Science Teachers (3)  
 GEOL 595X - Teaching of Physical Sciences (3)  
 One of the following (3)  
 EPFE 510 - Philosophical Foundations of Education (3)  
 EPFE 511 - Philosophical Analysis of Current Educational Thought (3)  
 EPFE 520 - Historical Foundations of Education (3)  
 EPFE 521 - Historical Foundations of Education in the United States (3)  
 Additional course work in geoscience courses numbered 600 and above (6)

## Teacher Certification

Students wishing to receive initial certification in general science (geology area) or physical science (geology area) to teach in grades 6-12 (Standard High School Certificate) must schedule an interview with the departmental certification coordinator to formulate a specific plan of study. Consulting the coordinator before registering for the initial term will facilitate expeditious completion of the program.

The specific plan of study for meeting certification or endorsement requirements must be approved by the departmental certification coordinator. Students must consult with the coordinator each semester before registering and are responsible for timely submission of the several required applications and permits.

Students who are also pursuing an advanced degree in geology should consult their academic adviser and the certification coordinator before registering for their first term at NIU. Students seeking teacher certification or endorsement without enrollment in the degree program should, prior to their first registration, consult the departmental certification coordinator.

Also see "Teacher Certification Information."

### Admission Requirements<sup>1</sup>

Application in writing to the departmental certification coordinator.

Minimum undergraduate GPA of 2.50 overall and 2.70 in courses in physical and biological sciences and mathematics.

Completion<sup>2</sup> of COMS 100, ENGL 103, ENGL 104, and MATH 155 with a grade of C or better (higher numbered courses may be substituted, if approved by the coordinator); ILAS 301; and 9 semester hours of NIU geology and environmental geosciences courses for graduate credit; and a passing score on the ICTS Basic Skills Test.

Satisfactory interview with the coordinator, in which the student demonstrates attitudes and motivations appropriate to the professional educator.

### Retention<sup>1</sup>

GPA at NIU of 2.50 in undergraduate courses taken as a graduate student or student-at-large and 3.00 in graduate courses.

Satisfactory review of progress with the departmental certification coordinator each semester before registration for the following semester.

Appropriate progress each semester towards completion of a portfolio demonstrating competency in the State of Illinois required standards for initial teacher certification.

Passing score on the ICTS Content Area Test prior to student teaching.

For general science, prior to student teaching, completion of 8 semester hours of biological sciences, including at least 3 semester hours numbered 200 or above.

### Endorsement Requirements<sup>1,2</sup>

To meet public school needs, students are required to qualify for endorsements to teach in another area. This may be done by

EITHER

completing 15 semester hours of course work in another area of physical science (e.g., chemistry and physics) and qualification for endorsement to teach in that area.

OR

completing course work sufficient to qualify for endorsement in a field other than a physical science (e.g., mathematics or biological sciences).

### Completion Requirements

All retention and endorsement requirements listed above

One of the following (3-4)

GEOL 105 - Environmental Geology (3)

GEOL 120 - Introductory Geology (3)

GEOL 120 - Introductory Geology (3), and GEOL 121, Introductory Geology Laboratory(1)

GEOL 320 - Environments and Life Through Time (4)

GEOL 325 - Solid Earth Composition (4)

GEOL 330 - Global Cycles (4)

<sup>1</sup> Requirements listed in these sections are minimum requirements. Meeting these requirements will not guarantee students admission to the geology teacher certification program or courses.

<sup>2</sup> Some or all of these requirements may be met by prior course work.

GEOL 335 - Dynamics and Structure of the Earth (4)  
 GEOL 482 - Transition to the Professional Earth Science Teacher (1)  
 GEOL 487 - Student Teaching (Secondary) in Geology/Earth Science (7-12)  
 GEOL 529 - Inquiry-Based Field Experiences for Earth Science Teachers (3)  
 GEOL 595X - Teaching of Physical Sciences (3)  
 Course work in two areas selected from space science, atmospheric science, and oceanography (6)  
 Upper-division course work in earth science (6)

The State of Illinois has established course and standards-based requirements for certification. Approved certification programs must have requirements that meet or exceed the state requirements. A list of the current state minimum requirements is available from the Illinois State Board of Education web page. The department's certification program requirements are designed to prepare candidates both to meet state course requirements and to demonstrate that they meet state teaching standards.

Current requirements include the possession of an appropriate baccalaureate degree from an accredited institution, a minimum of 32 hours in the field, pre-student teaching clinical experiences at the 6-12 level or proof of teaching experience at the 6-12 level, student teaching or an approved teaching experience, passage of the basic skills and secondary certificate subject matter examinations of the Illinois Certification Testing System, and demonstration that the candidate has met science teaching standards.

Contact the certification coordinator for information on the necessary criteria that experiences must meet to demonstrate fulfillment of certification requirements.

#### Other Requirements

Students should consult with the departmental certification coordinator.

### Course List (GEOL)

Students-at-large may enroll in graduate courses in geology and environmental geosciences only by consent of department.

502. SEDIMENTOLOGY (3). Introduction to the study of sediments and sedimentary rocks: texture, structure, composition, and interpretation. Emphasis on depositional processes, sedimentary facies, and analysis of different environments and depositional systems. Procedures for sedimentary analysis. Lecture, two hours of laboratory, and field trips. PRQ: Consent of department.

505. STRATIGRAPHY (3). Introduction to methods of stratigraphic data gathering and analysis. Construction of stratigraphic cross-sections and stratigraphic columns. Analysis of field data and virtual field trips to collect data and synthesize it. Overview of the stratigraphy of North America including development of the major stratigraphic patterns of the continent, models for their development, and sequences related to major natural resources.

510. STRUCTURAL AND DETERMINATIVE MINERALOGY (3). Crystal structures and the chemical and physical factors that govern them. Mineralogical techniques including X-ray, thermal, infrared, and microprobe analyses are emphasized in the laboratory. Students should be competent in chemistry and mineralogy prior to enrollment.

511. OPTICAL MINERALOGY (3). Principles of optics, optical properties of minerals, and the relationship between optical properties and crystallography; measurement of optical properties and mineral identification by the immersion method and in thin section.

512. PETROGRAPHY (3). Study of igneous and metamorphic rocks in both hand specimen and thin section. Detailed rock and mineral identification. Lectures, laboratory, and a field experience.

519. ELEMENTS OF GEOCHEMISTRY AND COSMOCHEMISTRY (3). Chemical principles applied to the study of mineral equilibria and to solving geologic problems, with emphasis on high-temperature (igneous and metamorphic) processes. Origin and abundances of the elements; aspects of the composition of the solar system and of the earth's interior. Students should be competent in chemistry and mineralogy prior to enrollment.

520. GEOCHEMISTRY OF THE EARTH'S SURFACE (3). Natural chemical processes occurring at and near the earth's surface: carbonate equilibria, chemical weathering, oxidation-reduction reactions, and mineral stability relations. Introduction to geochemical cycles and the evolution of sedimentary rocks. Students should be competent in chemistry and mineralogy prior to enrollment.

521. ENVIRONMENTAL GEOCHEMISTRY (3). Exploration of topics in pollution geochemistry including hydrologic and geochemical framework; human-influenced distribution and circulation of metals, radioactive materials, and complex organic compounds; and governmental response to current pollution problems. Students should be competent in chemistry prior to enrollment.

525. ENGINEERING GEOLOGY (3). Utilization and characterization of earth materials for geotechnical and environmental engineering. Assessment of soils and rock quality, Atterberg limits, soil and rock mechanics, geotechnical testing, compaction theory, dewatering, slope stability, and seismic hazards. Case histories and problem solving. Students should be competent in mineralogy and structural geology prior to enrollment.

527. PLANETARY GEOSCIENCE (3). Origin, evolution, surfaces, and interiors of planetary bodies with emphasis on results from recent space probe missions. Includes topics such as planetary surface processes, structure and geodynamics of planetary interiors, geophysical exploration of planets, planetary remote sensing, engineering properties of planetary soils and rocks, water on Mars, and the search for extraterrestrial life.

529. INQUIRY-BASED FIELD EXPERIENCES FOR EARTH SCIENCE TEACHERS (3). Field and library survey of the salient geological features and landforms of northern Illinois and southern Wisconsin. Open only to certified teachers and students pursuing teacher certification. PRQ: Introductory course in physical and historical geology, and consent of department.

542. GEOMORPHOLOGY (3). *Crosslisted as GEOG 542X*. Systematic study of geologic processes affecting the evolution of the earth's surface. Emphasis on glacial, fluvial, and coastal processes and their relationship to the development of landforms under diverse climates of the past and present. Lecture, laboratory, and field trips.

544. ECONOMIC GEOLOGY (3). Introduction to metallic and nonmetallic resources, including coal, petroleum, and groundwater. Investigation of ore-forming processes, including studies of ore minerals and suites. Economic, geopolitical, and geological factors related to resource development. Lectures, laboratory, and field trips.

547. QUANTITATIVE TECHNIQUES IN GEOLOGY (3). Survey of the methods and practices of quantifying, collecting, analyzing, and summarizing geologic data.

558X. VERTEBRATE PALEONTOLOGY (3). *Crosslisted as BIOS 558*. Survey of the history of vertebrates, focusing on key evolutionary innovations such as the evolution of bone, the invasion of land, and the origin of endothermy. Examination of fossils and the interpretation of them in the context of their geological settings.

560. PLATE TECTONICS (3). History, fundamentals, and consequences of plate tectonic theory. Early ideas, including continental drift and seafloor spreading. Using magnetism and seismicity to determine plate motions. Performing plate rotations. Study of driving forces, and interactions at plate boundaries. Competing ideas, such as the expanding Earth theory. Students should be competent in structural geology prior to enrollment.

564. EARTHQUAKE GEOPHYSICS (3). Comprehensive overview of earthquake causes and effects. Review of recent destructive earthquakes and earthquake hazards. Locating earthquakes, estimating magnitude and quantitative evaluation of earthquake sources, first-motions, and stress conditions along seismically-active faults. Properties of the crust, mantle and core deduced from earthquake waves. Earthquake triggering mechanisms, reservoir-induced seismicity, and earthquake prediction. Students should be competent in structural geology prior to enrollment.

568. GEOMICROBIOLOGY (3). *Crosslisted as BIOS 568X*. Role of microorganisms in diverse environments at and below the surface of the earth. Topics include life in extreme environments, biodegradation and remediation, biogeochemical cycling, and astrobiology, examined from the perspectives of geochemistry, microbial ecology, molecular biology, and ecosystem studies.

570. INVERTEBRATE PALEONTOLOGY (3). *Crosslisted as BIOS 569X*. Principal invertebrate fossil forms of the geologic record, treated from the standpoint of their evolution, and the identification of fossil specimens. Several field trips required.

571. INTRODUCTION TO MICROPALAEONTOLOGY (3). Morphology, classification, paleogeography, stratigraphic application, and geochemistry of calcareous, siliceous, and phosphatic microfossils.

577. FIELD METHODS IN ENVIRONMENTAL GEOSCIENCES (4). Field camp designed to train students in field methods and integrative problem solving related to environmental geosciences covering topics such as field methods in hydrogeology, surface-water and vadose-zone hydrology, water quality analysis, ecosystem health, environmental surface geophysics, site evaluation and techniques, and regional landscape history and environmental change. Offered during summer session only. Students should be competent in hydrogeology prior to enrollment.

580. THEORETICAL PETROLOGY (3). Origin of igneous and metamorphic rocks with emphasis on theoretical principles of phase equilibria, thermodynamics, kinetics, and elemental and isotopic evolution and partitioning. Students should be competent in mineralogy prior to enrollment.

581. SEDIMENTARY PETROLOGY (3). Emphasis on laboratory analysis of siliciclastic and carbonate rocks to determine depositional and diagenetic histories. Lectures and two-hour laboratory per week. Students should be competent in mineralogy and stratigraphy prior to enrollment.

582. TRANSITION TO THE PROFESSIONAL EARTH SCIENCE TEACHER (1). Transitioning experience in which the certification candidate achieves closure on the initial phase of professional preparation and, upon that foundation, charts a path for continuing professional growth as a practicing teacher. Reflection on the preparatory experience and complete documentation demonstrating ability to perform as a qualified earth science teacher. Such documentation will include, but not be limited to, the electronic portfolio, a professional development plan, and a resumé. CRQ: GEOL 587 or consent of department.

584X. USE OF TECHNOLOGY IN SECONDARY SCIENCE TEACHING (2). *Crosslisted as PHYS 594*. Selected methods for the evaluation and use of technology in both the instructional and laboratory setting in secondary science education. Topics may include the interfacing of computers for data acquisition in the laboratory, strategies for integrating the Internet into the curriculum, and use of video/multimedia equipment. PRQ: Consent of department.

585. VOLCANOLOGY (3). Examination of volcanoes, types of volcanic eruptions, magma sources and storage, lava flows, and pyroclastic deposits.

586X. SCIENCE TEACHING IN THE ELEMENTARY, MIDDLE, AND JUNIOR HIGH SCHOOL: GRADES K-9 (3). *Crosslisted as PHYS 592*. Selected instructional methods and materials for teaching science in elementary, middle, and junior high schools with emphasis on the physical sciences. Analysis of modern curricula and practice in the use of associated laboratory materials developed for use at all levels from grades K-9. Designed for the classroom teacher and pre-teacher, but open to science supervisors and administrators. PRQ: A general physical science course or equivalent and consent of department.

587. STUDENT TEACHING (SECONDARY) IN GEOLOGY/EARTH SCIENCE (7-12). Student teaching in grades 6-12, assignments made by the Department of Geology and Environmental Geosciences. Also see "Teacher Certification Requirements" for other regulations. PRQ: GEOL 595X and consent of department.

588. ENVIRONMENTAL CHANGE (3). Examination of the physical, chemical, and biological processes that cause environments to change naturally or under the influence of human activities. Environments at several different size scales will be considered, from small water-sheds/ forests, to larger lake systems, to the global atmospheric-ocean system. Emphasis on the roles of positive and negative feedback in controlling the state of environments and their susceptibility to change. Students should be competent in chemistry and calculus prior to enrollment. PRQ: Consent of department.

590. HYDROGEOLOGY (3). Comprehensive introduction to hydrogeology; groundwater occurrence, physics of flow, aquifer characteristics, basic groundwater chemistry, aspects of groundwater contamination, resources, and environmental hydrogeology. Students should be competent in calculus prior to enrollment.

591. GEOPHYSICAL WELL LOGGING (3). Qualitative and quantitative interpretation of electric, sonic, radioactive, and other well logs. Physical and electrical properties of saturated rock and soil applied to petroleum, mining, and groundwater exploration.

592X. HYDROLOGY (3). *Crosslisted as GEOG 592*. Quantitative examination of the properties, occurrence, distribution, and circulation of water near the earth's surface and its relation to the environment. Emphasis on applying fundamental physical principles to understand surface and subsurface hydrological processes. Lecture, laboratory, and field trip.

593. GROUNDWATER GEOPHYSICS (3). Survey of geophysical methods commonly employed in groundwater investigations. Applications of geophysics to groundwater exploration, contaminant migration, and aquifer evaluation as well as the theoretical basis for surface and borehole geophysical measurements. Case histories illustrate field procedures and interpretation methods. Students should be competent in physics and calculus prior to enrollment.

595X. TEACHING OF PHYSICAL SCIENCES (3). *Crosslisted as PHYS 595*. Preparation for certification in grades 6-12 in one or more of the fields of physical science: physics, chemistry, earth science, and general science. Examination and analysis of modern curricula: classroom and laboratory organization; microteaching and observation of teaching; lesson planning; multicultural education; teaching science to the exceptional child; reading and the teaching of science; methods of evaluation. PRQ: Consent of department.

596. GEOPHYSICS (3). Intended for majors in all areas of geology. An introduction to the basic principles of geophysical techniques applicable to the solution of geological and environmental problems that range in scale from local to global. Student should be competent in physics and calculus prior to enrollment.

597. REGIONAL FIELD GEOLOGY (1-3). Extended field trips to regions of broad geologic interest. Emphasis on understanding the region as a whole, as well as its relationships to adjacent areas. May be repeated to a maximum of 3 semester hours. PRQ: Consent of department.

600. CLAY MINERALOGY (3). Study of structure, properties, and origin of clay minerals and the mineralogy, sedimentation, diagenesis, and physical properties of argillaceous sediments. PRQ: GEOL 510 or consent of department.

601. PHYSICAL SEDIMENTOLOGY (3). Overview of major physical processes producing mechanically formed features of detrital sediments. Emphasis on texture and structures of sediments and how they originate. Students should be competent in sedimentology prior to enrollment.

602. GEOLOGICAL REMOTE SENSING (3). Theoretical principles, instrumentation, software, and systems applications used in geological remote sensing analysis. Elements of photogeology, processing of multiand single-band digital imagery, and merged raster-vector data analysis. Data types include aerial photographs, multispectral imagery, and high resolution digital imagery. Applications focus on resource exploration, logistics, and environmental analysis as well as geological interpretations. Lectures and laboratory. PRQ: Consent of department.

604. INSTITUTE FOR SCIENCE TEACHERS (1-8). Lectures, demonstrations, laboratory experiences, and field trips designed for the classroom teacher. Topics drawn from the spectrum of geological activities that affect society. May be repeated to a maximum of 16 semester hours. On application to institute director and by invitation only. S/U grading.

606. PETROLEUM GEOLOGY (3). Study of the origin and occurrence of oil and natural gas as well as surface and subsurface applications to their exploration and development. Two lectures, one two-hour laboratory. Student should be competent in stratigraphy, structural geology, and chemistry prior to enrollment.

610. GEOSCIENCE FUNDAMENTALS I: ENVIRONMENTS, LIFE AND GLOBAL CYCLES (4). Lectures, demonstrations, laboratory and field experiences designed for the classroom teacher seeking an accelerated program targeting the fundamental concepts in geoscience. Topics include an examination of (1) the geologic record to learn how to reconstruct past environments, study environmental change, and discover the major events in the history of life on Earth, (2) the origin and evolution of the atmosphere and oceans, and (3) how the biogeochemical cycles of carbon, oxygen, sulfur, and nutrients impact and are impacted by humans.

611. GEOSCIENCE FUNDAMENTALS II: THE COMPOSITION, DYNAMICS AND STRUCTURE OF THE EARTH (4). Includes lectures, demonstrations, student presentations, laboratory, and field experiences designed for the classroom teacher seeking an accelerated program targeting the fundamental concepts in geoscience. Topics include an examination of (1) the chemistry, mineralogy, and petrology of the solid Earth, (2) how dynamic tectonic processes create and shape both the internal structure and surface of the Earth, and (3) how geophysical techniques using seismology, gravitational and magnetic fields are used to explore Earth's structure and formational processes.

612. GEOSCIENCE FUNDAMENTALS III: FIELD EXPERIENCES AND APPLICATIONS (4-6). Introduction to the techniques of systematic geoscientific observation and interpretation. Inquiry-based course integrating fieldwork and pedagogy. Primary goal is development of knowledge and skills that will enable students to systematically examine, describe and interpret the geologic record; and provide them with sufficient understanding of teaching methods that can effectively integrate geoscience into the secondary science, technology, engineering or math (STEM) classroom. Includes modeling of the inquiry method and extensive use of the guiding question technique, understanding of the difference between observation and interpretation and how various types of geoscientific observations are used as evidence supporting integrated interpretations of Earth history, environments and processes.

613. IDENTITY DEVELOPMENT, LITERACY, AND INQUIRY METHODOLOGIES IN THE GEOSCIENCE CLASSROOM I (2). Series of Saturday day-long workshops and corresponding action research performed by the participant teachers in their middle or high school geoscience classrooms. Topics include adolescent identity formation, how to conduct useful action research and development, and practice of science literacy and inquiry methodologies.

614. IDENTITY DEVELOPMENT, LITERACY, AND INQUIRY METHODOLOGIES IN THE GEOSCIENCE CLASSROOM II (2). Continuation of GEOL 613. Series of Saturday day-long workshops and corresponding action research performed by the participant teachers in their middle or high school geoscience classrooms. Topics include adolescent identity formation, how to conduct useful action research and development, and practice of science literacy and inquiry methodologies. PRQ: GEOL 613 or consent of department.

620. GEOCHEMISTRY OF LOW-TEMPERATURE AQUEOUS SYSTEMS (3). Review of thermodynamics. Carbonate equilibria. The H-O-S system at 25 degrees Celsius. Residence times of important ions in surface aqueous systems. Natural isotope tracers. PRQ: GEOL 520 or consent of department.

624. STABLE ISOTOPE GEOLOGY (3). Isotope fractionation in natural systems containing D/H, carbon, oxygen, and sulfur. Application of stable isotope studies to paleoclimatology and geothermometry. Stable isotopes as tracers in crust-mantle differentiation processes and in hydrologic processes. Two hours of lecture and one laboratory session per week. PRQ: Consent of department.

625. RADIOACTIVE ISOTOPE GEOLOGY (3). Radioactive decay schemes useful for determining ages of rocks and minerals and investigating the histories of the earth, moon, and meteorites. Use of isotopes as tracers in the study of geologic processes, such as magmatic and metamorphic processes and the evolution of earth's crust and mantle. PRQ: Consent of department.

630. GROUNDWATER MODELING (3). Mathematical and numerical modeling of groundwater flow, with emphasis on finite-difference modeling. Students should have a course in hydrogeology prior to enrollment. PRQ: Consent of department.

632. ADVANCED GROUNDWATER HYDROLOGY (3). Quantitative examination of groundwater physical hydrology in porous and fractured media, including hydraulic tests (pumping, slug, packer), groundwater flow and permeability characteristics, saline-freshwater relations, and application to practical problems. Students should be competent in hydrogeology prior to enrollment. PRQ: Consent of department.

635. GROUNDWATER GEOLOGY (3). Examination of the geologic controls of groundwater occurrence and movement, hydrogeology of different geologic terrains, and hydrogeology of Illinois. Students should be competent in hydrogeology prior to enrollment. PRQ: Consent of department.

637. CONTAMINANT HYDROGEOLOGY (3). Sources and types of groundwater contamination; contaminant transport processes and modeling; monitoring, sampling, and assessment; chemical reactions and attenuation processes of organic and inorganic contaminants; remediation. Students should be competent in hydrogeology and geochemistry prior to enrollment. PRQ: Consent of department.

644. GLACIAL GEOLOGY (3). Physical properties of ice and the fundamentals of glacier and ice sheet dynamics as they relate to processes of glacier erosion, sediment transport, and deposition. Glacial isostasy of continental interiors and margins, global sea level changes, and late Cenozoic climate cycles. PRQ: GEOL 542 or consent of department.

647. QUATERNARY STRATIGRAPHY (3). Systematic study of glacial processes responsible for the formation of complex glacial drift sequences in the mid-continent. Stratigraphic and geochronological methods. Pedological, geotechnical, and hydrogeological properties of unconsolidated deposits examined in regard to environmental properties. PRQ: GEOL 542 or GEOL 644, or consent of department.

648. STRATIGRAPHY (3). Systematic study of selected aspects of the North American stratigraphic record with emphasis on broad sedimentary patterns and tectonic development.

649. ADVANCED STRUCTURAL GEOLOGY (3). Origin and the mechanics involved in the formation of various structural features occurring in nature. Students should be competent in structural geology prior to enrollment.

650. APPLIED GEOPHYSICS: GRAVITY AND MAGNETIC FIELDS (3). Theory and application of gravity and magnetic techniques to investigations of the earth's structure and its physical properties. Students should be competent in geophysics prior to enrollment. PRQ: Consent of department.

651. APPLIED GEOPHYSICS: SEISMIC AND ELECTRICAL (3). Theory and application of seismological and electrical techniques to investigations of the earth's structure and its physical properties. Students should be competent in geophysics prior to enrollment. PRQ: Consent of department.

652. PETROLOGY OF CLASTIC SEDIMENTS AND ROCKS (3). 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. Students should be competent in mineralogy or sedimentary petrology prior to enrollment.

653. 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. Students should be competent in mineralogy and sedimentary petrology prior to enrollment.

654. GEOPHYSICAL FIELD METHODS (3). Application of geophysical laboratory and field instrumentation and techniques to the investigation of geological problems. Students should be competent in geophysics prior to enrollment. PRQ: Consent of department.

655. ADVANCED GEOPHYSICS (3). Regional geophysical measurements and properties of earth's interior and their implications for geodynamics. Students should be competent in geophysics prior to enrollment. PRQ: Consent of department.

658. POTENTIAL THEORY (3). Development of potential theory with application to geophysics. Problem of the nonuniqueness and limits of theoretical approximations. Students should be competent in geophysics, physics, and calculus prior to enrollment. PRQ: Consent of department.

660. GEOPHYSICAL TIME SERIES ANALYSIS (3). Analysis of time series with emphasis on applications of spectral techniques and linear filtering in the earth sciences. Properties of continuous and discrete Fourier transforms; sampling, design, and use of linear filters; stochastic processes; spectral and cross-spectral density; and fast Fourier transforms. Applications to geophysics, hydrology, and meteorology. Students should be competent in geophysics and two semesters of calculus prior to enrollment. PRQ: Consent of department.

665. EARTHQUAKE SEISMOLOGY (3). Development of 1-, 2-, and 3- dimensional wave theory. Effects of rheology on seismic wave propagation. Constitutive relations. Body waves and surface waves. Focal mechanisms, body wave modeling, and source parameters. Inverse problems including earthquake location and seismic tomography. Students should be competent in geophysics and linear algebra prior to enrollment. PRQ: Consent of department.

670. SPECIAL PROBLEMS IN EARTH SCIENCES (1-3). Independent study under supervision of an adviser. May be repeated to a maximum of 9 semester hours.

675. IGNEOUS PETROLOGY (3). Study of igneous rocks in the earth's crust and mantle, emphasizing phase equilibria, kinetics, and geochemistry. PRQ: GEOL 580 or consent of department.

680. METAMORPHIC PETROLOGY (3). Study of chemical and petrological principles and processes relevant to metamorphic rocks. Evaluation of metamorphic environment and the controlling factors of metamorphism. PRQ: GEOL 580 or consent of department.

690. SILICEOUS MICROPALAEONTOLOGY (3). In-depth discussion of siliceous microfossils, their geologic occurrence, and their application to the problems of earth sciences, emphasizing current research advancement. PRQ: GEOL 570 and GEOL 571, or consent of department.

691. ADVANCED PALEONTOLOGY (3). Biostratigraphy and paleoecology of various fossil groups, and use of fossils to solve stratigraphic, structural, mapping, and paleo-oceanic problems. PRQ: GEOL 571 or consent of department.

699. MASTER'S THESIS (1-6). May be repeated without limit. A maximum of 6 semester hours may be used to satisfy program credit-hour requirements.

710. GEODYNAMICS (3). Rigorous examination of the processes associated with plate tectonics. Development of the concepts of stress, strain, elasticity, and flexure, and their application to the earth's lithosphere. Analysis of heat flow within the earth, including conduction and convection. Introduction to fluid mechanics as it pertains to the driving forces of plate motions. Effects of crustal and mantle rheology on plate motions and convection. Gravity and seismology as tools for understanding plate tectonics. Students should be competent in geophysics and differential equations prior to enrollment. PRQ: Consent of department.

720. DEPARTMENTAL SEMINAR (1). Weekly talks by graduate students, staff, and guests. Required each semester of all graduate students. Enrollment may be waived by the department chair when student's circumstances preclude attendance. Credit earned in GEOL 720 may not be applied to semester-hour requirements for graduate degrees in the department. May be repeated to a maximum of 20 semester hours. S/U grading. PRQ: Consent of department.

725. WATER RESOURCE GEOCHEMISTRY (3). Chemical composition of water in surface and subsurface aquifers. Equilibrium and disequilibrium chemical reactions occurring in aquifers. Relation between health, disease, and the geochemistry of drinking water. PRQ: GEOL 620 or consent of department.

730. ADVANCED GEOCHEMISTRY (3). Current and classic readings on topics such as nucleosynthesis, evolution of the earth, composition of the earth's interior, petrogenesis, and development of the atmosphere and ocean. PRQ: GEOL 519, and GEOL 624 or GEOL 625, or consent of department.

735. SOIL MECHANICS (3). Mechanical behavior of soils (unconsolidated earth materials) and use in geotechnical and environmental engineering. Engineering classification of soils, Atterberg limits, field and laboratory testing methods, consolidation and compaction, foundation performance, liquefaction, piping, slope stability, seismic response, and importance of soil mechanics in solid waste disposal. Case histories and problem solving. Students should be competent in mineralogy, physics and calculus prior to enrollment. PRQ: Consent of department.

745. GROUND VIBRATIONS AND INSTRUMENTATION (3). Application of the theory of periodic motion to the design of geophysical instruments, particularly the seismograph and gravimeter, and to the understanding of seismic wave propagation within the earth. Students should be competent in physics, geophysics and two semesters of calculus prior to enrollment. PRQ: Consent of department.

746. GEOLOGY AND ENVIRONMENTAL GEOSCIENCES SEMINAR (1-9).

- A. Mineralogy
- B. Petrology
- C. Stratigraphy and Sedimentation
- D. Remote Sensing
- E. Geomorphology
- J. Quaternary Stratigraphy
- M. Structural Geology
- Q. Hydrogeology
- V. Precambrian Geology
- W. Tectonics
- Y. Micropaleontology

May be repeated. One to 9 semester hours may be earned in each subdivision.

747. GEOCHEMISTRY SEMINAR (1-9).

- A. General Geochemistry
- B. Isotope Geochemistry
- C. Environmental Geochemistry

May be repeated. One to 9 semester hours may be earned in each subdivision.

748. GEOPHYSICS SEMINAR (1-9).

- A. General Geophysics
- D. Environmental Geophysics
- E. Remote Sensing
- J. Engineering Geology

May be repeated. One to 9 semester hours may be earned in each subdivision.

750. INTERPRETATION METHODS IN POTENTIAL FIELDS (3).

Application of various interpretation methods to the solution of geophysical problems using gravity and magnetic data. Students should be competent in geophysics, physics, and calculus prior to enrollment. PRQ: Consent of department.

751. REFLECTION SEISMOLOGY (3). Principles and applications of seismic reflection interpretation techniques used in oil, gas, groundwater exploration, and deep crustal imaging. Students should be competent in geophysics, physics, and calculus prior to enrollment. PRQ: Consent of department.

770. 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. PRQ: 22 semester hours of graduate work in the earth sciences, or consent of department.

780. BASIN ANALYSIS (3). Investigation of sedimentary and biological processes and engineering on continental margins and intracratonic basins. Ancient basin analysis from modern analogues. PRQ: Consent of department.

790. GEOLOGIC PROBLEMS OF THE MIDWEST (3). The nature of geologic problems in midwestern urban and rural environments, including water supply, stream and groundwater pollution, chemical and human waste disposal, and the utilization of and construction in earth materials.

795. APPLIED GEOSCIENCE INTERNSHIP (1-9). At least one semester in duration, during which the student performs the functions of a geoscientist under the direct supervision of qualified personnel approved by the department. May be repeated to a maximum of 9 semester hours.

799. DOCTORAL RESEARCH AND DISSERTATION (credit arranged). May be repeated without limit. A maximum of 39 semester hours may be used to satisfy program credit-hour requirements..

# Department of History (HIST)

Chair: Kenton Clymer

## Graduate Faculty

Anita M. Andrew, associate professor, Ph.D., University of Minnesota  
 Stan Arnold, assistant professor, Ph.D., Temple University  
 E. Taylor Atkins, professor, Ph.D., University of Illinois  
 Bradley Bond, associate professor, Ph.D., Louisiana State University  
 Jerome D. Bowers II, associate professor, Ph.D., Indiana University  
 Rachel H. Cleves, assistant professor, Ph.D., University of California, Berkeley  
 Kenton Clymer, Presidential Research Professor, Ph.D., University of Michigan  
 Sundiata Djata, professor, Ph.D., University of Illinois  
 Sean Farrell, associate professor, Ph.D., University of Wisconsin  
 Heide Fehrenbach, Presidential Research Professor, Ph.D., Rutgers University  
 Rosemary Feurer, associate professor, Ph.D., Washington University  
 Aaron S. Fogleman, professor, Ph.D., University of Michigan  
 Valerie L. Garver, associate professor, Ph.D., University of Virginia  
 Michael J. Gonzales, Distinguished Research Professor, Ph.D., University of California at Berkeley  
 Anne G. Hanley, associate professor, Ph.D., Stanford University  
 Jason Hawke, assistant professor, Ph.D., University of Washington  
 Beatrix Hoffman, associate professor, Ph.D., Rutgers University  
 Kristin Huffine, assistant professor, Ph.D., University of California, Berkeley  
 Trude Jacobsen, assistant professor, Ph.D., University of Queensland  
 Eric Jones, associate professor, Ph.D., University of California at Berkeley  
 David E. Kyvig, Distinguished Research Professor, Ph.D., Northwestern University  
 Vera Lind, associate professor, D.Phil., Christian-Albrechts-Universität Kiel  
 Amanda Littauer, assistant professor, Ph.D., University of California, Berkeley  
 Eric W. Mogren, associate professor, Ph.D., University of Michigan  
 Ismael Montana, assistant professor, Ph.D., York University  
 Barbara M. Posadas, professor, Ph.D., Northwestern University  
 Brian Sandberg, assistant professor, Ph.D., University of Illinois  
 James D. Schmidt, professor, Ph.D., Rice University  
 J. Harvey Smith, associate professor, Ph.D., University of Wisconsin  
 Nancy Wingfield, professor, Ph.D., Columbia University  
 Christine D. Worobec, Distinguished Research Professor, Board of Trustees Professor, Ph.D., University of

The Department of History offers programs leading to the M.A. and Ph.D. degrees. The department views historical study not only as a scholarly analysis of the past but also as a means of providing sophisticated learning that will be of practical significance to society and the individual. Traditionally graduate work in history, especially at the doctoral level, has led into the world of scholarship and teaching, but it has also led to many other successful careers in the private and public sectors. Historical training provides recognized skills in administration, management, research, writing, policy analysis, consulting,

and editing; and trained historians have been successful in fields ranging from business, education, journalism, and law to government, publishing, and archival or museum work. Graduate study in history also is appropriate for individuals seeking self-fulfillment or a better understanding of the human experience and predicament.

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 intensive research on a particular historical topic provides experience in historical methodology and in the use of primary and secondary source materials.

## Admission

Admission to the M.A. program in history is based upon consideration of the following factors: general undergraduate GPA; preparation and GPA in undergraduate history courses; scores on the GRE, especially on the verbal and analytical sections of the General Test; letters of recommendation; special requirements in the applicant's proposed field of study; a brief essay submitted by the applicant; and, where appropriate, proficiency in foreign language(s) or quantitative methods.

The department endeavors to review application data in a comprehensive manner and to avoid mechanical judgments. It prefers, however, that applicants have a general GPA of 3.00 or higher in the last two years of undergraduate work, a GPA of 3.25 or higher in all undergraduate history courses, and GRE verbal and analytical scores in the 60th percentile or higher. The GRE Subject Test in history is not required. Applicants need not have an undergraduate major in history, but those with fewer than 18 semester hours of undergraduate history courses may be required to enroll in one or more undergraduate courses on a deficiency basis. Applicants to the M.A. program in history are accepted twice a year for fall and spring admission (see website [www.niu.edu/history/graduate](http://www.niu.edu/history/graduate) for deadlines). Applicants are typically notified of an admission decision within six weeks of the application deadline.

Applicants for admission to the doctoral program are expected to have established an outstanding record at the master's level and to have demonstrated a capacity for effective research and writing. Admission to the Ph.D. program requires at least average proficiency in one approved foreign language or in quantitative methods. Applications to the Ph.D. program in history are accepted once a year for fall admission only (see website [www.niu.edu/history/graduate](http://www.niu.edu/history/graduate) for deadline). Applicants are typically notified of an admission decision within two months of the application deadline.

A student who has enrolled as a student-at-large before being admitted to the history program may, with department permission, count up to 15 semester hours of graduate course work taken at NIU towards his or her M.A. and/or Ph.D. degree provided the courses fit his or her program. The director of graduate studies may, upon good cause being demonstrated, allow additional student-at-large hours to be counted towards an M.A. or Ph.D. degree.

### Advising

At the time of admission to a degree program, a student will be assigned a departmental adviser who will be responsible for implementing department and Graduate School regulations. As early as practical the student should initiate the selection of a field adviser from among the faculty. M.A. students should have at least one such adviser, and Ph.D. students should normally have two. The field advisers are primarily responsible for assisting students in planning a program of study, selecting appropriate courses, outlining problems unique to a particular field, and determining appropriate areas of research. Departmental requirements are detailed in the departmental booklet, *Handbook for History Graduate Students*.

### Master of Arts in History

Students pursuing the M.A. degree in history must satisfactorily complete 30 semester hours of approved credits. A minimum of 24 semester hours must normally be in history courses. The balance may be in history courses or in courses in an approved cognate field or fields. The 30 semester hours required for the M.A. must include a minimum of 18 semester hours in a primary field (of which a minimum of 9 semester hours must be in research credits) and a minimum of 6 semester hours in a secondary field. Note that students pursuing a global history field have slightly different credit hour requirements. Those pursuing global history as their primary field must take 12 to 15 semester hours in approved courses, while students designating global history as a secondary field will be required to take 9 semester hours of course work, rather than the 6 semester hour minimum for other secondary fields. Within the total of 30 semester hours the student must present a minimum of 9 semester hours in reading seminars. The primary and secondary fields offered in the M.A. program are Asian, ancient, medieval, early modern, modern European (including British), Russian and Eastern European, Latin American, United States, and global history. The secondary field may instead be an approved cognate field outside of history.

M.A. students will fulfill the 9 semester hours research requirement of the M.A. degree by satisfactorily completing two formal research seminars. The balance of the credits required will be fulfilled through independent research, culminating in a major paper or thesis. M.A. students who intend to apply for admission to the Ph.D. program will be expected to submit their M.A. research paper(s) or thesis for review by faculty responsible for approving admission into the Ph.D. program.

All M.A. students, except those majoring in United States or British history who are not planning to continue in the Ph.D. program, must demonstrate at least average proficiency in an approved foreign language or, if appropriate, in quantitative methods. Average proficiency in an approved foreign language can be demonstrated through a translation examination or, in selected languages, through successful completion of one of the special summer courses offered by the Department of Foreign Languages and Literatures. Average proficiency in quantitative methods can be demonstrated by achieving a grade of C or better in an approved course in statistics (STAT 208 or STAT 301) and a grade of B or better in HIST 601.

Students in the M.A. program must satisfactorily complete a written comprehensive examination in their primary field. At the discretion of either the examining committee or the student, the written M.A. comprehensive may be followed by an oral examination about one week after the evaluation of the written examination. There is no examination in the student's secondary field, but students must achieve a grade of B or better in at least 6 semester hours of course work in that field.

If the student receives a recommendation from the comprehensive examining committee for admission to the Ph.D. program and otherwise makes application and qualifies for such admission, the M.A. comprehensive examination will serve as the Ph.D. qualifying examination.

### Concentration in Public History

The M.A. with a concentration in public history has been designed to meet the needs of those students seeking special educational preparation for careers in public and private historical agencies, archives, museums and historical societies, and research and consulting firms.

Students pursuing the M.A. concentration in public history must satisfactorily complete 36 semester hours of approved credits. A minimum of 24 semester hours in history courses must be completed to meet the normal requirements for the traditional M.A. degree described above. A secondary field is not required.

The remaining 12 semester hours required for this concentration normally must be distributed as follows.

#### Course Requirements (12)

ART 565 - Introduction to Museum Studies (3),

OR HIST 592 - Introduction to Public History (3)

HIST 600 - Internship in Public History (3-6)

Electives (3-6)

Recommended Electives

ANTH 562 - Museum Methods (3)

ART 654 - Museum Administration (3)

ART 655 - Curatorial Practice (3)

ART 656 - Museum Exhibitions and Interpretation (3)

ART 657 - Museum Education (3)

HIST 597 - Oral History (3)

Other Available Electives

ARTH 593 - History of Architecture III: From 1900 (3)

ARTH 598 - History of Architecture II: 1400-1900 (3)

ARTH 696 - Studies in American Art (3)

COMS 557 - The Documentary Tradition (3)

COMS 558X - Instructional Video I (3)

### Comprehensive Examination

Students in the M.A. degree program taking the concentration in public history must satisfactorily complete a written comprehensive examination in a traditional primary field area and an internship-related report, project, or research paper.

### Doctor of Philosophy in History

The doctoral program in history at NIU is designed to prepare students for the twin vocations of research and teaching. Accordingly, it is awarded only to those who have demonstrated that they have completed rigorous preparation for both of the components of the degree and that through their doctoral dissertation they have made a genuine contribution to scholarship.

The doctorate is offered with course work in a broad range of areas including the history of the United States, East and Southeast Asia, Western Europe, Eastern Europe and Russia, and of Latin America. Each of these areas, in turn, can be explored under a number of different subheadings (including politics, intellectual life, society, economy, culture, gender, and ethnicity) and through a variety of methodologies.

## Admission

Admission to the Ph.D. program is subject to the approval of the departmental Graduate Committee. Applicants must already possess a master's degree or equivalent in an appropriate subject and will be judged on the basis of their master's thesis or research paper, their performance in course work at the master's level, their GRE General Test scores (especially verbal and analytical), and the recommendations of faculty with whom they have worked. The committee always takes into consideration the availability of appropriate faculty in the probable area of the applicant's dissertation.

## Semester-Hour Requirements

Students in the Ph.D. program in history must complete a minimum of 90 semester hours beyond the baccalaureate as part of the degree program. Approved course work from the master's or equivalent may be counted, but all Ph.D. students must satisfactorily complete an additional 6 semester hours of research beyond those required for the master's degree. Students will fulfill research requirement by satisfactorily completing two formal research seminars. A maximum of 36 semester hours may be counted for HIST 799, Doctoral Research and Dissertation.

## Language/Research-Skills Requirement

To be admitted to candidacy, Ph.D. students must demonstrate average proficiency in two foreign languages or in one foreign language and in quantitative methods, or high proficiency in one foreign language. In some areas, however, the department may find it appropriate to set higher requirements than this minimum. The means for demonstrating proficiency in the use of a foreign language or languages and/or quantitative methods are set by Graduate School policy, but regardless of how the proficiency requirements are met, they should be fulfilled in their entirety no later than the fifth semester after a full-time student has entered the doctoral program.

## Examinations

### Qualifying Examination

Students with a master's degree in history from NIU who enter the Ph.D. program may be required to pass an oral qualifying examination on the recommendation of their master's comprehensive examination committee. All Ph.D. students with a master's degree from another university, as well as NIU students who received their master's degree in a discipline other than history, are ordinarily required to pass an oral qualifying examination before the end of their first semester in the Ph.D. program. However, the qualifying examination requirement may be waived by the director of graduate studies after taking into consideration the student's previous academic record, his or her performance in the first semester of doctoral work, and the recommendation of his or her adviser.

### Candidacy Examination

Ph.D. students must pass written and oral candidacy examinations. The exact character of each field will be determined on an individual basis, but a provisional list of fields and examiners must be submitted to the Graduate Committee for its review no later than the beginning of the student's second year of full-time Ph.D. study; any subsequent change in examiners or fields must also be reviewed by the committee.

Students may write each of the three field essays whenever they and the field adviser agree that the student is adequately prepared. In addition to the field essays, the student will write a teaching portfolio that includes the design of and supporting materials for a survey-level course in the student's major field of

expertise. When all three field essays have been completed and the teaching portfolio submitted, there will be an oral examination, which should normally be taken no later than the fifth semester after a full-time student has entered the doctoral program. At the conclusion of the oral examination the examination committee will decide whether the student has passed the candidacy examination as a whole.

A student who fails a Ph.D. candidacy field essay will normally be permitted to revise and resubmit the essay. A second failure will ordinarily be final and result in termination of the student from the Ph.D. program in history. There are a limited number of circumstances in which a student who has failed a field essay twice may substitute a different field. Under no circumstances, however, will any student who has failed two different field essays be allowed to continue in the doctoral program.

## Doctoral Dissertation

In order for the department to recommend students to the Graduate School for doctoral candidacy in history they must have completed a minimum of 54 semester hours of graduate course work, including any course work from the master's degree counted towards the doctoral requirements. These 54 semester hours should also include the required 6 semester hours of doctoral research. In addition, students admitted to candidacy must have passed their candidacy oral examination and fulfilled the language/research skills requirement. An acceptable dissertation proposal must also be submitted to a three-person dissertation-approval committee no later than the end of the semester following the one in which the oral candidacy examination was successfully completed.

The Department of History cannot guarantee a doctoral student a director and cannot necessarily supply the expertise for any topic a student may choose, even a viable one. Rather, it is the responsibility of the student to find a topic which is workable within the resources available in the department and to demonstrate that he or she has the talents to complete it.

Not more than three years after a doctoral candidate's dissertation topic has been approved, he or she must present a public colloquium on the dissertation-in-progress. This colloquium will be evaluated by a faculty committee and must be found satisfactory before the candidate may continue his or her progress towards completion of the doctoral degree requirements. Any student who fails to meet this colloquium requirement will be put on written notice of the deficiency and, if after an additional year the requirement remains unmet, admission to the doctoral program will be terminated. Candidates who are terminated because of this provision may petition the departmental Graduate Committee for reinstatement by submitting an acceptable plan for meeting the colloquium requirement.

When a Ph.D. candidate's dissertation topic and dissertation director have been approved, the candidate and the dissertation director will identify the appropriate faculty to serve on the candidate's dissertation committee. The oral defense of the dissertation will be scheduled when the dissertation has been substantially approved by the director and at least two other members of the committee. Prior to the defense, the dissertation should have been read in a defensible version by all members of the committee and one copy of this version of the dissertation must have been submitted to the Graduate School. The committee to conduct the defense will consist of four or five voting faculty members and will be chaired by the dissertation director. One member must be from an academic department outside the Department of History.

All doctoral students in history must complete and successfully defend their dissertations within six years of admission to candidacy. Failure to meet this requirement will result in the candidate's admission to the doctoral program being terminated. Candidates whose admission to the program is terminated for this reason may petition the departmental Graduate Committee for reinstatement by submitting an acceptable plan for completing the dissertation and by identifying an appropriate dissertation committee, which need not be identical to the original committee but which must meet the same conditions.

## Foreign Study in History

The Department of History encourages students to take advantage of study-abroad programs, which provide students of history and allied disciplines an opportunity to study at first hand the historical developments and traditions of other peoples and their cultures. Courses carry either undergraduate or graduate credit. Interested students should first consult the Division of International Programs for relevant details of forthcoming offerings and then contact the director of graduate studies in history and appropriate departmental faculty about including study-abroad courses in their NIU program. For further information see "International Programs."

## Course List (HIST)

### General

592. INTRODUCTION TO PUBLIC HISTORY (3). Introduction to the practical application of historical knowledge in such areas as historic preservation, manuscript and archival management, editing, genealogy and family history, oral history, and museum work.

596. HISTORY AND SOCIAL SCIENCE INSTRUCTION IN GRADES 6- 12 (3). *Crosslisted as ANTH 596X, ECON 596X, GEOG 596X, POLS 596X, PSYC 596X, and SOCI 596X.* Organization and presentation of materials for history and social science courses at the middle school, junior high, and senior high school levels. PRQ: Admission to the history or social science teacher certification program and permission of Department of History's office of teacher certification.

597. ORAL HISTORY (3). Introduction to the theory and practice of interviewing as a way of creating, documenting, and interpreting historical evidence. Attention given to the systematic analysis and practice of editing, indexing, recording, preserving, and transcribing tapes and to the application of oral history to historical research and writing.

598. SPECIAL TOPICS IN HISTORY (3).

- A. Ancient
- B. Medieval
- C. Early Modern European (including British)
- D. Modern European (including British)
- E. Russian and Eastern European
- G. African
- J. Asian
- M. United States
- N. Latin American
- R. General/Comparative
- U. Global

Selected themes or problems. Topics announced. Each lettered topic may be repeated to a maximum of 9 semester hours when subject varies; however, a maximum of 9 additional semester hours of HIST 598 may be counted toward the M.A. program in history, and a maximum of 9 additional semester hours may be counted toward the Ph.D. program in history.

600. INTERNSHIP IN PUBLIC HISTORY (3-6). Work experience in history-related institutions, such as archives, museums, and historical societies and sites, and editing projects. Students present reports on their activities and participate in seminars and colloquia led by specialists in the field. May be repeated to a maximum of 15 semester hours, but no more than 6 semester hours may apply to the master's degree. PRQ: Consent of department.

601. QUANTITATIVE METHODS FOR HISTORICAL SOCIAL ANALYSIS (3). 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. PRQ: STAT 208 or STAT 301, or consent of department.

690. READING SEMINAR IN GENERAL/COMPARATIVE HISTORY (3). Intensive reading and discussion in historical topics that combine or fall outside of conventional subject fields. Topics announced. Certain topics may be counted toward a student's primary or secondary field requirement with permission of the director of graduate studies. May be repeated to a maximum of 12 semester hours when topic varies. PRQ: Consent of department.

695. SEMINAR IN COLLEGE TEACHING OF HISTORY (1). Introduction to the teaching of history at the college level through a weekly seminar for beginning history graduate assistants, students entering the Ph.D. program, and any other students planning careers as professional historians. Discussion of professional preparation for entry into academic careers as well as alternatives to such careers. S/U grading.

699. MASTER'S THESIS (1-6). Open only to students engaged in writing a thesis for the M.A. program. May be repeated to a maximum of 6 semester hours. PRQ: Consent of graduate adviser in history.

736. INDEPENDENT STUDY (1-3).

- A. Ancient
- B. Medieval
- C. Early Modern European
- D. Modern European
- E. Russian and Eastern European
- G. African
- J. Asian
- M. United States
- N. Latin American
- R. General/Comparative
- U. Global

Open to qualified students in accordance with department guidelines. Consent of the faculty member with whom the student wishes to study is necessary. Each topic may be repeated to a maximum of 15 semester hours. PRQ: Consent of graduate adviser in history.

756. DIRECTED RESEARCH (3-6).

- A. Ancient
- B. Medieval
- C. Early Modern European
- D. Modern European
- E. Russian and Eastern European
- G. African
- J. Asian
- M. United States
- N. Latin American
- R. General/Comparative
- U. Global

Open to qualified students in accordance with department guidelines. Consent of the faculty member with whom the student wishes to study is necessary. May be repeated to a maximum of 15 semester hours. S/U grading may be used. PRQ: Consent of graduate adviser in history.

799. DOCTORAL RESEARCH AND DISSERTATION (1-15). Open only to Ph.D. candidates. May be repeated to a maximum of 36 semester hours. PRQ: Consent of graduate adviser in history.

## Ancient and Medieval History

507. MEDIEVAL WOMEN (3). Social, religious, cultural and economic history of women during Late Antiquity and the Middle Ages c. 200 to c. 1500. Topics include effects of Christianity upon women in the Roman world, motherhood, religion, lifecycle, education, medicine, work, power, and comparisons to Jewish and Muslim women.

508. MEDIEVAL EVERYDAY LIFE (3). Examination of the economic and social changes underlying the formation of medieval civilization. Attention given to demographic change, urbanization, and social movements.

630. READING SEMINAR IN ANCIENT AND MEDIEVAL HISTORY (3)

A. Ancient

B. Medieval

Intensive reading and discussion in one or more areas of ancient and medieval history, designed to acquaint the student with the literature and problems of the field. Specified areas announced in Schedule of Classes. Any one area may be repeated to a maximum of 12 semester hours when the subject varies. PRQ: Consent of department.

730. RESEARCH SEMINAR IN ANCIENT AND MEDIEVAL HISTORY (3).

A. Ancient

B. Medieval

Selected problems in the ancient and medieval periods. Specific areas announced in *Schedule of Classes*. Any one area may be repeated to a maximum of 15 semester hours. PRQ: Consent of department.

## European History

513. FAMILY, SEXUALITY, AND SOCIETY SINCE 1400 (3). History of the family in Western society as seen in household structures, marriage customs, childbirth and child rearing, sex roles, the lifecycle, and attitudes towards sexual difference.

514. EUROPEAN WARS OF RELIGION, 1520-1660 (3). Cultural and social aspects of religious and civil conflict during the Dutch Revolt, the French Wars of Religion, the Thirty Years' War, and the English Civil Wars. Multiple aspects of religious violence, from iconoclasm and to executions of heretics and religious massacres

516. THE AGE OF ENLIGHTENMENT (3). Various main aspects of the intellectual revolution that preceded the American and French revolutions, 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.

518. MODERN EUROPEAN CULTURAL HISTORY (3). Intellectual foundations and cultural dimensions of European modernity, with particular focus on the modern self, mass culture, consumer society, the avant-garde, and the intersection of culture and politics.

520. THE RENAISSANCE (3). 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.

521. THE CATHOLIC AND PROTESTANT REFORMATIONS (3). Examination of the religious reforms and institutional breaks, Catholic and Protestant, official and heretical, which ended the medieval unity of Christendom.

522. EARLY MODERN EUROPE (3). Analytical survey emphasizing the changing role of European nobilities, the construction of absolute monarchies, the rise of capitalism, baroque civilization, and the interaction of learned and popular culture.

523. THE FRENCH REVOLUTION AND NAPOLEON (3). Origins of the Revolution of 1789; moderate and radical phases; the Terror and the Thermidorian reaction; the rise of Napoleon; the Napoleonic wars and the remaking of Europe; the revolutionary legacy.

529. NAZI GERMANY (3). History of National Socialism from the origins of the party to the end of World War II. Emphasis on the means used for seizing and consolidating power; social, cultural, and foreign policies of the Third Reich; anti-Semitism and the Holocaust.

552. EMPIRE AND NATION IN MODERN BRITAIN (3). Examines interaction between empire and nation in Britain from the 18th century to the present. Themes to be discussed include the impact of the "New British History" on how we view the British past, the relationship between industrialization and imperial expansion, the gendering of nation and empire, and the impact of decolonization on evolving notions of British identity.

554. INDUSTRY, STATE, AND SOCIETY IN MODERN BRITAIN (3). Impact of industrialization on British society between 1750 and 1914. Working class formation and elite reaction, urbanization, shifting conceptions of gender and work, and the changing nature of the state.

640. READING SEMINAR IN EUROPEAN HISTORY (3).

A. Early Modern European

B. Modern European

Intensive reading and discussion over a selected field of European history from the medieval period to modern times, designed to acquaint the student with the literature and problems of the field. Specified areas announced in Schedule of Classes. Any one area may be repeated to a maximum of 12 semester hours when the subject varies. PRQ: Consent of department.

740. RESEARCH SEMINAR IN EUROPEAN HISTORY (3).

A. Early Modern European

B. Modern European

Selected problems in European history from the medieval period to the modern era. Specific topics announced in Schedule of Classes. Any one area may be repeated to a maximum of 15 semester hours. PRQ: Consent of department.

## Russian and Eastern European History

524. HABSBURG MONARCHY, 1815-1918 (3). Cultural, political, social, and diplomatic history of the Habsburg lands from the zenith of the monarchy at the Congress of Vienna to its destruction at the end of the First World War. Topics include the Congress of Vienna, the revolutions of 1848, the growth of national identity and class antagonisms, and cultural continuity and change.

526. EAST CENTRAL EUROPE, 1914-PRESENT (3). Cultural, political, and social history of Austria, Czechoslovakia, Hungary, Poland, and Romania from the beginning of the First World War to the present. Topics include the First and Second World Wars, anti-Semitism, fascism, modernism, and the Prague Spring.

534. THE RUSSIAN REVOLUTION (3). Causes and consequences of the Bolshevik triumph in the Russian Revolution. Emphasis on the conflict of historical forces and personalities in the three revolutions between 1905 -1917, and on the international context.

535. STALIN AND STALINISM (3). Stalin's role as a revolutionary before 1917, his career to his death in 1953, and his legacy in Russia today. Focus on political, economic, cultural, and moral issues associated with Stalin's rule over the Soviet Union.

670. READING SEMINAR IN RUSSIAN AND EASTERN EUROPEAN HISTORY (3).

A. Imperial Russia

B. Soviet and Post-Soviet Russia

C. Eastern European

Designed to acquaint student with the literature and problems of the field. Specified areas announced in Schedule of Classes. HIST 670A and HIST 670B may each be repeated to a maximum of 12 semester hours, HIST 670C to a maximum of 6 semester hours, when the subject varies. PRQ: Consent of department.

770. RESEARCH SEMINAR IN RUSSIAN AND EASTERN EUROPEAN HISTORY (3). Selected problems in Russian or Eastern European history. May be repeated to a maximum of 15 semester hours. PRQ: Consent of department.

## Asian History

544. THE JAPANESE EMPIRE (3). Rise and fall of Japan as an imperial power, ca. 1870-1945. Emphasis on strategic, economic, and ideological motivations for imperial expansion; mechanisms of formal empire in Korea, Taiwan, and Micronesia; informal empire in Manchuria, China, and Southeast Asia; Pan-Asian collaboration; and Asian nationalist resistance to Japanese rule.

545. THE CHINESE REVOLUTION (3). Intellectual and social backgrounds of the nationalist revolutionary movement; political history of the revolutionary period to the present.

546. HISTORY OF THAILAND (3). History and culture of Thailand from the prehistoric period to the present, with appropriate references to Thai relations with Laos and Cambodia.

547. HISTORY OF BURMA (3). History and culture of Burma from prehistoric times to the present.

548. HISTORY OF INDONESIA (3). Indonesian political, social, and cultural life from prehistory to the present. Attention given to the cultures of the various peoples of Indonesia and the efforts of the modern state to create a national sense of identity.

549. HISTORY OF MALAYSIA AND SINGAPORE (3). The Malay world from prehistory to the present. Topics include early Malay trade, classical Malay culture, British imperialism, Chinese immigration, and the modern states of Malaysia, Singapore, and Brunei.

660. READING SEMINAR IN ASIAN HISTORY (3). Intensive reading and discussion on one or more countries of Asia, designed to acquaint the student with the literature and problems of the field. Specified areas announced in *Schedule of Classes*. May be repeated to a maximum of 12 semester hours when subject varies. PRQ: Consent of department.

760. RESEARCH SEMINAR IN ASIAN HISTORY (3). Selected problems in the history of one or more countries of south, southeast, or east Asia. Southeast Asian seminar usually emphasizes Thailand, Burma, Malaysia, Indonesia, and the Philippines. Specific topics announced in *Schedule of Classes*. May be repeated to a maximum of 15 semester hours. PRQ: Consent of department.

## African History

540. ISLAM AND COLONIALISM IN AFRICA (3). Islamic encounters with and resistance to European imperialism from the colonial conquest and partition of Africa to the eve of African independence.

## United States History

560. COLONIAL AMERICA (3). Native American, European, and African contacts and the establishment of a colonial society based upon conquest, slavery, and resistance, as well as struggles for freedom and opportunity.

561. THE AMERICAN REVOLUTION (3). The causes of the Revolution and its impact on the political, economic, cultural, intellectual, and social aspects of American life.

562. EARLY AMERICAN REPUBLIC (3). Tumultuous early years of the United States, from the Constitution to the eve of abolitionism, with a focus on politics, slavery, and conflict.

563. ANTEBELLUM AMERICA (3). United States' economic, political, social and cultural expansion in the mid-nineteenth century, and the explosive tensions that would plunge the nation into civil war.

564. CIVIL WAR AMERICA (3). The roots of the conflict, the war and emancipation, national and regional reconstruction, and economics and race in the postwar period.

565. INDUSTRIAL AMERICA: 1877-1901 (3). Impact of industry and the city on vital aspects of American life and society, with emphasis on the response of farmers, workers, politicians, and intellectuals to the problems of an emerging urban-industrial society.

566. CORPORATE AMERICA: 1900-1929 (3). The U.S. in the era of Theodore Roosevelt, Woodrow Wilson, and Herbert Hoover. Topics include the rising corporate order, labor militance, the origins of the modern state, America's response to war and revolution, 1920s style prosperity, and the Great Crash.

567. LIBERAL AMERICA: 1929-1961 (3). The U.S. in the Great Depression, World War II, and the Cold War. Topics include Franklin D. Roosevelt and the New Deal, the road to Pearl Harbor, total war, social and political change in mid-century America, the Truman Doctrine and Stalinism, the Korean War, the Fifties, civil rights, the Eisenhower presidency, and the American response to revolutions in East Asia.

568. AMERICA SINCE 1960 (3). Analysis of social, economic, political, cultural, and intellectual trends from the Kennedy years through the post-Cold War era. Topics include the civil rights movement, the Kennedy- Johnson foreign policies toward Cuba and East Asia, the Great Society programs, the Vietnamese civil war, the "counterculture," Nixon and Watergate, the Reagan years, and the Persian Gulf conflict and the 1990s.

569. THE VIETNAM WAR (3). History of the American involvement in Vietnam between 1940 and 1975 that examines the evolving circumstances and policies leading to the American defeat.

571. WORKERS IN U.S. HISTORY, 1787-PRESENT (3). Role of workers in American history from the early national period to the present. Emphasis on working class formation, labor conflict, and power relations in developing capitalist economy; how class, race, and gender shaped workers' experiences; rise and decline of labor unions; the role of law and government in limiting or expanding workers' power.

572. TOPICS IN AFRICAN-AMERICAN HISTORY (3). Selected problems in interpretation relating to the history of people of African descent in the Americas. Emphasis on the African-American populations of the United States with some attention given to the question of race relations. May be repeated to a maximum of 6 semester hours when topic varies.

573. TOPICS IN WOMEN'S HISTORY (3). Selected issues in interpretation relating to the history of women and gender relations. May be repeated to a maximum of 6 semester hours when subject varies.

574. HISTORY OF IMMIGRATION AND ETHNICITY (3). Survey of the nature and impact of immigration in American history from the colonial era to the present focusing on ethnic group origins, persistence, modification, and interaction. Includes comparative analysis of European, Latino, and Asian immigration. Examination of assimilation, acculturation, and accommodation theories, nativism, immigration legislation, multiculturalism, and minority relations.

575. THE UNITED STATES AND SOUTHEAST ASIA AND THE INDIAN SUBCONTINENT (3). Focus on 20th century, including American acquisition and governance of the Philippine Islands, the American response to nationalism and independence movements, the war in Vietnam, the successive tragedies in Cambodia, and U.S.-China rivalries in the region.

576. AMERICAN FOREIGN RELATIONS TO 1914 (3). Diplomacy of the American Revolution and the new nation, diplomatic aspects of the war with Mexico and continental expansion, and the rise of the United States as a world power in the late 19th and early 20th centuries, with emphasis on imperial expansion overseas.

577. AMERICAN FOREIGN RELATIONS SINCE 1914 (3). Diplomatic aspects of the two world wars, the origins and development of the Cold War in Europe and Asia, and the American response to Third World nationalism, including the war in Vietnam.

578. AMERICAN LEGAL HISTORY TO 1865 (3). American legal 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.

579. AMERICAN LEGAL HISTORY SINCE 1865 (3). American legal 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.

610. READING SEMINAR IN U.S. HISTORY (3). Intensive reading and discussion over a selected field in U.S. history, designed to acquaint the student with the literature and problems of the field. Specific areas announced in *Schedule of Classes*. May be repeated to a maximum of 15 semester hours when subject varies. PRQ: Consent of department.

710. RESEARCH SEMINAR IN U.S. HISTORY (3-6). Research seminar in U.S. history topics. May be repeated to a maximum of 15 semester hours. PRQ: Consent of department.

### Latin American History

581. INDIGENOUS MEXICO (3). Maya and Aztec cultures from European contact to the end of the colonial period in 1821. Focus on indigenous culture, religion, political life, conquest and resistance, disease and population decline, and changes and continuities of precolonial and colonial indigenous thought.

582. MEXICO SINCE 1810 (3). The quest for independence—political, economic, and cultural—with particular attention to the revolution of 1910-1920.

583. AFRICANS IN COLONIAL LATIN AMERICA (3). Afro-Latin Americans and their contributions to empire building as slaves, litigants, conquistadors, militia members, Christians, and Spanish and Portuguese imperial subjects. Emphasis on relations between slaves and free people of color, African-indigenous alliances and relationships, maroon communities, emergence of Afro-Creole and Afro-Christian consciousness, and resistance, compliance, and accommodation to the imperial project.

584. HISTORY OF BRAZIL (3). Survey of Brazilian history from first encounters between Europeans and Americans to the present; evolution of Brazil's politics, economy, society, and culture.

585. MODERN LATIN AMERICAN REVOLUTIONS (3). Major social revolutions of the 19th and 20th centuries, with emphasis on Mexico, Cuba, and Central America. Social, economic, and political causes, ideology, international influences, and current areas of conflict.

586. POVERTY AND PROGRESS IN LATIN AMERICA (3). Exploration of the persistent gap between rich and poor in Latin America and the poverty of Latin America relative to the developed world. Inquiry into how Latin America fell behind and other issues, including the legacy of colonialism, opportunities and limitations of the 19th century export booms, industrialization and urbanization in the 20th century, and distribution of burdens and benefits in Latin America society, polity, and economy.

620. READING SEMINAR IN LATIN AMERICAN HISTORY (3). Intensive reading and discussion over a selected field in Latin American history, designed to acquaint the student with the literature and problems of the field. Specified areas announced in *Schedule of Classes*. May be repeated to a maximum of 12 semester hours when subject varies. PRQ: Consent of department.

720. RESEARCH SEMINAR IN LATIN AMERICAN HISTORY (3). Selected problems in Latin American history. May be repeated to a maximum of 15 semester hours. PRQ: Consent of department.

### Global History

502. GENDER AND SEXUALITY IN HISTORY (3). Evolution of gender and sexual identity, roles, and occupations in the industrializing world. Topics include the production of femininities and masculinities, sexual difference, interpersonal desire, kinds of friendship, romantic love, sexual ethics, and sexual orientation in history.

525. WORLD WAR II (3). History of World War II, including objectives and ideologies of Nazi Germany, Imperial Japan, and Allied Powers, with attention to cultural and social developments.

541. THE AFRICAN DIASPORA (3). Major themes in the historical study of the African diaspora in the trans-Atlantic, trans-Saharan, and Indian Ocean regions. Development of African communities, cultures, ethnicities, religion, and identities under conditions of enslavement or forced migration, and processes of identification in the diaspora with the African homeland; New World developments such as creolization, the construction of multiple identities, and the positioning of enslaved Africans within the dynamics of the emergent Atlantic World. Geographic focus may vary depending on instructor.

558. MEDITERRANEAN WORLD, 1450-1750 (3). History of early modern North African, European, Anatolian, and Levantine societies rimming the Mediterranean Sea. Themes include maritime commerce, urbanization, gender relations, ethnic identities, and political developments in the Mediterranean region.

559. THE ATLANTIC WORLD, 1492-1860S (3). Encounters among African, European, and Native American men and women in the Atlantic world during the early modern era. Examination of major themes in political, economic, social, and cultural history in a comparative, integrated way to provide students of African, Latin American, European, and North American history with a broader context for understanding those regions.

570. AMERICA AND ASIA (3). Relationships between Asian nations and the United States. Topics include cultural and economic exchanges, experiences of Asian immigrants and their descendants in the U.S., competing strategic aspirations and value systems, and U.S. interventions in Asian wars. Emphasis varies according to instructor.

680. READING SEMINAR IN GLOBAL HISTORY (3). Intensive reading and discussion in historical topics that look beyond national or regional boundaries to examine historical experiences in a global perspective. Specific topics announced in *Schedule of Classes*. May be repeated to a maximum of 15 hours when subject varies.

# Department of Mathematical Sciences (MATH, STAT)

Chair: William D. Blair

## Graduate Faculty

Gregory Ammar, professor, Ph.D., Case Western Reserve University

Gerard Awanou, assistant professor, Ph.D., University of Georgia

Sanjib Basu, professor, Ph.D., Purdue University

John A. Beachy, Distinguished Teaching Professor, Ph.D., Indiana University

Hamid Bellout, professor, Ph.D., Purdue University

William D. Blair, Distinguished Teaching Professor, Ph.D., University of Maryland

Harvey I. Blau, professor, Ph.D., Yale University

Richard Blecksmith, professor, Ph.D., University of Arizona

Frederick Bloom, Distinguished Research Professor, Ph.D., Cornell University

Douglas Bowman, professor, Ph.D., University of California, Los Angeles

Biswa N. Datta, Distinguished Research Professor, Ph.D., University of Ottawa

Karabi Datta, associate professor, Ph.D., University of Campinas, Brazil

Sien Deng, professor, Ph.D., University of Washington

Nader Ebrahimi, Presidential Research Professor, Ph.D., Iowa State University

Daniel Grubb, associate professor, Ph.D., Kansas State University

Sudhir Gupta, professor, Ph.D., University of Kent

Bernard Harris, director of graduate studies, professor, Ph.D., University of Wales

Ellen Hines, associate professor, Ed.D., Northern Illinois University

Kitty L. Holland, associate professor, Ph.D., University of Illinois, Chicago

Yoo Pyo Hong, associate professor, Ph.D., Johns Hopkins University

Balakrishna Hosmane, associate professor, Ph.D., University of Kentucky

Hui Hu, associate professor, Ph.D., Stanford University

Helen A. Khoury, associate professor, Ph.D., Florida State University

Qingkai Kong, professor, Ph.D., University of Alberta

Ying C. Kwong, associate professor, Ph.D., University of Wisconsin

Rama T. Lingham, director, Division of Statistics, associate professor, Ph.D., Purdue University

Anders Linnér, associate professor, Ph.D., Case Western Reserve University

Donald B. McAlister, professor emeritus, Ph.D., Queen's University (Belfast)

Thomas W. O'Gorman, associate professor, Ph.D., University of Iowa

Alan Polansky, associate professor, Ph.D., Southern Methodist University

David Rusin, associate professor, Ph.D., University of Chicago

Mary Shafer, associate professor, Ph.D., University of Wisconsin

Gleb Sirotkin, associate professor, Ph.D., Indiana University/Purdue University Indianapolis

Linda R. Sons, Distinguished Teaching Professor, emeritus, Ph.D., Cornell University

Joseph B. Stephen, associate professor, Ph.D., University of Nebraska

Jeffrey L. Thunder, professor, Ph.D., University of Colorado

Peter Waterman, associate professor, Ph.D., University of Aberdeen

John Wolfskill, assistant chair, associate professor, Ph.D., California Institute of Technology

Zhuan Ye, professor, Ph.D., Purdue University

Anton Zettl, Distinguished Research Professor, emeritus, Ph.D., University of Tennessee

Alan Zollman, associate professor, Ph.D., Indiana University

The Department of Mathematical Sciences offers graduate programs leading to the M.S. in applied probability and statistics, the M.S. in mathematics, and the Ph.D. in mathematical sciences. Applicants to these graduate programs are normally notified of an admission decision within three weeks of receipt of the complete application.

If a student in an M.S. program has already completed a required 400-level course with a grade of C or better as an undergraduate at NIU, that course requirement will be waived in the student's M.S. program. Other graduate course work will be substituted to complete the required program, with the approval of the student's adviser.

## Master of Science in Applied Probability and Statistics

At the time of admission each student is expected to have completed a standard three-course sequence in calculus and a course in elementary linear algebra. Courses equivalent to CSCI 230 and one from STAT 470 and STAT 473, must also have been completed. Any deficiencies should be removed at the beginning of the student's program.

### Requirements

Complete at least 33 semester hours of graduate work, not more than 50 percent of which may be in courses numbered 500-599. At least 15 semester hours must be courses offered by the Department of Mathematical Sciences and numbered 600 or above.

Follow a program of study approved by the Department of Mathematical Sciences.

Pass a comprehensive examination based upon his or her plan of study. Usually, a student 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.

### Course Requirements

With the consent of the department, a student may include STAT 699, Master's Thesis, for 3 semester hours of credit, in the 33 semester hours required for a master's degree.

STAT 572 - Introduction to Mathematical Statistics (3)

STAT 574 - Statistical Methods and Models II (3)

STAT 672 - Theory of Statistics (3)

STAT 673 - Linear Models (3)

STAT 691 - Statistical Consulting (3)

Four of the following (12)

- STAT 571 - Probability Models and Applications (3)
- STAT 578 - Statistical Methods of Forecasting (3)
- STAT 668 - Methods in Biostatistics (3)
- STAT 669 - Methods for Quality Control and Improvement (3)
- STAT 674 - Design and Analysis of Experiments (3)
- STAT 675 - Multivariate Methods of Statistics (3)
- STAT 676 - Distribution-Free Statistics (3)
- STAT 677 - Sampling Techniques (3)

One additional STAT course numbered above 600

## Master of Science in Mathematics

The Department of Mathematical Sciences offers specializations in pure mathematics, applied mathematics, computational mathematics, and mathematics education within the M.S. degree. Applicants are expected to have completed the equivalent of the requirements for the appropriate emphasis for the B.S. in mathematical sciences at NIU. This requirement may be modified for applicants with promising undergraduate records.

### Requirements

The student must complete at least 30 semester hours of graduate work, not more than 50 percent of which may be in courses numbered 500-599. At least 24 of these hours must be in mathematical sciences. All courses outside the Department of Mathematical Sciences must have departmental approval in advance.

The student must follow a program of study approved by the department. The program will be designed by the student and his or her adviser and will be built on the requirements listed under one of the specializations. Students with inadequate backgrounds may be required to remove specific deficiencies.

The student must 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.

With the consent of the department, a student specializing in pure mathematics, applied mathematics, or mathematics education may include MATH 699, Master's Thesis, for 3 semester hours of credit in the 30 semester hours required for a master's degree. Students specializing in computational mathematics are usually required to complete a thesis.

### Specialization in Pure Mathematics

- MATH 550 - Introduction to Topology (3)
- MATH 620 - Algebraic Structures I (3)
- MATH 630 - Real Analysis I (3)
- MATH 632 - Complex Analysis (3)

At least one of the following

- MATH 621 - Algebraic Structures II (3)
- MATH 650 - Topology (3)

### Specialization in Applied Mathematics

- MATH 523 - Linear and Multilinear Algebra (3)
- MATH 630 - Real Analysis I (3),  
OR MATH 639 - Computational and Analytical Methods in the Sciences (3)
- MATH 632 - Complex Analysis (3),  
OR MATH 540 - Elements of Complex Analysis (3),
- MATH 636 - Ordinary Differential Equations I (3),  
OR MATH 538 - Theory of Differential Equations (3),
- MATH 642 - Partial Differential Equations I (3),  
OR MATH 542 - Elements of Partial Differential Equations (3),
- MATH 662 - Numerical Analysis (3)

At least one of the following

- MATH 623 - Modern Applied Algebra (3)
- MATH 640 - Applied Mathematics (3)
- MATH 664 - Numerical Linear Algebra (3)
- MATH 666 - Numerical Differential Equations (3)
- MATH 684 - Combinatorial Mathematics I (3)
- MATH 740 - Topics in Applied Mathematics (3)

### Specialization in Computational Mathematics

At the time of admission, each student must have completed courses equivalent to CSCI 230 and MATH 444. Students are strongly advised to take MATH 423, MATH 430, and MATH 431 during their first year, if they have not previously taken these or equivalent courses.

- MATH 534 - Numerical Linear Algebra (3)
- MATH 535 - Numerical Analysis (3)
- MATH 639 - Computational and Analytical Methods in the Sciences (3)
- MATH 664 - Numerical Linear Algebra (3)
- MATH 666 - Numerical Differential Equations (3)
- MATH 668 - Nonlinear Programming (3)

*Thesis Option.* The thesis option is usually recommended by the department. Each student pursuing this option must enroll in MATH 699, Master's Thesis, and submit a written thesis. Three semester hours credit in MATH 699 may be applied toward the degree. The student's thesis adviser serves as chair of the graduate committee that administers a defense of the thesis.

*Non-Thesis Option.* The non-thesis option is primarily for students who intend to pursue doctoral work in the mathematical sciences at NIU, or who wish to acquire breadth in the mathematical sciences by taking additional courses. With departmental consent, the student must complete a 30-semester hour program of courses approved by the department and pass a written comprehensive examination.

### Specialization in Mathematics Education

- MATH 521 - Algebra II (3),  
OR MATH 523 - Linear and Multilinear Algebra (3)
  - MATH 530 - Advanced Calculus I (3)
  - MATH 610 - Theoretical Foundations of Mathematics Education (3)
- Four courses in the Department of Mathematical Sciences numbered 521-687 (except MATH 602-MATH 617), including at least one course numbered above 600 (12)
- Two of the following (6)
- MATH 611 - Introduction to Mathematics Education Research (3)
  - MATH 612 - The Learning and Teaching of Mathematics, Grades 6-9 (3)
  - MATH 613 - The Learning and Teaching of Algebra (3)
  - MATH 614 - The Learning and Teaching of Geometry (3)
  - MATH 615 - Using Technology in the Teaching of Mathematics (3),  
OR MATH 617 - Assessment and Evaluation in School Mathematics: Grades K-12 (3)

One additional course approved by the department in mathematics, mathematics education, statistics, or supporting work from other departments (3)

## Master of Science in Teaching

The M.S.T. is designed for certified teachers seeking teaching endorsements at the master's level in disciplines approved by the university. All students pursuing the degree will be required to complete core experiences in which they demonstrate knowledge, skills, and dispositions related to assessment, diversity and special needs, human development and learning, and pedagogy in their content area.

### Admission

All applicants for the M.S.T. program must meet requirements for admission to the Graduate School and be accepted for admission by the faculty of the specialization.

### Specialization in Middle School Mathematics Education

The Department of Mathematical Sciences offers a master's degree specialization in middle school mathematics education. Applicants admitted to the program are expected to be certified to teach secondary school mathematics (6-12) or certified to teach in the elementary school (K-9). Successful completion of this specialization leads to an endorsement to teach mathematics in the middle school, and to a teacher-leader endorsement.

#### Requirements

The student must complete at least 34 semester hours of graduate work. At least 22 of the 34 hours must be in mathematical sciences. All courses outside the mathematical sciences must be approved by the department in advance.

The student must follow a program of study approved by the department. The program will be designed by the student and his or her adviser and will be built on the program requirements listed below. Students with inadequate backgrounds in mathematics may be required to remove specific deficiencies.

The student must pass an exit capstone research-based project in MATH 697E in lieu of a comprehensive examination in middle school mathematics education. A student who fails to pass the capstone project may, with the permission of the faculty member who is directing the project and with the approval of the director of graduate studies, repeat it once.

#### Requirements in Department (22)

- MATH 526 - Geometry, Numbers, and Algebra (3)
- MATH 527 - Topics in Calculus and Analysis (3)
- MATH 612 - The Learning and Teaching of Mathematics, Grades 6-9 (3),  
OR MATH 509 - Methods of Instruction in the Middle School Mathematics Curriculum (3)
- MATH 613 - The Learning and Teaching of Algebra (3)
- MATH 614 - The Learning and Teaching of Geometry (3)
- MATH 617 - Assessment and Evaluation in School Mathematics: Grades K-12 (3)
- MATH 696 - Topics in Contemporary Mathematics Education: Professional Development (3)
- MATH 697E - Graduate Reading in Mathematical Sciences: Mathematics Education (1)

#### Requirements outside Department (6)

- EPS 508 - Theories and Research in Adolescent Behavior and Development (3)
- TLCI 537 - Improvement of Instruction (3)
- Electives in Science, Engineering, or Mathematical Sciences (6-8)
- Two of the following:
  - ELE 598K - Special Topics in Electrical Engineering: Digital Signal Processing (3)
  - GEOL 604 - Institute for Science Teachers (4). May be repeated as topic changes.
  - PHYS 605 - Institute for Science Teachers (3)
  - Other approved graduate courses in science, engineering, or mathematical sciences.

## Doctor of Philosophy in Mathematical Sciences

#### Admission

A student seeking admission to the Ph.D. program in mathematical sciences must meet all requirements for admission to the Graduate School and shall have satisfied the requirements (or equivalent) for the B.S. in mathematical sciences at NIU. In addition, each student is required to have completed an approved

year-long sequence of courses in probability and statistics prior to admission to the program, or to take an approved sequence of graduate courses in probability and statistics as part of the doctoral program. Students seeking admission who possess a master's degree in mathematical sciences will also be expected to have met the above requirements.

#### Course Requirements

The Graduate Studies Committee of the department will be responsible for approving each student's program to meet the course requirements specified below. Each student will complete at least 90 hours of course work. The committee will assess all work done at other institutions and will grant transfer credit for any graduate work deemed acceptable and subsequently approved by the dean of the Graduate School. The Graduate Studies Committee of the department will also be responsible for the administration of the qualifying and candidacy examinations.

#### Core Courses (24)

- MATH 620 - Algebraic Structures I (3)
- MATH 630 - Real Analysis I (3)
- MATH 632 - Complex Analysis (3)
- MATH 662 - Numerical Analysis (3)

One of the following groups of courses (12)

Group A—four of the following

- MATH 621 - Algebraic Structures II (3)
- MATH 631 - Real Analysis II (3)
- MATH 636 - Ordinary Differential Equations I (3)
- MATH 642 - Partial Differential Equations I (3)
- MATH 650 - Topology (3)

Group B

- MATH 610 - Theoretical Foundations of Mathematics Education (3)
- MATH 611 - Introduction to Mathematics Education Research (3)
- MATH 613 - The Learning and Teaching of Algebra (3)
- MATH 614 - The Learning and Teaching of Geometry (3)

Group C

- STAT 670 - Probability Theory (3)
- STAT 672 - Theory of Statistics (3)
- STAT 673 - Linear Models (3)
- STAT 679 - Advanced Statistical Methods (3)

Group D<sup>1</sup>—four of the following

- MATH 639 - Computational and Analytical Methods in the Sciences (3)
- MATH 642 - Partial Differential Equations I (3)
- MATH 664 - Numerical Linear Algebra (3)
- MATH 666 - Numerical Differential Equations (3)
- MATH 668 - Nonlinear Programming (3)

At least 21 hours of elective topics courses and seminars. One seminar must be elected outside the student's area of study. The topics courses should ordinarily be chosen from the list below.<sup>2</sup> Repetitions of topics courses and seminars are allowed as subjects vary.

- MATH 710A - Topics in Mathematics Education: Learning and Teaching (3)
- MATH 710B - Topics in Mathematics Education: Curriculum and Evaluation (3)
- MATH 720 - Topics in Algebra (3)
- MATH 730 - Topics in Analysis (3)
- MATH 740 - Topics in Applied Mathematics (3)
- MATH 750 - Topics in Geometry and Topology (3)
- MATH 760 - Topics in Computational Mathematics (3)
- MATH 770 - Topics in Probability Theory (3)
- MATH 780 - Topics in Number Theory (3)
- STAT 775 - Topics in Statistics (3)

The applications—involvement component including 3 to 9 semester hours in MATH 792 - Applications Experience (1-9), or equivalent experience.

<sup>1</sup> Students who take Group D are expected to fulfill at least 12 semester hours of their elective requirement with a coherent, approved program of courses outside the Department of Mathematical Sciences.

<sup>2</sup> Elective course work should be chosen so that the program contains a coherent selection of 6 semester hours at the 500-level or above in the mathematical sciences, outside the student's broad area of study, or in a related discipline.

At least 24 semester hours in MATH 799 - Doctoral Research and Dissertation.

An additional 12-18 semester hours of electives at the graduate level.<sup>2</sup>

### Qualifying Examination

Whether admission to the program follows completion of a baccalaureate or a master's degree, each student is required to pass a written qualifying examination administered by the Graduate Studies Committee of the department.

### Candidacy Examination

The candidacy examination is an oral examination in the student's primary area of study and is taken later than the qualifying examination. The committee to hear the candidacy examination will be nominated by the chair of the department and appointed by the dean of the Graduate School.

### Language Requirements

The student must demonstrate average reading proficiency in two of the following foreign languages: French, German, and Russian; or average reading proficiency in one of these languages, combined with a translation of a mathematical research article in this language to the satisfaction of the Graduate Studies Committee of the department.

### Computer Project Requirement

The student must complete a project in which a computer is used in a nonroutine way. The project will normally be related to the candidate's primary area of study and must be approved by the candidate's dissertation adviser and the Graduate Studies Committee.

### Dissertation Committee

The dissertation committee for each student will be nominated by the chair of the department and appointed by the dean of the Graduate School. This committee will consist of three to five graduate faculty members and be chaired by the dissertation adviser who has been appointed by the chair of the department.

### External Examiner

An external examiner for the doctoral dissertation will be nominated by the chair of the department and appointed by the dean of the Graduate School. The examiner shall submit a written report on the dissertation to the chair of the department, the dean of the Graduate School, and the student's dissertation committee prior to the oral dissertation defense.

### Oral Dissertation Defense

An oral examination on the dissertation will be conducted by the dissertation committee according to the rules of the Graduate School. This defense will be open to the university community.

## Certificates of Graduate Study

### Applied Statistics (12)

This certificate is designed for graduate students in a variety of disciplines, including engineering, the humanities, social sciences, and sciences, who seek to advance their skills and expertise in data analyses, statistical modeling, and quantitative research. Courses taken to meet the requirements of the certificate may be applied towards the M.S. degree in applied probability and statistics with approval of the department.

Four of the following (12)

- STAT 665 - Regression Analysis (3)
- STAT 666 - Discrete Multivariate Data Analysis (3)
- STAT 669 - Methods for Quality Control and Improvement (3)
- STAT 674 - Design and Analysis of Experiments (3)
- STAT 675 - Multivariate Methods of Statistics (3)
- STAT 677 - Sampling Techniques (3)

### Elementary Mathematics Teaching (12)

This certificate is for an inservice for elementary teachers.

- MATH 603 - Whole Number Sense and Numeration (3)
- MATH 604 - Geometry, Spatial Sense, and Measurement (3)
- MATH 605 - Understanding Rational Numbers (3)
- MATH 606 - Algebraic Thinking (3)

### Teacher Certification in Grades 6-12

A graduate student or a student-at-large may pursue teacher certification in mathematics for grades 6-12. Completing the teacher certification requirements and pursuing a graduate degree may be done simultaneously but are independent. Teacher certification candidates must complete requirements which include courses within the Department of Mathematical Sciences and courses outside the department. Obtaining a teaching endorsement in a second teaching area is desirable to enhance placement opportunities.

Requirements for certification are in three areas: mathematics, professional education, and general education. Forty semester hours of mathematics, beginning with MATH 229 (Calculus I), are required. Professional education requirements total 22 semester hours and can be taken either on the graduate or undergraduate level. General education requirements are usually fulfilled at the undergraduate level. Specific mathematics requirements are listed in the departmental section of the Undergraduate Catalog. Also see the section "Teacher Certification Information" in this catalog as well as "Secondary Teacher Certification" in the College of Liberal Arts and Sciences section of this catalog. Graduate-level professional education courses are listed in the departmental advising document. All students who decide to pursue certification should consult a teacher certification adviser in the Department of Mathematical Sciences as soon as possible. Students completing the certification program in mathematics will automatically meet the requirements for the middle school endorsement in mathematics.

### Course List (MATH)

502. METHODS OF INSTRUCTION IN THE MATHEMATICS CURRICULUM FOR ELEMENTARY SCHOOL (3). *Crosslisted as TLEE 502X.* Methods, techniques, materials, curricular issues, learning theories, and research utilized in the teaching of elementary school mathematics. Attention given to the teaching of exceptional students and to planning for multicultural learning situations. Intended for students in education. Accepted for credit as an elementary mathematics methods course, but not as an upper-division mathematical content course. Not open for credit toward the major or minor in mathematical sciences. PRQ: MATH 201 with a grade of C or better or consent of department.

509. METHODS OF INSTRUCTION IN THE MIDDLE SCHOOL MATHEMATICS CURRICULUM (3). Methods of instruction, manipulative materials, curricular issues, problems, and trends of teaching mathematics in the middle school. Learning theories and research in teaching mathematics for student understanding in grades 5-8, with attention to diversity issues and the needs of exceptional students. Assessment of student performance in mathematics at the middle school level. Accepted for credit as a middle school mathematics methods course. PRQ: Consent of department.

512. METHODS OF INSTRUCTION IN THE MATHEMATICS CURRICULUM FOR SECONDARY SCHOOL (3). Objectives and organization of the curriculum and instructional materials for mathematics programs for secondary school with attention to methods of instruction, the needs of exceptional students, reading techniques in mathematics, and planning for multicultural learning situations. Accepted for credit toward the major or minor only for those preparing to teach. Accepted for credit as a methods course for secondary school, but not as an upper-division mathematical content course. CRQ: MATH 353 and consent of department.

515. USES OF TECHNOLOGY IN THE MATHEMATICS CURRICULUM FOR GRADES K-12 (3). Hands-on experiences working with current technology (scientific calculators, graphic calculators, computers, and computer software) for elementary, middle school, and secondary school mathematics. Presentation and evaluation of methods and strategies for employing technology as a regular part of instruction and assessment, including discussion of educational foundations. Accepted as mathematical sciences credit only for those preparing to teach. Not accepted for credit as an upper-division mathematical content course for certification purposes. Not used in major GPA calculations. CRQ: MATH 410, MATH 502, or MATH 512, or consent of department.

520. ALGEBRA I (3). Introduction to group theory. Properties of the integers, functions, and equivalence relations. A concrete approach to cyclic groups and permutation groups; isomorphisms and the theorems of Lagrange and Cayley. PRQ: MATH 240 or consent of department.

521. ALGEBRA II (3). Continuation of MATH 520. Homomorphisms and factor groups; introduction to commutative rings, with emphasis on polynomial rings; and fields and algebraic extensions. Applications to classical geometric problems. PRQ: MATH 420 or MATH 520, or consent of department.

523. LINEAR AND MULTILINEAR ALGEBRA (3). General theory of vector spaces, linear transformations, and matrices. Topics selected from determinants, tensor products, canonical forms, and bilinear and quadratic forms. PRQ: MATH 240 and MATH 520, or consent of department.

526. GEOMETRY, NUMBERS, AND ALGEBRA (3). Comparative survey of geometric and algebraic concepts; parallel lines and triangles in the Euclidean, hyperbolic, and spherical planes; similarity and trigonometry in the Euclidean plane; complex numbers and plane transformations; number fields, domains, and polynomials; division, prime factorization, and congruences for integers and polynomials; applications to cryptography and coding theory. PRQ: Admission to the graduate program in Middle School Mathematics Education, or consent of department.

527. TOPICS IN CALCULUS AND ANALYSIS (3). Introduction to the general field of mathematical analysis. Builds on MATH 526. Topics include discrete mathematics, sequences, difference equations and their solutions, limits of functions, continuity, differentiation and some applications including differential equations. Properties of trigonometric functions. Integration. PRQ: MATH 526 or consent of department.

530. ADVANCED CALCULUS I (3). Reexamination of the calculus of functions of one variable: convergence, continuity, differentiation, the mean-value theorem, and the Riemann integral. PRQ: MATH 232 and MATH 240, or MATH 334, or consent of department.

531. ADVANCED CALCULUS II (3). Further study of sequences and series of functions; functions of several variables. PRQ: MATH 430 or MATH 530, or consent of department.

532. ADVANCED CALCULUS III (3). Line and surface integrals, the Riemann-Stieltjes integral, gamma and beta functions, and Fourier series and integrals. Applications to probability theory and mathematical physics. PRQ: MATH 431 or MATH 531, or both MATH 334 and PHYS 385, or consent of department.

534. NUMERICAL LINEAR ALGEBRA (3). Roundoff errors and computer arithmetic. Direct and iterative methods for solving linear systems; norms and condition numbers, iterative refinement. Linear least squares problems: the normal equations and QR approach for overdetermined systems. Numerical methods for eigenvalues: an introduction to the QR iteration. Extensive use of computers. PRQ: MATH 232, MATH 240, and CSCI 230, CSCI 240, or approved equivalent; or consent of department.

535. NUMERICAL ANALYSIS (3). Polynomial interpolation, numerical solutions of nonlinear equations, least squares approximation by polynomials, orthogonal polynomials, economization of power series. Numerical integration including quadrature formulae, adaptive quadrature, composite quadrature formulae, and Romberg integration. Numerical methods for initial value problems including Taylor series methods, Runge-Kutta methods, and multistep methods. Extensive use of computers. PRQ: MATH 232, MATH 240, and CSCI 230, CSCI 240, or approved equivalent; or consent of department.

538. THEORY OF DIFFERENTIAL EQUATIONS (3). Topics include linear systems, existence and uniqueness of solutions, nonlinear equations, and stability. PRQ: MATH 232, MATH 240, and either MATH 334 or MATH 336, or consent of department.

539. ENGINEERING MATHEMATICS II (3). Green's functions and integral transform solutions of partial differential equations. Coordinate transformations and tensor analysis. Gamma, beta and error functions. Elliptic functions. Asymptotic series. Series solutions of ordinary and partial differential equations. Orthogonal expansions. Probability. Numerical methods. Not open for graduate credit in mathematical science programs. PRQ: MATH 339 with a grade of C or better or consent of department.

540. ELEMENTS OF COMPLEX ANALYSIS (3). Beginning course in complex analysis emphasizing the applications of complex function theory. PRQ: MATH 232 and MATH 240, or MATH 334; or consent of department.

542. ELEMENTS OF PARTIAL DIFFERENTIAL EQUATIONS (3). Introduction to partial differential equations emphasizing constructive methods of solution for the wave equation, heat equation, and the Laplace and Poisson equations. Separation of variables, Fourier series, Fourier integral, method of characteristics, maximum principles, Green's functions, eigenfunction expansions, and the Laplace and Fourier transforms. PRQ: Either MATH 334, or MATH 232 and MATH 336, or consent of department.

550. INTRODUCTION TO TOPOLOGY (3). Basic notions of metric and topological spaces; additional topics from combinatorial and algebraic topology may be included. PRQ: MATH 430 or MATH 530, or consent of department.

556. LINEAR GEOMETRY (3). Treatment of affine and related geometries using the techniques of linear algebra. PRQ: MATH 420 or MATH 520, or consent of department.

560. MODELING DYNAMICAL SYSTEMS (3). Involves students in the process of translating some questions about the observed world into mathematical form, combining formal reasoning with intuitive insights. Phenomena susceptible to formulation in terms of difference equations and various kinds of differential equations are investigated. Concepts of equilibrium, stability, bifurcation, limit cycles, and chaos illustrated. PRQ: MATH 232, MATH 240, MATH 336, PHYS 250A, and PHYS 251A; or consent of department.

580. NUMBER THEORY (3). Divisibility, primes, congruences, quadratic reciprocity, Diophantine equations, continued fractions, and selected topics. PRQ: MATH 420 or MATH 520, or consent of department.

592. SCHOOL MATHEMATICS (1-6).

- A. Elementary School
- B. Junior High–Middle School
- C. Secondary School

Intensive study of selected mathematical topics in curriculum and instruction as they relate to the teaching of mathematics. Not open for credit toward the major in mathematical sciences. Course may be repeated to a maximum of 12 semester hours as topic changes. PRQ: Consent of department.

602. TOPICS FOR TEACHERS OF ELEMENTARY SCHOOL MATHEMATICS (3). Contemporary curricula, learning theories and strategies, materials of learning and supporting empirical evidence. PRQ: MATH 402 or MATH 502, or consent of department.

603. WHOLE NUMBER SENSE AND NUMERATION (3). Contemporary curricula, learning theories and strategies, and tools for learning how to help children develop meaning for whole numbers and whole number operations. Not open for credit for students in mathematical science graduate degree programs. PRQ: MATH 402 or MATH 502, or consent of department.

604. GEOMETRY, SPATIAL SENSE, AND MEASUREMENT (3). Contemporary curricula, learning theories and strategies, and tools for learning how children learn to think geometrically. Topics include spatial reasoning, measurement concepts, and logical reasoning. Not open for credit for students in mathematical science graduate degree programs. PRQ: MATH 402 or MATH 502, and MATH 603, or consent of department.

605. UNDERSTANDING RATIONAL NUMBERS (3). Contemporary curricula, learning theories and strategies, and tools for learning how to help children develop meaning for rational numbers and rational number operations. Not open for credit for students in mathematical science graduate degree programs. PRQ: MATH 402 or MATH 502, MATH 603, and MATH 604, or consent of department.

606. ALGEBRAIC THINKING (3). Contemporary curricula, learning theories and strategies, and tools for learning how to help children develop algebraic thinking. Topics include recognizing, describing, generalizing, and representing patterns in concrete situations. Not open for credit for students in mathematical science graduate degree programs. PRQ: MATH 402 or MATH 502, MATH 603, MATH 604, and MATH 605, or consent of department.

610. THEORETICAL FOUNDATIONS OF MATHEMATICS EDUCATION (3). Survey of current developments in areas of human learning that relate directly to mathematics curriculum and instruction. Consideration of curriculum concerns, and an introduction to methods of critical reading of research reports. PRQ: Consent of department.

611. INTRODUCTION TO MATHEMATICS EDUCATION RESEARCH (3). Introduction to the structure and scope of mathematics education research; reading and evaluation of original research; issues of validity and reliability in research; assembling components for the writing of research. PRQ: MATH 610 and at least one additional course numbered from MATH 602 through MATH 617, or consent of department.

612. THE LEARNING AND TEACHING OF MATHEMATICS, GRADES 6-9 (3). Curriculum goals and issues; recent developments in curriculum; learning research; alternate modes of presentation. Previous teaching experience recommended. PRQ: MATH 610 or consent of department.

613. THE LEARNING AND TEACHING OF ALGEBRA (3). Contemporary approaches to secondary school algebra; treatment of selected topics; instructional aids; individualized instruction; relevant research. Previous teaching experience recommended. PRQ: MATH 610 or consent of department.

614. THE LEARNING AND TEACHING OF GEOMETRY (3). Current programs, aims, issues, and trends in high school geometry; treatment of selected topics; instructional aids; relevant research. Previous teaching experience recommended. PRQ: MATH 610 or consent of department.

615. USING TECHNOLOGY IN THE TEACHING OF MATHEMATICS (3). Application of technology such as graphing calculators and microcomputers to the teaching of mathematics in secondary schools and the theoretical foundations of these applications; evaluation and analysis of software and graphing calculator activities designed to facilitate learning in such content areas as algebra, geometry, statistics, precalculus, and calculus. PRQ: MATH 610 and consent of department.

617. ASSESSMENT AND EVALUATION IN SCHOOL MATHEMATICS: GRADES K-12 (3). A balanced study of theoretical research-based foundations and classroom-reform-based perspectives on assessment and evaluation in school mathematics. Consideration of alternate forms of assessment and evaluation of mathematics teaching and of students' mathematical learning. Topics include assessment standards, scoring rubrics, authentic and performance assessment, and portfolios. PRQ: MATH 610 or consent of department.

620. ALGEBRAIC STRUCTURES I (3). Group theory including the Sylow theorems, the basis theorem for finite Abelian groups. Polynomial rings, field theory, Galois theory, solvable groups, and solvability of equations by radicals. PRQ: MATH 421 or MATH 521, or consent of department.

621. ALGEBRAIC STRUCTURES II (3). Ring theory including the Artin-Wedderburn theorem, the Jacobson radical. Commutative algebra, Noetherian rings, and Dedekind domains. PRQ: MATH 620 or consent of department.

622. HOMOLOGICAL ALGEBRA (3). Categories and functors, projective and injective modules, complexes and homology, Ext, Tor, and dimensions. Applications to cohomology of groups and ring theory. PRQ: MATH 621 or consent of department.

623. MODERN APPLIED ALGEBRA (3). Concepts and techniques of modern algebra which are useful in applied mathematics. Topics include applications of group theory to coding, applications of lattice theory to switching theory, and applications of ring theory to linear automata. PRQ: MATH 420 or MATH 520, or consent of department.

630. REAL ANALYSIS I (3). Theory of functions of a real variable, emphasizing Lebesgue measure and the Lebesgue integral. Basic properties of the classical Lebesgue function spaces are developed. PRQ: MATH 431 or MATH 531, or consent of department.

631. REAL ANALYSIS II (3). Functional analysis; topics include normed linear spaces, general measure theory, Banach and Hilbert spaces, and operator theory. PRQ: MATH 450 or MATH 550, and MATH 630, or consent of department.

632. COMPLEX ANALYSIS (3). Theory of functions of a complex variable including analytic functions and their properties, sequences and power series, Cauchy's theorem on integration and its consequences, and evaluation of real integrals using residue theory. PRQ: MATH 431 or MATH 531, or consent of department.

636. ORDINARY DIFFERENTIAL EQUATIONS I (3). Theory of ordinary differential equations including existence of solutions, uniqueness, stability, oscillation. Introduction to boundary value problems including eigenfunction expansions. PRQ: MATH 430 or MATH 530, and MATH 336 or MATH 438 or MATH 538, or consent of department.

637. ORDINARY DIFFERENTIAL EQUATIONS II (3). Continuation of MATH 636. PRQ: MATH 636 or consent of department.

639. COMPUTATIONAL AND ANALYTICAL METHODS IN THE SCIENCES (3). Theory and computation of mathematical transforms. Application of mathematical transforms in the sciences and engineering. Construction of mathematical models of transport phenomena, wave propagation, and diffusion. Analysis of the resulting models using computational and analytical tools. PRQ: MATH 431 or MATH 531, or consent of department.

640. APPLIED MATHEMATICS (3). Boundary value problems for ordinary differential operators in one space dimension, Green's functions, theory of distributions, eigenfunction expansions, integral equations. Background in Hilbert space theory. PRQ: MATH 431 or MATH 531, or consent of department.

641. APPLIED FUNCTIONAL ANALYSIS (3). Concepts and techniques of functional analysis needed in applied mathematics. Topics include basic principles of Banach and Hilbert space theory with applications to convex optimization, integral and differential equations, and variational inequalities. PRQ: MATH 630 or consent of department.

642. PARTIAL DIFFERENTIAL EQUATIONS I (3). Introduction to the theory and applications of partial differential equations. Linear and quasilinear equations, characteristic curves, and classification and canonical forms with emphasis on first order equations. Introduction to the equations of mathematical physics. PRQ: MATH 431 or MATH 531, or consent of department. MATH 432 or MATH 532 is strongly recommended.

643. PARTIAL DIFFERENTIAL EQUATIONS II (3). Introduction to Sobolev spaces, elliptic and parabolic equations. Weak solutions, regularity. Approximation of solutions. PRQ: MATH 631 and MATH 642, or consent of department.

648. APPLIED MATHEMATICS MODELING (3). Survey of problems arising in one or more areas of application of mathematics which are of current research interest, e.g., mechanics, nonlinear continuum theories, wave propagation, nonlinear optics and electromagnetic theory, nonlinear elasticity and viscoelasticity. Concurrent development of the relevant mathematical techniques. PRQ: MATH 630 and one or more of MATH 636, MATH 640, or MATH 642 as appropriate, and consent of department.

650. TOPOLOGY (3). Survey of some major areas of modern topology. Detailed study of compactness and connectedness, introduction to combinatorial methods for classifying manifolds, and examination of homotopy theory for maps between topological spaces. PRQ: MATH 421 or MATH 521, and MATH 450 or MATH 550, or consent of department.

660. AUTOMATA THEORY (3). Introduction to the algebraic theory of automata. PRQ: MATH 420 or MATH 520 or CSCI 462, or consent of department.

662. NUMERICAL ANALYSIS (3). Fundamental ideas and tools of numerical analysis and computational mathematics. Analysis of floatingpoint computations, rootfinding algorithms, interpolation and least-squares approximation by polynomials, numerical integration, direct and iterative methods for linear systems of equations, and numerical solution of initialvalue problems for ordinary differential equations. Additional topics as time permits. Emphasis on mathematical analysis of algorithms and the applicability and use of software modules. Not available for credit to students with credit in MATH 434 or MATH 534, and MATH 435 or MATH 535. PRQ: MATH 431 or MATH 531, knowledge of FORTRAN programming, and consent of department.

663. VECTOR AND PARALLEL COMPUTATIONS IN NUMERICAL LINEAR ALGEBRA (3). Basic concepts of parallel and vector computations. Development of machine-independent algorithms for vector and parallel computations of basic linear algebra problems. Vector and parallel algorithms for linear systems, least squares and eigenvalue problems, and aspects of their implementations on both distributed and shared-memory computers. Emphasis on use of portable software packages such as LAPACK. Applications to engineering as time permits. PRQ: MATH 434 or MATH 534, and good knowledge of the UNIX operating system, or consent of department.

664. NUMERICAL LINEAR ALGEBRA (3). Development and analysis of fundamental techniques of matrix computation, including triangular and orthogonal matrix factorizations, linear equations and least-squares problems, algorithms for symmetric and nonsymmetric matrix eigenvalue problems, and the singular value decomposition. Perturbation analysis and roundoff error analysis. PRQ: MATH 562, or MATH 423 or MATH 523, and MATH 434 or MATH 534, or consent of department.

666. NUMERICAL DIFFERENTIAL EQUATIONS (3). Survey of the theory and application of numerical solutions for ordinary and partial differential equations. Includes methods for solving initial value problems, boundary value problems, and eigenvalue problems. Error and stability analyses discussed. PRQ: MATH 431 or MATH 531, and MATH 434 or MATH 534, and MATH 435 or MATH 535, or consent of department.

668. NONLINEAR PROGRAMMING (3). Basic computational methods for minimizing a nonlinear function of one or more variables subject to constraints. Treats both numerical and theoretical problems. PRQ: MATH 444, and MATH 430 or MATH 530, or consent of department.

680. ANALYTIC NUMBER THEORY (3). Prime number theorem, primes in an arithmetic progression, L-series, and Dirichlet series. PRQ: MATH 440 or MATH 540, and MATH 480 or MATH 580, or consent of department.

681. ALGEBRAIC NUMBER THEORY (3). Algebraic number fields, splitting of primes, units, and class numbers. PRQ: MATH 480 or MATH 580, and MATH 620, or consent of department.

684. COMBINATORIAL MATHEMATICS I (3). Problems of enumeration, distribution, and arrangement. Inclusion-exclusion, generating functions, combinatorial identities. Finite designs, systems of distinct representatives, graph theory. PRQ: Consent of department.

685. COMBINATORIAL MATHEMATICS II (3). Continuation of MATH 684. PRQ: MATH 684 or consent of department.

686. RECURSIVE FUNCTION THEORY AND COMPUTABILITY (3). Study of recursive functions and Turing machines including a proof of the equivalence of the recursive functions and the Turing computable functions. PRQ: CSCI 462 or consent of department.

691. CURRICULUM AND INSTRUCTION IN MATHEMATICAL SCIENCES AT THE COLLEGE LEVEL (3). Study of various components of pedagogy and curriculum in the mathematical sciences at the college level.

692. INTERNSHIP IN MATHEMATICAL SCIENCES (2-6). May be either industrial, consisting of an approved project in industry, or academic, consisting typically of association with a master teacher in the design and implementation of a course. May be repeated to a maximum of 12 semester hours, with no more than 6 semester hours counting toward the M.S. degree. PRQ: Consent of department.

696. 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. PRQ: Consent of department.

697. GRADUATE READING IN MATHEMATICAL SCIENCES (1-9)

A. Pure Mathematics

B. Applied Mathematics

E. Mathematics Education

May be repeated to a maximum of 9 semester hours. PRQ: Consent of department.

698. 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. PRQ: Consent of department.

699. MASTER'S THESIS (1-6). May be repeated to a maximum of 6 semester hours. PRQ: Consent of department.

710. TOPICS IN MATHEMATICS EDUCATION (3).

A. Learning and Teaching

B. Curriculum and Instruction

Content varies; may include courses on theoretical issues concerned with learning, instruction, and curriculum in mathematics. May be repeated to a maximum of 15 semester hours. PRQ: Consent of department.

720. TOPICS IN ALGEBRA (3). Content varies; may include courses in semigroup theory, finite group theory, ring theory, and homological algebra. May be repeated to a maximum of 15 semester hours. PRQ: Consent of department.

730. TOPICS IN ANALYSIS (3). Content varies; may include courses in real analysis, complex analysis, functional analysis, and differential equations. May be repeated to a maximum of 15 semester hours. PRQ: Consent of department.

740. TOPICS IN APPLIED MATHEMATICS (3). Content varies; may include courses in differential equations and mathematical physics. May be repeated to a maximum of 15 semester hours. PRQ: Consent of department.

750. TOPICS IN GEOMETRY AND TOPOLOGY (3). Content varies; may include courses in algebraic topology, point set topology, and algebraic geometry. May be repeated to a maximum of 15 semester hours. PRQ: Consent of department.

760. TOPICS IN COMPUTATIONAL MATHEMATICS (3). Content varies; may include courses in numerical analysis, mathematical programming, mathematical modeling, and computational complexity. May be repeated to a maximum of 15 semester hours. PRQ: Consent of department.

770. TOPICS IN PROBABILITY THEORY (3). Content varies. May be repeated to a maximum of 15 semester hours. PRQ: Consent of department.

780. TOPICS IN NUMBER THEORY (3). Content varies; may include courses in algebraic, analytic, computational, and combinatorial number theory. May be repeated to a maximum of 15 semester hours. PRQ: Consent of department.

790. SEMINAR IN THE MATHEMATICAL SCIENCES (1-9).

A. Algebra

B. Analysis

C. Applied Mathematics

D. Geometry and Topology

E. Computational Mathematics

J. Probability Theory

K. Number Theory

M. Mathematics Education

Lectures and discussions on topics in advanced mathematics. May be repeated to a maximum of 24 semester hours, not more than 15 of which may be selected in a single area. PRQ: Consent of department.

792. APPLICATIONS EXPERIENCE (1-9). Field experience for the doctoral student in applications of the mathematical sciences. May be repeated to a maximum of 18 semester hours with no more than 9 semester hours counting toward the Ph.D. degree. S/U grading. PRQ: Consent of department.

799. DOCTORAL RESEARCH AND DISSERTATION (1-15). May be repeated to a maximum of 36 semester hours.

## Statistics (STAT)

570. INTRODUCTION TO PROBABILITY THEORY (3). Includes probability spaces, random variables, discrete, continuous, mixed probability distributions, moment generating functions, multivariate distributions, conditional probability, conditional expectation, special distributions, laws of large numbers, and central limit theorem. PRQ: MATH 232 and STAT 350, or consent of division. CRQ: MATH 240 or consent of division.

571. PROBABILITY MODELS AND APPLICATIONS (3). Introduction to elementary stochastic processes and their applications to various phenomena in engineering, management science, the physical and social sciences, and operations research. PRQ: STAT 570 or consent of division.

572. INTRODUCTION TO MATHEMATICAL STATISTICS (3). Includes distributions of functions of random variables, interval estimation, sufficiency, completeness, point estimation, statistical hypotheses, analysis of variance, and the multivariate normal distribution. PRQ: STAT 570 or consent of division.

573. STATISTICAL METHODS AND MODELS I (3). A first course in statistical methods and models including exploratory data analysis and graphical techniques, regression analysis, experimental design, and basic sampling techniques. Extensive use of statistical computer packages. PRQ: MATH 211 and STAT 301, or STAT 350, or consent of division. CRQ: STAT 573A.

573A. STATISTICAL COMPUTING PACKAGES (1). Introduction to statistical computing with the aid of software packages. Data entry, transformations, simple plots, summary statistics, and statistical procedures. No previous computer experience is required. PRQ: MATH 211 and STAT 301, or STAT 350, or consent of division. CRQ: STAT 573 or consent of division.

574. STATISTICAL METHODS AND MODELS II (3). Continuation of STAT 573. Topics include factorial experiments: interactions, nested models, and randomized block designs. Categorical response data analysis: ordinal data, measures of association, Cochran-Mantel-Haenszel Test, logistic regression, and measures of agreement. PRQ: STAT 573 and STAT 573A, or consent of division.

578. STATISTICAL METHODS OF FORECASTING (3). Introduction to forecasting including use of regression in forecasting; removal and estimation of trend and seasonality; exponential smoothing; stochastic time series models; stochastic difference equations; autoregressive, moving average, and mixed models; model identification and estimation; diagnostic checking; and the use of time series models in forecasting. PRQ: STAT 573 or consent of division.

579. PRACTICE OF BAYESIAN STATISTICS (3). Introduction to Bayesian data analysis and applications with appropriate software. Topics include Bayes Theorem, discrete and continuous single-parameter models, comparison of Bayesian and non-Bayesian inference, multiparameter and hierarchical models, Bayesian computation including Markov chain simulation, mixture models, Bayesian sample-size determination and applications to modeling data from a wide variety of areas in business, engineering, and science. PRQ: STAT 350 and STAT 573, or consent of division.

581. PROBABILISTIC FOUNDATIONS OF ACTUARIAL SCIENCE (3). Actuarial populations. Univariate parametric actuarial distributions including Weibull and Pareto. Multivariate actuarial distributions. Exact and asymptotic relationships among these distributions. Mixtures of distributions. Jointly discrete, continuous, and mixed distributions. Moment, cumulant, and probability generating functions. Transformations of variables, and in-depth study of conditioning, for multivariate distributions. Basic theory of individual and collective risk models for aggregate loss from insurance policies. PRQ: STAT 570 or consent of division.

583. STOCHASTIC PROCESSES AND FINANCIAL MODELS (4). Finite-dimensional and steady-state properties of discrete-time Markov chains. Homogeneous, and non-homogeneous, Poisson and compound Poisson processes. Thinning and summing of independent Poisson processes. Brownian motion processes and Ito's lemma. Put-call parity, the binomial model and Black-Scholes formula. Option Greeks, delta-hedging, exotic options and actuarial applications of option pricing. PRQ: STAT 570 or consent of division.

585. LIFE CONTINGENCIES AND PAYMENT MODELS I (3). Survival-time distributions and their curtate versions, for one or two lives, possibly dependent, truncated, or censored. Mortality tables, aggregate, select and ultimate, and their use in modeling continuous life-time data. Present-value-of-benefit distributions for life insurances and annuities in the single and multiple-decrement models. PRQ: STAT 570 or consent of division.

586. LIFE CONTINGENCIES AND PAYMENT MODELS II (3). Premium calculations for life insurances and annuities via percentiles and the equivalence principle. Liability calculations for life insurances and annuities via the prospective, retrospective methods. Calculation of reserves for fully-discrete life insurances. Discussions of the above for single and multiple-decrement models. Extend the present-value-of-benefit, present-value-of-loss-at-issue, present-value-of-future-loss random variables and liabilities to discrete-time Markov Chain models. PRQ: STAT 583 and STAT 585, or consent of division.

591. PROGRAMMING AND COMPUTING IN STATISTICS (3). A study of algorithms useful for implementing computer intensive techniques in statistical inference and probability. Topics include computation of maximum likelihood estimators, bootstrap approximation, randomization and permutation testing techniques, Bayesian techniques, approximation of distribution functions and quantiles, simulation of random variables and stochastic processes. Implementation of the algorithms is achieved using the C++ (or C or FORTRAN) and R programming languages, as well as other specialized statistical computation software. PRQ: STAT 572 and either CSCI 230 or CSCI 240, or consent of division.

665. REGRESSION ANALYSIS (3). Simple and multiple linear regression, estimation, confidence intervals and tests, and prediction. Diagnostic methods using residuals, transformations, outliers, and influence analysis. Polynomial regression, stepwise variable selection, and collinearity. PRQ: STAT 574 or consent of division.

666. DISCRETE MULTIVARIATE DATA ANALYSIS (3). A first course in the analysis of discrete data including two-dimensional tables, the log linear model, goodness-of-fit of the model, measures of dependence, three and higher dimensional tables, hierarchical models, model selection, ordered categories, logit model, zero frequency problem, and introduction to Bayesian analysis of categorical data. PRQ: STAT 572 and STAT 574, or consent of division.

667. RELIABILITY AND LIFE TESTING (3). Survival function, failure rate, types of censored data, estimation for parametric models, accelerated life tests, competing risks, and Bayesian analysis of survival data. PRQ: STAT 572 and STAT 574, or consent of division.

668. METHODS IN BIostatISTICS (3). Survival function, failure rate, types of censored data, life tables, regression models for life-time data, bioassay, direct assay, indirect assays with quantitative response, and clinical trials. PRQ: STAT 572 and STAT 574, or consent of division.

669. METHODS FOR QUALITY CONTROL AND IMPROVEMENT (3). Control charts for attributes and variables, special control charts, process control techniques, acceptance sampling, process capability, Taguchi's approach to improving quality of a product, and the philosophy of Deming. PRQ: STAT 572 and STAT 574, or consent of division.

670. PROBABILITY THEORY (3). Review of measures, measurable functions, and algebras of events. Random variables and their moments and characteristic function. Sequences of random variables and various modes of convergence. Borel-Cantelli Lemma and Kolmogorov 0-1 law. Weak and strong laws of large numbers. Convergence in distributions and central limit theorems. Conditional expectation and martingales. Brownian motion and stochastic processes. PRQ: MATH 630 and STAT 570, or consent of division.

671. STOCHASTIC PROCESSES (3). Markov chains and processes. Brownian motion and Gaussian processes. Point processes and renewal processes. Martingales and weakly dependent stochastic processes. Convergence of stochastic processes. PRQ: STAT 670 or consent of division.

672. THEORY OF STATISTICS (3). Exponential class, elements of decision theory, unbiased estimation, shrinkage estimators, methods for estimating standard errors, multiparameter estimation, generalized likelihood ratio tests, sequential probability ratio test, and linear models. PRQ: STAT 572 or consent of division.

673. LINEAR MODELS (3). Theory of linear models with applications to the analysis of variance and regression and to the design of experiments. PRQ: STAT 572 and STAT 574, or consent of division.

674. DESIGN AND ANALYSIS OF EXPERIMENTS (3). Intermediate course in the design and analysis of experiments including linear models of less than full rank, distributions of quadratic forms, estimable functions; confounding, fractional replication; incomplete block, hierarchical, Latin square, cross-over, split plot, repeated measures and related designs, response surface methods, covariance analysis. PRQ: STAT 572 and STAT 574, or consent of division.

675. MULTIVARIATE METHODS OF STATISTICS (3). Introduction to the techniques of multivariate analysis including description of multivariate data, reducing the dimension, principal components, factor analysis, estimation and testing for the parameters in multinormal populations, and multivariate analysis of variance. Problems which involve the use of computers will be treated. PRQ: STAT 572 or STAT 574, or consent of division.

676. DISTRIBUTION-FREE STATISTICS (3). Survey of nonparametric statistical techniques and their logical foundations including the distributions of order statistics and ranks, tests of hypotheses, confidence intervals and Hodges-Lehmann estimators for one-sample, two-sample, and paired sample location problems, the two-sample dispersion problem, analysis of one-way and two-way layouts, tests of independence, goodness-of-fit tests, linear rank statistics, and U-statistics. PRQ: STAT 572 or STAT 574, or consent of division.

677. SAMPLING TECHNIQUES (3). Introduction to sample survey techniques and sampling theory including estimation of population parameters based on simple random sampling, cluster sampling, stratified sampling, and ratio sampling. Includes a summary of recent advances in sampling theory and discussions of practical problems and sources of error in surveys. PRQ: STAT 572 or STAT 574, or consent of division.

678. TIME SERIES ANALYSIS (3). Models for analysis of time series data including mean and covariance functions of stationary time series, moving average, autoregressive and mixed models, identification and estimation in ARMA (p,q) models, asymptotic properties of estimators, periodogram and spectral analysis, and regression with time series error. PRQ: STAT 572 and STAT 574, or consent of division.

679. ADVANCED STATISTICAL METHODS (3). Various topics discussed from the perspective of modeling and analyzing data. Emphasis on application of statistical methodology. Data analytic techniques illustrated with several types of data including categorical data, multivariate data, survival data, linear and nonlinear regression data, time series data, and data from designed experiments. Extensive use of modern statistical software. PRQ: STAT 572 and STAT 574, or consent of division. Recommended: MATH 662.

691. STATISTICAL CONSULTING (1½ or 3). Content varies; topics may include techniques for problem formulation; identification of parameters and solutions; client-consultant interaction techniques; ill-posed problems and their formulation; management of consulting time, facilities, and personnel. Participation under supervision in actual consulting projects. May be repeated to a maximum of 3 semester hours. PRQ: Consent of division.

693. GRADUATE READING IN PROBABILITY AND STATISTICS (1-9). May be repeated to a maximum of 9 semester hours. PRQ: Consent of division.

699. MASTER'S THESIS (1-6). May be repeated to a maximum of 6 semester hours. PRQ: Consent of division.

775. TOPICS IN STATISTICS (3). Content varies; may include courses in linear models, estimation, hypothesis testing, decision theory, and Bayesian inference. May be repeated to a maximum of 15 semester hours. PRQ: Consent of division.

790. SEMINAR IN STATISTICS (1-9). Discussions on topics in advanced probability and statistics as scheduled. Topics include but are not limited to probability theory, stochastic processes, statistical inference, nonparametric statistics, multivariate analysis, linear and nonlinear models, discrete data analysis, time series. 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 on a single topic. PRQ: Consent of division.

# Department of Philosophy (PHIL)

Acting Chair: David J. Buller

## Graduate Faculty

Valia Allori, assistant professor, Ph.D., Rutgers University  
 David J. Buller, Presidential Research Professor, Ph.D., Northwestern University  
 Mylan Engel, Jr., associate professor, Ph.D., University of Arizona  
 Alicia Finch, assistant professor, Ph.D., University of Notre Dame  
 Charles M. Gelven, Distinguished Research Professor, Ph.D., Washington University  
 Carl Gillett, associate professor, Ph.D., Rutgers University  
 Tomis Kapitan, Presidential Teaching Professor, Ph.D., Indiana University  
 James T. King, professor emeritus, Ph.D., Notre Dame  
 Theodore J. Kisiel, Distinguished Research Professor, emeritus, Ph.D., Duquesne University  
 Geoff Pynn, assistant professor, Ph.D., Yale University  
 Sharon Sytsma, associate professor, Ph.D., Loyola University  
 William E. Tolhurst, associate professor, Ph.D., University of Connecticut

The Department of Philosophy offers a graduate program leading to the M.A. degree which is 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. Students planning to enroll for graduate courses in philosophy should consult their advisers before registering.

Admission requirements are those established for admission to the Graduate School. The Department of Philosophy may require a student to remedy specific deficiencies in preparation by enrolling without graduate credit in certain courses.

## Master of Arts in Philosophy

Students are required to pass a comprehensive examination and to complete 30 semester hours of graduate course work, at least 24 of which must be in philosophy. As part of the course work in philosophy, students are required to complete PHIL 505, Intermediate Logic, with a grade of B or better. For students electing to write a thesis, the course work in philosophy will include 6 semester hours of PHIL 699, Thesis. All courses are to be chosen with the approval of the graduate adviser.

## Course List (PHIL)

502. PHILOSOPHY OF LOGIC (3). A consideration of various philosophical issues concerning logic and its applications, for example, the nature of validity, theories of truth, paradoxes of reasoning, and classical versus non-standard logics. PRQ: PHIL 205 or consent of department.

503. PHILOSOPHY OF MATHEMATICS (3). A study of the nature of mathematics based on a philosophical examination of its fundamental subject-matter, concepts and methods. PRQ: 6 semester hours of philosophy at the 300 level or consent of department.

504. PHILOSOPHY OF LANGUAGE (3). Study of philosophical problems concerning language, including issues of syntax, semantics, pragmatics, and hermeneutics. Topics may include meaning, communication, reference, logical form, modalities, tenses, metaphor, indexical terms, indirect discourse, anaphora, theories of truth, and semantic paradoxes. PRQ: PHIL 505 or consent of department.

505. INTERMEDIATE LOGIC (3). Review of symbolic logic including propositional logic, quantification theory, relations, and identity. Additional topics in formal logic and the philosophy of logic selected by the instructor such as proof theory, modal logic, theory of types, formal semantics, and the relation between the formal and the informal understanding of validity.

510. TOPICS IN METAPHYSICS OR EPISTEMOLOGY (3). Intensive study of a major theory or issue in metaphysics or epistemology. May be repeated to a maximum of 6 semester hours toward any one degree provided no repetition of subject matter occurs.

511. EPISTEMOLOGY (3). A survey of some main issues in contemporary epistemology, such as skepticism, epistemic justification, and the analysis of knowledge.

512. METAPHYSICS (3). A survey of some main issues concerning the fundamental structures of reality, such as the contrast between abstract and concrete; identity and difference; necessity, possibility and essence; causation; space and time; change and persistence.

520. TOPICS IN THE HISTORY OF PHILOSOPHY (3).

A. Major Philosophers

B. 19th and 20th Century History of Philosophy

C. Philosophical Movements

Each topic may be repeated to a maximum of 6 semester hours toward any one degree provided no repetition of subject matter occurs. PRQ: Consent of department.

521. PLATO (3). PRQ: Consent of department.

522. ARISTOTLE (3). PRQ: Consent of department.

523. MEDIEVAL PHILOSOPHY (3). PRQ: Consent of department.

524. 17TH AND 18TH CENTURY EMPIRICISM (3). An examination of selected writings by philosophers in the empiricist tradition, including Locke, Berkeley, and Hume. PRQ: Consent of department.

525. 17TH AND 18TH CENTURY RATIONALISM (3). An examination of selected writings by philosophers in the rationalist tradition, including Descartes, Spinoza, and Leibniz. PRQ: Consent of department.

526. KANT (3). PRQ: Consent of department.

527. 19TH CENTURY PHILOSOPHY (3). An examination of selected writings by 19th century philosophers, such as Hegel, Schopenhauer, Marx, Kierkegaard, Mill, and Nietzsche. PRQ: Consent of department.

528. 20TH CENTURY PHENOMENOLOGY (3). An examination of selected writings by philosophers in the phenomenological tradition, such as Husserl, Heidegger, Sartre, and Merleau-Ponty. PRQ: Consent of department.

529. 20TH CENTURY ANALYTIC PHILOSOPHY (3). An examination of selected writings by philosophers in the analytic tradition, such as Moore, Russell, Wittgenstein, Carnap, Ryle, and Quine. PRQ: Consent of department.

530. TOPICS IN ETHICS (3). Intensive study of a major theory, issue, or movement in historical or contemporary ethics. May be repeated to a maximum of 6 semester hours toward any one degree provided no repetition of subject matter occurs. PRQ: 3 semester hours of philosophy at the 300 level and consent of department.

531. CONTEMPORARY ETHICAL THEORY (3). A study of some recent developments in normative theory and metaethics. Topics may include consequentialism, deontology, moral relativism, moral epistemology, and theories of moral motivation. Readings selected from recent work in the field and earlier work as relevant. PRQ: 6 semester hours of philosophy at the 300 level or consent of department.

542. THEORIES OF VALUE (3). Study of the major theories of value, of kinds of values, and of the relations between value and such related notions as desire, practical reason, experience, and moral obligation. PRQ: 6 semester hours of philosophy at the 300 level or consent of department.

552. TOPICS IN PHILOSOPHY OF SCIENCE (3). Intensive study of some major issues in general philosophy of science or in the philosophy of one of the special sciences, such as physics or biology. Repeatable up to six semester hours when topic changes. PRQ: Consent of department.

562. PHILOSOPHY OF CULTURE (3). Various philosophical theories of culture and the areas of 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 on the relevance of an analysis of culture for philosophical understanding. Designed to be of interest to advanced students in the humanities. PRQ: 6 semester hours of philosophy at the 300 level or consent of department.

571. CLASSICAL THEORIES IN THE PHILOSOPHY OF RELIGION (3). Analysis of some of the views which have achieved major importance in this field. Texts 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*. PRQ: 6 semester hours of philosophy at the 300 level or consent of department.

582. AMERICAN PHILOSOPHY (3). A study of some of the major traditions and thinkers in American philosophy. Readings may include selections from Edwards, Jefferson, Emerson, Peirce, James, Royce, Dewey, and more recent figures. PRQ: Consent of department.

590. SEMINAR IN PHILOSOPHY (3). Intensive study of one major problem or position in historical or contemporary philosophy. May be repeated to a maximum of 9 semester hours toward any one degree provided no repetition of subject matter occurs. PRQ: Consent of department.

591. DIRECTED READINGS (1-4). Enrollment contingent on student's proposed course of study and approval of it by the faculty member selected to supervise the reading. May be repeated to a maximum of 9 semester hours toward any one degree provided no repetition of subject matter occurs. PRQ: Consent of department.

601. ADVANCED SYMBOLIC LOGIC (3). Varied topics selected from characteristic issues such as 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. Relevance of symbolic logic to the analysis of philosophical problems. PRQ: Graduate standing in philosophy or consent of department.

611. EPISTEMOLOGY (3). Topics in the theory of knowledge. Consideration of such problems as what kinds of knowledge there are, what constitutes knowing that something is true, the difference and relationship between knowing and believing, the nature of truth, the nature of perception, and methods of verification. PRQ: Graduate standing in philosophy or consent of department.

612. METAPHYSICS (3). Topics such as space, time, causation, freedom, matter, mind, universals, and self. PRQ: Graduate standing in philosophy or consent of department.

620. TOPICS IN HISTORY OF PHILOSOPHY (3).

- A. Major Philosophers
- B. Ancient and Medieval Philosophy
- C. 17th and 18th Century Philosophy
- D. 19th and 20th Century Philosophy
- E. Philosophical Movements

Each topic may be repeated to a maximum of 6 semester hours provided no repetition of subject matter occurs. PRQ: Consent of department.

631. ADVANCED ETHICAL THEORY (3). Special topics in advanced ethical theory. May be repeated to a maximum of 6 semester hours as the subject matter changes. PRQ: Graduate standing in philosophy or consent of department.

633. AESTHETICS (3). Detailed study of one or more classical or modern works on aesthetics or study of selected topics in aesthetics such as art and the individual, the nature of aesthetic judgment, the existence of an aesthetic attitude, or the nature of aesthetic experience. PRQ: Graduate standing in philosophy or consent of department.

640. PHILOSOPHY OF MIND (3). Recent developments in philosophy having a bearing on such concepts as perception, thought, intentionality, 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. PRQ: Graduate standing in philosophy or consent of department.

650. POLITICAL AND SOCIAL PHILOSOPHY (3). 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. PRQ: Graduate standing in philosophy or consent of department.

652. PHILOSOPHY OF SCIENCE (3). Topics in the philosophy of science. Consideration of such problems as confirmation, the ontological status of theoretical entities, the role of conventions in science, the logic of discovery, and the nature of scientific progress. PRQ: Graduate standing in philosophy or consent of department.

670. 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. PRQ: Graduate standing in philosophy or consent of department.

691. SPECIAL TOPICS IN RECENT PHILOSOPHY (3). May be repeated to a maximum of 6 semester hours as topic changes. PRQ: Graduate standing in philosophy or consent of department.

695. SPECIAL STUDIES AND RESEARCH (1-4). Guided research for students wishing to do special studies of an advanced nature. Students expected to write a number of short papers with research topics selected in consultation with the instructor. May be repeated to a maximum of 12 semester hours, providing no repetition of subject matter occurs. PRQ: Graduate standing in philosophy or consent of department.

699. THESIS (1-6). Guidance in the writing of the master's thesis. May be repeated to a maximum of 6 semester hours. PRQ: Graduate standing in philosophy or consent of department.

# Department of Physics (PHYS)

Chair: Lawrence Lurio

## Graduate Faculty

Carl Albright, Distinguished Research Professor, emeritus, Ph.D., Princeton University  
 Ralph L. Benbow, associate professor emeritus, Ph.D., Iowa State University  
 Gerald Blazey, Distinguished Research Professor, Ph.D., University of Minnesota  
 Dennis E. Brown, associate professor, Ph.D., Stanford University  
 Dhiman Chakraborty, associate professor, Ph.D., State University of New York, Stony Brook  
 Omar Chmaissem, associate professor, Ph.D., Université Joseph Fourier (Grenoble)  
 Bogdan Dabrowski, Distinguished Research Professor, Ph.D., Northwestern University  
 Bela Erdelyi, assistant professor, Ph.D., Michigan State University  
 Michael Fortner, associate professor, Ph.D., Brandeis University  
 David Hedin, director of graduate studies, Distinguished Research Professor, Board of Trustees Professor, Ph.D., University of Wisconsin  
 Zdenek D. Hurych, Distinguished Research Professor, emeritus, Ph.D., Charles University (Prague)  
 Yasuo Ito, associate professor, Ph.D., Cambridge University  
 Clyde Kimball, Distinguished Research Professor, emeritus, Ph.D., St. Louis University  
 Lawrence Lurio, associate professor, Ph.D., Harvard University  
 Stephen P. Martin, Distinguished Teaching Professor, Presidential Teaching Professor, Ph.D., University of California at Santa Barbara  
 Susan M. Mini, professor, Ph.D., Southern Illinois University  
 Philippe Piot, associate professor, Ph.D., Université de Grenoble (France)  
 John C. Shaffer, professor emeritus, Ph.D., University of Delaware  
 Carol Thompson, professor, Ph.D., University of Houston  
 Michel van Veenendaal, Presidential Research Professor, Ph.D., Rijksuniversiteit (Groningen)  
 Suzanne Willis, professor, Ph.D., Yale University  
 Augden Windelborn, assistant professor, Ed.D., Northern Illinois University  
 Roland Winkler, associate professor, Ph.D., University of Regensburg (Germany)  
 Zhili Xiao, associate professor, Ph.D., University of Konstanz (Germany)

## Master of Science in Physics

A student pursuing the M.S. in physics must complete a minimum of 30 semester hours and satisfy the requirements in one of the specializations described below.

The proficiency examination in any of the specializations should be taken during the first or second semester of residence. It normally should be passed in the second semester in order for the student to be considered for continuing financial assistance. The proficiency examination also serves as the department's comprehensive exam.

All master's degree students are required to register for PHYS 798, Physics Seminar, each semester. This requirement may be waived for a student whose circumstances in a particular semester preclude such enrollment, with the approval of the graduate studies director or the department chair.

## Specialization in Basic Physics

Completion of 24 semester hours in physics, including the following.

PHYS 500 - Analytical Mechanics II (3),  
 OR PHYS 600 - Classical Mechanics (3)  
 PHYS 660 - Quantum Mechanics I (3)  
 PHYS 661 - Quantum Mechanics II (3)  
 PHYS 670 - Electromagnetic Theory I (3),  
 OR PHYS 671 - Electromagnetic Theory II (3)

Passage of a proficiency examination in mechanics, electricity and magnetism, thermodynamics, optics, and modern physics.

Submission of an acceptable thesis and passage of an oral examination thereon.

## Specialization in Applied Physics

Three of the following (9-11)

PHYS 530 - Optics (4)  
 PHYS 563 - Thermodynamics, Kinetic Theory, and Statistical (3)  
 PHYS 574 - Methods of Experimental Physics (3)  
 PHYS 575 - Laboratory Electronics II (4)  
 PHYS 580 - Introduction to Materials Science (3)  
 PHYS 680 - Introduction to Nanophysics (3)  
 PHYS 790 - Special Topics in Physics (1-6)

Two of the following (6)

PHYS 600 - Classical Mechanics (3)  
 PHYS 660 - Quantum Mechanics I (3)  
 PHYS 663 - Statistical Physics I (3)  
 PHYS 666 - Solid State Physics I (3)  
 PHYS 673 - Beam Physics I (3)

Passage of a proficiency examination which may include a special area examination (e.g., acoustics, biophysics, geophysics) in place of one section of the proficiency examination.

Submission of an acceptable thesis and passage of an oral examination thereon.

## Specialization in Physics Teaching

Completion of 24 semester hours in physics, including at least 12 semester hours at the 600 level or above.

Passage of proficiency examination with an option of course work in a related science substituted for one area of proficiency examination.

Submission of an acceptable thesis and passage of an oral examination thereon; or submission of two papers, one of which may pertain to teaching of physics or history and philosophy of physics.

PHYS 692 - Seminar on College Teaching of Physics (3) or one year of successful teaching experience.

See also "Teacher Certification Information."

## Doctor of Philosophy in Physics

### Admission

Students seeking admission to the Ph.D. program in physics must have a background equivalent to that attained by acquiring the B.S. degree in physics at NIU. Although applicants are not required to submit scores other than the GRE General Test score required for admission to the Graduate School, the submission of scores from the GRE Subject Test in physics could enhance their application.

### Course Requirements

The Graduate Studies Committee of the department is responsible for approving each student's program to meet the course requirements specified below. Each student must complete at least 90 semester hours of graduate course work. The committee will assess all work done at other institutions and will recommend acceptance of transfer credit for any graduate work deemed appropriate, subject to the policies of and approval by the Graduate School. The Graduate Studies Committee of the department is also responsible for the administration of the qualifying and candidacy examinations. All Ph.D. students are required to register for PHYS 798, Physics Seminar, for two semesters. In addition, all students are required to complete the following.

#### Core Courses (15)

All Ph.D. students must successfully complete at least five of the following six courses:

PHYS 600 - Classical Mechanics (3)  
 PHYS 660 - Quantum Mechanics I (3)  
 PHYS 661 - Quantum Mechanics II (3)  
 PHYS 663 - Statistical Physics I (3)  
 PHYS 670 - Electromagnetic Theory I (3)  
 PHYS 671 - Electromagnetic Theory II (3)

#### Distribution Requirements (12)

All students are required to take 12 semester hours in physics at or above the 600 level, excluding PHYS 659, PHYS 699, PHYS 798, and PHYS 799, distributed over two areas of the discipline. Up to 9 semester hours of this requirement can be replaced by courses of comparable level in engineering, biology, chemistry, or geology. If all six of the core courses are successfully completed, then one of them can be applied to this distribution requirement.

The distribution requirements for the nanoscience concentration are given below. See the Interdisciplinary Academic Centers and Courses section of the Graduate Catalog.

Other areas and the courses chosen to meet the distribution requirement must be approved in each case by the Graduate Studies Committee of the department.

#### Distribution Requirements for Nanoscience Concentration (12)

PHYS 680 - Introduction to Nanophysics (3)  
 And any three of the following (9):  
 PHYS 600 - Classical Mechanics (3) (if not used to satisfy core courses)  
 PHYS 666 - Solid State Physics I (3)  
 PHYS 667 - Solid State Physics II (3)  
 PHYS 671 - Electromagnetic Theory II (3) (if not used to satisfy core courses)  
 PHYS 768 - Quantum Theory of Solids (3)  
 PHYS 790A - Special Topics in Physics: Solid State Physics (1-6)  
 CHEM 600G - Selected Topics in Chemistry: Nanoscience (1-3)  
 CHEM 641 - Chemical Thermodynamics (3)  
 CHEM 642 - Kinetics (3)

MEE 611 - Continuum Mechanics (3)  
 MEE 634 - Experimental Methods in Materials Science (3)  
 MEE 650 - Advanced Thermodynamics (3)  
 MEE 692 - Advanced Mechanical Engineering Analysis (3)

#### Dissertation (24)

A minimum of 24 semester hours in PHYS 799, Doctoral Research and Dissertation.

#### Elective Course Work (39)

This may include dissertation work as well as graduate course work in physics and the other natural sciences, engineering, mathematics, and computer science. The courses chosen to meet this requirement are subject to the approval of the Graduate Studies Committee.

#### Qualifying Examination

A student without a master's degree in physics is required to pass a qualifying examination which will consist of the proficiency examination for one of the specializations in the M.S. physics program. Students admitted to the program with a master's degree in physics are exempt from the qualifying examination. Students admitted to the Ph.D. program with a master's degree in a related field can be exempted from the qualifying examination with approval of the department.

#### Candidacy Examination

The candidacy examination is a written examination based on the core courses and other graduate courses. The examination is to be taken within one year of completion of the core courses.

#### Language/Research-Tool Requirements

There are no foreign-language or extra-departmental research tool requirements. The mathematics prerequisites to undergraduate physics courses constitute a sufficient research tool requirement.

#### Dissertation Committee

The dissertation committee for each student will be nominated by the chair of the department and appointed by the dean of the Graduate School. This committee will consist of three to five graduate faculty members and will otherwise meet the specifications of the Graduate School. It will be chaired by the dissertation director, who is appointed by the chair of the department and the deans of the College of Liberal Arts and Sciences and of the Graduate School.

#### Oral Dissertation Defense

An oral examination on the dissertation will be conducted by the dissertation committee according to Graduate School regulations.

#### Course List (PHYS)

500. ANALYTICAL MECHANICS II (3). Motion of complex systems. Study of oscillating, rotating, and vibrating systems, nonlinear mechanics, mechanics of continuous media, and relativistic mechanics. Use of Fourier analysis, tensors, and Lagrangian and Hamiltonian formulation. PRQ: PHYS 300 or consent of department.

510. COMPUTATIONAL PHYSICS (3). Techniques of physics problem solving using computers. Application of numerical analysis, linear analysis, iterative methods, and Monte Carlo simulation to problems in classical and modern physics. Use of equation-solving software and high-level programming languages. PRQ: CSCI 240, PHYS 300, and PHYS 370, or consent of department.

520. ACOUSTICS I (3). Vibrating strings, bars and plates, acoustic wave equation, transmission and absorption of sound, radiation, and filters. PRQ: PHYS 367 or MEE 322; and MATH 334 or MATH 336; or consent of department.
530. OPTICS (4). Geometrical, physical, quantum, and experimental optics with emphasis on topics of current interest. Three lectures plus a three hour laboratory weekly. PRQ: PHYS 370 or consent of department.
531. MEDICAL IMAGING I (3). Basic principles of imaging science for diagnostic applications and therapy planning in radiation therapy. Imaging technology including 2-D X-ray imaging and 3-D imaging using CT, MRI, and ultrasound. Mathematical methods of image reconstruction and anatomical structure identification. PRQ: Consent of department.
534. RADIATION PHYSICS I (3). Radiation from nuclear reactions and accelerators and the interaction of radiation with matter. Theory of particle interactions including photons, electrons, protons, neutrons, and heavy nuclei. Natural and artificial radioactivity, radiation detection, dose determinations, and shielding. PRQ: PHYS 383 or consent of department.
537. HEALTH PHYSICS AND RADIATION PROTECTION (3). Health risks of various types and quantities of radiation. Dose limits established by various agencies. Methods of calculating dose reduction from barriers near radiation producing machines as well as methods of measuring doses in controlled and uncontrolled areas. PRQ: Consent of department.
560. QUANTUM PHYSICS (3). Schrodinger wave equation, eigen-values and eigen-functions, methods of approximation, and applications to the square well, the harmonic oscillator, and hydrogen-like atoms. PRQ: PHYS 300 and PHYS 370, or consent of department.
561. MODERN PHYSICS (3). Applications of quantum physics to atoms, molecules, solids, nuclei, and elementary particles. PRQ: PHYS 560 or consent of department.
563. THERMODYNAMICS, KINETIC THEORY, AND STATISTICAL (3). Review of such topics as the laws of thermodynamics, the entropy concept, and thermodynamic potentials. Probability, distribution functions, and transport phenomena. Introductory treatment of classical and quantum-mechanical statistical mechanics. Emphasis on applications to areas of modern physics. PRQ: PHYS 320 or consent of department.
567. NOISE AND VIBRATION CONTROL (3). Includes mechanical vibrations, damping, resonance, vehicle noise, acoustical enclosures, and techniques of noise abatement and measurement. PRQ: PHYS 300, PHYS 367, or TECH 367, or consent of department.
570. ELECTRICITY AND MAGNETISM II (3). Maxwell's equations; propagation, reflection, and transmission of electromagnetic waves; wave guides; dipole radiation; radiation by point charges; electrodynamics in special relativity. PRQ: PHYS 300 and PHYS 370, or consent of department.
572. PHYSICAL MEASUREMENTS (2). Special laboratory problems. PRQ: Consent of department.
574. 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. PRQ: PHYS 375 or consent of department.
575. LABORATORY ELECTRONICS II (4). Applications and use of integrated circuits and computer interfaces for experimental measurement and control. Includes digital electronics, digital-to-analog and analog-to-digital conversion, power supplies, and active filters and oscillators. Includes lecture and one 3-hour laboratory period a week. PRQ: PHYS 375 or consent of department.
577. ASTROPHYSICS (3). Kepler's laws and solar system, analysis of solar radiations, nuclear reactions in the sun, and other selected topics. PRQ: PHYS 283 and PHYS 300, or consent of department.
580. INTRODUCTION TO MATERIALS SCIENCE (3). Mechanical, thermal, electrical, optical, and structural properties of modern engineering materials. PRQ: PHYS 300 and PHYS 370, or consent of department.
585. METHODS OF MATHEMATICAL PHYSICS II (3). Tensor analysis. Functions of complex variable, residue calculus, partial differential equations of mathematical physics and Green's function. PRQ: PHYS 385 or consent of department.
592. SCIENCE TEACHING IN THE ELEMENTARY, MIDDLE, AND JUNIOR HIGH SCHOOL: GRADES K-9 (3). *Crosslisted as GEOL 586X*. Selected instructional methods and materials for teaching science in elementary, middle, and junior high schools with emphasis on the physical sciences. Analysis of modern curricula and practice in the use of associated laboratory materials developed for use at all levels from grades K-9. Designed for the classroom teacher and pre-teacher, but open to science supervisors and administrators. Not available for credit in the major. PRQ: A general physical science course and consent of department.
594. USE OF TECHNOLOGY IN SECONDARY SCIENCE TEACHING (2). *Crosslisted as GEOL 584X*. Selected methods for the evaluation and use of technology in both the instructional and laboratory setting in secondary science education. Topics may include the interfacing of computers for data acquisition in the laboratory, strategies for integrating the Internet into the curriculum, and use of video/multimedia equipment. PRQ: Consent of department.
595. TEACHING OF PHYSICAL SCIENCES (3). *Crosslisted as CHEM 595X, GEOG 595X, and GEOL 595X*. Preparation for certification in grades 6-12 in one or more of the fields of physical science: physics, chemistry, earth science, and general science. Examination and analysis of modern curricula; classroom and laboratory organization; microteaching and observation of teaching; lesson planning; multicultural education; teaching science to the exceptional child; reading and the teaching of science; and methods of evaluation. PRQ: Consent of department. CRQ: ILAS 401 or consent of department.
597. STUDENT TEACHING (SECONDARY) IN PHYSICS/PHYSICAL SCIENCES (7-12). Student teaching in grades 6-12 for 10 weeks or for one semester. Assignments to be arranged with the College of Liberal Arts and Sciences Teacher Placement Office after approval by the Department of Physics. PRQ: PHYS 495, or PHYS 595, and consent of department.
600. CLASSICAL MECHANICS (3). Hamiltonian formulation, canonical transformations, Hamilton-Jacobi theory, special relativity, continuous media and fields. PRQ: PHYS 500 or consent of department.
601. MECHANICS OF CONTINUOUS MEDIA (3). Dynamics of fluids and elastic media in the linear approximation; streamline flow and turbulence; wave propagation in fluids; vibrations and wave propagation in elastic solids; introduction to nonlinear mechanics of continua. PRQ: PHYS 500 or consent of department.
605. 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.
620. ACOUSTICS II (3). Acoustic wave theory and applications, including sound radiation, transmission, and absorption, acoustical measurements, nonlinear waves, and vibration. PRQ: PHYS 520 or consent of department.
621. PHYSICAL AND APPLIED ACOUSTICS (3). Topics of current interest in acoustics including quantum effects, interaction of sound and light, bioacoustics, architectural acoustics, transducers, physics of musical instruments, speech acoustics, and psychoacoustics. PRQ: PHYS 620 or consent of department.

624. ACOUSTICS LABORATORY (3). Methods of analysis of sound and vibration, including holographic interferometry, FFT analysis, experimental modal testing, audio tests and measurements, acoustic diffraction and interference, sonoluminescence, acoustic fields, and psychoacoustics. PRQ: PHYS 429 or consent of department.

630. ADVANCED OPTICS (3). Quantum optics and lasers. Topics in nonlinear optics, to include frequency doubling crystals, parametric crystals, acoustic scattering. Fourier optics. Kirchhoff-Fresnel theory of diffraction. Other contemporary topics at discretion of instructor. PRQ: PHYS 530, PHYS 570, or PHYS 560, or consent of department.

631. MEDICAL IMAGING II (3). Physics and mathematics in nuclear medicine. Nuclear isotope production, interactions of nuclear decay products in tissue, PET, and SPECT designs. Methods of image reconstruction from detector data. Chemical agents (such as monoclonal antibodies) to attach isotopes to selected regions of the body for imaging. Digital X-ray imaging systems for 2-D imaging. PRQ: PHYS 531 and consent of department.

634. RADIOLOGICAL PHYSICS AND DOSIMETRY (3). Methods of measuring and calculating dose to the patient for common tumors. Field shaping techniques to increase dose conformity to the target. External beam therapy as well as radioactive seed implants (brachytherapy). Various dosimeters used for measurement as well as their limitations and accuracy. PRQ: PHYS 534 and consent of department.

643. RADIATION ONCOLOGY FOR THE MEDICAL PHYSICIST (2). Types and stages of tumors in the body. Modalities of treating cancer; when radiation can be used with curative intent and when it can be used for palliation (pain relief). Clinical results and ways of demonstrating efficacy of the treatment. Review of cell damage and repair mechanisms as they pertain to radiation treatment. PRQ: PHYS 634 and consent of department.

645. SURFACE PHYSICS (3). Topics include surface crystallography, thermodynamics, electronic structure, reconstruction, clean surfaces, chemisorption, physisorption, and experimental techniques of surface analysis including Low-Energy Electron Diffraction (LEED) desorption, stimulated desorption, various electron spectroscopies, electron microscopy, and X-ray scattering. Topics limited to discretion of instructor. PRQ: PHYS 660 and PHYS 666, or consent of department.

646. TREATMENT PLANNING FOR RADIATION THERAPY (2). Planning techniques using 3-D imaging for X-ray, electron and proton planning. Dose distributions superimposed on CT images of human anatomy. Beam optimization methods using multiple fields to increase dose to disease sites and spare healthy tissue. Dose optimization using IMRT (intensity modulated X-ray radiation therapy) and IMPT (intensity modulated proton therapy). PRQ: PHYS 643 and consent of department.

648. COMPUTER MODELING TECHNIQUES FOR RADIOTHERAPY (2). Transport theory including the Boltzmann Transport Equation and its application to radiation therapy calculations. Radiation dose deterministic algorithms such as the broad-beam and pencil-beam methods, and stochastic methods such as the Monte Carlo technique. Algorithms application to therapeutic charged particle radiotherapy problems, including predictions of dose distributions in patient anatomy, absolute dose predictions, and commissioning and validation studies. PRQ: PHYS 646 and consent of department.

650. CLINICAL PRACTICUM I (3). Practical experience in radiation calibration and weekly QA (quality assurance) of therapy machines. Students will be assigned tasks by dosimetrists, therapists, and medical physicists from their clinical duties. Verification of accuracy of treatment plans and monitoring of unit calculations. Measurement of doses in therapy beams using ion chambers, film, and TLDs. PRQ: Permission only. Open only to students in the medical physics specialization.

651. CLINICAL PRACTICUM II (3). Hands-on experience with CT and MRI scanners using various types of phantoms. Calibration procedures and how to store and retrieve data for later analysis; use of X-ray tubes for radiographic film and digital images. Acquire data for PET, SPECT and ultrasound equipment, depending on equipment availability. PRQ: PHYS 650 and permission only. Open only to students in the medical physics specialization.

659. 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 15 semester hours, but no more than 10 semester hours may apply toward a master's degree. PRQ: Consent of department.

660. QUANTUM MECHANICS I (3). Linear vector spaces, operators, and the formal structure of quantum theory; elementary treatment of simple systems; matrix mechanics; angular momentum and spin, timeindependent and dependent perturbation methods, variational principle; applications to simple atoms and molecules. PRQ: Consent of department.

661. QUANTUM MECHANICS II (3). Identical particles, exclusion principle and exchange effects; interaction of electromagnetic radiation with matter; introduction to scattering theory, partial wave analysis, and Born approximation; simple many-body theory in the Hartree-Fock framework. PRQ: PHYS 660 or consent of department.

663. STATISTICAL PHYSICS I (3). Classical and quantum distribution functions, entropy and temperature, connection with thermodynamics; partition function, quantum gases, nonideal gases; Boltzmann equation and the H-theorem; fluctuation and transport phenomena; phase transitions and critical phenomena, non-equilibrium problems, scaling and critical behavior; introduction to renormalization group methods. CRQ: PHYS 561 or consent of department.

666. SOLID STATE PHYSICS I (3). Crystal symmetry, lattice vibrations, free and Bloch electrons, Brillouin zones and band structures; introduction to lattice dynamics and transport properties; Fermi surfaces; semiconductors; simple treatment of mechanical, thermal, electrical, optical, and magnetic properties of solids. PRQ: PHYS 560 or consent of department.

667. SOLID STATE PHYSICS II (3). Magnetism, superconductivity, optical properties, screening and dielectric response in solids; electrostatics of metals, phonons, elasticity and anharmonicity; second-order phase transitions, disordered systems. PRQ: PHYS 666 or consent of department.

670. ELECTROMAGNETIC THEORY I (3). Maxwell's equation, plane waves in isotropic and anisotropic dielectrics, conducting media, wave guides and plasmas, dipole radiation and diffraction. PRQ: PHYS 570 or consent of department.

671. ELECTROMAGNETIC THEORY II (3). Radiation from moving charges, relativistic formulation of electrodynamics, collisions and scattering, multipole radiation, radiation damping and self forces. PRQ: PHYS 570 or consent of department.

673. BEAM PHYSICS I (3). Production and acceleration of charged particle beams; an historical account of accelerators; review of geometric optics; E-M of accelerators; dynamics, equations of the motion, and transfer maps; linear beam optics; beam line modules; particle optical devices; periodic transport. PRQ: PHYS 600 and PHYS 670, or consent of instructor.

674. METHODS OF EXPERIMENTAL PHYSICS II (3). Various experimental methods and applications including spectroscopy (optical, nuclear, Mossbauer, X-ray diffraction), methods of particle detection, and research uses of accelerators (nuclear and particle physics, synchrotron radiation studies). PRQ: Consent of department.

680. INTRODUCTION TO NANOPHYSICS (3). Characterization, fabrication, and physical properties of nanostructures. Topics may include length scales, fabrication by top-down and bottom-up approaches, probing techniques, transport and optical properties, superconductivity and magnetism of nanostructures. PRQ: PHYS 560 or PHYS 660 or consent of the department.

683. BEAM PHYSICS II (3). Multiparticle beam dynamics: space-charge effects; self-consistent theory of beams; emittance dilution and control; other collective effects (wakefield, coherent synchrotron radiation) and associated instabilities; phase space manipulations. PRQ: PHYS 671 and PHYS 673, or consent of instructor.

684. INTRODUCTION TO HIGH ENERGY PHYSICS AND ASTROPHYSICS (3). Quarks, leptons, and gauge bosons; fundamental interactions and their unification in the standard model of particle physics; big bang cosmology. PRQ: PHYS 561 or consent of department.

685. METHODS OF THEORETICAL PHYSICS (3). Topics selected from integral equations, integral transforms, elements of finite group theory, Lie groups, Lie algebras, and representation theory. PRQ: PHYS 585 or consent of department.

686. PHENOMENOLOGY OF PARTICLE PHYSICS (3). Advanced topics in the standard model of quarks, leptons, gauge bosons, and their fundamental interactions. Particle production and decay phenomenology. PRQ: PHYS 684 or consent of department.

692. SEMINAR ON COLLEGE TEACHING OF PHYSICS (3). Traditional and nontraditional methods for teaching physics at the college and community college levels. Laboratory and demonstration apparatus discussed. May include teaching classes under the guidance of an experienced teacher. May not be applied toward the master's degree. PRQ: Consent of department.

699. MASTER'S THESIS (1-6). Individual investigation of a problem under the supervision of an adviser in the department. May be repeated to a maximum of 6 semester hours. PRQ: Consent of research supervisor and the department.

751. GENERAL RELATIVITY (3). Special relativity on a flat space-time metric, manifolds and curvature, Einstein's equation, Schwarzschild solution. PRQ: PHYS 600 and PHYS 670, or consent of department.

752. ASTROPHYSICS (3). Big bang cosmology, Robertson-Walker metric, open and closed universe, dark matter, inflationary universe, stellar evolution, black holes. PRQ: PHYS 684 or PHYS 751, or consent of department.

760. QUANTUM MECHANICS III (3). Lagrangian field theory, introduction to the Klein-Gordon and Dirac equations and properties of simple relativistic systems; elements of second quantization theory; introduction to quantum electrodynamics and renormalization theory. PRQ: PHYS 661 or consent of department.

768. QUANTUM THEORY OF SOLIDS (3). Theory of groups and group representations; crystal field and spin-orbit interactions; Hartree-Fock theory and electron-electron interactions, electron-phonon interactions; elementary excitations, electron dynamics and transport; Landau-Fermi liquid theory, BCS theory of superconductivity; elastic properties and defects in solids. PRQ: PHYS 667 or consent of department.

776. PARTICLE PHYSICS (3). Structure of elementary particles, constituent models of electroweak and strong interactions, and associated phenomenological techniques. PRQ: PHYS 760 or consent of department.

786. GAUGE THEORIES (3). Gauge principles, spontaneous symmetry breaking, Higgs mechanism, standard model of particle physics, application to electroweak interactions and quantum chromodynamics. PRQ: PHYS 760 or consent of department.

790. SPECIAL TOPICS IN PHYSICS (1-6).

- A. Condensed Matter Physics
- B. Elementary Particle Physics
- C. Nanophysics
- D. Beam Physics
- E. Medical Physics

Lectures and discussions on topics in various fields of physics at the graduate level. May be repeated in one or more fields of physics to a maximum of 9 semester hours in any one area, but no more than 15 semester hours may apply toward a master's degree, and no more than 24 semester hours toward a Ph.D. PRQ: Consent of department.

798. PHYSICS SEMINAR (1). Discussion of current problems in physics under guidance of staff.

799. DOCTORAL RESEARCH AND DISSERTATION (1-15). May be repeated to a maximum of 100 semester hours. PRQ: Consent of department.

# Department of Political Science (POLS, PSPA)

Chair: Christopher M. Jones

## Graduate Faculty

Larry Arnhart, Presidential Research Professor, Ph.D., University of Chicago  
 James M. Banovetz, adjunct professor emeritus, Ph.D., University of Minnesota  
 Andrea Bonnicksen, Distinguished Research Professor, Ph.D., Washington State University  
 Michael Buehler, assistant professor, Ph.D., London School of Economics and Political Science  
 Barbara C. Burrell, professor, Ph.D., University of Michigan  
 Yu-Che Chen, assistant professor, Ph.D., Indiana University  
 Michael Clark, assistant professor, Ph.D., University of California, Santa Barbara  
 Ross J. Corbett, assistant professor, Ph.D., University of Toronto  
 Paul J. Culhane, adjunct professor emeritus, Ph.D., Northwestern University  
 Gerald T. Gabris, Distinguished Teaching Professor, Ph.D., University of Missouri  
 Gary D. Glenn, Distinguished Teaching Professor, emeritus, adjunct professor, Ph.D., University of Chicago  
 Kikue Hamayotsu, assistant professor, Ph.D., Australian National University  
 Rebecca J. Hannagan, assistant professor, Ph.D., University of Nebraska  
 Christopher M. Jones, associate professor, Ph.D., Syracuse University  
 Daniel R. Kempton, professor, Ph.D., University of Illinois  
 Dwight Y. King, adjunct professor emeritus, Ph.D., University of Chicago  
 Heidi O. Koenig, associate professor, Ph.D., Syracuse University  
 Frederick D. Mayhew, assistant professor, Ph.D., North Carolina State University  
 Clark D. Neher, Distinguished Teaching Professor, emeritus, adjunct, Ph.D., University of California, Los Angeles  
 Kimberly L. Nelson, assistant professor, Ph.D., North Carolina State University  
 Michael T. Peddle, associate professor, Ph.D., Northwestern University  
 John G. Peters, professor, Ph.D., University of Illinois  
 Andrea Radasanu, assistant professor, Ph.D., University of Toronto  
 Irene S. Rubin, adjunct professor emeritus, Ph.D., University of Chicago  
 Alicia M. Schatteman, assistant professor, Ph.D., Rutgers University  
 Scot Schraufnagel, assistant professor, Ph.D., Florida State University  
 Matthew Streb, associate professor, Ph.D., Indiana University  
 Brendon Swedlow, associate professor, Ph.D., University of California, Berkeley  
 Kurt M. Thurmaier, director, Division of Public Administration, professor, Ph.D., Syracuse University  
 Kheang Un, assistant professor, Ph.D., Northern Illinois University  
 Daniel H. Unger, associate professor, Ph.D., University of California, Berkeley  
 Artemus Ward, associate professor, Ph.D., Syracuse University  
 Curt H. Wood, associate professor, Ph.D., University of Kansas  
 Mikel Wyckoff, associate professor, Ph.D., University of Maryland

The Department of Political Science offers graduate programs leading to the M.A., M.P.A., and Ph.D. degrees. Six fields are available in political science: American government and politics, public administration, political theory, comparative politics, international relations, and politics and the life sciences.

Graduate study may lead to careers in government service (federal, state, and local), international business, teaching, and professional writing and research. The public administration program offers professional preparation, including 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 students' career objectives by their departmental advisers.

In addition to the requirements below, students are expected to comply with the regulations contained in the graduate handbook appropriate to their program available from either the department or the division of public administration.

## Master of Arts in Political Science

Students interested in pursuing the M.A. in political science normally should have at least 9 undergraduate semester hours in political science or the 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.

## Requirements

Of the minimum 30 semester hours of graduate credit required for the degree, at least 9 semester hours are to be taken in one of the fields listed above and at least 3 semester hours in POLS 690. PSPA 661 is required for study in the field of public administration leading to the M.A. degree. A maximum of 3 semester hours of POLS 690 may be counted toward the 30 semester hour minimum. No more than 3 semester hours in courses outside the department may be applied to the degree.

Students may apply 3 semester hours to the writing of a thesis. If a thesis is to be written the student must register for POLS 699, Thesis (1-6). Students not writing a thesis must submit and successfully defend two research papers prepared in graduate courses, one in the student's primary field and the other outside it. Prior to submission to the department for this purpose, each paper must be approved for such submission by the instructor for the course in which it was written. An oral comprehensive examination is required upon completion of all course work, or during the last term of study.

## Master of Public Administration

The mission of the Division of Public Administration is to advance excellence in public management by preparing men and women for public service careers. The M.P.A. program focuses principally on the dynamics of public policy formulation and administrative leadership for persons who wish to address political, social, economic, environmental, and administrative problems in the public and non-profit sectors.

## Admission

Application for admission to the M.P.A. program is made directly to the Graduate School. A completed application consists of the Graduate School application, a two-page statement of career goals, three letters of recommendation, transcripts from all undergraduate and graduate institutions attended, and the official score report on the Graduate Record Examination (GRE) General Test.

Pre-career students should request at least two letters of recommendation from previous instructors who can judge their ability to do graduate work. If pre-career students have public sector experience, they should request a letter from an employer who can judge their potential as future public administrators. In-service students should request at least one letter of recommendation from a previous instructor and remaining letters from public sector employers.

Prerequisites for admission to the program are 9 semester hours in the social sciences, including at least one course in U.S. government, and appropriate undergraduate work in mathematics or statistics. With the approval of the student's adviser, a maximum combined total of 15 semester hours of graduate credit transferred from other accredited institutions plus graduate credit earned in courses at Northern Illinois University as a student-at-large may be counted toward meeting the requirements of the M.P.A. degree. The limit on student-at-large hours may be waived in special circumstances, with the approval of the director of the Division of Public Administration.

## Requirements

The M.P.A. degree normally requires the completion of a minimum of 39 to 50 semester hours of approved graduate study in the public policy/management core and a selected specialization. The student must complete a minimum of 39 semester hours of course work exclusive of internship hours.

In addition to credit-hour requirements, students must also develop a basic familiarity with the utilization of computers; submit a capstone paper while registered for PSPA 699; and pass a comprehensive examination. The capstone paper is a culminating research/analysis presentation, based on an approved research design, which is expected to be of professional, publishable quality. Every student must complete at least 5 semester hours of PSPA 699 prior to graduation. Each student must enroll for 2 semester hours of PSPA 699 after the completion of 9 semester hours of course work. Students must have completed a minimum of 27 semester hours of approved graduate study, exclusive of internship courses; have maintained a GPA above 3.00; be carrying no "incompletes"; and have completed a minimum of 4 semester hours of PSPA 699 to be eligible to sit for the comprehensive examination. After the completion of 30 semester hours of course work, the student must maintain continuous enrollment in PSPA 699 until graduation or capstone requirements are met.

### Public Policy/Management Core (27)

PSPA 600 - Scope and Dynamics of Public Administration (3)  
 PSPA 601 - Data Analysis in Public Administration (3)  
 PSPA 604 - Public Program Evaluation Methods (3)  
 PSPA 605 - Organization Theory and Behavior (3)  
 PSPA 609 - Public Personnel Management (3)  
 PSPA 610 - Public Budgeting and Financial Management (3)  
 PSPA 611 - Public Revenue Analysis and Financial Management (3)  
 PSPA 612 - Information Management and Decision Support in Public Organizations (3)  
 PSPA 699 - Public Sector Research (3)

Students with appropriate previous course work or professional experience may petition program faculty for permission to substitute elective courses for PSPA 601, PSPA 609, or PSPA 610. Permission for such a substitution involving PSPA 601 will not be granted until after the student has demonstrated his or her competence by passing an examination administered by the faculty for that purpose. In no case will any semester hours be waived. Students are also held responsible on the comprehensive examination for knowledge/skill areas from all public policy/management core courses, irrespective of any approved substitutions.

### Specialization

Students must also complete the requirements of one of the following specializations, thus permitting the development of expertise in a particular field of academic and professional interests. Students will normally be expected to select elective courses from curricula other than public administration (PSPA) courses.

#### Specialization in 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.

PSPA 671 - Public Management in a Globalized Environment (3),  
 OR PSPA 672 - Administrative Problems of Less Developed Countries (3)

Two of the following (6)

POLS 621 - Comparative Public Policy (3)  
 POLS 633 - International Biotechnology Policy (3)  
 POLS 668 - Seminar in the Political Economy of Developing Areas (3)  
 POLS 684 - Political Economy of International Relations (1-3)  
 PSPA 671<sup>1</sup> - Public Management in a Globalized Environment (3)  
 PSPA 672<sup>1</sup> - Administrative Problems of Less Developed Countries (3)

Approved graduate course work (3)

#### Specialization in Fiscal Administration

The critical examination of techniques and problems in the areas of fiscal management, accountancy, budgetary policy, and political economy.

PSPA 653 - Intermediate Public and Nonprofit Financial Management (3)

PSPA 657X - Accounting for Public Administration (3)

PSPA 695<sup>2</sup> - Internship in Public Administration (1-3)

Approved graduate course work (6)

#### Specialization in Human Services Administration

An intensive review of fundamental problems involved in the development and administration of programs in social services, mental health, developmental disabilities, health planning, workforce planning, aging, youth services, and related topics.

PSPA 626 - Social Policy (3)

PSPA 695<sup>2</sup> - Internship in Public Administration (1-3)

Approved graduate course work (9)

#### Specialization in Public Management and Leadership

A study of public administration focusing principally on knowledge of and leadership skills for the management of public organizations.

PSPA 650 - Leadership in Public Sector Organizations (3),

OR POLS 620 - Study of Public Policy (3),

OR PSPA 660 - Ethics and Public Service in America (3)

PSPA 695<sup>2</sup> - Internship in Public Administration (1-3)

Approved graduate course work (9)

<sup>1</sup> If not counted above

<sup>2</sup> The requirement for PSPA 695 may be waived if a student has had appropriate professional experience.

### Specialization in Urban Management

An analysis of urban problems, especially the political and administrative problems of city management and community organization activities.

PSPA 630 - Local and Metropolitan Government (3)

One of the following:

PSPA 631 - Urban Planning and Zoning (3),

OR PSPA 632 - Problems of Municipal Administration (3),

OR PSPA 635 - Local Economic Development Policy (3)

PSPA 695<sup>2</sup> - Internship in Public Administration (1-3)

approved graduate course work (6)

### Simultaneous Enrollment in M.P.A. and J.D. Degree Programs

The Division of Public Administration and the College of Law offer the opportunity for simultaneous enrollment in the M.P.A. and J.D. degree programs to qualified graduate students. Students must be admitted to both the M.P.A. program and the J.D. program. Matriculation in the two programs must be within 18 months of each other.

Since students enroll in two separate degree programs, to receive both degrees students must meet all of the graduation requirements for both degree programs. A student may obtain either degree prior to completing all requirements for the other degree. Under the simultaneous enrollment plan, students are required to take at least 111 total semester hours, 81 from the College of Law and 30 from the Division of Public Administration (not including the internship). Up to 9 semester hours of College of Law course work may be applied toward the 39 semester hours required for the M.P.A. degree, and up to 9 semester hours of M.P.A. course work with a grade of B or better may be applied toward the 90 semester hours required for the J.D. degree.

### Doctor of Philosophy in Political Science

While the Ph.D. in political science has traditionally been the badge of distinction of college and university teachers, doctoral programs in political science are also designed with other career objectives in mind such as professional research, public service, and university administration. The Department of Political Science is conscious of these several career objectives.

#### Admission

An applicant may be admitted to the Ph.D. program without a prior degree in political science or public administration if the discipline of the prior degree(s) is relevant to his or her primary fields of doctoral study. If the applicant has not completed a prior degree in political science or public administration, he or she must have completed the equivalent of 9 semester hours of undergraduate political science course work or the department may require that introductory political science courses appropriate to his or her fields of study be taken as a condition of admission.

An applicant to the Ph.D. program in political science is usually expected to have completed both a baccalaureate and an M.A. degree; however, an individual with a baccalaureate degree may be admitted directly into the Ph.D. program. Such an applicant must have GRE scores, strong letters of recommendation, and an undergraduate record which present conclusive evidence of an ability to begin high quality work at the doctoral level immediately.

Students with a baccalaureate degree who are admitted directly into the Ph.D. program must complete all requirements for the master's degree in political science with at least a 3.20 GPA in graduate political science courses exclusive of thesis and independent study courses. Having met the master's degree requirements, they will be strongly encouraged to apply for and receive an M.A. in political science.

### Course Requirements

The Department of Political Science requires that 90 semester hours of graduate course work be completed with a cumulative GPA of 3.00 or higher. These hours may include no more than 30 semester hours of credit in POLS 690, Political Science Research, POLS 691, Teaching of Political Science, POLS 799A, Doctoral Research and Dissertation, or any combination thereof.

In completing the remaining required 60 semester hours of course work, students must include POLS 602, Scope and Methods of Political Science I (3), and POLS 603, Scope and Methods of Political Science II (3). Students who have not completed the scope and methods sequence prior to entering the Ph.D. program should do so in their first year of doctoral studies. Students with a field in public administration may substitute PSPA 604 for POLS 602 with the approval of their advisory committee.

The department requires the completion of two fields. The fields offered by the department are American government and politics (POLS 600 required), public administration (PSPA 661 required), political theory (POLS 650 and POLS 651 required), comparative politics (POLS 660 required), international relations (POLS 680 required), and politics and the life sciences (POLS 630 required). Course work is also available in political economy and urban governance. Graduate students in the doctoral program must take comprehensive written and oral examinations (candidacy examinations) in both fields.

The student must complete 15 semester hours of course work in a primary field and a minimum of 12 semester hours in the second field, both designated by the student. Doctoral students must take a minimum of three 600- or 700-level seminars in their first field and a minimum of two 600- or 700-level seminars in their second field. Students who take the minimum semester hours in either field may not count any independent study courses toward the minimum. No more than one course outside of political science may be counted toward the hours required in a field. A minimum of 6 semester hours of POLS 690 must be completed beyond any hours counted toward the M.A. degree. Students who have passed candidacy examinations must register for 3 semester hours of POLS 690 each semester until the dissertation proposal has been formally approved. POLS 690 credit does not count toward the minimum course requirement in either of the two fields. No more than 15 semester hours may be taken outside of political science. Exceptions to any of these rules must be approved by the department graduate committee, to which such requests must be submitted in writing through the student's advisory committee.

Students will be expected to consult initially with an interim adviser, and subsequently with members of the advisory committee, once these have been appointed, regarding a program of studies. Such consultation will help to insure that the student's doctoral work is related to career and professional interests, and conforms 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.

#### Teaching-Skill Requirement

All students in the Ph.D. program will be required to participate in a training program in classroom techniques. Ordinarily the requirement will be met through direct involvement in the instructional program for at least one semester under the close supervision of a faculty member. Exceptions are authorized only upon recommendation of the student's committee and approval of the department graduate committee.

<sup>2</sup> The requirement for PSPA 695 may be waived if a student has had appropriate professional experience.

## Language/Research-Tool Requirement

The student working toward a Ph.D. in political science must demonstrate an ability to make use of research tools by showing proficiency in using language and/or quantitative research tools. The choice of specific language/research tools will relate to the student's fields of study, and will be made with the approval of the student's advisory committee. Proficiency in any foreign language can be demonstrated in accordance with the procedures described in the section "Ph.D. Language and/or Research-Tool Requirement" under "Requirements for Graduate Degrees" earlier in this catalog. This includes the possibility of demonstrating average proficiency in French, German, or Spanish through the reading courses indicated. In addition, with the approval of the appropriate faculty member of the Department of Foreign Languages and Literatures, average proficiency in other languages can be demonstrated by passing a translation examination administered as part of the final examination in the fourth or later semester of study. Proficiency in a research tool is normally demonstrated 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 a research tool. Any one of the following will satisfy the language/research-tool requirement.

- Two foreign languages, average reading proficiency
- One foreign language, high level of reading proficiency
- One foreign language, average reading proficiency, and one research tool, average proficiency
- Two research tools, average proficiency
- One research tool, high level of proficiency

The language/research-tool requirement must be completed before the student takes doctoral candidacy examinations, unless the department grants an exception.

## Candidacy Examinations

The student will take candidacy examinations after completing most or all of his or her course work. Written candidacy examinations will be administered in the two fields in a student's program, and may be followed by an oral examination in either or both fields. A student who successfully completes this requirement will be recommended to the Graduate School for admission to candidacy for the doctorate in political science. A student must take all three examinations in one examination period. Any student who fails a written examination may, with the permission of the advisory committee, retake that particular examination in the next examination period. A student who fails two written examinations in the same field, or more than three in different fields, will not be permitted to continue.

## Certificate of Graduate Study

### Public Management (15)

Offered by the Division of Public Administration, this certificate should be of interest to public sector employees and professionals as well as students enrolled in other NIU graduate degree programs and individuals who hold a master's degree in a related discipline. Credit earned for a certificate may be applied toward the M.P.A. degree with the advice and approval of the division director.

Admission to pursue the certificate is based on an overall assessment of the applicant's education needs and career objectives. Each applicant must complete an admissions form furnished by the Division of Public Administration and submit a written statement describing the applicant's work experience in the public sector. Additionally, a brief statement indicating how the applicant's career objectives can be enhanced by completing the certificate should be submitted.

A student's program of study must be reviewed and approved by the division director or the M.P.A. coordinator. A maximum of 3 semester hours earned in another department or program may be applied toward the certificate with the consent of the division director or M.P.A. coordinator.

At least three of the following (9-15)

- PSPA 600 - Scope and Dynamics of Public Administration (3)
- PSPA 601 - Data Analysis in Public Administration (3)
- PSPA 604 - Public Program Evaluation Methods (3)
- PSPA 605 - Organization Theory and Behavior (3)
- PSPA 609 - Public Personnel Management (3)
- PSPA 610 - Public Budgeting and Financial Management (3)
- PSPA 612 - Information Management and Decision Support in Public Organizations (3)

Other 600-level PSPA courses with the exception of PSPA 661, PSPA 671, PSPA 692, PSPA 695, and PSPA 699 (0-6)

## Course List

### Political Science (POLS)

#### Course Numbering System

Many courses offered by the department relate to more than one field of political science. However, as a general guide to students, the following numbering system is used.

- 00 to -19, American government
- 20 to -29, public policy
- 30 to -39, politics and the life sciences
- 50 to -59, political theory
- 60 to -79, comparative politics
- 80 to -89, international relations

The following numbers are for courses not in any of the above fields.

- 40 to -49, methodology
- 90 to -99, general

510. CONSTITUTIONAL LAW I (3). Judicial, legislative, and executive powers, war and emergency powers, federalism, the commerce clause, taxing and spending powers, the state police power, inter- and intrastate relations, and the Supreme Court and economic policy. PRQ: POLS 100 or consent of department.

511. CONSTITUTIONAL LAW II (3). Economic liberties and property rights, equal protection of the law, due process, incorporation of the Bill of Rights, right to counsel, right against compelled self-incrimination, right against cruel and unusual punishment, and right against unreasonable searches and seizures. PRQ: POLS 100 or consent of department.

512. CONSTITUTIONAL LAW III (3). The First Amendment: freedoms of speech, association, assembly, press, and religion, and the right to privacy. PRQ: POLS 100 or consent of department.

539. INTERNSHIP (3). Admission upon written departmental approval. Two days a week or equivalent in a government or nongovernmental agency. S/U grading.

550. AMERICAN POLITICAL THOUGHT I (3). Analysis of the political thought of selected American statesmen and stateswomen having political responsibility at the critical moments in American history. Attention given to the relationship between the political philosophy in their thinking and the political actions they initiated.

551. AMERICAN POLITICAL THOUGHT II (3). Analysis of topics in American political thought which reflect major political controversies in American history, for example, liberty and equality, liberalism and conservatism, American political rhetoric. Topics change each semester. May be repeated to a maximum of 6 hours.

552. RELIGION AND THE CONSTITUTION (3). Examination of the constitutional relation of religion and American politics in light of modern political philosophy, the Founders' political thought, and historical and contemporary constitutional controversies involving religion.

556. WAR, EMPIRE, AND ETHICS (3). Examination of questions of justice and interest as they arise in the context of war and imperial politics. Study of views of political philosophers, historians, and political leaders. Representative authors include Thucydides, Machiavelli, Kant, and Churchill. PRQ: Consent of department.
569. TOPICS IN LATIN AMERICAN POLITICS (3). Comparative analysis of politics and government in Latin America, focusing on specific countries or issues. May be repeated once as topic changes. PRQ: POLS 381 or consent of department.
580. INTERNATIONAL LAW AND ORGANIZATION (3). Principles of the international law of peace, war, and neutrality. The origins, structure, and functioning of the United Nations and its specialized agencies. Contemporary problems. Recommended: POLS 285.
583. RUSSIAN FOREIGN POLICY (3). Examination of contemporary Russian foreign policy, with emphasis on the determinants, objectives, and strategies. Recommended: POLS 366.
- 593X. SEMINAR IN POLITICAL ECONOMY (3). *Crosslisted as ECON 593.*  
 A. Decision Making in the Public Sector  
 B. International Relations  
 C. Metropolitan Studies  
 D. Human Resources and Training Policy  
 Topics announced. Each lettered topic may be taken once. PRQ: Consent of department.
595. SEMINAR IN CURRENT PROBLEMS (3). Contemporary issues and policies in government and politics. May be repeated to a maximum of 6 semester hours.
- 596X. HISTORY AND SOCIAL SCIENCE INSTRUCTION IN GRADES 6-12 (3). *Crosslisted as HIST 596.* Organization and presentation of materials for history and social science courses at the middle school, junior high, and senior high school levels. PRQ: Admission to the history or social science teacher certification program and permission of Department of History's office of teacher certification.
600. SEMINAR IN AMERICAN POLITICS (3). Reading seminar in the major literature and research approaches to the study of American politics and government.
601. TOPICS IN AMERICAN POLITICS (3). 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.
602. RESEARCH DESIGN IN POLITICAL SCIENCE I (3). Survey of research methods and design in political science. Required in the first year for all students in the Ph.D. program and strongly recommended for all M.A. students planning to pursue a Ph.D.
603. SCOPE AND HISTORY OF POLITICAL SCIENCE II (3). Social science theories of knowledge and orientation to the discipline of political science. Required in the first year for all students in the Ph.D. program and strongly recommended for all M.A. students planning to pursue a Ph.D.
605. SEMINAR IN POLITICAL PARTIES (3). Survey of the literature and research pertaining to American political parties.
606. INTERGOVERNMENTAL RELATIONS (3). Analysis of national-state, national-local, state-local, interstate, and interlocal relationships within the United States. Nature of federalism, constitutional and statutory power bases, and cooperative problem-solving.
607. SEMINAR ON THE PRESIDENCY (3). Survey of the literature and research pertaining to the presidency and the executive branch including historical development of the powers and roles of the office.
608. LEGISLATIVE BEHAVIOR (3). Functioning of legislative bodies, actions of members, coalitions, policy outputs, decision processes, and constituency relationships.
609. THE ROOTS OF POLITICAL BEHAVIOR (3). 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 semester hours.
610. 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.
612. CONSTITUTIONAL POLITICS (3). Relationship between doctrines of constitutional law and the political values of prevailing coalitions on the U.S. Supreme Court. Attention given to selected cases.
618. THEORIES OF LEGAL JUSTIFICATION (3). Alternative frameworks for the justification of judicial decisions.
619. TOPICS IN PUBLIC LAW (3). May be repeated to a maximum of 6 semester hours.
620. STUDY OF PUBLIC POLICY (3). Survey of the theoretical approaches to public policymaking rooted in the fields of American politics, public administration, and urban politics.
621. COMPARATIVE PUBLIC POLICY (3). Comparative analysis of the policies of both developed and developing nations in the areas of budgetary, development, foreign, military, and social welfare policies.
624. NATURAL RESOURCES POLICY (3). Policymaking and political management regarding environmental issues such as pollution regulation, water resources development, and environmental impact assessment. Enrollment open to students in both natural and social sciences.
626. HEALTH POLICY (3). Examination of political issues relating to the allocation and rationing of health resources in democratic and in other societies. Includes health policies and case studies of governmental decision making.
630. BIOPOLITICAL THEORY (3). History, approaches, problems, and critiques of biopolitics.
631. BIOMEDICAL POLICY (3). Detailed examination of state and federal government policies related to biomedical issues. Emphasis on policies relating to human genetics (counseling, screening, therapy), reproductive technologies, and organ transplantation. PRQ: Consent of department.
632. BIOTECHNOLOGY AND POLITICAL STRUCTURES (3). Intensive examination of the role of the executive, legislative, and judicial branches of government in the regulation of biotechnology research and development. Exploration of questions of industry-academic relations in biotechnology.
633. INTERNATIONAL BIOTECHNOLOGY POLICY (3). Examination of the social and political implications of developments in biotechnology for international relations. Topics include international regulatory, economic, and legal issues in biotechnology as well as the uses of biotechnology in terrorism and warfare.
637. EVOLUTION AND POLITICAL THEORY (3). Theoretical and methodological problems in biopolitical studies with attention to the political implications of Darwinian evolution, ethology, and sociobiology. PRQ: Consent of department.
641. INTRODUCTORY ANALYSIS OF POLITICAL DATA (3). Consideration of basic concepts in data analysis and statistics such as central tendency, dispersion, probability, confidence intervals, statistical significance, correlation, and bivariate regression.
642. INTERMEDIATE ANALYSIS OF POLITICAL DATA (3). Regression analysis techniques in political research. Simple bivariate statistical models through structural modeling. PRQ: POLS 340 or POLS 641, or consent of department.

643. ADVANCED ANALYSIS OF POLITICAL DATA (1-3). Review and application of the general linear model to selected techniques from among the following: analysis of binary or categorical dependent variables, such as logistic regression; time-series analysis, including ARIMA; factor analysis; structural equation modeling using software such as LISREL or AMOS. May be repeated to a maximum of 6 semester hours when topic changes. PRQ: POLS 642 or consent of department.

645. QUALITATIVE RESEARCH METHODS (3). Examination of the philosophical underpinnings and rigorous design of qualitative research in political science, with emphasis on giving students sufficient skills to do qualitative research. Topics include selecting and defining cases, structuring qualitative interviews, coding and analyzing qualitative data, and generalizability. Techniques and applications include participant observation, case studies, elite interviews, and oral histories.

650. BASIC PROBLEMS IN ANCIENT POLITICAL PHILOSOPHY (3). Analysis of a major work or major works of classical political philosophy. May be repeated to a maximum of 12 semester hours when topic varies.

651. TOPICS IN MODERN POLITICAL PHILOSOPHY (3). Analysis of a major work or major works illustrative of modern political philosophy. May be repeated to a maximum of 15 semester hours when topic varies.

652. THEORY OF AMERICAN DEMOCRACY I: THE FEDERAL CONVENTION (3). Theoretical consideration of the American political order as it is revealed in its founding decade, with attention given to the Proceedings of the Federal Convention and related philosophical and historical materials.

653. THEORY OF AMERICAN DEMOCRACY II: THE FEDERALIST (3). Theoretical consideration of the American political order as it is revealed in the founding decade, with attention given to The Federalist as a work of political philosophy, to the anti-Federalist writings, and to related philosophical and historical materials.

654. PRINCIPLES OF PLATO'S POLITICAL THEORY (3). Analysis of Plato's political dialogues. May be repeated to a maximum of 6 semester hours for different dialogues.

660. SEMINAR IN COMPARATIVE POLITICAL ANALYSIS (3). Reading seminar in the major theoretical and methodological concerns of the field of comparative government.

662. SEMINAR IN POLITICAL CULTURE (3). Analysis of politics as a cultural manifestation; comparative analysis of the cultural bases of national political systems. Research on selected topics of political culture.

663. POLITICAL ECONOMY OF THE COMMUNIST WORLD (3). Analysis of the context and dynamics of communist political economies. Interaction of communist politics with economic structures and constraints. PRQ: Consent of department.

666. RUSSIAN POLITICS AND GOVERNMENT (3). Examination of contemporary Russian politics and government, including the major political institutions, parties, and leaders. Attention also given to the evolution of Russian federalism.

667. SEMINAR IN POLITICAL DEVELOPMENT (3). Reading seminar devoted to a comprehensive survey of the literature on the problems of political development and social modernization in the developing nations.

668. SEMINAR IN THE POLITICAL ECONOMY OF DEVELOPING AREAS (3). Examination of the political determinants and consequences of economic development programs in underdeveloped nations. Attention 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.

669. THE POLITICS OF ECONOMIC POLICY IN INDUSTRIALIZED COUNTRIES (3). Attention given to various forms of planning, regulation, participation, and industrial relations in industrialized countries, including the U.S., USSR, Japan, and selected European countries.

670. READING SEMINAR IN SOUTHEAST ASIAN POLITICS (3). 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.

672. TOPICS IN COMPARATIVE POLITICS (3). Research and analysis of selected topics or selected world regions in the field of comparative politics. May be repeated to a maximum of 9 semester hours when topic varies.

673. FOREIGN AREA POLITICS (3).

A. India and Pakistan

C. Africa

E. The Middle East

G. East Asia

J. Western Europe

K. Latin America

M. Communist Political Systems

N. Thailand

R. Indonesia

Focus on political institutions, processes, behaviors, and the impact of sociocultural change in the area of concern. May be repeated to a maximum of 9 semester hours; however, individual topics may not be repeated.

675. SEMINAR IN COMPARATIVE POLITICAL INSTITUTIONS AND PROCESSES (3). 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.

680. THEORIES OF INTERNATIONAL RELATIONS (3). Seminar surveying the major theories and methods used in contemporary international relations. Consideration of the nature of international relations and provides a broad sampling of systemic and subsystemic approaches.

681. U.S. NATIONAL SECURITY (3). Examination of the leading challenges and issues confronting contemporary U.S. national security policymakers and the many factors that influence the policies that emerge. Consideration of policy options and national strategies designed to address specific threats to national security. Emphasis on theoretical and practical concepts, substantive policy issues, and pertinent literature from both the academic and policy communities.

682. 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.

683. U.S. PRESIDENTIAL FOREIGN POLICY MANAGEMENT (3). Examination of the role of the U.S. chief executive in foreign affairs with attention to how particular independent variables—experience, personality, leadership style, advisors, economic resources, domestic politics, and the international system—shape presidential foreign policy within and across administrations.

684. POLITICAL ECONOMY OF INTERNATIONAL RELATIONS (3). The mutual influence of economic and political factors in international relations, including the roles of multinational corporations, international economic organizations, and national foreign economic policies. In-depth examination of relevant theories including theories of imperialism and dependency.

685. AMERICAN FOREIGN POLICY-MAKING (3). Seminar exploring the actors, politics, and processes involved in the formulation and implementation of contemporary American foreign policy. Role and relative influence of domestic institutions, public opinion, and the international system. Examination of relevant theories of foreign policy making.

686. SEMINAR IN INTERNATIONAL RELATIONS (3). Research and analysis of selected topics or selected world regions in the field of international relations. May be repeated to a maximum of 15 semester hours when topic varies.

687. SOUTHEAST ASIA AND INTERNATIONAL POLITICS (3). 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.

688. EAST ASIAN SECURITY (3). Great power relations in East Asia. Focus on patterns of conflict and cooperation among China, Japan, Russia, and the United States. Examination of security challenges facing Korea and Taiwan.

690. POLITICAL SCIENCE RESEARCH (1-3). Supervised research training in planning, design, execution, and analysis of political science research. Required of all graduate students in political science. Master's students may repeat to a maximum of 18 semester hours. Doctoral students may repeat to a maximum of 36 semester hours. S/U grading. PRQ: Consent of department.

691. TEACHING OF POLITICAL SCIENCE (1-3). Orientation to and supervised teaching of political science. Required of all doctoral students for 1 semester hour and may not be repeated except by students who are teaching assistants. Teaching assistants may repeat to a maximum of 18 semester hours. Credit may not be applied toward the hours required for a master's degree, and is not accepted toward field requirements for the Ph.D. degree. May be counted toward the 90 semester hours required for the Ph.D. degree. S/U grading. PRQ: Consent of department.

696. INDEPENDENT STUDY IN POLITICAL SCIENCE (1-6). Open to qualified master's students who wish to do individual advanced work in political science. May be repeated to a maximum of 9 semester hours.

699. THESIS (1-6). May be repeated to a maximum of 6 semester hours.

701. RESEARCH SEMINAR IN AMERICAN POLITICS AND POLICY (3). Open to advanced doctoral students in American government, politics and the life sciences, and public policy who wish to work on a dissertation proposal.

702. RESEARCH SEMINAR IN COMPARATIVE AND INTERNATIONAL POLITICS (3). Open to advanced doctoral students in comparative politics and international relations who wish to work on a dissertation proposal.

750. SEMINAR IN POLITICAL THEORY (3). Research and discussion of selected topics. May be repeated to a maximum of 9 semester hours as topic changes.

796. INDEPENDENT STUDY IN POLITICAL SCIENCE (1-6). Open to students admitted to the doctoral program who wish to do individual advanced work in political science. May be repeated to a maximum of 9 semester hours.

798. FOREIGN STUDY AND INTERNSHIP (3-9). Individual research, study, and work abroad.

799A. DOCTORAL RESEARCH AND DISSERTATION (3-15). May be repeated to a maximum of 30 semester hours. PRQ: Successful completion of candidacy examinations, approval of dissertation proposal, and appointment of a dissertation director, or consent of department.

799B. DOCTORAL DISSERTATION (1). PRQ: Successful completion of oral defense of dissertation and departmental approval of final revisions to the dissertation.

### **Public Administration (PSPA)**

501. PHILANTHROPY AND VOLUNTEERISM (3). Discussion of the role of philanthropic activities in a civil society, the process of philanthropy, and the contribution that volunteerism makes to nonprofit organizations. Examination of techniques, methods, and policies concerning the management of volunteers in nonprofit organizations.

600. SCOPE AND DYNAMICS OF PUBLIC ADMINISTRATION (3). Examination of the history of public administration and the basic issues which confront it including administrative responsibility and ethics, and the formulation and implementation of public policy.

601. DATA ANALYSIS IN PUBLIC ADMINISTRATION (3). Examination of techniques for the collection, manipulation, interpretation, and presentation of data and information in public policy/management processes, and demonstrates applications of the techniques using micro-computer technology.

604. PUBLIC PROGRAM EVALUATION METHODS (3). Examination of the techniques of evaluation and their application to selected policy areas, including a discussion of experimental, quasi-experimental, and other evaluative tools. Requires design of a research project. PRQ: PSPA 601 or consent of department.

605. ORGANIZATION THEORY AND BEHAVIOR (3). Survey of theory and research on organizations relevant to public administration, with a focus on key organizational functions and ways of defining and responding to organizational problems. PRQ: PSPA 600 or consent of department.

609. PUBLIC PERSONNEL MANAGEMENT (3). Examination of techniques, methods, and policies concerning the management of personnel in public and quasi-public organizations.

610. PUBLIC BUDGETING AND FINANCIAL MANAGEMENT (3). Examination of the public budgetary process and related financial management techniques.

611. PUBLIC REVENUE ANALYSIS AND FINANCIAL MANAGEMENT (3). Theories and politics of taxation, features and impacts of alternative revenue generation methods, and financial management topics including procurement and procurement systems, enterprise resource planning systems, and contract management.

612. INFORMATION MANAGEMENT AND DECISION SUPPORT IN PUBLIC ORGANIZATIONS (3). Introduction to concepts and skills concerning the management of information technology in the public sector. Covers topics related to managing computers and using software (including spreadsheets and database management systems) to support the decision-making process. PRQ: PSPA 601 or consent of department. Recommended PRQ: PSPA 605.

621. GRANT WRITING (1). Specialized and applied instruction in grant writing, including identifying potential grants, drafting proposals, administering awarded funds, and understanding legal obligations.

622. FUNDRAISING (1). Specialized and applied instruction in fundraising, including solicitation techniques, donor recruitment, and customer relationship management technologies.

623. ADVOCACY FOR NONPROFIT ORGANIZATIONS (1). Specialized and applied instruction to advocate on behalf of a nonprofit organization in the public policy process, including the formation and evaluation of policies.

624. RESOURCES MANAGEMENT FOR NONPROFIT ORGANIZATIONS (3). Discussion of resource strategies for nonprofit public service organizations; including fundraising, grant writing, volunteer management, and oversight roles.

626. NON-GOVERNMENTAL ORGANIZATIONS AND GOVERNANCE (3) Introduction to the role of non-governmental organizations in public service delivery in the United States and globally, including the size, scope, ethics, and legal framework of such entities.

627. 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

D. Mental Health Administration

Examination of political and administrative aspects of organizing, maintaining, and delivering health and mental health services.

628. THE ROLE OF NONGOVERNMENTAL ORGANIZATIONS IN DEVELOPMENT (3). Exploration of the roles that nongovernmental organizations play in development activities in developing countries, with emphasis on non governmental organizations that support education and community development.
630. LOCAL AND METROPOLITAN GOVERNMENT (3). Discussion of the operational and administrative aspects of local and metropolitan government in the United States, including design and structure, municipal law, finance, administrative organization, local political systems, and intergovernmental relations.
631. URBAN PLANNING AND ZONING (3). 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.
632. PROBLEMS OF MUNICIPAL ADMINISTRATION (3). 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.
633. CITIZEN PARTICIPATION (3). Introduction to the study of citizen participation theories and application of those theories in government. Topics include citizen involvement in local government processes, accountability, and tools used to involve citizens in local government activities.
635. LOCAL ECONOMIC DEVELOPMENT POLICY (3). Introduction to the tools, institutions, analytical techniques, financing instruments, and policy issues relevant to economic development policy at the state, local, and regional level.
650. LEADERSHIP IN PUBLIC SECTOR ORGANIZATIONS (3). Examination of leadership models and exploration of leadership theory historically and how conceptions of leadership have evolved, changed, and adapted. Leadership development, training, and practices in public sector organizations.
652. PUBLIC SECTOR REVENUE MANAGEMENT (3). Investigation of theories and politics of taxation, impacts of alternative taxes, fiscal federalism, mechanics of raising funds, macroeconomic impacts, and principles of municipal investment. PRQ: PSPA 610 or consent of department.
653. INTERMEDIATE PUBLIC AND NONPROFIT FINANCIAL MANAGEMENT (3). Advanced topics in financial management essential for public managers seeking specialized knowledge in public budgeting and financial management. Topics typically include: debt management, risk management policy, revenue policy, fundraising strategies, auditing, cash and investment management and policies, and revenue forecasting. PRQ: PSPA 611 or consent of department.
654. INFORMATION SYSTEMS AND GOVERNMENT (3). Examination of management issues, innovative applications, and research involving information systems and government. Covers topics such as geographic information systems, expert systems, pert/cpm software, and political and legal issues involved in public information systems. PRQ: PSPA 612 or consent of department.
655. ORGANIZATION DEVELOPMENT IN THE PUBLIC SECTOR (3). Examination of the theoretical basis of organization development (OD) and total quality management (TQM). Demonstrates how OD and TQM technologies can be applied to public sector organizations for improving program quality and performance.
656. MANAGEMENT OF NOT-FOR-PROFIT AGENCIES (3). Comprehensive study of the not-for-profit organization as an integrated and complex model. Examination of not-for-profit management principles and objectives, program services, planning, resource development and fund raising, volunteer development, and public relations.
- 657X. ACCOUNTING FOR PUBLIC ADMINISTRATION (3). *Crosslisted as ACCY 557* Survey of governmental and other public sector accounting for non-accounting majors. Topics include an introduction to accounting, budgeting, auditing, and financial statement analysis as applied to state and local governments, hospitals, colleges, universities, and other nonprofit organizations. PRQ: Consent of Division of Public Administration or Department of Accountancy.
658. LABOR-MANAGEMENT RELATIONS IN THE PUBLIC SECTOR (3). Federal, state, and local government employee-management relations with emphasis on legislative, judicial, political, and social considerations. Attention given to selected occupational groups such as police and fire in the public sector. Comparisons with the private sector and the special bargaining problems of various units in the public sector.
659. TOPICS IN PUBLIC ADMINISTRATION (3). Selected issues concerning the policy and administrative processes of public organizations. May be repeated to a maximum of 9 semester hours as the topic changes.
660. ETHICS AND PUBLIC SERVICE IN AMERICA (3). Examination of contemporary and historical ethical dimensions of public service in the United States, with focus on the duties and responsibilities of the public administrator to act ethically and with integrity.
661. THEORY AND ANALYSIS IN PUBLIC ADMINISTRATION (3). Examination of the major theoretical and conceptual concerns of public administration as a field of academic inquiry. Not available to candidates for the M.P.A. degree.
664. POLITICS OF PUBLIC BUDGETING (3). Focus on political aspects of budgeting with attention to the local level. Covers topics such as how deficits occur, the relationship of machine and reform governments to spending level and balance, and the politics of taxation and tax revolt. Consideration of the broader questions of how governments gain support or fail to gain support for spending and revenue decisions in a democracy. Recommended PRQ: PSPA 610.
671. PUBLIC MANAGEMENT IN A GLOBALIZED ENVIRONMENT (3). Examination of public management in a global and comparative context. Explores alternative models of government structure, management reforms, and NGO roles in public management.
672. ADMINISTRATIVE PROBLEMS OF LESS DEVELOPED COUNTRIES (3). Examination of selected problems of public administration in less developed countries.
692. INDEPENDENT STUDY IN PUBLIC ADMINISTRATION (1-3). Open to qualified M.P.A. students who wish to do individual advanced work in public administration. May be repeated to a maximum of 6 semester hours.
695. INTERNSHIP IN PUBLIC ADMINISTRATION (1-3). Preprofessional experience composed of three elements: administrative or staff service in a public or quasi-public agency; seminar meetings consisting of student presentations and action exercises; and presentations by practicing public administrators and scholars in the field of public affairs. May be repeated to a maximum of 8 semester hours. S/U grading. PRQ: Consent of department.
699. PUBLIC SECTOR RESEARCH (1-5). Research and writing related to the completion of the capstone paper requirement for the M.P.A. degree. May be repeated to a maximum of 12 semester hours. S/U grading. PRQ: PSPA 604 or consent of department.
720. SEMINAR IN PUBLIC ADMINISTRATION (3). Research and discussion of selected topics. May be repeated to a maximum of 9 semester hours as topic changes.
723. 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.
725. INDEPENDENT STUDY IN PUBLIC ADMINISTRATION (1-6). Open to students admitted to a program of doctoral study at NIU who wish to do individual advanced work in public administration. May be repeated to a maximum of 6 semester hours.
735. SEMINAR IN COMMUNITY GOVERNANCE (3). Survey of the scholarly literature focusing on the systems of governance in American communities and on the problems confronting community governance, with emphasis on urban issues.

# Department of Psychology (PSYC)

Chair: Gregory A. Waas

## Graduate Faculty

Kathryn M. Bell, assistant professor, Ph.D., Western Michigan University  
 David J. Bridgett, assistant professor, Ph.D., Washington State University  
 M. Anne Britt, associate professor, Ph.D., University of Pittsburgh  
 James V. Corwin, Distinguished Research Professor, Ph.D., University of Kentucky  
 Michelle K. Demaray, associate professor, Ph.D., University of Wisconsin  
 Amanda M. Durik, assistant professor, Ph.D., University of Wisconsin, Madison  
 Lisa M. Finkelstein, associate professor, Ph.D., Tulane University  
 Angela Grippo, assistant professor, Ph.D., University of Iowa  
 Joseph E. Grush, professor, Ph.D., University of Illinois  
 Michelle M. Lilly, assistant professor, Ph.D., University of Michigan  
 Mary C. Lovejoy, associate professor, Ph.D., University of Iowa  
 Amy E. Luckner, Ph.D., assistant professor, Ph.D., University of Minnesota  
 Joseph P. Magliano, professor, Ph.D., University of Memphis  
 Christine K. Malecki, associate professor, Ph.D., University of Wisconsin  
 Elise F. Masur, professor, Ph.D., University of Minnesota  
 Leslie Matuszewich, associate professor, Ph.D., University of Buffalo  
 Keith K. Millis, professor, Ph.D., Memphis State University  
 Nina S. Mounts, associate professor, Ph.D., University of Wisconsin  
 George A. Neuman, associate professor, Ph.D., Illinois Institute of Technology  
 Holly K. Orcutt, associate professor, Ph.D., State University of New York, Buffalo  
 Christopher P. Parker, associate professor, Ph.D., Rice University  
 Bradford H. Pillow, associate professor, Ph.D., Stanford University  
 Laura D. Pittman, associate professor, Ph.D., University of Connecticut  
 Alan Rosenbaum, professor, Ph.D., State University of New York at Stony Brook  
 Brad J. Sagarin, associate professor, Ph.D., Arizona State University  
 Alecia M. Santuzzi, assistant professor, Ph.D., Tulane University  
 John J. Skowronski, Presidential Research Professor, Ph.D., University of Iowa  
 David P. Valentiner, associate professor, Ph.D., University of Texas  
 Gregory A. Waas, associate professor, Ph.D., University of Wisconsin, Madison  
 Douglas Wallace, associate professor, Ph.D., Kent State University  
 Karen J. White, director, Psychological Services Center, Ph.D., Florida State University  
 Katja Wiemer, associate professor, Ph.D., University of Memphis  
 Kevin D. Wu, assistant professor, Ph.D., University of Iowa

The Department of Psychology offers programs leading to the M.A. and Ph.D. degrees. Preference will be given to applicants who show potential for doctoral work. The department offers a continuous program leading to the doctorate and the master's thesis is regarded as a part of this training. An entitlement program leading to qualification for state certification as a school psychologist may be completed in conjunction with either the M.A. or the Ph.D. degree.

The majority of applications for graduate programs in psychology are accepted or rejected within six weeks, with deferral of decision on other applications until the month of April. In order to insure full consideration for admission, applications to the clinical area should be completed by December 1; applications to the school psychology area should be completed by December 15; applications to the social and industrial/organizational and neuroscience and behavior areas should be completed by January 15; and applications to the cognitive-instructional-developmental area should be completed by February 1.

## Admission

In considering applicants for admission to its graduate programs, the department evaluates the general undergraduate GPA, preparation in undergraduate psychology courses, background in science and mathematics, GRE General Test scores, and letters of recommendation. An attempt is made to select the best applicants on a combination of indices, recognizing that no index is absolute. While there are no minimum requirements, applicants should have a GPA of at least 3.00 (on a 4.00 scale) during the last two years of undergraduate work. Exceptions may be made under special conditions.

## Master of Arts in Psychology

The M.A. degree program in psychology requires a minimum of 30 semester hours in psychology. The total combined number of semester hours of graduate transfer credit plus graduate credit earned at NIU as a student-at-large which can be applied toward the M.A. degree may not exceed 15.

## Course Requirements

PSYC 604 - Advanced Psychological Statistics (3)

PSYC 606 - Experimental Design (3)

PSYC 690 - Psychological Research (1-3)

Three of the following (9)

PSYC 601 - Fundamentals of Learning (3),

OR PSYC 611 - Cognitive Psychology I (3)

PSYC 603 - Biopsychology (3)

PSYC 620 - Experimental Social Psychology (3)

PSYC 641 - Psychopathology (3) (Students in school psychology may substitute PSYC 645, Child Psychopathology (3) for PSYC 641)

PSYC 665 - Behavioral Development (3)

PSYC 604 and PSYC 606 must be completed during the first calendar year and the remaining course requirements must be completed by the end of the second calendar year.

PSYC 690, Psychological Research (1-3), must be taken each fall and spring semester. These hours will not count toward the 30 semester hours required for the master's degree.

Registration for a minimum of 12 semester hours is required each fall and spring semester unless granted permission for a reduced load by the department chair or a leave of absence is obtained from the department chair and the office of the dean of the Graduate School. Registration for fewer than 12 semester hours without permission may result in termination from the program.

In addition, 15 semester hours must be completed in either the thesis or non-thesis option.

### Thesis Option

PSYC 699 - Master's Thesis (1-6) and other courses in psychology determined by the student and adviser (9).

### Non-Thesis Option

Other courses in psychology determined by the student and adviser (15). Students electing the non-thesis option will not be considered for admission to the doctoral program.

### Other Requirements

Students in the M.A. program must maintain at least a 3.00 GPA in graduate psychology courses exclusive of thesis and independent study courses. Failure to meet this requirement will result in academic probation for one semester following which the GPA must be at least 3.00 or the student will be removed from the program.

The student must successfully complete a master's comprehensive examination.

Other special requirements may be determined by the department and the curricular area in which the student chooses to study. The student is responsible for obtaining the *Psychology Department Graduate Student Manual* and for complying with the regulations in that manual.

## Doctor of Philosophy in Psychology

The Ph.D. program in psychology is built around the areas of clinical psychology, cognitive-instructional-developmental-school psychology, neuroscience and behavior, and social and industrial/organizational psychology. All four areas place strong emphasis on research, teaching, and the development of appropriate applied skills.

The curriculum is designed to fulfill several purposes: development of knowledge of methodologies; acquaintance with basic literature; integration of course work, research experience, and practical experience; in-depth understanding in at least one area; and study in related fields when appropriate.

### Requirements

As a part of the doctoral program a student must complete a master's degree in psychology with at least a 3.20 GPA in graduate psychology courses exclusive of thesis and independent study courses, including at least a 3.00 GPA in the master's foundation courses and an acceptable research thesis. Continuation in the doctoral program is subject to a recommendation from the department upon completion of the M.A. degree. Students entering NIU with a master's degree in psychology from another institution must complete the master's foundation courses. With departmental approval, students with adequate background may be exempted from individual courses.

The student must complete 90 semester hours beyond the baccalaureate degree, including at least 75 semester hours in psychology, at least 18 of which must be in PSYC 799, Ph.D. Dissertation. Exceptions to the 75-hour requirement may be granted with the consent of the curricular area faculty and approval of the department chair. The total number of semester hours of graduate credit earned at NIU as a student-at-large which can be applied toward the Ph.D. degree may not exceed 15. The total combined number of semester hours of graduate transfer credit plus graduate credit earned at NIU as a student-at-large which can be applied toward the Ph.D. degree may not exceed 45 semester hours beyond the baccalaureate degree.

A minimum of 30 semester hours of graduate course work beyond the master's degree in psychology, exclusive of dissertation, must be completed in the Department of Psychology at NIU.

Registration in PSYC 690, Psychological Research (1-3), each fall and spring semester prior to approval of the dissertation proposal is required. These hours will not count toward the 90 semester hours required for the Ph.D.

The student must register for a minimum of 12 semester hours each fall and spring semester unless granted permission for a reduced load by the department chair or a leave of absence is obtained from the department chair and the office of the dean of the Graduate School. Registration for fewer than 12 semester hours without permission may result in termination from the program.

Students in clinical or school psychology must complete a year of internship.

Before admission to candidacy for the doctorate in psychology, the student must demonstrate an average proficiency in using two research tools or high proficiency in using one research tool. The selection of these research tools must be approved by the student's adviser. Proficiency is normally demonstrated by the successful completion of such courses as are designated by the department and approved by the Graduate School.

The student must pass an extensive written candidacy examination covering the student's curricular area.

The student must complete a dissertation which will be a substantial contribution to knowledge in which the student exhibits original scholarship and the ability to conduct independent research. Prior to the time the student begins gathering the dissertation research data, a proposal of a dissertation must be approved by a dissertation advisory committee and filed with the department. Normally, an advisory committee will be made up of the dissertation director and at least two additional committee members.

The student is responsible for obtaining the *Psychology Department Graduate Student Manual* and for complying with the regulations in that manual.

After all other requirements for the Ph.D. in psychology have been met, including submission of a complete manuscript that has been tentatively approved by the dissertation advisory committee, a student must successfully defend the dissertation. The defense will be conducted by and in the presence of an oral examining committee made up of the advisory committee plus additional members serving as readers; however, other members of the department and the faculties of other disciplines will be invited to attend and participate. The dean of the Graduate School or a dean's designee may serve as an ex officio, nonvoting member of the dissertation defense committee.

Other special requirements may be determined by the department and the curricular area in which the student chooses to study.

## Course List (PSYC)

500. PSYCHOLOGY OF LANGUAGE (3). Examination of cognitive, motor, and physiological processes involved in production and comprehension of spoken and written language from a psychological perspective. Emphasis on issues, methods, and explanatory models in psychology relevant to the transmission of information via reading, writing, listening, and speaking. Topics include reader/text and listener/speaker characteristics, mental representations, memory, conversational interchanges, and pragmatics. PRQ: PSYC 245 or PSYC 345, or consent of department.

517. PRINCIPLES OF BEHAVIOR MODIFICATION (3). Introduction to the psychological principles, methods, and issues in behavior modification. Emphasis on theoretical and empirical foundations of various strategies for producing behavior change and on ethical issues involved in the use of behavioral techniques. Not available for credit toward graduate degrees in psychology. PRQ: Either PSYC 315 or PSYC 316, or consent of department.
525. ADULT DEVELOPMENT AND AGING (3). Behavioral development from early adulthood through old age. Emphasis on biological, motor, cognitive, social, and personality characteristics at various stages of development. PRQ: PSYC 324 or consent of department.
526. THEORIES OF PERSONALITY (3). Systematic study of the theoretical contributions of major psychologists to basic understanding of the dynamics of human personality. PRQ: Either PSYC 332 or PSYC 372, or consent of department.
528. HISTORY OF PSYCHOLOGY (3). Review of the historical roots of the science of psychology and the development of the field to contemporary times. PRQ: At least 3 semester hours of upper-division undergraduate credit in psychology, or consent of department.
565. ADVANCED DEVELOPMENTAL PSYCHOLOGY (3). Fundamental theories, issues, and concepts in developmental psychology are examined in depth and illustrated within one or more content areas, such as physical, cognitive, perceptual, language, personality, and/or social aspects of development. Not available for credit toward graduate degrees in psychology. PRQ: PSYC 324 or consent of department.
571. INDUSTRIAL-ORGANIZATIONAL PSYCHOLOGY (3). Contribution of psychology in theory, research, and practice to the understanding of such topics as employee selection, placement, and training, job satisfaction, work motivation and performance, problem solving and decision making, leadership and supervision, work design, and organizational development. Not available for credit toward graduate degrees in psychology. PRQ: Either PSYC 351 or PSYC 372, or consent of department.
573. SOCIAL JUDGMENT (3). Examination of research and theory dealing with how people evaluate and form judgments of other people. Research dealing with judgments made both by individuals and by groups. In addition to critical study of basic judgment processes, addresses applied aspects of social judgment such as moral, clinical, and trial jury decisions. Not available for credit toward graduate degrees in psychology. PRQ: PSYC 372 or consent of department.
581. DRUGS AND BEHAVIOR (3). Basic techniques, current data, and interpretations from neurochemical, neuropharmacological, and behavioral approaches to the investigation of behaviorally active drugs. Some knowledge of the structure and functioning of the mammalian nervous system assumed. PRQ: PSYC 300 or consent of department.
595. SEMINAR IN SPECIAL TOPICS (3). Topics announced. May be repeated once as topics change. PRQ: At least 3 semester hours of upper-division undergraduate credit in psychology, or consent of department.
- 596X. HISTORY AND SOCIAL SCIENCE INSTRUCTION IN GRADES 6-12 (3). *Crosslisted as HIST 596*. Organization and presentation of materials for history and social science courses at the middle school, junior high, and senior high school levels. PRQ: Admission to the history or social science teacher certification program and permission of Department of History's office of teacher certification.
601. FUNDAMENTALS OF LEARNING (3). Analysis of methodology, empirical findings, and theoretical attempts in the area of learning with emphasis on classical and instrumental conditioning. PRQ: Graduate standing in psychology or consent of department.
602. INTRODUCTION TO EXPERIMENTAL PERSONALITY (3). Introduction to methods and empirical findings in the area of personality, with emphasis on experimental investigation. Study of several key topics of current interest in the field to illustrate typical methods and findings. PRQ: Graduate standing in psychology or consent of department.
603. BIOPSYCHOLOGY (3). Selected review of current research concerned with biological and chemical bases of behavior. PRQ: Graduate standing in psychology or consent of department.
604. ANALYSIS OF VARIANCE AND HYPOTHESIS TESTING IN PSYCHOLOGICAL RESEARCH (3). Analysis of variance (ANOVA) and hypothesis testing, including basic concepts of probability, normal distributions, sampling distributions and hypothesis testing; power; ANOVA for between-subjects, within-subjects or mixed models, post-hoc tests, and experimental designs to analyze means. PRQ: Consent of the department.
606. CORRELATION AND REGRESSION ANALYSIS IN PSYCHOLOGICAL RESEARCH (3). Correlation and regression analysis, including: bivariate and multiple regression, hierarchical and step-wise procedures; coding of categorical variables and the treatment of experimental designs, testing for mediation and moderation, aptitude-treatment interactions. PRQ: PSYC 504 or the consent of the department.
607. PSYCHOMETRIC TECHNIQUES (3). Consideration of assumptions involved and techniques available in psychometrics. Consideration made of development of psychological tests. PRQ: PSYC 604 or consent of department.
609. FUNDAMENTALS OF PERCEPTION (3). Major theories of perception and their historical antecedents, classical and contemporary psychophysics, some basic auditory and visual phenomena, and selected topics from current research literature. PRQ: Graduate standing in psychology or consent of department.
611. COGNITIVE PSYCHOLOGY I (3). Theories, issues, and research in fundamental areas of human cognition. Topics include human learning and memory, attention, concepts and categories, and knowledge representation. PRQ: Graduate standing in psychology or consent of department.
612. COGNITIVE PSYCHOLOGY II (3). Contemporary research and theories on higher-order processes in human cognition. Topics include discourse processing, problem solving, reasoning, and decision making. PRQ: PSYC 611 or consent of department.
613. EVOLUTIONARY PSYCHOLOGY (3). Theoretical foundations and empirical support for evolutionary psychology, competing explanations and criticisms, including epistemological challenges and accurate and inaccurate representations of evolutionary psychology in the lay press. Specific topics include innate fears, human mating strategies, kinship, parenting, cooperation and aggression, social hierarchies, and the ramifications of ancient adaptations in the modern world.
- 614X. INSTRUCTIONAL PSYCHOLOGY (3). *Crosslisted as EPS 614*. Models and theories of instructional psychology as related to contemporary research in cognition. PRQ: EPS 713, a course in cognitive psychology, or consent of department.
615. PERSONNEL PSYCHOLOGY (3). Contribution of psychology in theory, research, and practice to the understanding of such topics as job analysis, personnel selection and placement, performance appraisal, and training. PRQ: Graduate standing in psychology or consent of department.
616. ORGANIZATIONAL PSYCHOLOGY (3). Contribution of psychology in theory, research, and practice to the understanding of such topics as job satisfaction, work motivation and performance, group and organizational problem solving and decision making, leadership and supervision, conflict resolution, and organizational design, development, and effectiveness. PRQ: Graduate standing in psychology or consent of department.
617. INDIVIDUAL ASSESSMENT WITHIN ORGANIZATIONAL SETTINGS (3). Theories, topics, and measurement techniques essential to the study and practice of individual assessment in industrial/organizational psychology. Measurement instruments used for assessment of individual cognitive ability, personality, and vocational interests pertinent to industrial/ organizational settings examined and critiqued in light of psychological theory, research, and applications.

618. EVALUATION RESEARCH (3). Systematic examination of the theory and practice of research strategies for planning and evaluating various programs. Critical review of models of experimental and quasi-experimental designs, cost-benefit, decision-theoretic, and systems approaches. Illustrations of the models taken from compensatory education, public health, mental health, employment training, income maintenance, and the criminal justice system. PRQ: Consent of department.

619. PSYCHOLOGY OF ORGANIZATIONAL DEVELOPMENT AND TRAINING (3). Psychological theories and research bearing on the use of training techniques and organizational development as means of increasing organizational effectiveness. Critical examination of the psychological components to be considered in the management of planned change in organizations. Topics include organizational needs assessment, effectiveness of interventions and transfer of training techniques on performance, and reactions to organizational change. PRQ: PSYC 616 or consent of department.

620. EXPERIMENTAL SOCIAL PSYCHOLOGY (3). In-depth survey of topics of current interest in the study of social interaction. Emphasis on experimental approaches to the social behavior of humans, but developments in animal social experimentation also utilized. Topics include, but not necessarily limited to, attitudes and persuasion, conformity, social judgment, aggression, and interpersonal attraction. PRQ: Graduate standing in psychology or consent of department.

621. SMALL GROUP BEHAVIOR (3). Social interaction in small groups. Emphasis on experimental evidence regarding group processes. Topics include competition and cooperation, bargaining and coalitions, choice and decision behavior, and group influence and problem solving. PRQ: PSYC 620 or consent of department.

622. THEORIES IN SOCIAL PSYCHOLOGY (3). Survey and critical analysis of current theoretical approaches to social behavior. Relevant experimental evidence examined in several critical areas of research. PRQ: Graduate standing in psychology or consent of department.

624. ATTITUDE CHANGE (3). Survey of current theories of attitude change. Review of research which demonstrates the success or failure of these theories to predict attitude change. Consideration of important theoretical and research issues in the attitude area. PRQ: Graduate standing in psychology or consent of department.

625. SOCIAL COGNITION (3). Topics at the interface between social psychology and cognitive psychology, addressing how cognitive processes, structures, and theories are related to and influence people's understanding of themselves, others, and the social world. Discussion of these processes, structures, and theories in the context of classic topics in social psychology, including impression formation, attribution, person memory, stereotyping, prejudice, self-perception, and autobiographical memory. PRQ: PSYC 620 and graduate standing in psychology, or consent of department.

627. NEUROANATOMICAL BASES OF BEHAVIOR (3). *Crosslisted as BIOS 627X*. 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. PRQ: Graduate standing in psychology or PSYC 603, or consent of department.

628. NEUROANATOMICAL BASES OF BEHAVIOR: LABORATORY (3). *Crosslisted as BIOS 628X*. Gross, microscopic, and ultramicroscopic examination of tissues from the nervous systems of selected species. PRQ or CRQ: PSYC 627.

629. NEUROPHYSIOLOGICAL BASES OF BEHAVIOR (3). Excitation, conduction, and transmission in the nervous system; neural coding and the transformation and representation of information in the nervous system; limbic and hypothalamic regulation of drives and reinforcement. PRQ: Graduate standing in psychology and PSYC 627, or consent of department.

630. NEUROCHEMICAL BASES OF BEHAVIOR (3). *Crosslisted as BIOS 630X*. Biochemistry of the nervous system; chemical composition, metabolism, and chemistry of neurons and glia; chemical bases of learning, motivation, and other categories of behavior. PRQ: Graduate standing in psychology, PSYC 629, or consent of department.

639. PROFESSIONAL SCHOOL PSYCHOLOGY (3). Review of the history and development of school psychology, types of problems handled, methods employed, and current perspectives on psychological work in schools with emphasis on research functions and the utilization of principles of learning. PRQ: Consent of department.

640. THEORY AND ASSESSMENT OF INTELLECTUAL FUNCTIONING (3). Historical review of theory and research concerning the definition and measurement of intelligence. Topics include intellectual development, factor analytic and computer models of intelligence, and the construction and use of intelligence tests. Supervised practice in administering, scoring, and reporting intelligence test results and evaluating their implications for individuals with clinical and academic problems including learning disabilities and mental retardation. PRQ: Graduate standing in psychology or consent of department.

641. PSYCHOPATHOLOGY (3). Evaluation of criteria, definitions, and classificatory schemes of psychopathology. Review of theoretical and empirical contributions to understanding the etiology and maintenance of behavior problems. Focus on conceptualizing behavior problems as deviation from normative behavior on a continuum from mental illness to mental health. Individual differences and cultural influences are stressed. PRQ: Consent of department.

642. 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. PRQ: PSYC 640 or PSYC 641, or consent of department.

643. THEORIES OF PSYCHOTHERAPY (3). Examination and evaluation of major theoretical approaches to psychotherapy. Discussion of psychotherapy process research methods including the psychoanalytic schools, client-centered, existential, and learning models. PRQ: PSYC 641 or consent of department.

644. COGNITIVE-BEHAVIORAL THEORY AND TECHNIQUES (3). Examination and evaluation of learning and cognitive theories and techniques relating to clinical psychological interventions, with an emphasis on empirical research on the efficacy and effectiveness of specific intervention strategies. Topics include intervention research methods, theories of emotion regulation, conceptualization, methods of assessment, and treatment planning with special clinical groups. PRQ: PSYC 643 or consent of department.

645. DEVELOPMENTAL PSYCHOPATHOLOGY (3). Examination of research and theoretical contributions to understanding the etiology and maintenance of psychopathology in children from infancy through adolescence. Instruction in conceptualizing social, emotional, intellectual, and behavior problems dimensionally and categorically using an understanding of normal development. PRQ: PSYC 641 or consent of department.

646. PSYCHOLOGICAL ASSESSMENT OF CHILDREN (3). Examination of foundations and practices related to the clinical assessment of social and emotional functioning in infants, children, and adolescents. Empirically supported developmentally appropriate measurement strategies are emphasized. Course content includes critical evaluation of measures for use in diagnosis and treatment planning. PRQ: PSYC 640, PSYC 642, and PSYC 644, or consent of department.

647. PSYCHOLOGICAL INTERVENTION WITH CHILDREN AND THEIR FAMILIES (3). Examination of the concepts and techniques relating to clinical psychological intervention with children and their families. Emphasis on theoretical, ethical, and practical issues as well as on the psychological research on the efficacy of each therapeutic modality. Topics cover the major techniques of child-oriented psychotherapy, with attention given to their appropriateness for children of various ages and levels of functioning and with various forms of psychopathology. PRQ: PSYC 643 and PSYC 644, or consent of department.

648. CONSULTATIVE INTERVENTIONS IN SCHOOL AND COMMUNITY SETTINGS (3). Examination of consultation theory, research, and practice as applied by school psychologists. Emphasis on the major models of consultation employed within school and community settings. Empirical research related to outcome of consultation. Application of consultative interventions to specific psychological disorders commonly found in school and community settings. PRQ: Consent of department.

649. ETHICS AND PROFESSIONAL ISSUES IN PSYCHOLOGY (3). Examination and discussion of ethical, professional, legal, and cultural issues as they pertain to practice, research, and teaching in clinical psychology. PRQ: Graduate standing in psychology and consent of the department.

651. CLERKSHIP IN CLINICAL PSYCHOLOGY (1-3). Preinternship experience in institutional settings, such as the school system, clinics, and hospitals. Student assigned to one or more institutions where a supervised work program will be designed involving psychological assessment and intervention consistent with the student's experience and training. May be repeated to a maximum of 3 semester hours. PRQ: Admission to the clinical training program.

652. PRACTICUM IN INDUSTRIAL/ORGANIZATIONAL PSYCHOLOGY (1-3). Experience in applying industrial/organizational psychological principles, theory, and research to work in organizational settings, such as corporations, government, and nonprofit organizations. Activities vary depending on prior experience of the student but may include job analysis, selection system design and validation, training and organizational development, and consultation with organizational personnel. May be repeated, but only 6 semester hours may be applied toward a graduate degree in psychology. PRQ: Consent of department.

653. PRACTICUM IN SCHOOL PSYCHOLOGY (1-3). Experience in psychological work in schools and other appropriate settings. Activities vary depending on the prior experience of the student but may include observation, assessment, intervention design and evaluation, consultation, and research. May be repeated, but only 6 semester hours may be applied toward the M.A. or specialist level certification and no more than 15 semester hours may be applied toward the doctorate. PRQ: PSYC 639 or consent of department.

654. 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, but only 15 semester hours may be applied toward a graduate degree in psychology. PRQ: Approval of the clinical training area.

655. INTERNSHIP IN CLINICAL PSYCHOLOGY (6-12). A period of one year in a setting such as a hospital or clinic where student performs the functions of a clinical psychologist under the direct supervision of qualified personnel. Internship must have approval of the clinical psychology faculty. Student must register for 12 semester hours during each of the fall and spring semesters and for 6 semester hours during the summer session for a total of 30 semester hours, of which 4 may be applied to the 90 semester hours required for the doctoral program. PRQ: Departmental approval for the doctoral program.

656. INTERNSHIP IN SCHOOL PSYCHOLOGY (6-12). A period of 9 or 12 months in a school setting or other appropriate setting where the student performs the functions of a school psychologist under direct supervision of qualified personnel. Internship must have approval of the school psychology faculty. Student must register for 12 semester

hours in each of the fall and spring semesters and, when appropriate, for 6 semester hours during the summer session for a total of 24 or 30 semester hours. May be repeated, but only a total of 4 semester hours may be applied toward a graduate degree in psychology. PRQ: Consent of department. Recommended: At least 2 semester hours of PSYC 553.

665. BEHAVIORAL DEVELOPMENT (3). Intensive review of the processes involved in behavioral development with focus on factors affecting these processes, rather than on a cross-sectional description of characteristic behavioral changes related to age. PRQ: Psychology major or consent of department.

670. STUDIES IN EXPERIMENTAL PSYCHOLOGY (1-6).

- A. Learning
- B. Perception
- C. Motivation
- D. Sensory Processes
- E. Physiological
- J. Comparative
- K. Mathematical

Specific topics in the area of experimental psychology offered under the appropriate heading. May include lecture, laboratory, seminar, or a combination of these methods. Topics and semester hours of credit vary. May be repeated to a maximum of 21 semester hours.

671. STUDIES IN GENERAL PSYCHOLOGY (1-6).

- A. Behavioral Development
- B. Individual Differences
- C. Personality
- D. Quantitative Methods
- E. Instrumentation
- J. Social Behavior

Specific topics in the area of general psychology offered under the appropriate heading. May include lecture, laboratory, seminar, or a combination of these methods. Topics and semester hours of credit vary. May be repeated to a maximum of 18 semester hours.

672. STUDIES IN CLINICAL PSYCHOLOGY (1-6).

- A. Clinical Methods
- B. Behavioral Pathology
- C. Group Processes
- D. Child-Clinical
- E. Psychotherapy

Specific topics in the area of clinical psychology offered under the appropriate heading. May include lecture, laboratory, seminar, or a combination of these methods. Topics and semester hours of credit vary. May be repeated to a maximum of 15 semester hours.

675. DEVELOPMENT OF LANGUAGE ACQUISITION (3). Critical evaluation of recent research and theory in developmental psychology on the processes underlying normal language acquisition and development. Background in developmental psychology assumed; background in language development desirable.

676. SOCIAL-PERSONALITY DEVELOPMENT (3). Development of social behavior and personality characteristics throughout the life-span with emphasis on the changes occurring throughout childhood. Topics include attachment, aggression, sex-role development, moral development, socialization processes, parent-child relations, peers and the impact of television, and social-class and crosscultural comparisons.

677. DEVELOPMENT OF PERCEPTION AND LEARNING (3). Development of perception and children's learning with emphasis on the basic processes and changes which occur during childhood. Topics include visual attention in infancy, form and pattern perception, the development of visually guided behavior, perceptual integration, information processing approaches to perceptual development, infant learning, and higher-order learning and motivation.

678. DEVELOPMENT OF COGNITION AND MEMORY (3). Development of cognitive skills and memory with emphasis on the basic processes and changes which occur during childhood. Topics include overview of cognitive theorists, conceptualizations of cognitive growth patterns, concept development, problem solving, cognitive styles, developmental aspects of obtaining and storing stimulus information, selective attention, and metamemory.

679X. CULTURAL PERSPECTIVES ON HUMAN DEVELOPMENT (3). *Crosslisted as ANTH 679X and EPS 679.* Cultural perspectives on parenting, home-school relations, psychological development, and education. Case materials drawn from western and non-Western societies.

680. SEMINAR IN PSYCHOLOGY (1-3).

- A. Psychotherapy
- B. School Psychology
- C. Professional Problems

Specialized topics of professional concern to those entering the field of psychology. May be repeated to a maximum of 7 semester hours in each subsection. PRQ: Consent of department.

681A. PRACTICUM IN COLLEGE TEACHING OF PSYCHOLOGY (1-3). Supervised experience in teaching selected undergraduate courses in psychology. Instructional techniques, materials, and methods of evaluation. May be repeated, but only 8 total semester hours of PSYC 681A and PSYC 681B may be applied toward a graduate degree in psychology. S/U grading. PRQ: Consent of department.

681B. PRACTICUM IN COLLEGE TEACHING OF PSYCHOLOGY (1-3). Individual supervision of teaching selected undergraduate courses in psychology. May be repeated, but only 8 total semester hours of PSYC 681A and PSYC 681B may be applied toward a graduate degree in psychology. S/U grading. PRQ: PSYC 681A or consent of department.

685. INDEPENDENT STUDY (1-6). May be repeated, but only 6 semester hours may be applied toward the M.A. degree and only 15 semester hours may be applied toward the Ph.D. degree.

690. PSYCHOLOGICAL RESEARCH (1-3). Supervised research training in planning, design, execution, and analysis of psychological research. Required of all graduate students in psychology each semester prior to the approval of a dissertation proposal. May be repeated without limit, but may not be used to meet the minimum credit hour requirements for a graduate degree in psychology. S/U grading.

699. MASTER'S THESIS (1-6). May be repeated to a maximum of 6 semester hours. Registration requires prior appointment of a thesis adviser and consent of department.

710. MULTIVARIATE DATA ANALYSIS IN PSYCHOLOGICAL RESEARCH (3). Introduction to conducting and interpreting multivariate analyses of psychological data using SPSS software. Specific topics to be covered include matrix algebra, the general linear model, screening and missing data, canonical correlation, principle components and exploratory factor analysis, MANOVA, discriminant function analysis, profile analysis, and multiway frequency analysis. PRQ: PSYC 604 and PSYC 606, or consent of department.

712. STRUCTURAL EQUATION MODELING IN PSYCHOLOGICAL RESEARCH (3). Hands-on introduction to the use of structural equation modeling (SEM) analyses in psychological research using current SEM software. Topics include an overview of the SEM analytic technique, introduction to matrix algebra, path analysis, confirmatory factor analysis, and the analysis of hybrid SEM models. More advanced topics such as multiple group and multitrait multimethod (MTMM) analyses will also be covered. PRQ: PSYC 604 and PSYC 606, or consent of department.

714. META-ANALYSIS IN PSYCHOLOGICAL RESEARCH (3). Theory and techniques of meta-analysis and validity generalization applied to psychological data. Topics include accumulation of research results across studies, coding of research study characteristics for moderators, combination of statistical significance levels and effect sizes, focused and diffuse comparison of significance levels and effect sizes, and validity generalization and its techniques. Meta-analysis and validity generalization software (D-stat) will be used to complete a semester project. PRQ: PSYC 604 and PSYC 606, or consent of department.

799A. PH.D. DISSERTATION (3-15). May be repeated to a maximum of 80 semester hours, but only 24 semester hours may be applied toward a graduate degree in psychology. Registration requires prior appointment of a dissertation adviser and consent of department.

799B. PH.D. DISSERTATION (1). Open only to students who have successfully completed the oral defense of the dissertation research and received departmental approval of the final version of the dissertation document.

# Department of Sociology (SOCl)

Chair: J. Kirk Millerr

## Graduate Faculty

Abu B. Bah, associate professor, Ph.D., New School for Social Research  
 Keri B. Burchfield, assistant professor, Ph.D., Pennsylvania State University  
 Michael Campbell, assistant professor, Ph.D., University of California, Irvine  
 Charles L. Cappell, associate professor, Ph.D., University of Chicago  
 Cassandra S. Crawford, assistant professor, Ph.D., University of California, San Francisco  
 Michael Ezell, assistant professor, Ph.D., Duke University  
 Kerry O. Ferris, assistant professor, Ph.D., University of California, Los Angeles  
 Carla D. Goar, associate professor, Ph.D., Texas A&M University  
 Jeffrey Kidder, assistant professor, Ph.D., University of California, San Diego  
 Fred E. Markowitz, associate professor, Ph.D., State University of New York at Albany  
 J. Kirk Miller, assistant professor, Ph.D., North Carolina State University  
 Robin D. Moremen, associate professor, Ph.D., Yale University  
 Kristen A. Myers, associate professor, Ph.D., North Carolina State University  
 Kristopher K. Robison, assistant professor, Ph.D., The Ohio State University  
 Diane M. Rodgers, Ph.D., University of Missouri-Columbia  
 Carole Walther, assistant professor, Ph.D., Texas A&M University

The Department of Sociology offers graduate courses and research opportunities leading to the M.A. degree. Graduate work in sociology is designed to prepare students for teaching and research in sociology, for positions in public and private agencies, and for further advanced study.

## Master of Arts in Sociology

Applicants for admission to the program should have a background equivalent to 3 semester hours each in sociological theory, sociological methods, and statistics. Students with deficiencies in these areas may be required to take appropriate course work to remove these deficiencies as soon as possible after enrollment. Students admitted to these programs with stipulated deficiencies will be informed by the graduate adviser of the courses that must be taken.

Graduate courses are classified into six fields: theory, research methods and statistics, social organization and institutions, social psychology, sociology of health and aging, and criminology.

Students must earn an overall GPA of 3.00 or higher and a grade of A or B in SOCl 670, SOCl 671, SOCl 675, SOCl 676, and SOCl 677.

The M.A. degree requires the successful completion of 33 credits, including 6 credits of SOCl 699 (Thesis). All new master's students are required to consult with the departmental graduate adviser before being admitted to courses.

No more than 12 semester hours in 500-level graduate courses may be included in the student's program for the master's degree

The total credit from courses taken for graduate credit at other accredited institutions that are accepted in transfer plus credit earned at NIU as a student-at-large may not exceed 9 semester hours.

Each student must pass a written comprehensive examination in sociological theory and research methods. The examination is offered at least twice a year.

### General Sociology (33)

SOCl 670 - Classical Sociological Theory (3)  
 SOCl 671 - Contemporary Sociological Theory (3)  
 SOCl 675 - Sociological Statistics (3)  
 SOCl 676 - Quantitative Research Methods (3)  
 SOCl 677 - Qualitative Research Methods in Sociology (3)  
 SOCl 699 - Master's Thesis (1-6)

Four elective courses in one or two of the following areas: theory, research methods and statistics, social organization and institutions, social psychology, sociology of health and aging, criminology, or another area approved by the graduate adviser (12).

### Specialization in Criminology (33)

SOCl 670 - Classical Sociological Theory (3)  
 SOCl 671 - Contemporary Sociological Theory (3)  
 SOCl 675 - Sociological Statistics (3)  
 SOCl 676 - Quantitative Research Methods (3)  
 SOCl 677 - Qualitative Research Methods in Sociology (3)  
 SOCl 681 - Theories of Delinquency and Crime (3)  
 SOCl 689 - Criminal Justice in Society (3)  
 SOCl 699 - Master's Thesis (6)

Two electives in criminology selected from graduate offerings in consultation with the graduate adviser (6)

## Course List (SOCl)

Students-at-large may enroll in graduate courses in sociology only by consent of the department.

541. THE URBAN COMMUNITY (3). Growth of cities; urban structures and urban interaction; influence of demographic factors and social change on urban forms; social problems and planning in urban areas. A culminating experience—integrating theory, methods, and scholarly writing—is required. PRQ: SOCl 280; SOCl 301 or SOCl 302; and SOCl 377A or SOCl 377B; or consent of department.

550. SOCIAL INEQUALITY (3). Causes and consequences of inequality across social institutions and social locations. Empirical, theoretical, and methodological issues are examined and critically assessed. A culminating experience-integrating theory, methods, and scholarly writing-is required. PRQ: SOCl 280; SOCl 301 or SOCl 302; and SOCl 377A or SOCl 377B; or consent of department.

551. MEDICAL SOCIOLOGY (3). In-depth examination of health, illness, and medical care from a sociological perspective. Attention given to the structure of social relationships and how they relate to health, illness, and the medical institutions in society. The social meanings of health, illness, and medical care will be studied individually and structurally, including a global perspective. A culminating experience-integrating theory, methods, and scholarly writing-is required. PRQ: SOCl 280; SOCl 301 or SOCl 302; and SOCl 377A or SOCl 377B; or consent of department.

557. FAMILIES IN GLOBAL PERSPECTIVE (3). Examination and comparison of the diverse family institutions in selected societies, focusing on economic, sociodemographic, and cultural factors that are essential in shaping the changing forms, functions, and internal dynamics of families and households. Attention given to influences of the global economy, the status of women and children, gender roles within and outside of families, and tensions between family household economics and wage labor in the global market. A culminating experience—integrating theory, methods, and scholarly writing—is required. PRQ: SOCI 280; SOCI 301 or SOCI 302; and SOCI 377A or SOCI 377B; or consent of department. Recommended: SOCI 354 or SOCI 358.

558. SOCIOLOGY OF WORK (3). A critical analysis of work in a capitalist system. Includes issues of mobility, discrimination, wages, accreditation and bureaucratization, technology and de-skilling, outsourcing, and mobilization. A culminating experience—integrating theory, methods, and scholarly writing—is required. PRQ: SOCI 280; SOCI 301 or SOCI 302; and SOCI 377A or SOCI 377B; or consent of department.

559. POLITICAL SOCIOLOGY (3). Examines the interface of policies and society with an emphasis on the linkages of political institutions and other social institutions, in particular, power structures, the role of the state, and political and social elites. A culminating experience—integrating theory, methods, and scholarly writing—is required. PRQ: SOCI 280; SOCI 301 or SOCI 302; and SOCI 377A or SOCI 377B; or consent of department.

560. SOCIAL STRUCTURE AND THE LIFE COURSE (3). Aging as a lifelong process of development through socially structured, historically conditioned stages. Topics include cohort differences, role transitions, intergenerational relations, and age norms. Emphasizes stages prior to old age. A culminating experience—integrating theory, methods, and scholarly writing—is required. PRQ: SOCI 280; SOCI 301 or SOCI 302; and SOCI 377A or SOCI 377B; or consent of department.

563. TOPICS IN SOCIAL PSYCHOLOGY (3). Treatment of recent developments in social psychology. Possible topics include social influence processes, attitude formation and change, leadership, group dynamics, personality in social structures, and person perception and attribution processes. A culminating experience—integrating theory, methods, and scholarly writing—is required. Topics announced in the Schedule of Classes. PRQ: SOCI 260, SOCI 280; SOCI 301 or SOCI 302; and SOCI 377A or SOCI 377B; or consent of department.

564. SOCIOLOGY OF MENTAL HEALTH AND ILLNESS (3). Examination of the definition, experience, and social distribution of mental illness. Emphasis on social factors as sources of distress and mental illness. Focus includes the stigma of mental illness and how mental illness is managed by treatment and legal systems. A culminating experience—integrating theory, methods, and scholarly writing—is required. PRQ: SOCI 280; SOCI 301 or SOCI 302; and SOCI 377A or SOCI 377B; or consent of department.

565. SOCIOLOGY OF EVERYDAY LIFE (3). Uses symbolic interactionist theory to examine the ways in which taken-for-granted aspects of everyday life, such as public space, the workplace, home and family, and popular culture are shaped by microlevel processes. A culminating experience—integrating theory, methods, and scholarly writing—is required. PRQ: SOCI 260; SOCI 280; SOCI 301 or SOCI 302; and SOCI 377A and SOCI 377B; or consent of department.

575. HEALTH ORGANIZATIONS AND HEALTH CARE SYSTEMS (3). Social structure and social relations in provider settings, including but not limited to hospitals, public health, ambulatory care, and nursing homes. Emphasis on differences in financing, utilization, staffing, and relations with other social institutions. Comparison of health care systems in the U.S. and selected other nations. A culminating experience—integrating theory, methods, and scholarly writing—is required. PRQ: SOCI 280; SOCI 301 or SOCI 302; and SOCI 377A or SOCI 377B; or consent of department.

576. SEMINAR IN SOCIOLOGICAL RESEARCH METHODS (4).

- A. Survey Methods
- B. Experimental Methods
- D. Quantitative Methods
- E. Field Methods
- M. Multimethods
- N. Evaluation Research Methods

May be repeated to a maximum of 8 semester hours as topic changes. PRQ: SOCI 377A or SOCI 377B; SOCI 301 or SOCI 302; and STAT 208 or STAT 301; or consent of department.

580. COMMUNITIES AND CRIME (3). Examination of various theories and empirical research regarding the community context of crime, criminality, and crime prevention. Consideration of related policy implications. A culminating experience—integrating theory, methods, and scholarly writing—is required. PRQ: SOCI 381; SOCI 280; SOCI 301 or SOCI 302; and SOCI 377A and SOCI 377B; or consent of department.

582. SOCIOLOGY OF DEATH AND DYING (3). Systematic study of the last stage of the life course from a sociological perspective. The social organization of dying and death across time and culture; in various institutional settings; as the result of social, political, and environmental factors; and as experienced by self and others, including the elderly and children. A culminating experience—integrating theory, methods, and scholarly writing—is required. PRQ: SOCI 280; SOCI 301 or SOCI 302; and SOCI 377A or SOCI 377B; or consent of department.

585. LAW AND SOCIETY (3). Law as a social institution, including the origins of law and its relationship to other social institutions, social control, and social change. A culminating experience—integrating theory, methods, and scholarly writing—is required. PRQ: SOCI 280; SOCI 301 or SOCI 302; and SOCI 377A or SOCI 377B; or consent of department.

587. GENDER AND CRIME (3). Relationships between gender and crime, internationally and nationally. Trends in female and male crime and victimization; the treatment of women and men in criminal justice systems. May include visits to appropriate agencies. A culminating experience—integrating theory, methods, and scholarly writing—is required. PRQ: SOCI 280; SOCI 301 or SOCI 302; SOCI 357 or SOCI 381; SOCI 357 or SOCI 381; and SOCI 377A or SOCI 377B; or consent of department.

588. JUVENILE DELINQUENCY (3). Social and psychological factors in delinquent behavior; causation, prevention, and rehabilitation; the role of community agencies; the juvenile court. May include visits to juvenile correctional agencies. A culminating experience—integrating theory, methods, and scholarly writing—is required. PRQ: SOCI 280; SOCI 301 or SOCI 302; SOCI 377A or SOCI 377B; and SOCI 381; or consent of department.

592. COMPARATIVE CRIMINOLOGY (3). Historical and comparative analysis of crime and the criminal justice system in Europe, the United States, developing countries, and socialist societies. A culminating experience—integrating theory, methods, and scholarly writing—is required. PRQ: SOCI 280; SOCI 301 or SOCI 302; SOCI 377A or SOCI 377B; SOCI 381; and SOCI 383; or consent of department.

596X. HISTORY AND SOCIAL SCIENCE INSTRUCTION IN GRADES 6-12 (3). *Crosslisted as HIST 596*. Organization and presentation of materials for history and social science courses at the middle school, junior high, and senior high school levels. PRQ: Admission to the history or social science teacher certification program and permission of Department of History's office of teacher certification.

602. INTERNSHIP (3-6). Work as an intern in an agency engaged in activities related to sociology. Reading and preparation of a paper under the supervision of a department faculty member. May be repeated to a maximum of 6 semester hours. PRQ: Admission to M.A. program in sociology or consent of department.

650. 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. PRQ: SOCI 170 and one other course in sociology, or consent of department.

652. COMMUNITY ANALYSIS (3). Selected topics and studies in the structure and functioning of urban communities. Attention given to urbanization and other processes and associated factors. PRQ: 9 semester hours of sociology or consent of department.
653. SOCIAL DYNAMICS (3). The constants of social change, variability of rates of change, 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. PRQ: 9 semester hours of sociology or consent of department.
659. SOCIAL STRUCTURE AND DEVELOPMENT (3). Comparative analysis of social structural change resulting from industrialization and modernization in developing societies. PRQ: Consent of department.
660. SOCIAL STRUCTURE AND PERSONALITY (3). Interrelationships between social systems and personality over the life cycle. PRQ: 9 semester hours in sociology including a course in social psychology, or consent of department.
663. WOMEN'S HEALTH ISSUES (3). Critical analysis of selected health issues that affect the life experiences of women. Emphasis on feminist theories and the intersections of race, class, and culture to interpret these health-related experiences of women.
664. 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. PRQ: Consent of department. Recommended: A course in social psychology.
670. CLASSICAL SOCIOLOGICAL THEORY (3). Critique of Durkheim, Weber, and other early theorists. PRQ: SOCI 370 or consent of department.
671. CONTEMPORARY SOCIOLOGICAL THEORY (3). Critique of Mead, Parsons, Becker, Homans, Merton, and other recent theorists. PRQ: SOCI 473 or consent of department.
672. 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. PRQ: Consent of department.
675. SOCIOLOGICAL STATISTICS (3). Methods of sampling and testing hypotheses; statistical inference; correlation and other measures of association; and methods of treating both quantitative and nonquantitative variables. PRQ: 3 semester hours in statistics or consent of department.
676. QUANTITATIVE RESEARCH METHODS (3). The scientific approach, selection of problems, design, and methods of analysis. PRQ: SOCI 675 or consent of department.
677. QUALITATIVE RESEARCH METHODS IN SOCIOLOGY (3). Methods of collecting and analyzing qualitative data for research in sociology, including ethnographic fieldwork, interviews, and observation. Not open for credit to students having credit in ANTH 560.
681. THEORIES OF DELINQUENCY AND CRIME (3). Relation of theories of delinquency and crime to general biological, sociological, and psychological theories. PRQ: SOCI 588 or consent of department.
682. LAW AND SOCIAL CONTROL (3). Institutional relationships among social order, law, justice, and legal coercion. Emphasis on factors underlying the enactment, enforcement, and administration of the law, including interest-group politics, social structure, and economic institutions. Court and police tensions, the changing role of policing in America, and minority pressures on the law and the police. PRQ: SOCI 588 or consent of department.
683. RACE, CLASS, GENDER, AND CRIME (3). Analysis of crime, law, and social inequality. Consideration of how structural location influences patterns of criminal participation, arrest and prosecution, and punishment. Explores causes and consequences of differential treatment for racial/ ethnic minorities, the poor, and women.
687. PENOLOGY AND PENAL INSTITUTIONS (3). Justice and punishment; penal reformers and their social context; penitentiaries and reformatories in the 19th century; the designs and origination of modern prisons; the prison system; the courts and modern prisons. PRQ: SOCI 588 or consent of department.
689. CRIMINAL JUSTICE IN SOCIETY (3). Police, courts, and corrections in America: their organizations and policies, their patterns of recruitment and promotion, plea bargaining, police power, treatment of minorities, and sensitivity to social and political issues. Examination of selected communities. PRQ: Previous course in criminology or consent of department.
690. INDEPENDENT STUDY IN SOCIOLOGY (1-3). Supervised readings and research in special areas of sociology. May be repeated to a maximum of 6 semester hours. PRQ: Written permission of department.
699. MASTER'S THESIS (1-6). May be repeated to a maximum of 6 semester hours.
751. SEMINAR IN SOCIAL INSTITUTIONS AND SOCIAL ORGANIZATION (3). Recent research in particular institutions (religion, family, education, or other topics) or in aspects of social organizations (stratification, population, or other selected topics). May be repeated to a maximum of 6 semester hours as topic changes. PRQ: Consent of department.
761. 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. PRQ: A graduate course in social psychology or consent of department.
762. SEMINAR IN SOCIOLOGY OF HEALTH/AGING (3). Recent developments in the sociological study of health and/or aging. May be repeated to a maximum of 6 semester hours as topic changes. PRQ: Consent of department.
770. 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. PRQ: SOCI 671 or SOCI 672, or consent of department.
775. SEMINAR IN RESEARCH METHODS (3). Recent developments in methods of sociological research (systems analysis, survey methods, statistical techniques, or other specific methodological problems). May be repeated to a maximum of 6 semester hours as topic changes. PRQ: Consent of department. Recommended: SOCI 676.
781. SEMINAR IN SOCIAL DISORGANIZATION/CRIMINOLOGY (3). Analysis of conflict, war, revolution, natural catastrophes, social change; or delinquency and crime, prison systems, criminal law, or criminal justice. May be repeated to a maximum of 6 semester hours as topic changes. PRQ: Consent of department. Recommended: SOCI 681.

# College of Visual and Performing Arts

**Dean: Richard T. Holly, M.M.**

**Associate Dean: Deborah Robertson, M.F.A.**

School of Art  
School of Music  
School of Theatre and Dance

## **Certificate of Graduate Study**

### **Museum Studies (15)**

This certificate is jointly administered by the College of Education, the College of Liberal Arts and Sciences, and the College of Visual and Performing Arts. See the section on Inter-College Interdisciplinary Certificates for a complete description of this certificate.

# School of Art (ART)

Acting Director: Douglas Boughton

## Graduate Faculty

Jeffrey Adams, associate professor, M.F.A., Cranbrook Academy of Art  
 Leif Allmendinger, associate professor, M.F.A., Rhode Island School of Design  
 Jon Ashmann, professor, B.S., Illinois Institute of Technology  
 Michael Barnes, graduate coordinator, associate professor, M.F.A., University of Iowa  
 Sinclair Bell, assistant professor, Ph.D., University of Edinburgh  
 Douglas G. Boughton, director, professor, Ph.D., University of Alberta, Canada  
 Karen Brown, associate professor, M.F.A., California State University, Fullerton  
 Todd Buck, assistant professor, M.S.M.E., University of Illinois, Chicago  
 Sara Evans, assistant professor, Ph.D., University of California, Berkeley  
 Kerry Freedman, professor, Ph.D., University of Wisconsin  
 Billie Giese, associate professor, M.F.A., University of Kansas  
 Aleksandra Giza, associate professor, Ph.D., Silesian University (Katowice, Poland)  
 Debra Grall, associate professor, M.F.A., University of Wisconsin  
 Lawrence J. Gregory, associate professor, M.F.A., Ohio University  
 Rebecca Houze, associate professor, Ph.D., University of Chicago  
 Barbara Jaffee, associate professor, Ph.D., University of Chicago  
 Katherine Kahn, associate professor, M.F.A., Yale University  
 Jeff K. Kowalski, professor, Ph.D., Yale University  
 Frank Kulesa, associate professor, M.F.A., Northern Illinois University  
 Yih-Wen Kuo, professor, M.F.A., Southern Illinois University  
 Andrew Liccardo, assistant professor, M.F.A., Texas Tech University  
 Christine LoFaso, professor, M.F.A., School of the Art Institute of Chicago  
 Li-Fen Lu, assistant professor, Ph.D., Indiana University  
 Kimberly Martens, associate professor, M.S.M.E., University of Illinois, Chicago  
 Helen Nagata, assistant professor, Ph.D., Stanford University  
 Ashley Nason, assistant professor, M.F.A., University of Tennessee  
 James Obermeier, assistant professor, M.F.A., Indiana University  
 Mary Quinlan, associate professor, Ph.D., University of Chicago  
 Steven Quinn, associate professor, B.Ed., University of Colorado  
 Catherine Raymond, associate professor, Ph.D., Sorbonne, Paris, France  
 Nina Rizzo, assistant professor, M.F.A., University of Texas, Austin  
 Charlotte Rollman, professor, M.F.A., University of Illinois  
 Kurt Schultz, associate professor, M.F.A., Northern Illinois University  
 Lee Sido, associate professor, M.F.A., Northern Illinois University  
 Kryssi Staikidis, assistant professor, Ph.D., Columbia University, New York  
 Frank Trankina, associate professor, M.F.A., School of the Art Institute of Chicago  
 Ann van Dijk, associate professor, Ph.D., Johns Hopkins University  
 Shei-Chau Wang, associate professor, Ed.D., Northern Illinois University  
 Harry J. Wirth, professor, B.S., University of Wisconsin, Milwaukee

The School of Art offers graduate programs leading to the M.A., M.S., and M.F.A. degrees. Its programs are accredited by the National Association of Schools of Art and Design.

The M.S. in art with a specialization in art education is designed for those students who wish to prepare for a specialist role in art education in addition to classroom teaching. The M.A. is designed for those students who wish to pursue a specialization in studio art or art history. The M.F.A. is primarily designed for and directed toward students who desire to achieve a current, high-level professional mastery in a discipline related to the fine arts or design. The M.F.A. is a terminal degree in the field of art.

Admission to graduate programs in the School of Art usually requires a baccalaureate degree in a field of art related to the program for which the student is applying. Applicants who do not have a major in art or in their field of study may be assigned deficiencies by faculty in the program area to which the student is admitted based upon review of admissions materials. Deficiencies will be listed in the letter of admission from the Graduate School or in the student's program of courses.

A faculty adviser in the student's area of interest is assigned upon acceptance into the Graduate School. The student must establish contact with the adviser immediately. The adviser will assist in forming the three-member (minimum) graduate advisory committee which will guide the student in all subsequent activities required for the completion of the respective degree.

With the consent of the School of Art and the dean of the Graduate School, a maximum of 9 semester hours of graduate transfer credit may be accepted from other accredited colleges or universities toward an M.A. or M.S. in art. A maximum of 15 semester hours of graduate credit from an M.A. program completed at another institution may be accepted toward the M.F.A. degree. A maximum of 15 semester hours of graduate credit earned at NIU as a student-at-large may be accepted toward an M.A., M.S., or M.F.A. degree. However, in meeting the requirements for a graduate degree in art, the credit transferred from other accredited institutions plus that earned at NIU as a student-at-large may not exceed 15 semester hours.

A graduate student admitted to any M.A. or M.F.A. program in the School of Art may take up to 6 elective credits outside the school, subject to prior approval of the student's graduate advisory committee. Courses in this category must be entered on the official program of courses; subject to prior approval of the student's graduate advisory committee or for those enrolled in an M.S. in art, up to 9 semester hours outside the school.

The School of Art may retain reproductions of any work produced in classes or presented for the one-person exhibition or presentation.

Comprehensive examinations are typically scheduled to occur during the student's last academic year. The nature of the comprehensive examination is determined by the student's graduate advisory committee.

Other information concerning the various programs can be obtained upon request from the graduate coordinator in the School of Art.

## Special Requirements for Studio Degrees

The GRE is not required for admission to the M.F.A. or the M.A. specialization in studio art. The School of Art requires a portfolio from all applicants for admission to the Graduate School who wish to pursue a studio degree in art (M.A. or M.F.A.). A prospective student must submit a CD containing 15 - 20 images of his or her work as it related to the intended course of graduate study. Time based media may be submitted a DVD-Video (NTSC), CD-ROM, audio DC, URL. An identification sheet with the name of applicant, title of work, date of execution, medium, running time (if applicable), and size must be included. The images on the CD should be at least 1100 pixels at the longest dimension with a resolution of 72 ppi. All images need to be in jpg format. No power point presentations.

Applicants may substitute film and/or electronic media in lieu of slides where applicable to the field of study. The materials must be submitted in reusable containers acceptable for the U.S. postal service mailing requirements, return postage included. All materials must be clearly identified with the name of the applicant, title of work, date of execution, medium, and return address. Although all possible care is taken, the School of Art cannot assume responsibility in case of loss or damage.

February 1 is the primary date for receiving all application materials for summer, fall, or spring admission to any graduate studio degree program including portfolio, a listing of works in the portfolio, and all materials required by the Graduate School. Applicants meeting the February deadline are eligible for consideration for both graduate admissions and graduate assistantships. April is the final application date for those not applying for assistantships.

CDs and/or other appropriate visual documentation to be considered for admission purposes should be sent to the graduate coordinator in the School of Art; other application materials are to be submitted to the Graduate School.

## Art Education

### Master of Science in Art

The M.S. in art requires a minimum of 33 semester hours of graduate work and successfully passing a comprehensive examination.

**Specialization in Art Education (33).** Applicants for the M.S. degree with a specialization in art education should have an undergraduate degree in art, art education, or other related field approved by the School of Art. Students must complete 33 semester hours as follows.

ARTE 683 - Seminar in Art Education (3)

Course work from the following (3)

ARTE 683 - Seminar in Art Education (3),

OR ART 680 - Seminar (3)

ARTE 684 - History and Philosophy of Art Education (3)

ARTE 685 - Research Readings in Art Education (3)

Electives in art education (6)

Additional electives in art education and/or electives in art history, studio art, or related professional courses as approved by the School of Art (15)

A maximum of 9 semester hours may be taken outside the School of Art. Any program requires the written approval of the major adviser.

### Teacher Certification<sup>1</sup>

Persons holding a baccalaureate degree may complete requirements for the State of Illinois Standard Special (K-12) Certificate through the art education division of the School of Art as part of the degree program for the M.S. in art with a

specialization in art education. With adviser approval, graduate-level requirements for certification can be part of the 33 semester hours required for this specialization.

### Admission Requirements

Successful completion of the Illinois Test of Basic Skills.  
Completion of ARTE 342 with a grade of at least C.  
Admission to the School of Art.

### Retention

Students must remain in good standing in the Graduate School. In addition students must maintain an average 3.00 GPA or higher, and receive no final grade lower than C in art education methods courses (ARTE 342, ARTE 344, ARTE 563, and ART 682).

### Admission to Student Teaching

In addition to meeting retention requirements, during the semester prior to student teaching or earlier, students must pass the final portfolio review per the art education division's portfolio review procedures. Also see "Teacher Certification Information."

### Requirements

Studio and art history courses may be assigned as deficiencies if not taken as part of an undergraduate degree. Subject to approval by the chair of the graduate advisory committee, courses in art history, ceramics, design, drawing, fiber arts, metal work or jewelry, painting, printmaking, and/or sculpture may be taken at the graduate or undergraduate level, in NIU's School of Art or at other recognized institutions.

ARTE 342 - Introduction to Art Education: Content and Clinical Experience at the Elementary Level (3)

ARTE 344 - Resources and Methods in Art Education: Content and Clinical Experience at the Middle Level (3)

ARTE 488A - Student Teaching in Elementary Art (6)

ARTE 488B - Student Teaching in Secondary Art (6)

ARTE 543 - Technology and Art Education (3)

ARTE 563 - Modern and Postmodern Art in Education (3)

ARTE 679 - Art Education for Special Needs Populations (3),

OR TLSE 557 - Systems for Integrating the Exceptional Student in the Regular Classroom (3)

ARTE 682 - Curriculum Theory and Development in Art Education (3)

ARTE 684 - History and Philosophy of Art Education (3)

ARTE 687 - Evaluation and Assessment in Art Education (3)

EPS 501 - Psychological Foundations of Education (3)

EPS 508 - Theories and Research in Adolescent Behavior and Development (3)

Also see "Teacher Certification Information."

### Specialization in Art Education under the Doctor of Education in Curriculum and Instruction

This is a professional degree, offered through the College of Education, intended to prepare superior teachers, administrators, service personnel, and scholars of art education. In addition to other functions, the program prepares individuals for teaching at the college level. Preparation for research responsibilities both as producer and as consumer is an integral part of each program. The specialization in art education focuses on preparing students to be knowledgeable practitioners, scholars, and leaders in the field of art education. Students study art education research, theory, and practice. A commitment to scholarship and research, as well as practice, is required of students so as to improve the quality of art education for all learners.

Applicants for the Ed.D. program are expected to have a broad base of general education in the humanities, sciences, and social sciences and are required to present evidence of a minimum of three years of acceptable professional experience and/or demonstrated field leadership.

<sup>1</sup> Students with an undergraduate degree must be admitted to the M.S. program in art with a specialization in art education to enter the certification program.

### Admission

Decisions about admission to the Ed.D. specialization in the School of Art are made once each academic term. To be assured of consideration, completed applications containing all required data (application forms, official transcripts, GRE or MAT scores, and letters of recommendation) must be received by the Graduate School no later than March 1 for admission for the fall term, November 1 for admission for the spring term, and March 1 for admission for the summer session.

An applicant for admission is generally expected to

- Have a minimum GPA of 3.20 in previous graduate work.

- Submit scores on the General Test of the GRE or Miller Analogies Test (MAT).

- Provide three letters of recommendation from professors, employers, or supervisors which provide supportive evidence of an applicant's professional qualifications.

- Demonstrate satisfactory academic and professional progress as indicated by data included in the application for admission to the Graduate School.

Demonstration of writing competencies and participation in a pre-admission interview is required of qualified applicants before a final admission decision is made.

Prospective students who fail to satisfy either the GPA or the GRE/MAT criterion may request special consideration of their applications. Such a request must be in writing, must include compensatory evidence related to the deficiencies, and should accompany the application for admission to the Graduate School. Final decisions regarding admissions are made by the School of Art on the basis of a total profile of an individual's qualifications. Appeals of a decision made by the School of Art may be made to the coordinator of doctoral studies in the School of Art. Appeals must be submitted in writing and must explain the basis for the appeal.

### Deficiency Study

In cases in which a student's background in art education is limited, the individual may be required to fulfill deficiency requirements. Where significant deficiencies are found by the student's advisory committee, additional semester hours above the 93 required for the doctoral degree may be prescribed.

### Requirements

The doctoral program in curriculum and instruction with a specialization in art education requires the equivalent of at least three years of full-time academic work, or a minimum of 93 semester hours of graduate work beyond the baccalaureate degree including the following.

- TLCI 703 - Design of Curriculum and Instruction (3)

- TLCI 704 - Research Seminar in Curriculum and Instruction (3)

- Course work constituting common requirements in research understandings and skills, learning and development theories, and sociocultural analyses of education (15)

- Course work (excluding dissertation hours) in the specialization (12)

- A cognate component selected from outside the specialization to provide a broader base of knowledge, a supportive professional skill, or more sophisticated research competencies

### Examinations

A candidacy examination encompassing the principal areas of professional knowledge, the common requirements, and students' special fields will be scheduled and administered at least twice each year. A graduate student eligible to take this examination, with the permission of the chair of the doctoral committee, will have completed at least two-thirds of his or her studies including the common requirements. Application for the examination can be made to the Division of Art Education, School of Art.

A final oral examination related to the dissertation is required and is conducted in accordance with the general requirements of the Graduate School.

## Master of Arts in Art

The M.A. in art requires a minimum of 30 semester hours of graduate work.

### Specialization in Studio Art

Students who select the specialization in studio art must elect an area of study in fine arts (ARTS) and/or design (ARTD) courses and must pass a portfolio examination during the first academic year or prior to the completion of 12-15 graduate semester hours for continuance in their M.A. degree program.

Students who choose to change the field of study to which they have been admitted must do so prior to the portfolio examination and with the approval of the faculty in the new field.

- ART 680 - Seminar (3),

- OR ARTS 615 - Introduction to Studio Practices (3)

- Art history electives (6)

- Studio art electives (18)

- ART 699B - One-Person Exhibition or Presentation and Documentation for the M.A. Studio Degree (3)

Students must register for ART 699B during the term of the one person exhibition or presentation and documentation.

Documentation of the one-person exhibition or presentation and documentation (the format of the show and two copies of the documentation as approved by the student's graduate advisory committee) and the approval of documentation form must be returned to the graduate coordinator's office by the end of the term.

Approval of the M.A. one-person exhibition or presentation and documentation is by a majority of the student's graduate advisory committee consisting of at least three members. The majority of the committee members must be regular faculty members at NIU; a majority should be members of the graduate faculty in the School of Art; and the chair should be a graduate faculty member in the School of Art and an appropriate specialist in the specific discipline.

### Specialization in Art History

Students who select the specialization in art history must complete a thesis or a master's research paper with the approval of the student's graduate committee, pass a comprehensive examination, and demonstrate a reading knowledge of one modern foreign language by earning an A or B in FLFR 202, FLGE 202, or FLIT 202; receiving an S in FLFR 382 or FLGE 382, or passing an average-proficiency translation examination in French, German, or Italian arranged through the NIU Office of Testing Services, with the concurrence of the student's major adviser. Traditionally, French, German, or Italian is the language chosen, particularly by students interested in pursuing doctoral study. However, another language may be substituted with the approval of the student's graduate advisory committee. If another language is approved, students may satisfy the requirement by obtaining a grade of A or B in the final semester of the intermediate 200-level course of the language in question (e.g., FLRU 202, FLSP 202, FLPO 202, FLJA 204, FLBU 204, FLCH 204, FLIN 204, FLTH 204), or by passing an average proficiency translation examination for the language in question arranged through the NIU Office of Testing Services. It is recommended that students planning to pursue doctoral studies in art history confirm their reading knowledge of the qualifying language either by receiving an S in FLFR 382 or FLGE 382 or by passing an average-proficiency translation examination for the language in question arranged through the NIU Office of Testing Services.

ARTH 701 - Seminar in Art History (6)  
 Art history electives (minimum—18)  
 ART 699A - Thesis or Master's Research Paper (3)

A student in the art history specialization who has not taken ARTH 486 as an undergraduate must take ARTH 586.

Students applying for the specialization in art history must submit a sample of academic writing (e.g., a research paper for an academic course).

## Master of Fine Arts in Art

The M.F.A. degree in the School of Art is primarily designed for and directed toward students who desire to achieve a current, high-level professional mastery in a discipline related to the fine arts or design. This is a terminal degree in the fields of studio art and design.

### Admission

The basic requirements for admission after the completion of the baccalaureate degree are those indicated in the section "General Requirements for Admission to the Graduate School." A baccalaureate degree in a field of art related to the student's intended area of study is usually required. Students with an M.A. degree who wish to continue in an M.F.A. program must have a minimum 3.20 GPA in graduate work to be admitted.

Students seeking admission to the M.F.A. program in the School of Art should send slides or appropriate media to the graduate coordinator in the School of Art. Other application materials are to be submitted to the Graduate School.

### Limitation of Time

All requirements for the degree Master of Fine Arts must be completed within the seven consecutive years immediately preceding the date of the student's graduation from that degree program. This time limit applies to enrollment in all graduate course work in the student's program including work for which transfer credit is allowed.

At the discretion of the student's major division, the seven-year limit need not apply to some or all for the earliest 30 semester hours of credit included in the student's M.F.A. program of courses.

The time limit applies to enrollment in all graduate course work in the student's program including work for which transfer credit is allowed. If any such NIU course does not fall within the time limit defined above, the student's major division may require the student to retake the course for credit or may allow the student to demonstrate current knowledge of the subject matter. In the latter case, currency must be demonstrated to the satisfaction of the department offering the course through successful completion of an appropriate examination or other assessment if available from the department. Otherwise, the outdated course work must be deleted from, and other course work must be substituted in, the program of courses. Hours from a complete M.A. degree in art from another institution do not fall into the seven-year time limitation.

### Courses for Which Graduate Credit is Allowed

At NIU only courses which are numbered 500-798 carry credit toward the master's degree. At least 50 percent of the minimum number of semester hours required for the M.F.A. degree must be earned in courses numbered 600 and above.

## Student-at-Large and Transfer Credit

For a student pursuing the M.F.A. degree in art, up to 30 semester hours of course work from the M.A. program in art at NIU may be counted toward meeting the requirements of the M.F.A. degree, with the consent of the student's M.F.A. advisory committee. With the consent of the School of Art and the office of the dean of the Graduate School, a maximum of 15 semester hours of graduate credit from an M.A. in art program completed at another institution may be accepted toward the M.F.A. degree in art. A maximum of 15 semester hours of graduate credit earned at NIU as a student-at-large may be accepted toward an M.F.A. degree in art. However, in meeting the requirements for a graduate degree in art, the combined total of graduate credit accepted in transfer from other accredited institutions, plus that earned at NIU as a student-at-large may not exceed 15 semester hours.

### Requirements

Students in the M.F.A. program must complete a minimum of 60 semester hours of graduate work beyond a baccalaureate degree, exclusive of work taken to remove deficiencies, with a GPA of at least 3.00 in all graduate courses (excluding deficiency courses taken for graduate credit) as well as in all graduate course work taken at NIU. Students must choose an area of study in design (ARTD) and/or fine arts (ARTS) courses early in their work toward the degree. Students must pass a portfolio examination during the first academic year or prior to the completion of 15-18 graduate semester hours for continuance in their M.F.A. degree program.

Students who choose to change the area of study to which they have been admitted must do so prior to the portfolio examination and with the approval of the faculty in the new area.

### Design

Course work from the following (6)  
 ARTS 615 - Introduction to Studio Practices (3)  
 ARTS 715 - Professional Studio Practices (3)  
 ART 680 - Seminar (3)  
 ARTE 683 - Seminar in Art Education (3)  
 ARTH 701 - Seminar in Art History (3)  
 Art history electives (12)  
 Design (ARTD) electives (21)  
 Studio art electives (18)  
 ART 799B - One-Person Exhibition or Presentation and Documentation for the M.F.A. Studio Degree (3)  
 Students must register for ART 799B during the term of the one-person exhibition or presentation.

### Fine Arts

ARTS 615 - Introduction to Studio Practices (3)  
 ARTS 715 - Professional Studio Practices (3)  
 ART 680 - Seminar (3),  
 OR ARTE 683 - Seminar in Art Education (3),  
 OR ARTH 701 - Seminar in Art History (3)  
 Art history electives (12)  
 Fine arts (ARTS) electives (21)  
 Studio art electives (15)  
 ART 799B - One-Person Exhibition or Presentation and Documentation for the M.F.A. Studio Degree (1-3)  
 Students must register for ART 799B during the term of the one-person exhibition or presentation.  
 Documentation of the one-person exhibition or presentation (the format of the show and two copies of the documentation as approved by the student's graduate advisory committee) and the approval of documentation form must be returned to the graduate coordinator's office by the end of the term.

### One-Person Exhibition or Presentation

In the M.F.A. program in the School of Art, the student's work must culminate in a one-person exhibition or presentation. Instructions for documentation of the exhibition or presentation are available from the School of Art, graduate office.

In special situations, and only with the approval of the graduate advisory committee(s), students may collaborate on some aspects of the work contributing to their one-person exhibition or presentation. However, each exhibition or presentation documentation submitted to the Graduate School for approval must be a unique product with the degree candidate as the sole author and with due acknowledgment of the contributions of collaborators; and the author must demonstrate to his or her committee satisfactory command of all aspects of the work presented.

The student's graduate advisory committee will judge the acceptability of the work in meeting degree requirements. Approval of the M.F.A. one-person exhibition or presentation is by a majority of the student's graduate advisory committee consisting of at least three members. The majority of the committee members must be regular faculty members at Northern Illinois University, a majority must be members of the graduate faculty in the School of Art, and the chair must be a senior graduate faculty member in the School of Art and an appropriate specialist in the specific discipline.

### Application for Graduation

During the term in which a student plans to graduate, the student must submit an application for graduation to the Graduate School. See "Graduation."

### Doctor of Philosophy in Art Education

The Ph.D. program emphasizes research, theory and philosophical development, and applications of new knowledge in art and visual culture. The Ph.D. prepares students to be researchers, scholars, and leaders in the field of art education, including education in K-12 schools, colleges and universities, museums and community art centers, and other cultural institutions.

### Admission

A student seeking admission to the Ph.D. program in Art Education in the School of Art must meet all requirements for admission to the Graduate School and have satisfied the requirements (or equivalent) for the M.S., M.A., or M.F.A. degree in Art at NIU. The student must also submit acceptable scores for the General Test of the Graduate Record Examinations and show evidence of writing and English-language proficiency as defined by NIU Graduate School criteria.

### Course Requirements

Completion of this degree requires a minimum of 60 semester hours of graduate course work at NIU beyond the graduate credits earned toward the student's master's degree.

#### Core Courses (15)

- ARTE 686 - Politics and Leadership in Art Education (3)
- ARTE 783 - Doctoral Seminar in Art Education (3)
- ARTE 790 - Foundations of Art-Based Educational Programs: Research and Theory (3)
- ARTE 791 - Critical Foundations in Art and Aesthetics (3)
- ARTE 792 - Philosophies of Art, Culture, and Pedagogy (3)

#### Research Methodology Requirements (9)

- ARTE 784 - Research Methods in Art Education (3)
- ETR 520 - Introduction to Educational Research (3)
- ETR 521 - Educational Statistics I (or equivalent) (3)

### Cognate Requirements (12-15)

All students are required to complete a cognate of 12-15 semester hours in art or related fields such as education, anthropology, museum studies, visual culture, computer imaging, women's studies, or statistical analysis, at or above the 600 level. These must be in addition to the core and tool courses. The student's graduate committee in the School of Art must approve the area(s) and the courses chosen to meet this cognate requirement in each case.

### Elective Course Work (12-15)

Graduate course work may be taken in art and related areas of studies. The courses chosen to meet this requirement are subject to the approval of the student's graduate committee.

### Dissertation (12)

ARTE 799 - Doctoral Research and Dissertation (12)

### Candidacy Examination

A student must receive approval from his/her graduate committee to take the candidacy examination. The candidacy examination is a written examination based on the core courses and other graduate courses and may consist of cases, queries, or research problems. The examination is to be taken within one year of completion of the core courses. The assessment criteria and procedures are outlined below. Upon satisfactory completion of the candidacy examination the student is admitted to candidacy for the Ph.D. degree. A student who fails the candidacy examination may be granted the opportunity to take a second examination. Failure on the second examination denies the student admission to candidacy.

### Dissertation Committee

Upon successful completion of the candidacy examination, a dissertation committee for the student will be nominated by the Art Education Division of the School of Art in consultation with the student, and appointed by the Dean of the Graduate School. This committee will consist of three to five graduate faculty members, one of whom will be designated as the dissertation director, and will meet the specifications of the Graduate School.

### Oral Dissertation Defense

A final oral examination related to the dissertation is required and is conducted in accordance with the general requirements of the Graduate School.

### Foreign Study Programs

The School of Art sponsors a foreign study program designed to investigate, experience and analyze the art and culture of other parts of the world. This program was initiated in 1960 and has featured study tours to all the countries of Western Europe, to Russia, China, and Japan, as well as to many of the Middle and Near Eastern countries. Residence programs have been sponsored in Italy, France, Austria, and Mexico.

A varied foreign study program is planned for the future. Interested students should contact the director of the School of Art for current information.

### Course List

All art courses designated with the phrase "may be repeated" are repeatable to a maximum number of semester hours to be determined by the student's major adviser. Credit-hour limitations for other art courses are cited in their descriptions. Course enrollment of more than 6 credit hours per semester in one course requires consent of the School of Art.

## Foundations and General (ART)

565. INTRODUCTION TO MUSEUM STUDIES (3). Survey of the history and philosophy of museums and museum typology. Overview of the purposes, structure, and operations of museums with attention to current issues and practices relating to ethics, collections, exhibitions, and education. Lectures, discussion, museum field trips, museum practicum. Research project. PRQ: Consent of school.

600. ART PEDAGOGY: THEORY AND PRACTICE (1). Exploration of the theory and practice of the School of Art Foundations curriculum and pedagogy through lectures, classroom observation, and readings. Designed to provide graduate students with the basic skills needed for effective teaching in the School of Art Foundations program. May be repeated for a maximum of 3 semester hours.

625. MUSEUMS: GENDER, RACE, AND CLASS (3). *Crosslisted with WOMS 525X*. Interdisciplinary multicultural study of museum theory and practice as it pertains to diversity of race, class, and gender. A case study approach will be used.

654. MUSEUM ADMINISTRATION (3). Theory and practice of museum administration focusing on governance, legal issues, fund raising, financial and personnel management, planning, public relations, security, and physical facilities. Lectures, case studies, and discussion. PRQ: ART 565 or consent of school.

655. CURATORIAL PRACTICE (3). Philosophy, practices, and issues involved in acquisition and care of collections, including collection policy, registration and cataloging methods, documentation/research of collections, conservation, and ethics. Lectures, case studies, museum visits, and museum practicum. PRQ: ART 565 or consent of school.

656. MUSEUM EXHIBITIONS AND INTERPRETATION (3). Theory and practices of exhibition planning, design, installation, and evaluation with emphasis on the interpretative function of exhibitions through labels, brochures, AV, and interactive devices. Lectures, practicum, exhibit critiques, class projects, and museum visits. Culminates in an exhibition by the class in an NIU gallery/museum. PRQ: ART 565 or consent of school.

657. MUSEUM EDUCATION (3). History, philosophy, and practice of museum education. Study and practical application through class projects and practicum of planning and implementing public programming, tour techniques, museum-school services, and development and evaluation of educational materials and outreach programs. Lectures, individual projects, observation in museums, and practicum. PRQ: ART 565 or consent of school.

658. PREVENTIVE CONSERVATION SEMINAR (3). For new and current museum professionals, introduction to preventive conservation as a holistic doctrine for the 21st century museum environment. Lecture and discussion, focus on the necessity for the museum to adopt the preventive conservation doctrine, address preventive conservation strategies, and discuss approaches to permanently and positively involve all museum workers in the process. This course does not teach conservation theory and/or practice.

680. SEMINAR (3). Discussion of historical and contemporary issues in the arts. Topics announced. May be repeated.

689. TOPICS IN ART (1-6). Concentrated study in art. Studio, lecture and discussion, or field trip. Topics announced. May be repeated for a maximum of 6 semester hours as elective credit to be applied toward an advanced degree with school approval. May not be substituted for art history or seminar.

690. INDEPENDENT STUDY (1-9). Work on individual problems in student's chosen field. May be repeated. PRQ: Consent of school and instructor. ART 699A. THESIS (1-3).

699A. THESIS OR MASTER'S RESEARCH PAPER (1-3).

699B. ONE-PERSON EXHIBITION OR PRESENTATION AND DOCUMENTATION FOR THE M.A. STUDIO DEGREE (1-3).

765. MUSEUM INTERNSHIP (3-6). Work experience in a museum, gallery, arts center, or other approved institution with collection(s) of related cultural or aesthetic objects and artifacts under the supervision of a member of the professional staff. Requires regular experience in day-to-day museum operations and completion of a major project arranged with the intern's museum supervisor and a museum studies faculty member. May be repeated to a maximum of 9 semester hours. PRQ: Consent of school.

780. TEACHING ART AT THE COLLEGE LEVEL: INTERNSHIP (1-3). Teaching art at the college level under the supervision of a master teacher.

799B. ONE-PERSON EXHIBITION OR PRESENTATION AND DOCUMENTATION FOR THE M.F.A. STUDIO DEGREE (1-3).

## Art Design (ARTD)

509. ADVANCED INTERACTIVITY (3). Advanced studies in interactive art with emphasis on structured and individual projects. May be repeated to a maximum of 9 semester hours. PRQ: Consent of school.

510. STUDIES IN INTERACTIVE MEDIA (3). Exploration in interactive art with emphasis on individual projects. Topics announced. May be repeated to a maximum of 9 semester hours. PRQ: Consent of school.

520. DESIGN FIELD EXPERIENCE (1-6).

A. Time Arts

C. Visual Communication

D. Photography

Cooperative work experience for design students. Cooperatively supervised professional practice with selected and/or approved design firms to provide a learning experience complementary to the student's area of study in design. May be repeated to a maximum of 6 semester hours. S/U grading. PRQ: Approval of the faculty field experience adviser in the design student's area of study.

573. ADVANCED ANIMATION (3). Intensive work in animation using 2-D and/or 3-D techniques with emphasis on individual projects. May be repeated to a maximum of 9 semester hours. PRQ: Consent of school.

609. NEW MEDIA DESIGN I (3, 6, or 9). Selected problems in design with emphasis on computer-aided design. May be repeated. PRQ: Acceptance into M.A. or M.F.A. degree program, or consent of school.

610. DESIGN (3). Selected problems in design. May be repeated. PRQ: Acceptance into M.A. or M.F.A. degree program, or consent of school.

611. VISUAL COMMUNICATION (3 or 6). Advanced problems in visual communication. May be repeated. PRQ: Acceptance into M.A. or M.F.A. degree program, or consent of school.

612. STUDIES IN DESIGN (3). Varied topics in design. Studio, lecture, and discussion or field trip. Topics announced. May be repeated. PRQ: Acceptance into M.A. or M.F.A. degree program, or consent of school.

613. PHOTOGRAPHY I (3-6). Advanced work in photography with emphasis on experimentation and development of an individual approach. May be repeated. Students may enroll in two separate sections concurrently. PRQ: Acceptance into M.A. or M.F.A. degree program, or consent of school.

666. TIME ARTS I (3, 6, or 9).

A. Animation

B. Video Art

C. Interactivity

D. Intermedia Arts

Advanced study in media arts with emphasis on individual approaches and independent research. Students may enroll in one, two, or three of the above listed subject areas concurrently, for 3, 6, or 9 credit hours in one of these subject areas, or any combination thereof with a maximum of 9 hours per semester. May be repeated. PRQ: Acceptance into M.A. or M.F.A. degree program, or consent of school.

709. NEW MEDIA DESIGN II (3, 6, or 9). Advanced research problems in computer-aided design. May be repeated. PRQ: Acceptance into M.F.A. degree program or consent of school.

712. RESEARCH AND VISUAL COMMUNICATION (3 or 6). Research in specialized laboratory problems. May be repeated. PRQ: Acceptance into M.F.A. degree program or consent of school.

713. PHOTOGRAPHY II (3 or 6). Investigation of creative problems in photography through extended independent study. May be repeated. Students may enroll in two separate sections concurrently. PRQ: Acceptance into M.F.A. degree program or consent of school.

766. TIME ARTS II (3, 6, or 9).

A. Animation

B. Video Art

C. Interactivity

D. Intermedia Arts

Advanced development of media arts. Students may enroll in one, two, or three of the above-listed subject areas concurrently, for 3, 6, or 9 semester hours in one of these subject areas, or any combination thereof with a maximum of 9 hours per semester. May be repeated. PRQ: Acceptance into M.F.A. degree program or consent of school.

### Art Education (ARTE)

543. TECHNOLOGY AND ART EDUCATION (3). Focuses on technology integration in art education and addresses practices, issues, and potentials pertaining specifically to K-12 settings. Hands-on experience with integrating technology into the art curriculum/instruction and creating expressive digital art and other visual images for classroom use.

563. MODERN AND POSTMODERN ART IN EDUCATION (3). Thematic, interdisciplinary, and multicultural approach to the application of aesthetic, art historical, and critical theory and methods to instructional practice in museums and elementary and secondary schools. Emphasis on alternative methods of presenting the content of aesthetics, art history, and criticism, and on the use of teacher-made and commercial instructional resources. PRQ: Admission to teacher certification or consent of school.

580. ALTERNATIVE TEACHING EXPERIENCES (3-12). Internship teaching in community centers, social agencies, and other facilities offering educational programs outside of the public school pattern. Cooperatively supervised field experiences in alternative modes of instruction. PRQ: Approval of art education faculty adviser.

583. ART IN ELEMENTARY SCHOOLS (3). Adapting visual arts concepts derived from art history, art criticism, studio arts, and aesthetics as appropriate to the elementary child and the self-contained classroom. Field trip, lecture, studio, critique, and micro teaching experiences. Not open to art majors.

584. INTERRELATED ARTS EDUCATION (3). Exploration of aesthetic concepts pertinent to education in the arts. Analysis of curricular structures that accommodate an education in combined arts and basic assumptions underlying these structures. Planning, developing, and implementing arts programs in the context of visual arts in K-12 educational systems.

588A. STUDENT TEACHING IN ELEMENTARY ART (6). Student teaching at the K-8 grade level for approximately one-half semester. Assignments to be made after approval by an art education adviser. See "Teacher Certification Requirements." This course does not count toward required 33 semester hours for the M.S. in Art. PRQ: ARTE 682, final approval of portfolio, and successful completion of the Illinois Subject Matter Knowledge Test (Art K-12). CRQ: ARTE 588B.

588B. STUDENT TEACHING IN SECONDARY ART (6). Student teaching at the 9-12 grade level for approximately one-half semester. Assignments to be made after approval by an art education adviser. (See "Teacher Certification Requirements.") This course does not count toward required 33 semester hours for the M.S. in Art. PRQ: ARTE 682, final approval of portfolio, and successful completion of the Illinois Subject Matter Knowledge Test (Art K-12). CRQ: ARTE 588A.

679. ART EDUCATION FOR SPECIAL NEEDS POPULATIONS (3). Philosophies, instructional methods, practice, and experience with appropriate materials, resources, and opportunities related to art education for special needs populations. Designed for students in elementary, middle level, secondary, special education, and art education. Lecture, discussion, and field experience.

681. LEARNING THEORY IN ART EDUCATION (3). Study of those theories of learning specifically related to the creative experience. Results of this study applied to the problems of learning and teaching in art education; to questions of method, scope, and sequence in art programs.

682. CURRICULUM THEORY AND DEVELOPMENT IN ART EDUCATION (3). Investigation of multicultural, developmental, psychological, and perceptual forces influencing curricular emphases. Analysis of 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. Arrangements for a clinical experience, with a minimum of 25 hours, will be provided to students not currently teaching in a classroom.

683. 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. May be repeated to a maximum of 6 semester hours.

684. 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.

685. RESEARCH READINGS IN ART EDUCATION (3). Critical evaluation of primary research. Applying criteria for evaluating: theoretical, descriptive (historical, ethnographic, empirical, and case studies), and experimental research.

686. POLITICS AND LEADERSHIP IN ART EDUCATION (3). Analysis of historical, social, political, and economic influences on the formation and implementation of art education policy. Examination of organization, staffing, and administration of art and art-related programs.

687. EVALUATION AND ASSESSMENT IN ART EDUCATION (3). Intent, function, and consequences of evaluation and assessment in art education. Survey of evaluation of art programs and teaching. Diagnostic, formative, and summative assessment of art. Methods and instrumentation related to evaluation in art education. PRQ: Teaching experience or at least 25 clock hours of clinical experience, or consent of school.

688. ALTERNATIVE METHODS OF INSTRUCTION IN ART (3). Exploration of teaching approaches in art that vary in response to desired outcomes of learning. Use of models in the identification of teaching styles and in obtaining feedback. Planning and teaching for learning situations specific to K-12 art education.

781. RESEARCH TOPICS: INDEPENDENT STUDY (3 or 6).

A. Administration and Supervision of Arts Programs

C. Art Curriculum

D. Ethnicity in Art Education

E. Evaluation in Art Education

G. Art Museum Education

J. History and Philosophy of Art Education

K. Interrelated Arts Education

N. Learning Theory and Art Education

Q. Alternative Methods of Instruction in Art Education

R. Research Methods in Art

U. Art and Special Education

W. Media Aesthetics

Y. Special Topics

Independent research of a selected topic related to art teaching, therapy, or museum education. Credit limited to one topic per semester. May be repeated to a maximum of 6 semester hours. PRQ: ARTE 784, and at least one 600-level course in art related to topic selected, and completion of all other requirements for the M.S. degree and approval of the art education adviser.

783. DOCTORAL SEMINAR IN ART EDUCATION (1). Analysis of selected problems and issues in art education. May be repeated to a maximum of 4 semester hours, but credit limited to 1 hour each semester. PRQ: Admission to the Ed.D. program in curriculum and instruction.

784. RESEARCH METHODS IN ART EDUCATION (3). Methods for conducting theoretical, descriptive, and experimental research including statistical analysis of data. PRQ: ARTE 681 and ARTE 685, or consent of school.

790. ART-BASED EDUCATIONAL PROGRAMS: RESEARCH AND THEORY (3). Curriculum theory and research in art education; historical and current trends in art programming; development of expert knowledge about central concepts, ideas, structures, and debates in the professional field; and critical discussion of the organizational arrangements of school and community programs needed to lay a foundation for student research, theory development, and leadership.

791. CRITICAL THEORIES OF ART, CULTURE, AND PEDAGOGY (3). Traditions of criticism in the arts looking at standards and criteria for responding to and judging art and other cultural artifacts, as the basis of critiquing and creating educational programs, research methodologies, and analytical approaches to assessing state goals, curriculum objectives, and the content of school and museum art education programs. Emphasis on assessing the actual and potential impact of various critical traditions on the goals of art education programs in schools and museums. PRQ: Admission to the art education specialization in the Ed.D. program in curriculum and instruction, or consent of school.

792. PHILOSOPHIES OF ART AND AESTHETICS (3). Critical discourse of cultural art world practices and theories through the lenses of theoretical philosophy. Emphasis on aesthetics and ethics in Western civilization.

799. DOCTORAL RESEARCH AND DISSERTATION (1-100). Student must accumulate 15 hours prior to graduation. May be repeated to a maximum of 100 semester hours. PRQ: Candidacy for the doctoral degree and consent of chair of doctoral committee.

### Art History (ARTH)

576. ART OF THE EASTERN MEDITERRANEAN AND ANATOLIA (3). 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.

586. ART HISTORICAL METHODOLOGY (3). Studies of various methodological approaches and tools employed in the discipline of art history. PRQ: 6 semester hours of art history survey or consent of school.

587. SOUTHEAST ASIAN ART (3). The art of Burma, Thailand, Malaysia, Cambodia, Laos, North Vietnam, South Vietnam, and Indonesia.

591. HISTORY OF PRINTS AND GRAPHIC PROCESSES (3). Development of woodcuts, etching, engraving, lithography, etc., in the history of art.

592. CONTEMPORARY ART (3). Study of current art directions, styles and attitudes and their relationships to contemporary society.

593. HISTORY OF ARCHITECTURE III: FROM 1900 (3). Study of building styles, theories, form, and construction as exemplified by major architectural monuments from 1900 to the present.

596. DESIGN AND THE DECORATIVE ARTS (3). Specific subjects in the history and theory of designed objects and spaces with emphasis on the industrial period to the present.

597. 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.

598. 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.

691. STUDIES IN MEDIEVAL ART (3). A. Early Christian and Early Byzantine Art: ca. 330-843  
B. Middle and Late Byzantine Art: ca. 843-1453  
C. Early Medieval Art: ca. 500-1000  
D. Romanesque and Gothic Art: ca. 1000-1400  
May be repeated to a maximum of 12 semester hours, but credit limited to 3 semester hours per topic.

692. STUDIES IN ITALIAN RENAISSANCE ART (3).  
A. Early Renaissance Art  
B. High Renaissance Art  
May be repeated to a maximum of 6 semester hours, but credit limited to 3 semester hours per topic.

693. STUDIES IN NORTHERN RENAISSANCE ART (3).  
A. 1300 to ca. 1480. Manuscript Illumination and Panel Painting.  
B. 1480 to ca. 1600. Manuscript Illumination, Panel Painting, and Printmaking.  
May be repeated to a maximum of 6 semester hours, but credit limited to 3 semester hours per topic.

694. TOPICS IN BAROQUE AND ROCOCO ART (3). Topics announced. May be repeated to a maximum of 6 semester hours, but credit limited to 3 semester hours per topic.

695. 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 6 semester hours, but credit limited to 3 semester hours per subject.

696. 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 6 semester hours, but credit limited to 3 semester hours per subject.

698. STUDIES IN ORIENTAL ART (3).  
A. Chinese Art  
B. Japanese Art  
C. Indian and Southeast Asian Art  
D. Islamic Art  
May be repeated to a maximum of 12 semester hours, but credit limited to 3 semester hours per topic.

700. STUDIES IN ANCIENT ART (3).  
A. Egyptian Art  
B. Mesopotamian Art--Near East  
C. Aegean Art: Minoan/Mycenaean  
D. Classical Art: Greece  
E. Etruscan and Roman Art  
May be repeated to a maximum of 15 semester hours, but credit limited to 3 semester hours per topic.

701. SEMINAR IN ART HISTORY (3). Investigation of specific topics in art history. Topics announced. May be repeated to a maximum of 12 semester hours, but credit limited to 3 semester hours per topic.

702. STUDIES IN LATIN-AMERICAN ART (3). Specific subjects chosen from the arts of Central or South America. May be repeated to a maximum of 6 semester hours, but credit limited to 3 semester hours per subject.

703. INDEPENDENT STUDY IN THE HISTORY OF ART (3). Individual research in special problems and original subjects in art history as determined by student and adviser. May be repeated to a maximum of 9 semester hours, but credit limited to 3 semester hours per topic. PRQ: Permission of adviser.

704. STUDIES IN THE ART OF AFRICA, OCEANIA, AND THE AMERICAS (3).  
A. African  
B. Oceanic  
C. Native American  
D. Pre-Columbian  
E. Integrative Studies in Africa, Oceania, and the Americas  
May be repeated to a maximum of 9 semester hours, but credit limited to 3 semester hours per lettered topic.

705. 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 6 semester hours, but credit limited to 3 semester hours per subject.

785. TOPICS IN ART HISTORY (3). In-depth research on specific artists, movements, periods, or problems in the history of art. Topics announced. May be repeated to a maximum of 15 semester hours, but credit is limited to 3 semester hours per topic.

## 2-D and 3-D Studio (ARTS)

524. ATELIER DRAWING (3). Directed study to expand knowledge of a specific style of drawing with emphasis on the current philosophies, instructional methods, practice, and experiences. May be repeated to a maximum of 6 semester hours. PRQ: Consent of school.

525. ATELIER PAINTING (3). Directed study to expand knowledge of a specific style of painting with emphasis on the current philosophies, instructional methods, practice, and experiences. May be repeated to a maximum of 6 semester hours. PRQ: Consent of school.

615. INTRODUCTION TO STUDIO PRACTICES (3). Lecture/discussion course to introduce and develop the skills related to the development of the student entering the M.F.A. program. Includes artists' presentations, portfolio documentation, resume writing, group critiques, faculty presentations, studio/materials safety, and selected readings.

620. DRAWING I (3 or 6). Analytical studies of style and structure. May be repeated to a maximum of 24 semester hours. Students may enroll in two separate sections concurrently. PRQ: Acceptance into M.A. or M.F.A. degree program, or consent of school.

623. PAINTING I (3, 6, or, with consent of school, 9). Development of individual style in painting. Extended independent study. May be repeated to a maximum of 24 semester hours. Students may take two sections (3 semester hours each) concurrently with the same instructor or with different instructors. PRQ: Acceptance into M.A. or M.F.A. degree program, or consent of school.

630. PRINTMAKING I (3).

A. Intaglio and Relief

B. Lithography

D. Serigraphy

Graduate level introduction to the specific disciplines of printmaking. Focus will be placed on individual development of skills and techniques in any of the stated areas. Students may enroll in two separate areas concurrently for 3 semester hours each. PRQ: Acceptance into M.A. or M.F.A. degree program, or consent of school.

641. CERAMICS I (3, 6, or, with consent of school, 9). Exploration of three-dimensional forms using clay and related materials. May be repeated to a maximum of 24 semester hours. Students may enroll in two separate sections concurrently. PRQ: Acceptance into M.A. or M.F.A. degree program, or consent of school.

651. METALWORK AND JEWELRY I (3, 6, or, with consent of school, 9). Intensive studio work in selected techniques and processes. May be repeated to a maximum of 24 semester hours. Students may enroll in two separate sections concurrently. PRQ: Acceptance into M.A. or M.F.A. degree program, or consent of school.

661. SCULPTURE I (3, 6, or, with consent of school, 9). Advanced individual development through work in various media. May be repeated to a maximum of 24 semester hours. Students may enroll in two separate sections concurrently. PRQ: Acceptance into M.A. degree program or consent of school.

670. FIBER/INTERDISCIPLINARY I (3, 6, or, with consent of school, 9). Individual development through studio work in fiber and interdisciplinary art media emphasizing skills of execution, articulation and criticism. May be repeated to a maximum of 21 semester hours. PRQ: Acceptance in M.A. or M.F.A. degree program, or consent of school.

715. PROFESSIONAL STUDIO PRACTICES (3). Lecture/discussion course to assist students in the development of skills related to the professional practice of art. Includes exhibition preparation, art career preparation, the teaching dossier, business practice for the studio artist, grant writing, field trips to galleries and museums, artist presentations, and selected readings. PRQ: ARTS 615 or consent of school.

720. DRAWING II (3 or 6). Advanced problems in drawing. May be repeated to a maximum of 30 semester hours. Students may enroll in two separate sections concurrently. PRQ: Acceptance into M.F.A. degree program or consent of school.

723. PAINTING II (3, 6, or, with consent of school, 9). Individual development of style. Extended independent study. May be repeated to a maximum of 30 semester hours. Students may enroll in two separate sections concurrently. PRQ: Acceptance into M.F.A. degree program or consent of school.

728. TECHNICAL AND HISTORICAL RESOURCES OF THE ARTIST: PAINTING, DRAWING, PRINTMAKING (3). Media and processes of the artist and their historical significance. Emphasis on selected techniques from 14th through 20th centuries. Studio and lecture. PRQ: Consent of school.

729. TECHNICAL AND HISTORICAL RESOURCES OF THE ARTIST: ADVANCED INDEPENDENT STUDY (3). In-depth research and/or studio application in specific historical techniques. May be repeated to a maximum of 12 semester hours. PRQ: Consent of school. Recommended: ARTS 728.

730. PRINTMAKING WORKSHOP (3 or 6). Individual technical exploration and aesthetic development in areas of printmaking. May be repeated to a maximum of 30 semester hours. PRQ: Acceptance into M.F.A. degree program or consent of school.

741. CERAMICS II (3, 6, or, with consent of school, 9). Individual technical exploration and professional development in clay and related materials. May be repeated to a maximum of 30 semester hours. Students may enroll in two separate sections concurrently. PRQ: Acceptance into M.F.A. degree program or consent of school.

751. METALWORK AND JEWELRY II (3, 6, or, with consent of school, 9). Emphasis on expression and competence of execution in individualized studio work. May be repeated to a maximum of 30 semester hours. Student may enroll in two separate sections concurrently. PRQ: Acceptance into M.F.A. degree program or consent of school.

761. SCULPTURE II (3, 6, or, with consent of school, 9). Individual studies in selected media. May be repeated to a maximum of 30 semester hours. Students may enroll in two separate sections concurrently. PRQ: Acceptance into M.F.A. degree program or consent of school.

770. FIBER/INTERDISCIPLINARY II (3, 6, or, with consent of school, 9). Advanced individual development through studio work in fiber and interdisciplinary art media emphasizing skills of execution, articulation and criticism. May be repeated to a maximum of 24 semester hours. PRQ: Acceptance into M.A. or M.F.A. degree program, or consent of school.

# School of Music (MUSC)

Director: Paul Bauer

## Graduate Faculty

Orna Arania, assistant professor, D.M.A., Northwestern University  
 Gregory Barrett, associate professor, D.Mus., Indiana University  
 Paul Bauer, professor, D.M., Northwestern University  
 Gregory Beyer, assistant professor, D.M.A., Manhattan School of Music  
 Tim Blickhan, professor emeritus, D.M.A., University of Illinois  
 Thomas Bough, associate professor, D.M.A., Arizona State University  
 James Russell Brown, applied artist, M.M., New England Conservatory  
 Ronald Carter, professor, Board of Trustees Professor, M.S., University of Illinois  
 Ricardo Castañeda, applied artist, M.M., Northwestern University  
 Robert Chappell, Distinguished Teaching Professor, M.M., University of North Texas  
 Glenda Cosenza, associate professor, D.M.A., Temple University  
 Arthur Davis, assistant professor, M.M., University of Illinois  
 Anthony Devroye, assistant professor, Performance Diploma, Curtis Institute of Music  
 Mary Lynn Doherty, assistant professor, Ph.D., University of Wisconsin  
 Stephen Duke, Distinguished Research Professor, M.M., North Texas State University  
 John Fairfield, professor, M.M., Northwestern University  
 Robert Fleisher, professor, D.M.A., University of Illinois  
 Tom Garling, applied artist, M.M., University of Miami  
 William Goldenberg, Distinguished Teaching Professor, D.Mus., Indiana University  
 Fareed Haque, associate professor, B.M., Northwestern University  
 Brian Hart, associate professor, Ph.D., Indiana University  
 Janet Hathaway, assistant professor, Ph.D., New York University  
 John E. Hatmaker, visiting assistant professor, Ph.D., University of Iowa  
 Richard T. Holly, professor, M.M., East Carolina University  
 Eric Johnson, associate professor, D.M.A., University of Illinois  
 Harold Kafer, professor, Ph.D., University of North Texas  
 JeongSoo Kim, associate professor, M.A., New England Conservatory  
 Edward Klonoski, associate professor, Ph.D., Ohio State University  
 William Koehler, Distinguished Teaching Professor, D.M.A., University of Texas  
 Cheng-Hou Lee, assistant professor, M.M., Rice University  
 Blaise Magniere, assistant professor, M.M., Cleveland Institute of Music  
 David Maki, assistant professor, D.M.A., University of Michigan  
 Peter Middleton, professor, M.A., University of California, San Diego  
 Myron Myers, professor, M.M., University of Southern California  
 John K. Novak, associate professor, Ph.D., University of Texas  
 James Phelps, associate professor, D.M.A., University of North Texas  
 Willie Pickens, applied artist, B.S., University of Wisconsin  
 Mark Ponzo, professor, D.M.A., Eastman School of Music  
 Amy Rhodes, applied artist, Certificate of Performance, Northwestern University  
 Charles Schuchat, associate professor, B.M., Northwestern University  
 Kelly Sill, applied artist, B.A., University of Illinois

Robert L. Sims, associate professor, Artistic Diploma, Northwestern University  
 Mathias J. Tacke, professor, Diploma, Northwest German Music Academy  
 Liam Teague, assistant professor, M.M., Northern Illinois University  
 James Tucker, applied artist, M.M., University of Wisconsin  
 Rodrigo Villanueva, assistant professor, M.M., University of North Texas  
 Jui-Ching Wang, assistant professor, M.M., Northern Illinois University  
 Marie Wang, assistant professor, M.M., Northern Illinois University  
 Ronnie Wooten, associate professor, D.M.A., Michigan State University

The School of Music offers the M.M. degree and a Performer's Certificate in music. The School of Music is fully accredited by the National Association of Schools of Music.

## Master of Music

The M.M. degree is a 32-semester hour program consisting of 13 semester hours of core requirements plus 19 semester hours taken within one of three specializations: music education, music performance, or individualized study.

## Admission

Normally, a baccalaureate degree in music or a diploma from an accredited conservatory or music school is required for admission to the M.M. program. In special circumstances, applicants whose undergraduate degree is in a field other than music may be admitted to a specific specialization within the M.M. program. Other admission requirements will vary, depending upon the specialization that is selected.

*Music Education:* Applicants are admitted to this specialization only upon the recommendation of a committee of the music education faculty after an interview and transcript evaluation. Students accepted in music education must take the School of Music diagnostic examinations in music theory and history administered immediately prior to the term for which they are admitted.

*Performance:* Applicants are admitted to this specialization only upon the recommendation of a committee of the performance faculty after an audition and transcript evaluation. Students accepted in performance must take the School of Music diagnostic examinations in music theory and history administered immediately prior to the term for which they are admitted.

*Individualized Study:* Applicants are admitted to this specialization only upon the recommendation of a committee of the music faculty after an in-depth examination for competence in music and/or other applicable fields. Depending upon the nature of the proposed course for study, the evaluation committee may require an applicant to take all or part of the School of Music diagnostic examinations in music theory and history, and/or other specialized diagnostic examinations, administered immediately prior to the term for which he or she is admitted.

Applicants for admission to the M.M. program are not required to take the General Test of the GRE. Applicants whose current preparation for advanced study is found to be deficient may be granted admission to the M.M. program with stipulations, and they

will be required to make up all such deficiencies. Applicants who are admitted to the M.M. program in a specific specialization and who then wish to change to another specialization must meet all admission requirements for the new specialization before the change is approved. Applicants for admission to the M.M. program are normally notified of an admission decision as soon as administratively feasible following completion of all Graduate School and School of Music entrance requirements.

## Requirements

In partial fulfillment of graduate requirements, a student pursuing the M.M. degree in the performance specialization must prepare and perform a full-length public recital. Students pursuing the M.M. degree within the music education or individualized specializations may present a formal public recital, write a thesis, or complete a final project.

Students in the specializations of music education and performance are permitted to take 6 semester hours of selected studies in music (MUSC 719, MUSC 739, MUSC 769, MUSC 789) as part of their program of courses. Students in the individualized specialization may take 12 semester hours of selected studies in music (MUSC 719, MUSC 739, MUSC 769, MUSC 789) as part of their program of courses.

All students pursuing the M.M. degree must fulfill the following core requirements.

### Core Requirements (13)

- MUSC 633 - Seminar in Musical Research (3), or MUSC 684 - Techniques of Research in Music (3), as appropriate to the specialization and as approved by the student's adviser, in consultation with the coordinator of graduate studies
- A course in music history approved by the music history area coordinator in consultation with the music history faculty (3)
- A course in music theory approved by the music theory area coordinator in consultation with the music theory faculty (3)
- MUSC 699A - Final Recital (4),  
OR MUSC 699B - Thesis (4),  
OR MUSC 699C - Composition (4),  
OR MUSC 699D - Final Project (4)

Each student must also fulfill the requirements of one of the following specializations.

### Specialization in Music Education (19)

- MUSC 685 - Foundations of Music Education (3)
- Music education course work (6-9)
- Music performance course work chosen from private keyboard, voice, or instrumental study (primary or secondary); music performance (including conducting); and/or ensembles (3)
- Electives (4-7)
- See also "Teacher Certification" in this section and "Teacher Certification Information" in the Teacher Certification page.

### Specialization in Performance (19)

One of the following tracks

#### Band and Orchestral Instruments

- Private instrumental study (8)
- Ensembles (3)
  - MUSC 691 - Instrumental Ensemble (1)
  - Additional ensemble courses (2)
- One of the following (2-3)
  - MUSC 564 - Workshop in Movement and Performing Awareness (3)
  - MUSC 661 - Advanced Instrumental Techniques and Conducting (3)
  - MUSC 670 - Music Instructional Techniques and Materials: Woodwinds (2)

- MUSC 671 - Music Instructional Techniques and Materials: Brasses (2)
- MUSC 672 - Music Instructional Techniques and Materials: Percussion (2)
- MUSC 674 - Music Instructional Techniques and Materials: Strings (2)

Electives (5-6)

#### Piano

- MUSC 665 - Accompanying (1)
- MUSC 691J - Keyboard Ensemble (1)
- MUSC 740 - Piano: Primary (6)
- One of the Following (11)
  - Solo Performance*
    - Private keyboard study (2)
    - MUSC 638 - Seminar in Piano Literature (2)
    - MUSC 675 - Piano Methods and Materials (3)
    - Electives (4)
  - Keyboard collaborative arts*
    - Electives (6)
    - MUSC 637 - Chamber Music Studies (3)
    - MUSC 665 - Accompanying (1)
    - MUSC 691J - Keyboard Ensemble (1)
    - Electives (6)

#### Voice

- Private voice study (8)
- MUSC 681 - Pedagogy of Singing (3)
- MUSC 690B - Opera Workshop (1)
- MUSC 690A - Chamber Choir (1),  
OR MUSC 690B - Opera Workshop (1),  
OR MUSC 695 - Concert Choir (1)
- Electives (6)

### Individualized Specialization (19)

A student may design an individualized specialization with course work selected from existing courses, seminars, independent study, internships, or special projects, offered both on and off campus. While this individual specialization may share some features of other specializations, its thrust should be distinctive. Individualized specialization may consist in part of interdisciplinary or multidisciplinary courses which combine music study with such areas as anthropology, art, business, computer science, dance, theater, electronics, ethnic studies, mental health, or special education; or they may concentrate entirely on music. Examples of individualized specializations pursued by M.M. students include music history, music theory, composition, world music, jazz, recording techniques, and computer music and new media technology.

After acceptance, each student will be assigned an adviser with whom he or she will prepare an individualized proposal. This proposal must be approved by a committee representing the School of Music, which may in turn seek the advice of another department whose courses are included in the proposal. Normally, at least one half of the individualized specialization will be in the School of Music. At the conclusion of study, the student must substantiate to the committee that the specified goals have been met.

### Performer's Certificate

The Performer's Certificate is not a graduate degree. The purpose of the Performer's Certificate program is to permit students to attain greater mastery of their chosen fields than they can achieve in formal study through the master's degree level. This 24-semester-hour program includes private instruction, research related to performance, and performance experience designed to develop fully independent professional musicians.

## Admission

Applicants for the Performer's Certificate program should consult with the School of Music director or coordinator of graduate studies. To be eligible for admission, students must normally have completed work equivalent to that required for the M.M. degree at NIU. Applicants are not required to take the GRE general test; however, they will be required either to perform an audition, or submit a cassette recording representative of their performance ability.

In some cases, students who demonstrate exceptional performing abilities, equivalent to a Master of Music level or beyond, and who have completed a baccalaureate degree from an accredited institution or appropriate diploma from a recognized conservatory or music school, may be recommended by the faculty of the School of Music for admission directly into the Performer's Certificate program. However, persons admitted to the Performer's Certificate program in this manner must reapply to the Graduate School if they seek entry into a graduate degree program.

## Credit Requirements

The Performer's Certificate program requires a minimum of 24 semester hours of credit with a GPA of at least 3.00. The minimum GPA of 3.00 must be earned over all courses required in the student's program of courses as well as over all graduate courses taken at NIU.

## Limitation of Time

The student must fulfill all of the requirements of the Performer's Certificate program within the six consecutive years immediately preceding the date of the student's graduation from that program.

If a course taken to complete the requirements for the Performer's Certificate does not fall within this time limitation, the School of Music may require the student to retake the course for credit or may allow the student to demonstrate current knowledge of the subject matter. In the latter case, currency must be demonstrated to the satisfaction of the department offering the course through successful completion of an appropriate examination or other assessment if available from the department. Otherwise, the outdated course work must be deleted from, and other course work must be substituted in, the program of courses.

## Student-at-Large and Transfer Credit

No student-at-large or transfer credit is accepted as part of the program of courses required for the Performer's Certificate.

## Dual Credit for Course Work

Students pursuing the Master of Music degree and the Performer's Certificate, either simultaneously or consecutively, may have up to 6 semester hours of graduate course work accepted for credit in both programs.

## Requirements

Private applied study (8)  
Ensembles (2)  
Electives in music performance (6)  
MUSC 790C, Internship in Music: Performance (0-4)  
MUSC 799, Performer's Certificate Research and Performance (4-8)

A series of at least four performances and presentations is required, consisting of at least two full-length recitals and such other presentations or performance experiences as master classes, lecture recitals, professional internships, and concerto performances, as determined by the adviser and program

committee. Normally, only one full-length recital may be presented in a single semester. Because the program is highly specialized and concentrated, students are expected to enroll in a full course load during each term they attend. (See "Course Load.")

## Final Recital

Each student must successfully present a final recital and should consult with the School of Music concerning applicable procedures and deadlines for this recital.

A student must be enrolled and must be in good academic standing, both overall and in the Performer's Certificate program, in the term of the final recital to be eligible for its presentation. A student who fails to perform the final recital successfully may, with the permission of the School of Music, repeat it no sooner than the following academic term. A student who fails a second time, or is not granted approval for a second attempt, will not be permitted to continue work toward the Performer's Certificate, and admission to that program will be terminated.

## Composition of Final Recital Committee

The Performer's Certificate final recital committee must consist of at least three members. The majority of the committee must be regular faculty members at NIU; a majority must be members of the graduate faculty; and the chair must be a graduate faculty member in the School of Music.

## Application for Graduation

When nearing completion of requirements for a graduate degree, a student must submit an application for graduation to the Graduate School. See "Graduation" in the General Regulations section of this catalog.

## Teacher Certification in Music

Graduate students may complete NIU requirements for the State of Illinois Standard Special (K-12) Certificate through the music education area of the School of Music as part of the program for the M.M. in music with an area of study in music education. With adviser approval, graduate-level requirements for certification can be part of the 32 semester hours required for the degree.

Also see "Teacher Certification Information."

## Admission to Teacher Certification

To be admitted to the teacher certification program, the student must obtain program recommendations from the music education graduate certification coordinator, successfully complete the State of Illinois Basic Skills Test, complete MUSC 175 and MUSC 275 with grade of C or better, and be admitted to the Master of Music program with an area of study in music education.

## Retention

To be retained in the teacher certification program, students must remain in good standing in the Graduate School. In addition, students can receive no final grade lower than C in music education courses (MUSC 275, MUSC 371, MUSC 372, MUSC 484), and must have and maintain an overall minimum GPA of 2.50 in all undergraduate course work required for certification. Students who fall below the required GPA in undergraduate certification course work may request one probationary term by filing a written appeal with the music education area coordinator. Students may not student teach if minimum GPA requirements are not met.

## Admission to Student Teaching

At the end of the semester prior to student teaching, students will be screened to determine readiness for student teaching. The screening will consist of a review of academic records, the completion of all pre-student-teaching requirements, the presentation of an up-to-date professional folio, and an interview with the coordinator of teacher certification for the College of Visual and Performing Arts.

## Cooperative Education/Internship Program

Master of Music candidates are eligible to submit an application for cooperative education/internship experience. Those students selected may participate in full- or part-time assignments with approved organizations whose functions are complementary to the students' career goals. Variable S/U credit hours are assigned on the basis of the length and/or nature of the experience. Credit applies towards music elective credit requirements. Students are limited to a maximum of 4 semester hours of cooperative education/internship credit in the School of Music. Students in any M.M. program (including those in the individualized major) may apply for the Cooperative Education/Internship Program.

Interested students must consult with a faculty member closely associated with the appropriate field. The student then applies to the School of Music for participation in Northern's Cooperative Education/Internship Program. Applications must be approved by the director of the School of Music and the graduate coordinator. Enrollment in this program must be reflected in the student's program of courses by enrollment in MUSC 790. Applications will be reviewed on the basis of GPA, instructor recommendation(s), professional promise, and demonstrated interest and competence in the area of study. The student must possess a minimum 3.00 overall GPA. All students (including transfer students) must have completed a minimum of 9 semester hours of graduate-level course work in the NIU School of Music.

Although academically supervised by School of Music faculty, all internships are coordinated by the Cooperative Education/Internship Program. The latter office requires completion of an application and resume.

## Course List (MUSC)

699A. FINAL RECITAL (1-4). Preparation and completion of a graduate recital. May be repeated to a maximum of 4 semester hours. S/U grading.

699B. THESIS (1-4). Preparation and completion of a thesis. May be repeated to a maximum of 4 semester hours. S/U grading.

699C. COMPOSITION (1-4). Preparation and completion of a composition. May be repeated to a maximum of 4 semester hours. S/U grading.

699D. FINAL PROJECT (1-4). Preparation and completion of a final project. May be repeated to a maximum of 4 semester hours. S/U grading.

790. INTERNSHIP IN MUSIC (1-4).

- A. Composition and Arranging
- B. Recording Techniques
- C. Performance
- D. Music Industry
- E. Music Education

Cooperatively supervised, full- or part-time professional field experience with approved organizations or individuals, to provide a learning experience complementary to the student's anticipated career goals. May be repeated to a maximum of 4 semester hours. S/U grading. PRQ: Consent of school.

## Music History and Literature

521. TOPIC STUDIES IN ETHNOMUSICOLOGY (3). Studies and reports on special topics in world music: bibliography, discography, instruments, etc. May be repeated to a maximum of 6 semester hours. PRQ: Consent of school.

522. JAZZ HISTORY (3). Significant changes and developments in jazz. Analysis of the styles of a number of jazz performers. PRQ: Consent of school.

523. BLACK MUSIC (3). Historical examination of black music from 1619 to the present. Analysis of musical styles including blues, rag, jazz, rhythm and blues, and soul, within the social and cultural context of American life.

526. AMERICAN MUSIC IN THE CONCERT TRADITION (3). Development of solo, chamber, symphonic, and choral music, and opera from the Moravians of colonial America to the American experimental composers of the 20th century. PRQ: Consent of school.

527. AMERICAN MUSIC IN THE FOLK AND POPULAR TRADITIONS (3). Survey of American vernacular and popular music since colonial times including folk songs and spirituals, the music of New England tunesmiths, music for social and entertainment purposes, and an introduction to the music of Native Americans. PRQ: Consent of school.

531. MUSIC OF SOUTHEAST ASIA (3). Study of the music of Southeast Asia with emphasis on the music of Indonesian gamelan. PRQ: Consent of school.

532. MUSIC OF CHINA (3). Study of the music of China with emphasis on existing genres. PRQ: Consent of school.

533. CHORAL LITERATURE I (2). Survey of choral literature from 1400 to 1750. PRQ: Consent of school.

534. CHORAL LITERATURE II (2). Survey of choral literature from 1750 to the present. PRQ: Consent of school.

535. ORGAN LITERATURE I (2). Survey of organ literature from 1300 to 1750, including the works of J. S. Bach. PRQ: Consent of school.

536. ORGAN LITERATURE II (2). Survey of the organ works after J. S. Bach and classical, romantic, and contemporary literature. PRQ: Consent of school.

537. PIANO LITERATURE I (2). Survey of clavier and piano literature to the mid-19th century. PRQ: Consent of school.

538. PIANO LITERATURE II (2). Survey of romantic and contemporary piano literature. PRQ: Consent of school.

539. GUITAR LITERATURE (2). Survey of lute, vihuela, and guitar literature from the Renaissance to the present. PRQ: Consent of school.

621. MUSIC HISTORY REVIEW I (2). Development of western art music from its origins to 1750. Does not satisfy graduate music history requirements for any degree program. Credit earned does not count toward the M.M. degree or Performer's Certificate.

622. MUSIC HISTORY REVIEW II (2). Development of western art music from 1750 to 1900. Does not satisfy graduate music history requirements for any degree program. Credit earned does not count toward the M.M. degree or Performer's Certificate.

623. 20TH CENTURY IDIOMS I (3). Musical developments from 1890 to 1950; impressionism, primitivism; expressionism; jazz influences; early serial techniques.

626. SURVEY OF WORLD MUSIC (3). Survey of traditional music (both folk classical/court) in world cultures. Examination of the relationship of music to selected aspects of the people and culture of East, South, Central and Southeast Asia, Australia, Polynesia, the Middle East, Europe, Africa, the Caribbean, and Latin America.

627. THE RENAISSANCE (3). Music in the Renaissance (ca. 1450-1600), with study of representative styles.

628. BAROQUE IDIOMS AND STYLES (3). Selected studies in music of the baroque period.

629. THE CLASSIC ERA (3). European music from ca. 1730-1820. PRQ: Consent of school.

630. THE ROMANTIC ERA (3). European music from ca. 1820-1900. PRQ: Consent of school.

631. 20TH CENTURY IDIOMS II (3). Historical, organizational, and theoretical aspects of avant garde and experimental compositions, including electronic and computer music. PRQ: MUSC 623 or consent of school.

633. SEMINAR IN MUSICAL RESEARCH (3). The technique of writing and speaking about music. Reading and critical evaluation of writings about music. Survey of resources for musical research, such as reference materials and the means of locating sources and editions.

634. 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. PRQ: Consent of school.

637. CHAMBER MUSIC STUDIES (3). Independent studies in chamber music analysis and performance practices.

721. OPERATIC LITERATURE (3). History and development of the opera from the Florentine camerata to the present.

722. SYMPHONIC LITERATURE (3). Study of orchestral music, with emphasis on the symphony and solo concerto. Analytical techniques applied to selected works.

739. SELECTED STUDIES IN MUSIC HISTORY AND LITERATURE (1-4). Independent or small-group study of selected topics. Participation in more than one independent study per semester permitted by consent of school director. May be repeated to a maximum of 20 semester hours. See specific degree requirements for limitations. S/U grading. PRQ: Consent of school.

### Music Theory and Composition

500. RECORDING TECHNIQUES (3). Laboratory study of the techniques of professional recording as applied directly to all phases of musical storage and reproduction. Emphasis on gaining expertise with microphones, acoustics, multitrack recording, professional mixing techniques, etc. PRQ: Ability to read music and consent of school.

501. ADVANCED RECORDING PROJECTS (3). Continuation of MUSC 500. Microphone theory and applications, audio console operation including, but not restricted to, signal processing, monitor mixing, overdubbing, and multitrack techniques; preparation of master tape suitable for disc recording; some study of current practices in digital recording and console automation. May be repeated to a maximum of 9 semester hours. PRQ: MUSC 500 or consent of school.

507. MODAL COUNTERPOINT (3). Class performance, analysis, and writing of counterpoint in Renaissance style as exemplified by works of such composers as Josquin, Lassus, and Palestrina. Preliminary study of Gregorian chant. PRQ: Consent of school.

509. TONAL COUNTERPOINT (3). Class performance, analysis, and writing of counterpoint as employed in 18th century style. PRQ: Consent of school.

512. DEVELOPMENT AND PRACTICE OF ELECTRONIC MUSIC (3). Comprehensive examination of the development and practices of all phases of electronic and computer music with both historical and projected examinations of applications in composition, performance and research. PRQ: Consent of school.

600. COMPOSITION: SECONDARY (1). Selected studies in the techniques of composing for acoustic media. Not open to composition majors. May be repeated to a maximum of 12 semester hours. PRQ: Consent of school.

601. MUSIC THEORY REVIEW (2). Review of harmony, analytical techniques, part-writing procedures, and listening strategies necessary for graduate-level study of tonal music. Does not satisfy graduate music theory requirements for any degree program. Credit earned does not count toward the M.M. degree or Performer's Certificate.

604. SEMINAR IN THEORY AND COMPOSITION (3). Projects and studies in theory and composition. Topics announced. May be repeated to a maximum of 6 semester hours.

605. ORCHESTRATION (3). The scoring of original and other works for various combinations of instruments as well as one complete score for full symphony orchestra. PRQ: Consent of school.

607. WIND AND PERCUSSION SCORING (3). Scoring for diverse wind and percussion ensembles. PRQ: Consent of school.

609. JAZZ ARRANGING I (2). Scoring techniques for jazz and popular ensembles. PRQ: Consent of school.

610. JAZZ ARRANGING II (2). Continuation of MUSC 609. Advanced scoring techniques for jazz and popular ensembles. PRQ: MUSC 609 or consent of school.

611. ELECTRONIC AND COMPUTER MUSIC I (2). Techniques of electronic music composition. Emphasis on tape techniques, analog and digital synthesis. PRQ: Consent of school.

612. ELECTRONIC AND COMPUTER MUSIC II (2). Further study and experimentation with techniques introduced in MUSC 611, Electronic and Computer Music I. Emphasis on implementing techniques studied thus far in more extensive electronic music compositions. PRQ: MUSC 611 and consent of school.

617. MUSIC THEORY PEDAGOGY (3). Examination of pedagogical philosophies, strategies, and techniques for teaching music theory and aural skills at the college and precollege levels.

618. TONAL ANALYTICAL TECHNIQUES (3). Study and application of theoretical principles and analytical techniques appropriate to the music of the 17th, 18th, and 19th centuries.

619. POST-TONAL ANALYTICAL TECHNIQUES (3). Study and application of theoretical principles and analytical techniques appropriate to the music of the 20th century including neo-tonality, symmetry, atonality, set theory, serialism, minimalism, aleatory techniques, and eclecticism.

700. COMPOSITION: PRIMARY (2-4). Individualized and/or group study and writing of small and large musical forms. May be repeated to a maximum of 12 semester hours. PRQ: Consent of school.

711. ELECTRONIC AND COMPUTER MUSIC III (2). Algorithmic composition. Study of how composers have used computers to create and perform musical works. Emphasis on design of original algorithms and their use in the composition/performance of musical works. PRQ: MUSC 612 and consent of school.

712. ELECTRONIC AND COMPUTER MUSIC IV (2). Further study and experimentation with algorithmic composition. Emphasis on creating more expansive computer music systems through the integration of hardware and software. PRQ: MUSC 711 and consent of school.

713. SOFTWARE SYNTHESIS AND DIGITAL AUDIO PROCESSING (3). Advanced musical composition using software synthesis and digital audio processing techniques. Projects can include personal and network media as well as the creation of both musical compositions and original software components. May be repeated to a maximum of 12 semester hours.

719. SELECTED STUDIES IN MUSIC THEORY (1-4). Independent or small-group study of selected topics. Participation in more than one independent study per term permitted by consent of school director. May be repeated to a maximum of 20 semester hours. See specific degree requirements for limitations. S/U grading. PRQ: Consent of school.

### Music Performance

562. SURVEY OF THE MUSIC INDUSTRY (2). Study of the basic workings of the music business including copyright law, contracts, the record industry, music publishing, artist management, and other music-related careers.

564. WORKSHOP IN MOVEMENT AND PERFORMING AWARENESS (3). *Crosslisted as TH-D 564X*. Lectures, demonstrations, and related activities regarding the work of Moshe Feldenkrais as it applies to the training of performing artists. May be repeated to a maximum of 12 semester hours. PRQ: Consent of school.

663. SPECIAL CONTEMPORARY PERFORMANCE SKILLS: EXPERIMENTAL MUSIC (2). Analysis and class performance of experimental music including the development of skills related to the interpretation of modernized and invented notation, improvisation, and verbal instruction. PRQ: Consent of school.

667. DICTION FOR PIANISTS I (2). Italian and German pronunciation, using the International Phonetic Alphabet as a basis. Faculty-supervised vocal coaching in class and at rehearsals. Enrollment limited to graduate keyboard Area 2 students.

669. DICTION FOR PIANISTS II (2). French and English pronunciation, using the International Phonetic Alphabet as a basis. Faculty-supervised vocal coaching in class and at rehearsals. Enrollment limited to graduate keyboard Area 2 students. PRQ: MUSC 667 or consent of school.

769. SELECTED STUDIES IN MUSICAL PERFORMANCE (1-4). Independent or small-group study of selected topics. Participation in more than one independent study per term permitted by consent of school director. May be repeated to a maximum of 20 semester hours. See specific degree requirements for limitations. S/U grading. PRQ: Consent of school.

799. PERFORMER'S CERTIFICATE RESEARCH AND PERFORMANCE (1-4). A series of performances and presentations with accompanying research, prepared in consultation with the adviser and approved by the program committee. May be repeated to a maximum of 8 semester hours. S/U grading. PRQ: Admission to the Performer's Certificate program.

### Conducting

661. ADVANCED INSTRUMENTAL TECHNIQUES AND CONDUCTING (3). Advanced problems in baton techniques and score reading and the analysis of graded band and orchestra literature.

662. ADVANCED CHORAL TECHNIQUES AND CONDUCTING (3). Practical exposition of all facets of choral directing, effective rehearsal procedures, score study, and organization of choral ensembles.

760. CONDUCTING (2 or 4). Individual study in the student's major medium of performance. May be repeated to a maximum of 24 semester hours for the Performer's Certificate and each degree undertaken. Students who wish to take primary private study must pass an audition in the appropriate performance area. PRQ: Consent of school.

### Keyboard Instruments

638. SEMINAR IN PIANO LITERATURE (2). Focused study of a major component of the piano literature, including research, analysis, and discussion of performance practices. Topics announced. May be repeated to a maximum of 6 semester hours.

640. PIANO: SECONDARY (1).

641. ORGAN: SECONDARY (1).

642. HARPSICHORD: SECONDARY (1). Emphasis on performance with proficiency requirements. Individual and/ or group instruction. Open to non-music majors by special consent of school. May be repeated to a maximum of 12 semester hours. PRQ: Students who wish to take secondary private study must obtain consent of the instructor.

664. PROFESSIONAL KEYBOARD SKILLS (2). Development of keyboard proficiency in sight-reading, score-reading, and ensemble playing in Baroque through contemporary repertoire with emphasis on application to professional teaching and accompanying. May be repeated to a maximum of 8 semester hours. PRQ: Consent of school.

665. ACCOMPANYING (1). Practical study of accompanying by pianists as applied to standard solo instrumental and vocal literature. Involves rehearsals and in-class performance with soloists. May be repeated to a maximum of 12 semester hours. PRQ: Consent of school.

740. PIANO: PRIMARY (2 or 4).

741. ORGAN: PRIMARY (2 or 4).

742. HARPSICHORD: PRIMARY (2 or 4). Individual study in the student's major medium of performance. Two semester hours credit per semester for students in the music education course of study; 4 semester hours credit per semester (2 in summer) for students in the performance and pedagogy course of study. May be repeated to a maximum of 24 semester hours for the Performer's Certificate and each degree undertaken. PRQ: Students who wish to take primary private study must pass an audition in the appropriate performance area.

### Voice

590. WOMEN'S CHORUS (1). A non-auditioned treble voice choral ensemble performing repertoire of music composed for treble voices from Western and non-Western choral music traditions, specially commissioned new music, and music of women composers. This course is for non-voice majors.

644. VOICE: SECONDARY (1). Emphasis on performance, with proficiency requirements. Individual and/or group instruction. Open to non-music majors by consent of school. May be repeated to a maximum of 12 semester hours. PRQ: Students who wish to take secondary private study must obtain consent of the instructor.

690. VOCAL ENSEMBLE (1).

A. Chamber Choir

B. Opera Theatre

D. Jazzvox

Study of vocal repertoire as developed through ensemble participation. May be repeated to a maximum of 12 semester hours. Participation for credit in more than one ensemble during same term permitted. PRQ: Consent of school.

694. UNIVERSITY CHORUS (1). Open to all students proficient in singing and interested in choral activities. May be repeated to a maximum of 12 semester hours. PRQ: Consent of school.

695. CONCERT CHOIR (1). Study and performance of musical masterworks from the 16th through the 20th century. May be repeated to a maximum of 12 semester hours. PRQ: Consent of school.

744. VOICE: PRIMARY (2 or 4). Individual study in the student's major medium of performance. Two semester hours credit per semester for students in the music education course of study; 4 semester hours credit per semester (2 in summer) for students in the performance and pedagogy course of study. May be repeated to a maximum of 24 semester hours for the Performer's Certificate and each degree undertaken. PRQ: Students who wish to take primary private study must pass an audition in the appropriate performance area.

## Instrumental

643. HARP: SECONDARY (1). Stresses performance, with proficiency requirements. Individual and/or group instruction. Open to non-music majors by special consent of school. May be repeated to a maximum of 12 semester hours. PRQ: Students who wish to take secondary private study must obtain consent of the instructor.

645. VIOLIN: SECONDARY (1).

646. VIOLA: SECONDARY (1).

647. VIOLONCELLO: SECONDARY (1).

648. CONTRABASS: SECONDARY (1).

649. GUITAR: SECONDARY (1).

650. FLUTE: SECONDARY (1).

651. OBOE: SECONDARY (1).

652. CLARINET: SECONDARY (1).

653. SAXOPHONE: SECONDARY (1).

654. BASSOON: SECONDARY (1).

655. TRUMPET: SECONDARY (1).

656. FRENCH HORN: SECONDARY (1).

657. TROMBONE: SECONDARY (1).

658. TUBA AND EUPHONIUM: SECONDARY (1).

659. PERCUSSION: SECONDARY (1). Emphasis on performance, with proficiency requirements. Individual and/or group instruction. Open to non-music majors by special consent of school. May be repeated to a maximum of 12 semester hours. PRQ: Students who wish to take secondary private study must obtain consent of the instructor.

659A. STEELPAN: SECONDARY (1). Emphasis on performance, with proficiency requirements. Individual and/or group instruction. Open to non-music majors by special consent of school. May be repeated to a maximum of 12 semester hours. PRQ: Students who wish to take secondary private study must obtain consent of the instructor.

668. STUDIES OF FOLK AND TRADITIONAL INSTRUMENTS (1).

C. Study of African Instruments

D. Study of Caribbean Instruments

J. Study of Renaissance and Baroque Instruments

K. Study of Indian Instruments

M. Study of Afro-Caribbean Percussion Instruments

Development of skills necessary to play selected instruments from various cultures and historical periods. Individual and/or group study. Participation for credit in more than one category during same term permitted. May be repeated to a maximum of 12 semester hours. PRQ: Consent of school.

691. INSTRUMENTAL ENSEMBLE (1).

A. String Ensemble

B. Woodwind Ensemble

C. Brass Ensemble

D. Percussion Ensemble

G. Guitar Ensemble

J. Keyboard Ensemble

K. Mixed Ensemble

M. New Music Ensemble

N. Early Music Ensemble

Q. World Music Ensemble

U. Jazz Combo

V. Latin Jazz Ensemble

Ensemble performance. Participation for credit in more than one ensemble during same term permitted. May be repeated to a maximum of 12 semester hours. PRQ: Consent of school.

692. UNIVERSITY BANDS (1).

A. Wind Symphony

B. Wind Ensemble

C. All-University Band

Open to all students who play wind and percussion instruments. Participation in both A and B during same term permitted. May be repeated to a maximum of 12 semester hours. PRQ: Consent of school.

696. JAZZ ENSEMBLE (1). Performance and study of various styles of jazz and popular music. May be repeated to a maximum of 12 semester hours. PRQ: Acceptance by audition.

697. ORCHESTRA (1).

A. NIU Philharmonic

B. Campus String Orchestra

Open to all qualified students. May be repeated to a maximum of 12 semester hours. PRQ: Consent of school.

698. WORLD MUSIC ENSEMBLE (1).

A. Gamelan

C. African Ensemble

D. Steel Band I

J. Steel Band II

K. All-University Steel Band

M. Tabla

Ensemble performance. Participation for credit in more than one ensemble during same term permitted. Open to non-music majors by special consent of school. May be repeated to a maximum of 12 semester hours. PRQ: Consent of school.

743. HARP: PRIMARY (2 or 4). Individual study in the student's major medium of performance. Two semester hours credit per term for students in the music education course of study; 4 semester hours credit per term (two in summer) for students in the performance and pedagogy course of study. May be repeated to a maximum of 24 semester hours for the Performer's Certificate and each degree undertaken. PRQ: Students who wish to take primary private study must pass an audition in the appropriate performance area.

745. VIOLIN: PRIMARY (2 or 4).

746. VIOLA: PRIMARY (2 or 4).

747. VIOLONCELLO: PRIMARY (2 or 4).

748. CONTRABASS: PRIMARY (2 or 4).

749. GUITAR: PRIMARY (2 or 4).

750. FLUTE: PRIMARY (2 or 4).

751. OBOE: PRIMARY (2 or 4).

752. CLARINET: PRIMARY (2 or 4).

753. SAXOPHONE: PRIMARY (2 or 4).

754. BASSOON: PRIMARY (2 or 4).

755. TRUMPET: PRIMARY (2 or 4).

756. FRENCH HORN: PRIMARY (2 or 4).

757. TROMBONE: PRIMARY (2 or 4).

758. TUBA AND EUPHONIUM: PRIMARY (2 or 4).

759. PERCUSSION: PRIMARY (2 or 4). Individual study in the student's major medium of performance. Two semester hours per semester for students in the music education course of study; 4 semester hours per semester (2 in summer) for students in the performance and pedagogy course of study. May be repeated to a maximum of 24 semester hours for the Performer's Certificate and each degree undertaken. PRQ: Students who wish to take primary private study must pass an audition in the appropriate performance area.

759A. STEELPAN: PRIMARY (2 or 4). Individual study in the student's major medium of performance. Two semester hours per semester for students in the music education course of study; 4 semester hours per semester (2 in summer) for students in the performance and pedagogy course of study. May be repeated to a maximum of 24 semester hours for the performer's certificate and each degree undertaken. PRQ: Students who wish to take primary private study must pass an audition in the appropriate performance area.

## Music Education

577. JAZZ PEDAGOGY (3). Exploration of various approaches to teaching jazz including improvisation, style, articulation, and phrasing as well as the development of curriculum designs. PRQ: Consent of school.

580. WIND INSTRUMENT LITERATURE (3). Wind instrument literature from ca. 1600 to the present, with emphasis on the 20th century American concert band. Includes literature covering all major stylistic periods suitable for public school and college instrumental ensembles. Analytical techniques applied to selected works. PRQ: Consent of school.

581. MUSIC IN THE THERAPEUTIC PROCESS (3). Therapeutic applications of music. Study of music as an agent of change and how it affects the physical, intellectual, social, and emotional domains. PRQ: Consent of school.

582. THE MUSIC EDUCATION APPROACHES OF DALCROZE, ORFF, AND KODALY (3). Exploration of the approaches of Emile Jaques-Dalcroze, Carl Orff, and Zoltan Kodaly relating to vocal/choral, instrumental, and general music education. Evaluation of pedagogical materials and application to elementary, middle/junior high, and high school levels. PRQ: Consent of school.

583. COMPUTER TECHNOLOGY IN THE P-12 MUSIC PROGRAM (3). Integrating hardware devices and software for composition, sequencing, aural skills and theory; the Internet for supplementary instruction; basic web page construction; designing technology-infused general music curricula; and creating spreadsheets for music program administration and assessment. PRQ: Consent of school.

666. PRACTICUM IN STUDIO INSTRUCTION (1). Supervised studio teaching in keyboard, voice, or band and orchestral instruments. May be repeated to a maximum of 12 semester hours. PRQ: Consent of school.

670. MUSIC INSTRUCTIONAL TECHNIQUES AND MATERIALS: WOODWINDS (2). Techniques of class and individual instruction in orchestral woodwind instruments, with emphasis on intermediate and advanced levels. Review and evaluation of solo, ensemble, and other instructional literature for all levels.

671. MUSIC INSTRUCTIONAL TECHNIQUES AND MATERIALS: BRASSES (2). Techniques of class and individual instruction in orchestral brass instruments, with emphasis on intermediate and advanced levels. Review and evaluation of solo, ensemble, and other instructional literature for all levels.

672. MUSIC INSTRUCTIONAL 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.

673. MUSIC INSTRUCTIONAL TECHNIQUES AND MATERIALS: ELECTRONIC MUSIC (3). Techniques of class instruction in electronic instruments with emphasis on advanced tape recorder usages in elementary and secondary schools.

674. MUSIC INSTRUCTIONAL TECHNIQUES AND MATERIALS: STRINGS (2). Techniques of class and individual instruction in orchestral stringed instruments, with emphasis on intermediate and advanced levels. Review and evaluation of solo, ensemble, and other instructional literature for all levels.

675. PIANO METHODS AND MATERIALS (3). Methods and materials used in piano teaching either in the public schools or privately. Class piano methods, organization, and materials. Observation of and participation in university piano classes.

677. SEMINAR IN SUZUKI PEDAGOGY (1-3). Study of the philosophy, psychology, repertoire, and pedagogy of the Suzuki Method including guided observation and supervised teaching. May be repeated to a maximum of 12 semester hours. PRQ: Consent of school.

678. CURRENT TRENDS IN ELEMENTARY MUSIC EDUCATION (3). Detailed study of the conceptual and behavioral approaches to the elementary general music program. Evaluation of current methods and materials.

680. WORKSHOP IN MUSIC (1). Concentrated study of particular topics of interest in music. Enrollment in more than one workshop per term is permitted. May be repeated to a maximum of 12 semester hours, but no more than 3 semester hours may be applied toward the M.M. degree.

681. PEDAGOGY OF SINGING (3). Techniques and procedures of teaching singing. Emphasis on how the singing voice works and practical methods for achieving proper function. PRQ: Permission of the School of Music.

682. DIVERSE POPULATIONS IN MUSIC EDUCATION (3). Curricula, strategies, programming, administration, and philosophies which encourage and actively promote diversity in music education.

683. SUPERVISION AND ADMINISTRATION OF THE MUSIC PROGRAM (3). Functions and techniques of supervision and administration of the music program. Emphasis on problems in curriculum equipment and materials, budget, schedules, and programs. Techniques for inservice training in music for classroom teachers.

684. TECHNIQUES OF RESEARCH IN MUSIC (3). 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 an area of study in music education.

685. FOUNDATIONS OF MUSIC EDUCATION (3). Historical and philosophical bases of music education. Application of learning theories to problems of music teaching. Required for the M.M. degree with an area of study in music education.

689. SEMINAR IN MUSIC EDUCATION (3). Investigation of specific issues in the various areas of music education. Topics announced. May be repeated to a maximum of 9 semester hours.

775. PSYCHOLOGY OF MUSIC (3). Functions of the music mind and factors involved in the development of musical skills and maturity.

789. SELECTED STUDIES IN MUSIC EDUCATION (1-4). Independent or small-group study of selected topics. Participation in more than one independent study per term permitted by consent of school director. May be repeated to a maximum of 20 semester hours. See specific degree requirements for limitations. S/U grading. PRQ: Consent of school.

# School of Theatre and Dance (THEA, TH-D)

Director: Alexander Gelman

## Graduate Faculty

Judith Q. Chitwood, professor, M.A., University of Cincinnati  
 Paula Frasz, professor, M.F.A., University of Illinois  
 Kent G. Gallagher, professor, Ph.D., Indiana University  
 Kathryn Gately-Poole, professor, M.F.A., Rutgers University  
 Alexander Gelman, professor, M.F.A., Boston University  
 Benny Gomes, assistant professor, M.F.A., University of Illinois  
 Lori Hartenhoff, associate professor, M.F.A., University of Wisconsin  
 Christopher Markle, associate professor, M.F.A., Yale University  
 Terrence McClellan, professor, M.F.A., University of Massachusetts  
 Randall Newsom, professor, M.A., Eastern Kentucky University  
 Tracy Nunnally, associate professor, M.F.A., Florida State University  
 Melanie Parks, associate professor, M.F.A., University of Illinois  
 Richard Poole, associate professor, M.F.A., Rutgers University  
 Patricia Ridge, professor, Ph.D., University of Colorado  
 Deborah Robertson, associate professor, M.F.A., Smith College  
 Sahin Sahingolu, assistant professor, M.F.A., Northern Illinois University  
 Robert Schneider, assistant professor, D.F.A., Yale University  
 Karen Williamson, associate professor, M.F.A., George Mason University

The School of Theatre and Dance offers a graduate program leading to an M.F.A. degree with specializations in acting, design and technology, and directing. The school is a member of the University/Resident Theatre Association, and its programs are accredited by the National Association of Schools of Theatre.

## Master of Fine Arts in Theatre Arts

The M.F.A. program is designed to provide intensive artistic training in theatre arts for careers in theatre and theatre-related areas. Students will graduate with a specialization in acting, directing, or design and technology (the latter with areas of study in costume design, lighting design, scene design, and theatre technology).

### Admission

Admission to the M.F.A. program requires a baccalaureate degree, preferably with a major in theatre, or master's degree in theatre arts with adequate experience in the specialization the applicant wishes to pursue as an M.F.A. candidate as well as basic knowledge and skills in both the performance and the production aspects of theatre. Students holding the baccalaureate degree in other fields may be eligible for admission to the program if they can demonstrate their ability to proceed at an advanced level.

Applicants for the specialization in design and technology must submit a portfolio of their work. Applicants for the acting specialization are required to audition and interview as part of the admission process. For candidates living 500 miles or more from campus, a videotaped audition and telephone interview are

acceptable. Applicants for the directing specialization must submit a director's analysis of a play they have directed. Applicants for the acting and the design and technology specializations are not required to take the General Test of the GRE.

All applicants must submit a statement of their reasons for seeking admission to the program.

Applicants who appear qualified on the basis of the above qualifications will be invited to a personal interview with admission representatives from the School of Theatre and Dance. Favorable recommendation by the representatives is required for admission.

### Candidacy

Upon admission, students embark on a probationary year, during which they must successfully complete course work and a major artistic project. In order to achieve candidacy, they must receive positive faculty evaluation for the work completed during this period.

### Limitation of Time

All requirements for the degree Master of Fine Arts must be completed within the seven consecutive years immediately preceding the date of the student's graduation from that degree program. This time limit applies to enrollment in all graduate course work in the student's program including work for which transfer credit is allowed.

If an NIU course taken to complete the requirements for an M.F.A. degree does not fall within the seven-year period indicated in the preceding paragraph, the School of Theatre and Dance may require the student to retake the course for credit or may allow the student to demonstrate current knowledge of the subject matter. In the latter case, currency must be demonstrated to the satisfaction of the department offering the course through successful completion of an appropriate examination or other assessment if available from the department. Otherwise, the outdated course work must be deleted from, and other course work must be substituted in, the program of courses. Transfer courses falling outside the limitation of time cannot be used in a graduate program.

### Courses for Which Graduate Credit is Allowed

At NIU only courses which are numbered 500-798 carry credit toward the master's degree. At least 50 percent of the minimum number of semester hours required for the M.F.A. degree must be earned in courses numbered 600 and above.

### Student-at-Large and Transfer Credit

With the approval of the School of Theatre and Dance and the office of the dean of the Graduate School, a combined total of up to 21 graduate semester hours either accepted in transfer from other accredited institutions or earned at NIU as a student-at-large may be applied toward the requirements for the M.F.A. degree in theatre arts.

## Requirements

Students in the M.F.A. program must earn a minimum of 72 semester hours beyond a baccalaureate degree, exclusive of work taken to remove deficiencies, with a GPA of at least 3.00 in all graduate courses required in the student's program of courses (excluding deficiency courses taken for graduate credit) as well as in all graduate course work taken at NIU. Study may be interrupted for an approved internship, although not before the first three semesters of study in the acting specialization. The program requires the following.

Three major artistic projects in an area of study or specialization, including a final project.

Completion of the following core program of study (14-17)

THEA 619 - Performance and Production (5)

THEA 676 - Script Laboratory (6)

THEA 799 - Final Project (3)

An internship or an equivalent experience prior to graduation. Students in the M.F.A. acting specialization must participate in SummerNite, if available, to satisfy this requirement.

A final project (requiring enrollment in THEA 799), supported by a project documentation that is reviewed and approved by a committee of the faculty. The project may be done in conjunction with an internship.

Satisfactory completion of a final examination in the nature of an oral defense of the final project.

Completion of a minimum of 58 semester hours in consultation with the school in one of the following specializations.

## Specialization in Acting

THEA 516 - Acting Studio: On-Camera (3)

THEA 566 - The Business of Theatre (3)

THEA 591 - Topics in Theatrical Performance (3)

THEA 601 - Research Techniques in Theatre Arts (3)

THEA 607A - Period Style for Actors: Text Analysis (3)

THEA 607B - Period Style for Actors: Physicality (3)

THEA 608 - Acting Techniques (3)

THEA 609A - Advanced Voice and Diction: Freeing the Voice (3)

THEA 609B - Advanced Voice and Diction: Building the Voice (3)

THEA 609C - Advanced Voice and Diction: Voice

Characterization(3)

THEA 609E - Advanced Voice and Diction: Stage Speech (3)

THEA 610A - Advanced Acting: Actor's Inner Life (3)

THEA 610B - Advanced Acting: Clarity and Character (3)

THEA 611A - Advanced Movement: Relaxation and Response (3)

THEA 611B - Advanced Movement: Expression and the Body (3)

THEA 611C - Advanced Movement: Specificity (3)

THEA 676 - Script Laboratory (3)

THEA 695 - Internship in Theatre Arts (3)

THEA 708 - Verse Drama (3)

Elective by advisement (1)

Students in the acting specialization are required each semester to audition for and participate in departmental productions. Students failing to maintain a 3.00 GPA in their acting, voice, and movement courses will not be permitted to perform in any production sponsored by the school. Private individual interviews, followed by written synopses of such reviews, will be held at least once a year to monitor the progress of the student. The performance faculty review committee reserves the right to place on casting probation or discontinue the candidacy of any M.F.A. acting candidate who shows unsatisfactory progress as determined by the committee.

## Specialization in Directing

THEA 504 - Stage Combat (2)

THEA 608 - Acting Techniques (3)

THEA 610A - Advanced Acting: The Actor's Inner Life (3)

THEA 610B - Advanced Acting: Clarity and Character (3)

THEA 612 - Directing Techniques (4)

THEA 613 - Advanced Stage Management (2)

THEA 676 - Script Laboratory (3)

THEA 680 - Theatrical Criticism (3)

THEA 712 - Directing Studio (10)

THEA 713 - Directing Laboratory (1)

THEA 716 - Advanced Acting Laboratory (3)

Electives by advisement (19)

## Specialization in Design and Technology

Course work from one of the areas of study selected by advisement (58)

### Costume Design

THEA 552 - Drawing for the Theatre (6)

THEA 566 - The Business of Theatre (1)

THEA 578 - Period Style for the Theatre I (3)

THEA 579 - Period Style for the Theatre II (3)

THEA 749 - Design Studio (30)

Course work from the following (15)

THEA 535 - Advanced Costume Technology (3)

THEA 551 - Electronic Visualization (3)

THEA 553 - Rendering Techniques (3)

### Lighting Design

THEA 552 - Drawing for the Theatre (6)

THEA 566 - The Business of Theatre (1)

THEA 578 - Period Style for the Theatre I (3)

THEA 579 - Period Style for the Theatre II (3)

THEA 749 - Design Studio (30)

Course work from the following (15)

THEA 550 - Advanced Drafting (3)

THEA 551 - Electronic Visualization (3)

THEA 553 - Rendering Techniques (3)

THEA 556 - Rigging for the Performing Arts (3)

### Scene Design

THEA 552 - Drawing for the Theatre (6)

THEA 566 - The Business of Theatre (1)

THEA 578 - Period Style for the Theatre I (3)

THEA 579 - Period Style for the Theatre II (3)

THEA 749 - Design Studio (30)

Course work from the following (15)

THEA 550 - Advanced Drafting (3)

THEA 551 - Electronic Visualization (3)

THEA 553 - Rendering Techniques (3)

THEA 555 - Scene Painting (3)

THEA 556 - Rigging for the Performing Arts (3)

THEA 558 - Structural Design for the Stage (3)

### Theatre Technology

THEA 550 - Advanced Drafting (6)

THEA 556 - Rigging for the Performing Arts (3)

THEA 557 - Automation and Stage Machinery (3)

THEA 558 - Structural Design for the Stage (3)

THEA 566 - The Business of Theatre (1)

THEA 748 - Technology Studio (30)

Electives by advisement (12)

## Final Project

A student's work in the Master of Fine Arts program in the School of Theatre and Dance culminates in a final project, the final examination on which serves in lieu of a final comprehensive examination. The project and a project paper must be reviewed and approved by a committee of the faculty consisting of at least three members. The majority of the committee members must be regular faculty members at Northern Illinois University; a majority must be members of the graduate faculty in the School of Theatre and Dance; and the chair must be a graduate faculty member in the School of Theatre and Dance.

In special situations, and only with the approval of the faculty director(s) and committee(s), students may collaborate on some aspects of the work contributing to their final projects. However, each project documentation submitted to the Graduate School for approval must be a unique product with the degree candidate as the sole author and with due acknowledgment of the contributions of collaborators; and the author must demonstrate to his or her committee satisfactory command of all aspects of the work presented.

A student intending to prepare a final project should identify a prospective project director, who must be willing to serve as director, meet Graduate School qualifications, and be approved by the school. The director and committee will judge the acceptability of the work. A faculty member may decline to serve as director of any particular final project, in which case the school will assist the student in seeking a director. If a student, with department approval, changes director, the student may need to undertake additional work, or to change projects, in accordance with the expectations and expertise of the new director.

The project may be done in conjunction with an internship. To undertake the project, the student must register for THEA 799. Registration for this purpose may be in absentia. If circumstances prohibit continuing progress on the work, the student may request a leave of absence from the dean of the Graduate School. If a student interrupts registration in course number THEA 799 without obtaining a leave of absence, then upon recommendation of the School of Theatre and Dance, the student's admission to the degree program will be terminated. After a student's first enrollment in THEA 799, he or she should register as an auditor in THEA 799 each term until the project receives final approval from the school. Additional instructions about the project and the written documentation are available from the School of Theatre and Dance.

## Application for Graduation

When nearing completion of requirements for a graduate degree, a student must submit an application for graduation to the Graduate School. See "Graduation" in the General Regulations section of this catalog.

## Course List

### Theatre Arts (THEA)

504. STAGE COMBAT (2). Introduction to the fundamental skills of effective stage violence. Exploration of hand-to-hand, rapier, and dagger usage on stage. Teaches a fundamental understanding of violence on stage which provides a basis for advanced application to the technique.

516. ACTING STUDIO: ON-CAMERA (3). Artistic projects requiring acting for film and/or video.

535. ADVANCED COSTUME TECHNOLOGY (3).

A. Pattern Drafting

B. Millinery and Accessories

C. Dyeing and Painting

Subject varies from semester to semester. May be repeated to a maximum of 9 semester hours. PRQ: Consent of school.

549. 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. PRQ: Consent of school.

550. ADVANCED DRAFTING (3). Advanced study of drafting techniques for the theatre emphasizing designing with Autocad with focus on the creation of virtual models and the derivation of typical design documentation from Autocad models. May be repeated to a maximum of 6 semester hours. PRQ: Consent of school.

551. ELECTRONIC VISUALIZATION (3). Advanced study of modeling, rendering, and animation technique for the theatre emphasizing design with Autocad and Autovision or 3-D Studio. May be repeated to a maximum of 6 semester hours. PRQ: Consent of school.

552. DRAWING FOR THE THEATRE (2). Development for drawing and painting skills and exploration of graphic media paying particular attention to the needs of theatrical designers. May be repeated to a maximum of 6 semester hours.

553. RENDERING TECHNIQUES (3). Practical exploration of graphic media and techniques for the theatrical designer. May be repeated to a maximum of 6 semester hours. PRQ: Consent of school.

555. SCENE PAINTING (3). Hands on investigation of concepts, tools, and techniques of scenic painting. May be repeated to a maximum of 6 semester hours. PRQ: Consent of school.

556. RIGGING FOR THE PERFORMING ARTS (3). Advanced study of overhead lifting equipment and techniques commonly used in theatres, arenas, and other performance venues. PRQ: Consent of school.

557. AUTOMATION AND STAGE MACHINERY (3). Advanced study of mechanical devices used to create motion in theatrical productions. PRQ: Consent of school.

558. STRUCTURAL DESIGN FOR THE STAGE (3). Advanced study of strengths and weaknesses of material and joining methods used to construct scenery. PRQ: Consent of school.

565. MANAGING THE PERFORMING ARTS (3). Managing and working within performing arts organizations with special attention to areas of marketing, public relations, grants acquisition, audience development, box office procedures, budgeting, union relations, organizational structure, and board recruitment and participation. Study of the role of government in the funding of arts groups.

566. THE BUSINESS OF THEATRE (1-3). Study and practice of audition and interviewing techniques, contracts, taxes, unions, agencies, and other subjects for the professional.

575. CONTEMPORARY THEATRE (3). Study of theatrical art throughout the world since 1968, and the changing role of theatre in society. Considerations of contemporary movements in acting, directing, design, and playwriting. Reading and analysis of significant and contemporary plays. PRQ: Consent of school.

576. 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.

577. AFRICAN-AMERICAN THEATRE (3). Exploration of the history of African-American theatre artists in the United States. Surveys of the contribution to theatre history by African-Americans from the minstrel era to the present. Emphasis on the development and evolution of playwrights, actors, and audiences. PRQ: Consent of school.

578. PERIOD STYLE FOR THE THEATRE I (3). Intensive investigation of period style from pre-Egyptian through the Renaissance as it relates to theatrical production. Exploration of period clothing, manners, decor, and architecture with projects from dramatic literature.

579. PERIOD STYLE FOR THE THEATRE II (3). Intensive investigation of period style from the Baroque through contemporary as it relates to theatrical production. Exploration of period clothing, manners, decor, and architecture.

581. PLAYWRITING I (3). 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. PRQ: Consent of school.

582. PLAYWRITING STUDIO (3). Advanced work on new scripts generated by student playwrights. Involves interaction and collaboration in a three dimensional setting with directors and performers. PRQ: Consent of school.

590. SUMMER REPERTORY PRACTICUM (1-3). Extensive and concentrated production experience in the preparation and performance of summer theatre repertory. Emphasis on the unique problems of repertory companies: performance, technology, and management. May be repeated to a maximum of 9 semester hours. PRQ: Consent of school.

591. TOPICS IN THEATRICAL PERFORMANCE (1-6). Intensive investigation of a single dramatic form or theatrical phenomenon with emphasis on performance. Topics announced. May be repeated to a maximum of 6 semester hours as topic varies. PRQ: Consent of school.

601. RESEARCH TECHNIQUES IN THEATRE ARTS (3). Review of bibliographical and research methods applicable to graduate study in theatre arts. Consideration of project and research paper writing; collaborative approach to performance; preparation of prospectuses, and reports.

607A. PERIOD STYLE FOR ACTORS: TEXT ANALYSIS (3). In-depth research and textual investigation of the dramatic works of the 17th, 18th, 19th, and early 20th centuries. PRQ: Admission to M.F.A. specialization in acting or consent of school.

607B. PERIOD STYLE FOR ACTORS: PHYSICALITY (3). Period style and movement exploration of the 17th, 18th, 19th, and early 20th centuries. PRQ: Admission to M.F.A. specialization in acting or consent of school.

608. ACTING TECHNIQUES (3). Study in contact and truthful response, conversational reality, concentration, spontaneity, getting in touch with one's own behavior and that of others.

609. ADVANCED VOICE AND DICTION (3).

- A. Freeing the Voice
- B. Building the Voice
- C. Voice Characterization
- D. Musical Theatre Performance
- E. Stage Speech

In-depth voice study including voice production, voice characterization, verse, dialects, musical theatre performance, and specialized topics. May be repeated to a maximum of 15 semester hours. PRQ: Admission to the M.F.A. specialization in acting or consent of school.

610. ADVANCED ACTING (3).

- A. The Actor's Inner Life
- B. Clarity and Character

Studies in advanced acting. Each semester will be a further development of performance technique as it relates to the rehearsal process. Scene work used as a means of gauging the actor's ability to apply studio work to text. May be repeated to a maximum of 6 semester hours. PRQ: THEA 608 or consent of school.

611. ADVANCED MOVEMENT (3).

- A. Relaxation and Response
- B. Expression and the Body
- C. Specificity

In-depth stage movement studies including character work, combat, and specialized topics. May be repeated to a maximum of 9 semester hours. PRQ: Admission to the M.F.A. specialization in acting or consent of school.

612. DIRECTING TECHNIQUES (4). Exploration of directing as an art form. Study of directorial processes: analysis, research, conceptualization, designer interaction, rehearsal processes, and performance study.

613. ADVANCED STAGE MANAGEMENT (2). Advanced study of the stage manager in theatrical production. Examination of the prompt script, coordination of production personnel, and the management responsibilities in the prerehearsal, rehearsal, and performance periods.

619. PERFORMANCE AND PRODUCTION (1). In-depth research and performance or production preparation in a significant area of the performing arts. May be repeated to a maximum of 6 semester hours. PRQ: M.F.A. candidacy or consent of school.

636. ADVANCED COSTUME DESIGN I (3). Advanced exploration of the costume design process from analysis to the execution of designs.

641. ADVANCED LIGHTING I (3). Study of advanced lighting design and technology for the performing arts, including preparation of designs and practical experience.

646. ADVANCED SCENE DESIGN I (3). Exploration of advanced scene design processes from analysis to the execution of designs.

670. SEMINAR: THEATRE HISTORY (3).

- A. Greek and Roman Theatre
- B. Medieval, Elizabethan, and Jacobean Theatre
- C. 17th and 18th Century Theatre
- D. 19th and 20th Century Theatre (until 1968)
- E. Contemporary Theatre
- G. Special Topics

Subject and materials change from semester to semester. May be repeated to a maximum of 18 semester hours.

676. SCRIPT LABORATORY (3). Study of theatre and drama in special periods and genres. May be repeated to a maximum of 9 semester hours. PRQ: Consent of school.

677. SEMINAR IN THEATRE RESEARCH (3). Intensive investigation of a single significant dramatic form or theatrical phenomenon. Topics selected on basis of current research needs and announced. May be repeated to a maximum of 6 semester hours. PRQ: Consent of school.

680. THEATRICAL CRITICISM (3). 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.

695. INTERNSHIP IN THEATRE ARTS (1-9). Off-campus experience opportunities with selected organizations in theatre. Limited to qualified students. May be repeated to a maximum of 9 semester hours. S/U grading may be used. PRQ: Consent of school.

697. 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. PRQ: Consent of school.

699. THESIS (1-6). Open only to students writing a thesis in an M.A. program. May be repeated to a maximum of 6 semester hours. PRQ: Consent of the student's graduate adviser.

708. VERSE DRAMA (3). Integrated voice and performance work on scenes and monologues from Greek to Elizabethan drama. PRQ: Admission to the M.F.A. specialization in acting or consent of school.

712. DIRECTING STUDIO (5). Development of skills in analysis, research, staging, and production; study of directing styles and the directors who developed them. Practical application of techniques and research. May be repeated to a maximum of 20 semester hours.

713. DIRECTING LABORATORY (1). Individualized development of techniques of directing. May be repeated to a maximum of 3 semester hours.

716. ADVANCED ACTING LABORATORY (1-3). Individualized development of techniques of acting. May be repeated to a maximum of 6 semester hours.

748. TECHNOLOGY STUDIO (5). Individualized development of technical proficiency and creativity of fields of theatre technology. May be repeated to a maximum of 30 semester hours. PRQ: M.F.A. candidacy.

749. DESIGN STUDIO (5). Individualized development in technical proficiency and aesthetics in costume, scene, and lighting design. May be repeated to a maximum of 30 semester hours. PRQ: M.F.A. candidacy.

799. FINAL PROJECT (1-6). Artistic projects undertaken by M.F.A. candidates. Includes analysis, completion of project, oral examination, final project documentation. PRQ: M.F.A. candidacy and consent of student's graduate adviser.

### Dance Performance (TH-D)

505. BALLET (1). Emphasis on complex ballet techniques for performance. Concurrent enrollment in multiple sections is permissible to a maximum of 2 semester hours per semester. May be repeated to a maximum of 16 semester hours. Proficiency required for admission to this course.

506. MODERN DANCE (1). Emphasis on complex modern dance techniques for performance and on movement quality and interpretative performance elements. Concurrent enrollment in multiple sections is permissible to a maximum of 2 semester hours per semester. May be repeated to a maximum of 16 semester hours. Proficiency required for admission.

508. POINTE II (1). Advanced pointe techniques. May be repeated to a maximum of 8 semester hours. Proficiency required for admission. PRQ: Consent of school.

509. PAS DE DEUX (2). Partnering techniques and principles in classical ballet. May be repeated to a maximum of 8 semester hours. PRQ: Consent of school.

520. THE BUSINESS OF DANCE (3). Practical application of studies to business, artistic, and academic development in the profession. PRQ: Consent of school.

564X. WORKSHOP IN MOVEMENT AND PERFORMING AWARENESS (3). *Crosslisted as MUSC 564.* Lectures, demonstrations, and related activities regarding the work of Moshe Feldenkrais as it applies to the training of performing artists. S/U grading. PRQ: Consent of school.

567. DANCE NOTATION I (3). Theoretical and practical introduction to notation. Analysis and recording of movement through the systems of Labanotation or Benesh Movement Notation. Equal emphasis placed on reading and writing dance scores. Recommended: Knowledge of intermediate-level ballet vocabulary.

568. DANCE NOTATION II (3). Continuation of TH-D 567, including floor work and group scoring. Emphasis on reading of dance scores and recording movement in Labanotation or Benesh Movement Notation. PRQ: TH-D 567 or consent of school.

574. DANCE PHILOSOPHY AND AESTHETICS (3). Philosophy of dance including aesthetic principles and critical evaluations of varying dance forms and styles.

577. SPECIAL STUDIES IN DANCE (1).

- A. Spanish
- B. Mid-Eastern
- C. Advanced Theatrical Jazz
- D. Character
- E. Female Classical Variations
- J. Male Classical Variations
- M. Theatrical Tap
- N. Repertory
- Q. Other

Studies in dance forms. Open to students who qualify for specialized study. Concurrent enrollment in multiple sections is permissible to a maximum of 6 semester hours per semester. May be repeated to a maximum of 24 semester hours.

588. CHOREOGRAPHY (2). Continued analysis of the elements of choreographic forms, styles, and trends with the development of dance studies of extended length; consideration of the theory and technique of advanced group work. May be repeated to a maximum of 4 semester hours. PRQ: Consent of school.

596. TUTORIAL IN DANCE (1-3). Directed individual study in special areas of dance. Concurrent enrollment in multiple sections is permissible to a maximum of 5 semester hours per semester. May be repeated to a maximum of 12 semester hours.

# Interdisciplinary Academic Centers, Institutes, and Courses

## Center for Biochemical and Biophysical Studies

Director: Joel P. Stafstrom

### Faculty Associates

Gary M. Baker, associate professor of chemistry and biochemistry, Ph.D.  
 Neil W. Blackstone, professor of biological sciences, Ph.D.  
 W. Elwood Briles, adjunct professor of biological sciences, Ph.D.  
 Ana M. Calvo, assistant professor of biological sciences, Ph.D.  
 Sonya B. Conway, professor of biological sciences, Ph.D.  
 James V. Corwin, professor of psychology, Ph.D.  
 James E. Erman, Distinguished Research Professor of chemistry and biochemistry, Ph.D.  
 Elizabeth R. Gaillard, associate professor of chemistry and biochemistry, Ph.D.  
 Kenneth W. Gasser, associate professor of biological sciences, Ph.D.  
 W. Scott Grayburn, adjunct professor of political science, Ph.D.  
 Richard Hahin, associate professor of biological sciences, Ph.D.  
 Stuart A. Hill, associate professor of biological sciences, Ph.D.  
 Heike Hofstetter, adjunct assistant professor of chemistry and biochemistry, Ph.D.  
 Oliver Hofstetter, assistant professor of chemistry and biochemistry, Ph.D.  
 Gabriel P. Holbrook, associate professor of biological sciences, Ph.D.  
 James R. Horn, assistant professor of chemistry and biochemistry, Ph.D.  
 Narayan S. Hosmane, Distinguished Research Professor of chemistry and biochemistry, Ph.D.  
 Christopher Hubbard, associate professor of biological sciences, Ph.D.  
 Mitrick A. Johns, associate professor of biological sciences, Ph.D.  
 Barbara Johnson-Wint, associate professor of biological sciences, Ph.D.  
 David P. Lotshaw, associate professor of biological sciences, Ph.D.  
 Leslie Matuszewich, assistant professor of psychology, Ph.D.  
 Rangaswamy Meganathan, Presidential Research Professor of biological sciences, Ph.D.  
 Jon S. Miller, associate professor of biological sciences, Ph.D.  
 Neil O. Polans, associate professor of biological sciences, Ph.D.  
 Victor Ryzhof, assistant professor of chemistry and biochemistry, Ph.D.  
 Kui Shen, assistant professor of chemistry and biochemistry, Ph.D.  
 Thomas L. Sims, associate professor of biological sciences, Ph.D.  
 Joel P. Stafstrom, associate professor of biological sciences, Ph.D.  
 Josephine Umoren, associate professor of family, consumer, and nutrition sciences, Ph.D.  
 Patricia S. Vary, Distinguished Research Professor of biological sciences, Ph.D.  
 Lidia B. Vitello, adjunct assistant professor of chemistry and biochemistry, Ph.D.  
 Douglas G. Wallace, assistant professor of psychology, Ph.D.  
 Tao Xu, assistant professor of chemistry and biochemistry, Ph.D.  
 Linda S. Yasui, associate professor of biological sciences, Ph.D.  
 Jerrold H. Zar, adjunct professor of biological sciences, Ph.D.  
 Chong Zheng, associate professor of chemistry and biochemistry, Ph.D.  
 Shengde Zhou, assistant professor of biological sciences, Ph.D.

The Center for Biochemical and Biophysical Studies encourages and coordinates biochemical and biophysical research and studies within the university at the graduate level.

### Concentration in Biochemistry and Biophysics

The center is not a degree-offering unit; consequently, all graduate degrees are obtained through the cooperating departments, whose requirements must be met. A student earning a graduate degree may, with the consent of the department adviser and approval of the center director, also take a graduate concentration of courses in biochemistry and biophysics. Completion of the concentration will be noted on the student's transcript.

At the M.S. level, the student must successfully complete five graduate courses (excluding thesis credit) dealing with biochemistry and biophysics, to be selected from the center's listing of courses. The student must also complete an approved research program dealing with a biochemical or biophysical topic and incorporate the results into a thesis, with the thesis committee to include one member of the graduate faculty of the center who is outside the student's department.

At the Ph.D. level, the student must complete eight graduate courses (excluding dissertation credit) dealing with biochemistry and biophysics, to be selected from the center's listing of courses. The student must also complete an approved research program dealing with a biochemical or biophysical topic and incorporate the results into a dissertation, with the dissertation committee to include two members of the graduate faculty of the center who are outside the student's department.

The specific courses dealing with biochemistry and biophysics which the student uses to satisfy the concentration requirements depend on the student's goals. Courses may be chosen from the list below with the approval of the student's departmental adviser and the director of the center, except that all students are required to earn credit for CHEM 570, General Biological Chemistry, or CHEM 572, Biological Chemistry I. Students may take crosslisted courses in the department of their choice.

All requirements for the concentration must be completed within a period of six consecutive years.

### Biochemistry and Biophysics Courses

BIOS 511 - Plant Physiology (4)  
 BIOS 513 - Microbial Physiology (3)  
 BIOS 540 - Immunobiology (3)  
 BIOS 555 - Comparative Physiology (3)  
 BIOS 561 - Endocrinology (3)  
 BIOS 564 - Cell Signalling (3)  
 BIOS 565 - Cellular Physiology (3)  
 BIOS 567 - Molecular Biology of Eukaryotes (3)  
 BIOS 616 - Plant Metabolism (3)  
 BIOS 632 - Radiation Biology (3)  
 BIOS 635 - Molecular Genetics of Prokaryotes (3)  
 BIOS 636 - Experiments in Molecular Genetics of Prokaryotes (2)  
 BIOS 640 - Advanced Immunology (3)  
 BIOS 643 - Bioinformatics (3)  
 BIOS 659 - Neurophysiology (3)  
 BIOS 690 - Topics in Molecular and Cellular Control Mechanisms (3)  
 BIOS 691 - Recombinant DNA Techniques Laboratory (4)  
 BIOS 700K - Special Topics in Biology: Molecular Biology (1-9)  
 BIOS 700M - Special Topics in Biology: Research Methods (3)  
 CHEM 546 - Theoretical Chemistry (3)

CHEM 570 - General Biological Chemistry (3)  
 CHEM 571 - Biological Chemistry Laboratory (3)  
 CHEM 572 - Biological Chemistry I (3)  
 CHEM 573 - Biological Chemistry II (3)  
 CHEM 600E - Selected Topics in Chemistry: Biological (1-3)  
 CHEM 641 - Chemical Thermodynamics (3)  
 CHEM 642 - Kinetics (3)  
 CHEM 670 - Enzymes (3)  
 CHEM 675 - Physical Chemistry of Macromolecules (3)  
 FCNS 611 - Maternal and Child Nutrition (3),  
 OR FCNS 612 - Geriatric Nutrition (3),  
 OR FCNS 613 - Nutrition and Physical Activity (3)  
 FCNS 645 - Macronutrients (3)  
 FCNS 646 - Micronutrients (3)  
 PSYC 603 - Biopsychology (3)  
 PSYC 629 - Neurophysiological Bases of Behavior (3)  
 PSYC 630 - Neurochemical Bases of Behavior (3)

## Center for Burma Studies

Director: Catherine Raymond

### Faculty Associates

Catherine Raymond, associate professor of art, Ph.D.  
 U Saw Tun, associate professor of foreign languages and literatures, M.A.

The Center for Burma Studies was established in 1987 as a repository for multivarious materials on Burma (Myanmar). The purpose of the Center for Burma Studies is to encourage and promote the scholarly study of Burma. The establishment of the center was made possible by the selection of NIU as the national repository for valuable Birmanica items and the appointment of a director to oversee the collections and to organize national and international gatherings.

Since its inauguration the bibliographic and art holdings have quadrupled with a bequest from the private collection of Jerry Paul Bennett. Among the over 12,000 items in various Burmese collections are an impressive map series, located in the Rare Books and Special Collection at Founders Memorial Library, on the second and fourth floors.

The Burma Gallery in the NIU Museum exhibits selections from the permanent collection on a continuous basis as well as hosting visiting exhibitions. The center publishes *The Journal of Burma Studies* and distributes other relevant material including the *Burma Studies Group Bulletin*. The biennial Burma Studies Colloquium brings international scholars and Burma watchers to NIU. The center also collaborates with the (national) Association for Asian Studies to hold conjunctive annual meetings.

The Southeast Asian Collection located in Founders Memorial Library contains published works, periodicals, microfilm, and microfiche concerning Burma. These volumes offer the researcher considerable intellectual challenge and opportunity from their broad base of subject matter, time span, and cultural perspective. The center works in coordination with the Center for Southeast Asian Studies in assisting those students who wish to include Burma Studies as part of a concentration in Southeast Asian studies which may then be listed on the student's transcript.

The center supports 28 courses at NIU which offer significant opportunity to understand more of the anthropology, art history, economics, geography, history, linguistic origin, literature, music, political science, public health, and cultural development of Burma. In addition, the center supports the acquisition of funds for graduate students including Fulbright, FLAS, Luce, and private foundation grants. Since 1990, a Burmese librarian and a Burmese linguist have been hired.

The work of the center and the significance of its bequests have brought international recognition to NIU.

## Center for Governmental Studies

Director: Robert E. Gleeson

The Center for Governmental Studies is a public service, technical assistance, and public policy development organization. Its mission is to provide services contributing to the economic well being of the State of Illinois and enhance the capacities of governments and not-for-profit organizations to develop policies and to manage and evaluate their own programs and services. The center is part of the university's Division of Administration and University Outreach.

The center provides technical assistance to a variety of local governments, state and federal agencies, regional councils, not-for-profit organizations, and professional associations. This involves conducting economic development studies, including fiscal impact analysis and labor market analysis; engaging in strategic planning; providing data and analytical studies, including the mapping of data; and conducting community surveys. The center also continues a long-standing emphasis on assessing performance management and evaluations of workforce development programs. In recent years, the center has developed a reputation for providing expertise in facilitating the formation of regional organizations and working with partners to find regional solutions to problems.

The center is not a degree-granting unit, but cooperates closely with a number of academic departments throughout the university. It does offer non-credit professional certificates through its Civic Leadership Academy. Through externally funded projects, the center provides unique opportunities for graduate students from a wide variety of disciplines with unique opportunities to become involved interdisciplinary with research and technical assistance programs.

## Center for Latino and Latin American Studies

Director: Michael J. Gonzales

### Faculty Associates

Gregory Beyer, assistant professor of music, D.M.A.  
 Sarah Blue, assistant professor of geography, Ph.D.  
 Daniel Cabrera, faculty development, Ph.D.  
 Louise Ciallella, associate professor of foreign languages and literatures, Ph.D.  
 Mary Cozad, assistant professor of foreign languages and literatures, Ph.D.  
 Winifred Creamer, Presidential Research Professor of anthropology, Ph.D.  
 Mayra C. Daniel, assistant professor of literacy education, Ed.D.  
 Ibis Gómez-Vega, associate professor of English, Ph.D.  
 Michael J. Gonzales, Presidential Research Professor of history, Ph.D.  
 Anne Hanley, associate professor of history, Ph.D.  
 William Harrison, associate professor of foreign languages and literatures, Ph.D.  
 Kristin Huffine, assistant professor of history, Ph.D.  
 Francis B. Jaeger, associate professor of foreign languages and literatures, Ph.D.  
 Jorge Jeria, professor of counseling, adult and higher education, Ph.D.  
 Jeff Kowalski, professor of art, Ph.D.  
 Melissa Lenczewski, assistant professor of geology, Ph.D.  
 Rosita Lopez, associate professor of leadership, educational psychology and foundations, Ed.D.  
 Guadalupe Luna, professor of law, J.D.  
 Eloy Merino, associate professor of foreign languages and literatures, Ph.D.

Eugene Perry, professor of geology, Ph.D.  
 Leila Porter, assistant professor of anthropology, Ph.D.  
 Robert Ridinger, associate professor, University Libraries, M.L.S., M.A.  
 Josh Rodriguez, assistant professor of foreign languages and literatures, Ph.D.  
 Linda Saboria, assistant professor of foreign languages and literatures, Ph.D.  
 Francisco Solares-Larrave, associate professor of foreign languages and literatures, Ph.D.  
 Rodrigo Villanueva, assistant professor of music, M.M.

### Concentration in Latin American Studies

Students pursuing a graduate concentration in Latin American studies complete designated graduate-level courses in a variety of disciplines. This interdisciplinary approach exposes them to diverse texts, different ways of analyzing evidence, and comparative perspectives. Successful completion of the concentration will be noted on the student's transcript.

Since the Center for Latino and Latin American Studies is not a degree-offering unit, all graduate degrees are obtained through the student's major department, whose requirements must be met. The concentration is available to students in good standing enrolled in any graduate program in the university. Faculty who regularly teach courses which contribute to the concentration or participate in the core courses come from a variety of departments.

Students interested in pursuing this concentration should consult as early as possible in their graduate program both with their major department faculty adviser and with the director of the Center for Latino and Latin American Studies to determine the set of courses to be used for the concentration. Students must complete electives from courses in at least two different departments. All requirements for the concentration must be completed within a period of six consecutive years.

### Requirements (12)

HIST 582 - Mexico Since 1810 (3),  
 OR HIST 586 - Poverty and Progress in Latin America (3)  
 Three of the following (9)<sup>1</sup>  
 ANTH 505 - Peoples of Mesoamerica (3)  
 ANTH 514 - Archaeology of Mesoamerica (3)  
 ANTH 517 - Archaeology of South America (3)  
 ANTH 569 - Archeology of Empires (3)  
 ANTH 626 - Latin American Peasants and Social Change (3)  
 ARTH 702 - Studies in Latin-American Art (3)  
 ARTH 704D - Studies in the Art of Africa, Oceania, and the Americas: Pre-Columbian (3)  
 ENGL 693C - Ethnic American Literature: Latina/Latino American Literature (3)  
 FLPO 561 - Brazilian Civilization (3)  
 FLSP 540 - Spanish American Poetry and Theater (3)  
 FLSP 541 - Spanish American Novel (3)  
 FLSP 545 - Latin American Women Writers (3)  
 FLSP 551 - Literature of the Andean Republics (3)  
 FLSP 552 - Literature of the Caribbean (3)  
 FLSP 553 - Literature of Uruguay, Argentina, and Chile (3)  
 FLSP 554 - Mexican Literature (3)  
 FLSP 555 - Spanish-American Short Story (3)  
 FLSP 556 - Colonial Latin American Literature (3)  
 FLSP 557 - 19th Century Spanish American Literature (3)  
 FLSP 558 - Spanish American Modernismo and Vanguardias: 1880-1945 (3)  
 FLSP 559 - Spanish American Historical Novels (3)  
 FLSP 560 - Contemporary Spanish American Literature (3)  
 FLSP 561 - Spanish Civilization (3)  
 FLSP 562- Spanish-American Civilization (3)  
 FLSP 587 - Hispanic Dialectology (3)  
 FLST 640D - Research Seminar in Literature: Spanish (3)

FLST 661D - Research Seminar in Civilization and Culture: Spanish (3)  
 GEOG 530 - Population Geography (3)  
 GEOG 790D - Seminar: Regional Geography (1-9)  
 HIST 581 - Indigenous Mexico (3)  
 HIST 582<sup>2</sup> - Mexico Since 1810 (3)  
 HIST 583 - Africans in Colonial Latin America (3)  
 HIST 620 - Reading Seminar in Latin American History (3)  
 HIST 690 - Reading Seminar in General/Comparative History (3)  
 HIST 720 - Research Seminar in Latin American History (3)  
 POLS 569 - Topics in Latin American Politics (3)  
 POLS 673K - Foreign Area Politics: Latin America (3)

### Center for Southeast Asian Studies

Director: James T. Collins, Ph.D.

#### Faculty Associates

Mace Bentley, associate professor of geography, Ph.D.  
 Kenton Clymer, Presidential Research Professor of history, Ph.D.  
 James T. Collins, professor of foreign languages and literatures, Ph.D.  
 Richard M. Cooler, professor emeritus of art, Ph.D.  
 Rhodalyne Gallo-Crail, instructor of foreign languages and literatures, M.A.  
 Kikue Hamayotsu, assistant professor of political science, Ph.D.  
 Kuo-Huang Han, Distinguished Teaching Professor of music, emeritus, Ph.D.  
 John F. Hartmann, Presidential Teaching Professor of foreign languages and literatures, Ph.D.  
 George M. Henry, associate professor of computer science, Ed.D.  
 Patricia B. Henry, associate professor of foreign languages and literatures, Ph.D.  
 Eric Jones, assistant professor of history, Ph.D.  
 Dwight Y. King, professor emeritus of political science, Ph.D.  
 Julia Lamb, outreach coordinator, Center for Southeast Asian Studies, M.A.  
 Judy Ledgerwood, associate professor of anthropology, Ph.D.  
 Wei Luo, assistant professor of geography, Ph.D.  
 Andrea Molnar, associate professor of anthropology, Ph.D.  
 Arlene B. Neher, director emeritus of liberal arts and sciences external programming, Ph.D.  
 Clark D. Neher, Distinguished Teaching Professor of political science, emeritus, Ph.D.  
 Chalermsee Olson, associate professor of university libraries, M.A.  
 Grant Olson, information technology manager, Ph.D.  
 Lina Ong, director of international training office, Ed.D.  
 Hao Phan, curator of Southeast Asia collection of university libraries, M.L.S.  
 Barbara Posadas, professor of history, Ph.D.  
 Deborah Pierce, associate provost of international programs, Ph.D.  
 Caroline Quinlan, editor, center for Southeast Asian Studies, M.A.  
 Catherine Raymond, associate professor of art, Ph.D.  
 Susan D. Russell, professor of anthropology, Ph.D.  
 M. Ladd Thomas, professor emeritus of political science, Ph.D.  
 Saw Tun, associate professor of foreign languages and literatures, M.A.  
 Kheang Un, instructor of political science, Ph.D.  
 Daniel H. Unger, associate professor of political science, Ph.D.  
 Jui-Ching Wang, research scholar, music, Ph.D.  
 Katharine Wiegale, instructor of anthropology, Ph.D.  
 Constance Wilson, professor emeritus of history, Ph.D.  
 Ann Wright-Parsons, director of anthropology museum, M.A.  
 Kurt Thurmaier, professor of public administration, Ph.D.  
 Curtis Wood, assistant professor of public administration, Ph.D.  
 Robert Zerwekh, associate professor of computer science, Ph.D.

<sup>1</sup> Any graduate-level special topics course or directed study focused on Latin America may be counted toward the concentration in Latin American Studies with the approval of the director of the Center for Latino and Latin American Studies.

<sup>2</sup> If not used for credit above.

The Center for Southeast Asian Studies, established in 1963, provides leadership, focus, and coordination for Southeast Asian Studies at NIU. It is responsible for addressing student needs, coordinating undergraduate and graduate courses dealing with Southeast Asia, and developing and administering other programs concerned with this region of the world. Formal and informal exchange relationships exist with universities and programs in Brunei, Burma, Cambodia, Indonesia, Malaysia, the Philippines, Thailand, and Vietnam which offer qualified students opportunities and facilities for graduate research and undergraduate training in these countries. The center is an active and leading member of SEASSI (Southeast Asian Studies Summer Institute), a national consortium of Southeast Asian studies centers, MAXIS (Mid-America Consortium for Southeast Asian Studies), a regional initiative to expand Southeast Asian studies in the U.S., and works with the Center for Burma Studies at NIU.

### Concentration in Southeast Asian Studies

Since the center is not a degree-offering unit, all graduate degrees are obtained through the departments, whose requirements must be met. A student earning a graduate degree may, with the consent of the departmental adviser, also take a concentration of courses in Southeast Asian studies. Completion of the concentration will be noted on the student's transcript.

At the master's level, the concentration requirements are met by the successful completion of 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 a degree; demonstrated competence (equivalent to one year's course work) in a Southeast Asian language; 3 and the satisfactory completion of a thesis, if required by the department, or a special paper in lieu thereof, on a Southeast Asian topic.

At the doctoral level, the concentration requirements are met by the successful completion of 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 a degree; demonstrated proficiency (equivalent to two years' course work) in a Southeast Asian language; 3 and the satisfactory completion of a 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 the departmental adviser. The concentration is available to students in all colleges.

All requirements for the concentration in Southeast Asian studies must be completed within a period of six consecutive years.

### Southeast Asian Courses

ANTH 507 - Peoples and Cultures of Insular Southeast Asia (3)  
 ANTH 508 - Peoples and Cultures of Mainland Southeast Asia (3)  
 ANTH 521 - Social Organization (3)  
 ANTH 522 - Gender and Southeast Asia (3)  
 ANTH 526 - Political Anthropology (3)  
 ANTH 562 - Museum Methods (3)  
 ANTH 593<sup>1</sup> - Anthropology Field Study (1-6)  
 ANTH 621 - Advanced Topics in Southeast Asian Ethnology (3)  
 ANTH 627 - Southeast Asian Peasant Economy (3)  
 ANTH 628 - Religion and Cosmology in Southeast Asia (3)  
 ANTH 690 A-J<sup>1</sup> - Independent Study in Anthropology (1-3)  
 ANTH 790 A-J<sup>1</sup> - Seminar in Anthropology (3)  
 ARTH 587 - Southeast Asian Art (3)  
 ARTH 698C - Studies in Oriental Art: Indian and Southeast Asian Art (3)  
 ARTH 701 - Seminar in Art History (3)  
 ARTH 703<sup>1</sup> - Independent Study in the History of Art (3)  
 ENGL 607<sup>1</sup> - Topics in Literature (3)  
 FLIN 521 - Introduction to Indonesian Literature (3)  
 FLIS 581 - Independent Study in a Foreign Language (1-6)  
 FLST 581 - Special Topics in Literature I (3)

FLST 582 - Special Topics in Literature II (3)  
 FLST 583 - Special Topics in Linguistics (3)  
 GEOG 658<sup>1</sup> - Readings in Geography (1-3)  
 GEOG 671 A-J<sup>1</sup> - Independent Research (1-3)  
 HIST 546 - History of Thailand (3)  
 HIST 547 - History of Burma (3)  
 HIST 548 - History of Indonesia (3)  
 HIST 549 - History of Malaysia and Singapore (3)  
 HIST 569 - The Vietnam War (3)  
 HIST 570<sup>1</sup> - America and Asia (3)  
 HIST 575 - The United States and Southeast Asia and the Indian Subcontinent (3)  
 HIST 598J<sup>1</sup> - Special Topics in History: Asian (3)  
 HIST 660<sup>1</sup> - Reading Seminar in Asian History (3)  
 HIST 736J - Independent Study: Asian History (1-3)  
 HIST 756J<sup>1</sup> - Directed Research: Asian (3-6)  
 HIST 760 - Research Seminar in Asian History (3)  
 ILAS 590<sup>1</sup> - Advanced Topics in Interdisciplinary Studies (3)  
 ILAS 690 - Workshop in Teaching Southeast Asian Studies (1-3)  
 ILAS 691 - Seminar in Southeast Asian Studies (1-3)  
 MUSC 531 - Music of Southeast Asia (3)  
 MUSC 698A - World Music Ensemble: Gamelan (1)  
 POLS 595<sup>1</sup> - Seminar in Current Problems (3)  
 POLS 662<sup>1</sup> - Seminar in Political Culture (3)  
 POLS 667<sup>1</sup> - Seminar in Political Development (3)  
 POLS 668<sup>1</sup> - Seminar in the Political Economy of Developing Areas (3)  
 POLS 670 - Reading Seminar in Southeast Asian Politics (3)  
 POLS 673N - Foreign Area Politics: Thailand (3)  
 POLS 673R - Foreign Area Politics: Indonesia (3)  
 POLS 687 - Southeast Asia and International Politics (3)  
 POLS 702<sup>1</sup> - Research Seminar in Comparative and International Politics (3)  
 POLS 796<sup>1</sup> - Independent Study in Political Science (1-6)  
 PSPA 672<sup>1</sup> - Administrative Problems of Less Developed Countries (3)  
 SOCI 557<sup>1</sup> - Families in Global Perspective (3)  
 SOCI 659<sup>1</sup> - Social Structure and Development (3)

### Institute of Nanoscience, Engineering, and Technology (INSET)

Director: C. W. Kimball

#### Faculty Associates

Ibrahim Abdel-Motaleb, professor of electrical engineering, Ph.D., P.E., University of British Columbia  
 E.E. Alp, adjunct professor of physics, Ph.D., Southern Illinois University  
 Dennis E. Brown, associate professor of physics, Ph.D., Stanford University  
 Omar Chmaissem, assistant professor of physics, Ph.D., Université Joseph Fourier (Grenoble)  
 George W. Crabtree, adjunct professor, Ph.D., University of Illinois, Chicago  
 Bogdan Dabrowski, Distinguished Research Professor of physics, Ph.D., Northwestern University  
 Jenn-Teng Gau, assistant professor of mechanical engineering, Ph.D., Ohio State University  
 Alan Genis, professor of electrical engineering, Ph.D., Colorado State University  
 Michael Haji-Sheik, assistant professor, Ph.D., University of Texas, Arlington  
 Oliver Hofstetter, associate professor of chemistry and biochemistry, Ph.D., University of Tübingen (Germany)  
 Narayan Hosmane, Distinguished Research Professor of chemistry and biochemistry, Ph.D., Edinburgh University  
 Yasuo Ito, associate professor of physics, Ph.D., Cambridge University  
 Charles Johnson, visiting professor of physics, D.Phil., University of Oxford  
 Clyde Kimball, Distinguished Research Professor of physics, emeritus, Ph.D., St. Louis University

<sup>1</sup> Courses may meet the concentration requirements when they include substantial treatment of Southeast Asia.

Milivoje Kostic, associate professor of mechanical engineering, Ph.D., P.E., University of Illinois, Chicago  
 Romesh Kumar, adjunct professor, Ph.D., University of California, Berkeley  
 Chhiu-Tsu Lin, Distinguished Teaching Professor and Presidential Research Professor of chemistry and biochemistry, Ph.D., University of California, Los Angeles  
 Gabrielle G. Long, adjunct professor, Ph.D., Polytechnic Institute of Brooklyn  
 Laurence Lurio, associate professor of physics, Ph.D., Harvard University  
 Pradip Majumdar, professor of mechanical engineering, Ph.D., Illinois Institute of Technology  
 Susan Mini, professor of physics, Ph.D., Southern Illinois University  
 Deborah J. Myers, adjunct professor, Ph.D., University of Illinois, Urbana, Champaign  
 Shin-Min Song, professor of mechanical engineering, Ph.D., Ohio State University  
 Michel van Veenendaal, associate professor of physics, Ph.D., Rijksuniversiteit (Groningen)  
 Petr Vanysek, associate professor of chemistry and biochemistry, Ph.D. (CSc.), Czechoslovak Academy of Sciences  
 Albert F. Wagner, adjunct professor, Ph.D., California Institute of Technology  
 Ulrich Welp, visiting professor of physics, Universitat Konstanz (FRG)  
 Roland Winkler, associate professor of physics, Ph.D., University of Regensburg (Germany)  
 Zhili Xiao, associate professor of physics, Ph.D., University of Konstanz (Germany)  
 Tao Xu, assistant professor of chemistry and biochemistry, Ph.D., University of Alabama  
 Nestor Zaluzec, visiting professor of physics, Ph.D., University of Illinois, Urbana, Champaign  
 Chong Zheng, professor of chemistry and biochemistry, Ph.D., Cornell University

### Specialization in Nanoscience

Students in the interdisciplinary nanoscience specialization can earn a Ph.D. through the Department of Chemistry and Biochemistry or the Department of Physics. Topics of research in this specialization include design, synthesis, characterization and fabrications of smart nanomaterials and their potential applications, advanced nanoscience theory, and functions and properties of nanofluids.

Students pursuing a graduate specialization in nanoscience complete designated graduate-level courses in a variety of disciplines. This interdisciplinary approach exposes them to diverse physical science and engineering experiences. Successful completion of the specialization will be noted on the student's transcript.

Since the Institute of Nanoscience, Engineering, and Technology is not a degree-offering unit, all graduate degrees are obtained through the student's major department, whose requirements must be met. The specialization is administered by the Director of the Institute of Nanoscience, Engineering and Technology with the help of a six-member advisory board. This advisory board is comprised of representatives from the Department of Physics, Department of Chemistry and Biochemistry, College of Engineering and Engineering Technology, and Argonne National Laboratory. Faculty who regularly teach courses that contribute to the specialization or participate in the core courses come from a variety of departments.

Students interested in pursuing this specialization should apply to the Ph.D. program in chemistry or the Ph.D. program in physics, indicating their preference for nanoscience specialization. Contact the departmental director of graduate studies to determine the set of courses to be used for the specialization and the director of the INSET for additional information about this program.

This interdisciplinary Ph.D. specialization is supported jointly by Northern Illinois University and Argonne National Laboratory through a Distinguished Fellowship program. Fellows have access to research facilities in Argonne National Laboratory. Also, fellows will usually have limited (one year) undergraduate laboratory teaching responsibilities.

### Requirements for the Specialization in Nanoscience within the Ph.D. in Chemistry

A student can complete a specialization in nanoscience (nanochemistry) within the Ph.D. program in chemistry. A minimum of eight courses (24 semester hours, excluding CHEM 615, CHEM 690, CHEM 698, CHEM 699, and CHEM 799) must be taken for graduate credit. At least 12 semester hours must be in chemistry.

Students must complete:

#### Core courses (9)

CHEM 650 - Nanochemistry (3)  
 And at least one of the following:  
 CHEM 600G - Selected Topics in Chemistry: Nanochemistry (3)  
 CHEM 644 - Chemical Thermodynamics (3)  
 CHEM 645 - Kinetics (3)  
 CHEM 646 - Theoretical Chemistry (3)  
 CHEM 700G - Selected Topics in Chemistry: Nanoscience (3)

And at least one of the following:

CHEM 622 - Analytical Separations (3)  
 CHEM 623 - Mass Spectrometry (3)  
 CHEM 624 - Optical Methods in Analytical Chemistry (3)  
 CHEM 625 - Electroanalytical Chemistry (3)  
 CHEM 631 - Organic Synthesis (3)  
 CHEM 632 - Physical Organic Chemistry (3)  
 CHEM 675 - Physical Chemistry of Macromolecules (3)

#### Distribution requirements (6)

At least two of the following (if not used to satisfy core courses):

CHEM 600G - Selected Topics in Chemistry: Nanochemistry (3)  
 CHEM 622 - Analytical Separations (3)  
 CHEM 623 - Mass Spectrometry (3)  
 CHEM 624 - Optical Methods in Analytical Chemistry (3)  
 CHEM 625 - Electroanalytical Chemistry (3)  
 CHEM 631 - Organic Synthesis (3)  
 CHEM 632 - Physical Organic Chemistry (3)  
 CHEM 644 - Chemical Thermodynamics (3)  
 CHEM 645 - Kinetics (3)  
 CHEM 646 - Theoretical Chemistry (3)  
 CHEM 675 - Physical Chemistry of Macromolecules (3)  
 CHEM 700G - Selected Topics in Chemistry: Nanoscience (3)  
 ELE 632 - VLSI Engineering: Device Design (3)  
 ELE 635 - Advanced Electronic Devices (3)  
 ELE 636 - Design of Microsystems (3)  
 ELE 637 - Thin Film Resistive Sensors (3)  
 MEE 611 - Continuum Mechanics (3)  
 MEE 634 - Experimental Methods in Materials Science (3)  
 MEE 650 - Advanced Thermodynamics (3)  
 MEE 692 - Advanced Mechanical Engineering Analysis (3)  
 PHYS 600 - Classical Mechanics (3)  
 PHYS 660 - Quantum Mechanics I (3)  
 PHYS 661 - Quantum Mechanics II (3)  
 PHYS 666 - Solid State Physics I (3)  
 PHYS 667 - Solid State Physics II (3)  
 PHYS 680 - Introduction to Nanophysics (3)  
 PHYS 768 - Quantum Theory of Solids (3)  
 PHYS 790A - Special Topics in Physics: Solid State Physics (3)

See the Department of Chemistry and Biochemistry section of the Graduate Catalog for further details.

## Requirements for the Specialization in Nanoscience within the Ph.D. in Physics

A student can complete a specialization in nanoscience (nanophysics) with the Ph.D. program in physics. Because of the interdisciplinary nature of nanoscience, some requirements can be met by courses from disciplines other than physics, including chemistry, electrical engineering, and mechanical engineering. Students must complete:

### Core courses (15)

All of the following:

- PHYS 660 - Quantum Mechanics I (3)
- PHYS 661 - Quantum Mechanics II (3)
- PHYS 663 - Statistical Physics I (3)
- PHYS 670 - Electromagnetic Theory I (3)

And at least one of the following:

- PHYS 600 - Classical Mechanics (3)
- PHYS 671 - Electromagnetic Theory II (3)

### Distribution requirements

PHYS 680 - Introduction to Nanophysics (3)

And three of the following:

- CHEM 600G - Selected Topics in Chemistry: Nanochemistry (3)
- CHEM 644 - Chemical Thermodynamics (3)
- CHEM 645 - Kinetics (3)
- ELE 632 - VLSI Engineering: Device Design (3)
- ELE 635 - Advanced Electronic Devices (3)
- ELE 636 - Design of Microsystems (3)
- ELE 637 - Thin Film Resistive Sensors (3)
- MEE 611 - Continuum Mechanics (3)
- MEE 634 - Experimental Methods in Materials Science (3)
- MEE 650 - Advanced Thermodynamics (3)
- MEE 692 - Advanced Mechanical Engineering Analysis (3)
- PHYS 600 - Classical Mechanics (3) (If not used to satisfy core courses.)
- PHYS 666 - Solid State Physics I (3)
- PHYS 667 - Solid State Physics II (3)
- PHYS 671 - Electromagnetic Theory II (3) (If not used to satisfy core courses.)
- PHYS 768 - Quantum Theory of Solids (3)
- PHYS 790A - Special Topics in Physics: Solid State Physics (3)

## Plant Molecular Biology Center

Director: Jozef J. Bujarski

### Faculty Associates

Gary M. Baker, associate professor of chemistry and biochemistry, Ph.D.

W. Elwood Briles, adjunct professor of biological sciences, Ph.D.

Jozef J. Bujarski, Distinguished Research Professor of biological sciences, Ph.D.

Ana Calva, assistant professor of biological sciences, Ph.D.

Sonya Conway, professor of biological sciences, Ph.D.

James E. Erman, Distinguished Research Professor of chemistry and biochemistry, Ph.D.

Stuart Hill, associate professor of biological sciences, Ph.D.

Gabriel P. Holbrook, associate professor of biological sciences, Ph.D.

Michael E. S. Hudspeth, professor of biological sciences, Ph.D.

Mitrick A. Johns, associate professor of biological sciences, Ph.D.

Barbara Johnson-Wint, associate professor of biological sciences, Ph.D.

Richard B. King, associate professor of biological sciences, Ph.D.

Rangaswamy Meganathan, Presidential Research Professor of biological sciences, Ph.D.

Neil O. Polans, associate professor of biological sciences, Ph.D.

Thomas L. Sims, associate professor of biological sciences, Ph.D.

Joel P. Stafstrom, associate professor of biological sciences, Ph.D.

Ronald Toth, professor of biological sciences, Ph.D.

Patricia S. Vary, Distinguished Research Professor of biological sciences, Ph.D.

Linda S. Yasui, associate professor of biological sciences, Ph.D.

Jerrold H. Zar, adjunct professor of biological sciences, Ph.D.

The Plant Molecular Biology Center promotes and coordinates graduate study and research in plant molecular biology. Interaction among faculty members enhances the development of interdisciplinary approaches to the solution of specific research objectives. Faculty in the center utilize state-of-the-art equipment in elucidating molecular mechanisms influencing gene expression in plants. Activities of the center link the university's biotechnology research to the needs of local and national businesses and industries. The transfer of technology from the laboratory into industrial and commercial applications constitutes the conclusion of the center's research process. An autonomous unit, the center is affiliated with the Department of Biological Sciences and the Department of Chemistry and Biochemistry; graduate degrees are obtained through the affiliated instructional departments.

## Interdisciplinary Courses (IDSP, UNIV)

IDSP 501. STUDY ABROAD PROGRAMS (1-9). Course work undertaken as part of an approved university study abroad program. May be repeated to a maximum of 9 semester hours.

IDSP 512. BLACK FAMILY (3). Focus on the history, strengths, challenges, and contributions of the Black family. Analysis of issues affecting the family-parenting, relationships, images, economics, etc.

IDSP 520. AFRICAN AMERICAN CULTURAL PHILOSOPHY (3). Focus on the development of historical-cultural analysis of the condition of African Americans.

IDSP 541. ENVIRONMENTAL MANAGEMENT SYSTEMS (3). How to plan and implement environmental management systems in a variety of settings to prevent environmental pollution and other environmental problems. Interdisciplinary perspectives used to discuss environmental management systems for companies, communities, and governmental agencies, with emphasis on student group projects, case studies, and Internet applications. Instruction by faculty from the Colleges of Business, Engineering and Engineering Technology, and Liberal Arts and Sciences, along with guest speakers.

IDSP 542. PROSEMINAR/INTERNSHIP IN ENVIRONMENTAL MANAGEMENT SYSTEMS (3). Application of concepts of environmental management systems to real-world settings through an internship or other applied learning experience. Internship partners may be a company, community, or governmental agency; or students may elect to pursue a project with a faculty adviser. Includes group meetings to discuss students' ongoing projects and to relate these to core readings. Written case study of internship or project required. PRQ: IDSP 541 or consent of department.

IDSP 545. INDEPENDENT STUDY IN BLACK STUDIES (1-3). Independent research under faculty supervision on topic approved by director of the Center for Black Studies and the faculty member who will direct the research. May be repeated up to 6 semester hours.

IDSP 565. ISSUES IN GERONTOLOGY (3). An interdisciplinary examination of aging and the older adult population. Biological, psychological, social, and educational aspects of aging; theoretical and programmatic perspectives. PRQ: Consent of gerontology program director.

IDSP 593. AFRICAN-CENTERED RESEARCH METHODS (3). Focus on developing tools for research on African populations. PRQ: Consent of director.

IDSP 600. INTRODUCTION TO INTERDISCIPLINARY HEALTHCARE POLICY AND MANAGEMENT (3). Explanation of the unique pedagogical grounding in interactional expertise and focus on healthcare impedances. Exploration of the central disciplinary assumptions made by professionals in business, engineering, health sciences, and law when they take a systems-based approach to conceptualizing healthcare problems and solutions. PRQ: Consent of program.

IDSP 610. INTERDISCIPLINARY PERSPECTIVES ON PATIENT SAFETY IN HEALTHCARE SETTINGS (3). Exploration of processes and strategies for improving patient safety in healthcare with application of key concepts from business, engineering, health sciences, and law. Review of safety models in other high risk industries, stressing the importance of a systems approach in generating interdisciplinary solutions to patient safety for healthcare quality, efficiency, and effectiveness. Emphasis placed on how patient safety and quality management systems are tied to healthcare strategic objectives. PRQ: IDSP 600; or consent of program.

IDSP 620. INTERDISCIPLINARY PERSPECTIVES ON OPERATIONS EFFICIENCY IN HEALTHCARE SETTINGS (3). Exploration of processes and strategies for improving operations efficiency in healthcare delivery systems with application of key concepts and tools from business, engineering, health sciences, and law. Discussion of various operations and process flows (i.e., medication flow, treatment flow, patient flow, task flow, information flow, etc.) in the healthcare setting, stressing the importance of a systems approach in generating interdisciplinary solutions for operations efficiency. PRQ: IDSP 600; or consent of program.

IDSP 630. INTERDISCIPLINARY PERSPECTIVES ON QUALITY AND CUSTOMER SATISFACTION IN HEALTHCARE SETTINGS (3). Exploration of strategies for effectively managing the healthcare service delivery system to enhance service quality and customer satisfaction. Detailed examination of the issues, techniques, and methodologies for continuous quality improvement. Focus upon the use of these techniques to help diagnose quality problems and customer satisfaction gaps. PRQ: IDSP 600; or consent of program.

IDSP 640. FIELD EXPERIENCE IN HEALTHCARE POLICY AND MANAGEMENT (3). Experiential learning course focusing on a supervised project conducted within an actual healthcare setting. Students will be required to identify a problem, opportunity or issue, and generate recommendations using concepts and tools from business, engineering, health sciences, and law. PRQ: IDSP 610, IDSP 620, and IDSP 630; or consent of program.

UNIV 510. FOUNDATIONS IN HOMELAND SECURITY AND DISASTER PREPAREDNESS (3). Introduction to the field of homeland security and disaster preparedness. Discussion of the types of disasters: naturally occurring (earthquakes and hurricanes); human made (acts of terrorism, violence, and chemical releases); and business interruption (power outages, transportation issues). Emphasis on hazard recognition, planning, mitigation, response, and recovery from a disaster. Enrollment not open to students with credit in TECH 532 or UNIV 310.

UNIV 590. INTERNSHIP (1-9). Supervised work experience appropriate to the student's major program, evaluated by a faculty member in the applicable department. May be repeated to a maximum of 9 semester hours. S/U grading. PRQ: Admission to Graduate School; consent of major department and Graduate School

# Inter-College Interdisciplinary Certificates

## Certificates of Graduate Study

### Healthcare Policy and Management (15)

This certificate is jointly administered by the College of Business, the College of Engineering and Engineering Technology, the College of Health and Human Sciences, and the College of Law. The certificate promotes collaboration among four key disciplines: business, engineering, health sciences, and law, and is based upon performance measures (e.g., patient safety, operations efficiency, quality and customer satisfaction, etc.) critical to effective healthcare service delivery that span these disciplines. Integral to the program is foundational learning related to interactional expertise. Students integrate current knowledge from their respective professions/degree programs and develop an understanding of the values, behaviors, concepts, and language of the four disciplines.

Students must complete a minimum of 15 semester hours. This consists of an introductory course, three courses organized around critical performance measures, and a capstone course. The three courses have modular components from each of the four disciplines (business, engineering, health sciences, and law). During each course, students must demonstrate integration of the four disciplines. The final capstone course requires students to conduct a real-world project that demonstrates integration of learning and application to a healthcare delivery setting, such as acute care, ambulatory care, specialty care centers, and the NIU Proton Therapy Center.

Requirements for admission into the course of study leading towards the interdisciplinary healthcare policy and management certificate include admission to the graduate-level classification of student-at-large or admission to the graduate school in one of the four colleges, and approval of the director of the certificate program. The certificate program is designed to accommodate students via online, hybrid, and/or intensive class formats.

Graduates of this certificate program will have the education and skills to support leadership positions in a variety of healthcare settings.

#### Required courses

- IDSP 600 - Introduction to Interdisciplinary Healthcare Policy and Management (3)
- IDSP 610 - Interdisciplinary Perspectives on Patient Safety in Healthcare Settings (3)
- IDSP 620 - Interdisciplinary Perspectives on Operations Efficiency in Healthcare Settings (3)
- IDSP 630 - Interdisciplinary Perspectives on Quality and Customer Satisfaction in Healthcare Settings (3)
- IDSP 640 - Field Experience in Healthcare Policy and Management (3)

### Homeland Security

This certificate offers a set of courses designed to enhance students' knowledge of several aspects of homeland security including origins of terrorism; disaster preparation; disaster response, recovery, and follow-up. The certificate prepares students to develop and implement systems for homeland security planning and management at the local, state, and federal levels. They will be able to identify hazards due to human-made and natural disasters; advise public and private organizations of best-practice risk management preparation, response, and recovery strategies; and use appropriate technologies. They will have an understanding of the conditions that may lead to terrorist activity as well as how to prepare for and deal with human-made and natural disasters.

The certificate of graduate study in homeland security is open to all students admitted to NIU. Students must maintain good academic standing, achieve a minimum grade of B in each course applied toward the certificate, and complete all certificate work within a period of six calendar years. All course requirements for the certificate must be completed at NIU. Some courses may have prerequisites that are not part of the certificate curriculum. Students are strongly encouraged to complete the core courses early in the certificate curriculum. Students pursuing the certificate of undergraduate studies in homeland security should meet with the certificate coordinator early in their career.

#### Core Course (3)

- UNIV 510 - Foundations in Homeland Security and Disaster Preparedness (3),
- OR TECH 532, Disaster preparedness (3)

#### Biochemical Sciences Track (15-16)

**Coordinators: Josef Bujarski, Department of Biology; Victor Ryzhov, Department of Chemistry and Biochemistry**

Three of the following: (9-10)

- BIOS 517 - Pathogenic Microbiology (4)
- BIOS 523 - Principles of Virology (3)
- BIOS 579 - Biotechnology Applications and Techniques (3)
- BIOS 632 - Radiation Biology (3)
- BIOS 643 - Bioinformatics (3)
- CHEM 525 - Analytical Chemistry II (4)
- CHEM 572 - Biological Chemistry I (BIOS 572X) (3)
- CHEM 573 - Biological Chemistry II (BIOS 573X) (3)
- CHEM 600E - Selected Topics in Chemistry: Biological (3)
- CHEM 623 - Mass Spectrometry (3)
- CHEM 625 - Electroanalytical Chemistry (3)

Two of the following: (5-6)

- IHHS 550 - Administration for Professionals in Health and Human Sciences (2-3)
- POLS 632 - Biotechnology and Political Structures (3)
- POLS 633 - International Biotechnology Policy (3)

#### Cybersecurity Track (15)

**Coordinator: Raimund Ege, Department of Computer Science**

CSCI 650 - Principles of Computer Security (3)

Two of the following (6)

- CSCI 652 - Telecommunications and Networking Security (3)
- CSCI 654 - Computer Security Management (3)
- CSCI 659 - CISSP Review (3)

Two of the following (6)

- BIOS 579 - Biotechnology Applications and Techniques (3)
- BIOS 643 - Bioinformatics (3)
- GEOG 656 - GIS Design and Data (3)
- IHHS 550 - Administration for Professionals in Health and Human Sciences (3)
- ISYE 575 - Decision Analysis for Engineering (3)
- OMIS 679 - Business Geographics (3)
- OMIS 682 - Advanced Business Networking (3)
- PHHE 607 - Health Services Management (3)

### Emergency Management and Response Track

**Coordinator: Department of Technology**

Five of the following: (15)

- CSCI 650 - Principles of Computer Security (3)
- IEET 590 - Topics in Engineering and Engineering Technology (3)
- ISYE 575 - Decision Analysis for Engineering (3)
- TECH 533 - Toxicology for Industry (3)
- TECH 537 - Fundamentals of Industrial Hygiene (3)
- TECH 540 - Monitoring and Evaluating Exposures to Hazardous Materials (3)
- TECH 541 - Hazard Control in Industrial Operations (3)
- TECH 582 - Industrial Safety Engineering Analysis (3)
- TECH 638 - Risk Management (3)

### Environmental and Hazards Risk Assessment Track (15-18)

**Coordinators: Andrew Krmeneč, Department of Geography; Rama Lingham, Department of Mathematical Sciences**

STAT 570 - Introduction to Probability Theory (3)

Four of the following with at least one chosen from outside the division of statistics (12-15)

- CSCI 650 - Principles of Computer Security (3)
- GEOG 406 - Natural Hazards and Environmental Risk (3)
- GEOG 602E - Internship: Geographic Information Systems (3-6)
- GEOG 656 - GIS Design and Data (3)
- STAT 578 - Statistical Methods of Forecasting (3)
- STAT 581 - Probabilistic Foundations of Actuarial Science (3)
- STAT 665 - Regression Analysis (3)

### Health Sciences Track (15)

**Coordinator: Gail Williams, School of Allied Health and Communicative Disorders**

Five of the following: (15)

- CAHC 593 - Crisis Intervention (3)
- IHHS 550 - Administration for Professionals in Health and Human Sciences (3)
- PHHE 502 - Community Health Programs and Issues (3)
- PHHE 603 - Behavioral and Social Aspects of Public Health (3)
- PHHE 607 - Health Services Management (3)
- PHHE 609 - Problems and Issues in Environmental Health (3)
- PHHE 613 - Principles and Methods of Epidemiology (3)
- PHHE 620 - Primary Prevention and Health Promotion (3)
- UNIV 590 - Internship (3-6)

### Museum Studies (15)

This certificate is jointly administered by the College of Education, the College of Liberal Arts and Sciences, and the College of Visual and Performing Arts. The certificate has been designed to prepare students for careers in public and private museums and related historical societies, archives, or other agencies or institutions that work with artistic, cultural, or historical materials.

Students enrolling in the certificate are expected to have completed ART 565 - Introduction to Museum Studies (3) or equivalent.

One of the following (3)

- ANTH 593<sup>1</sup> - Anthropology Field Study (1-6)
- ART 765 - Museum Internship (3-6)
- HIST 600 - Internship in Public History (3-6)
- ILAS 602<sup>1</sup> - Internship (3-12)

At least three of the following (9-12)

- ANTH 562 - Museum Methods (3)
- ART 525 - Museums: Gender, Race, and Class (3)
- ART 654 - Museum Administration (3)
- ART 655 - Curatorial Practice (3)
- ART 656 - Museum Exhibitions and Interpretation (3)
- ART 657 - Museum Education (3)
- HIST 592 - Introduction to Public History (3)
- WOMS 625X - Museums: Gender, Race, and Class (3)

Additional electives (0-3) chosen from the following, in consultation with chair of Museum Studies Committee:

- ANTH 563 - Ethnohistory (3)
- ANTH 591<sup>1</sup> - Current Topics in Anthropology (3)
- ANTH 690<sup>1</sup> - Independent Study in Anthropology (3)
- ART 658 - Preventive Conservation Seminar (3)
- ARTE 563 - Modern and Postmodern Art in Education (3)
- ARTE 781G - Research Topics: Independent Study: Art Museum Education (3)
- ARTH 586 - Art Historical Methodology (3)
- ARTH 593 - History of Architecture III: From 1900 (3)
- ARTH 701<sup>1</sup> - Seminar in Art History (3)
- ARTH 785<sup>1</sup> - Topics in Art History (3)
- COMS 557 - The Documentary Tradition (3)
- ENGL 692<sup>1</sup> - Nonfiction Writing (3)
- ETT 531 - Visual Literacy (3)
- HIST 597 - Oral History (3)
- HIST 598<sup>1</sup> - Special Topics in History (3)
- HIST 736 - Independent Study (3)
- PHIL 633 - Aesthetics (3)
- PHIL 691<sup>1</sup> - Special Topics in Recent Philosophy (3)
- PSPA 656 - Management of Not-For-Profit Agencies (3)
- TLCI 521 - Outdoor Interpretation (3)

### Post-Master's Certificate

#### Medical Family Therapy and Counseling (21)

This certificate is jointly administered by the College of Education and the College of Health and Human Sciences. The certificate has been designed to provide career enhancement for licensed mental health professionals to enable them to provide, within a variety of medical settings, family therapy and counseling services to patients and their families.

This interdisciplinary post-master's certificate is available for individuals who are currently licensed in a mental health profession. Admission to the certificate program requires approval of the admissions committee.

Procedures for admission to the certificate program are available on the Post-Master's Certificate in Medical Family Therapy and Counseling web site. It is required that the student have introductory course work and supervised experience in marriage and family therapy or family counseling.

- CAHC 707/FCNS 707X - Families Staying Well and Coping with Illness (3)
- CAHC 708/FCNS 708X - Cultural and Spiritual Dimensions of Medical Family Therapy and Counseling Practice (3)
- CAHC 709/FCNS 709X - Medical Family Therapy and Counseling Practicum (3)
- FCNS 705/CAHC 705X - Introduction to Medical Family Therapy and Counseling (3)
- FCNS 706/CAHC 706X - Families, Disability and Chronic Illness (3)
- FCNS 714/CAHC 714X - Medical Family Therapy and Counseling Internship (6)

<sup>1</sup> May meet the certificate requirements when substantial treatment of museum studies is included.

# Other Academic Units

## International Programs

Associate Provost: Deborah Pierce

The Division of International Programs supervises and coordinates the international activities of the university in order to encourage greater internationalization for programs, curricula, faculty, staff, and students. Division staff bring the perspectives of the world to NIU and the expertise of NIU to the world through international mobility for faculty, students, and ideas.

The division also supervises graduate student applications for Fulbright-Hays Doctoral Dissertation Research Abroad Program grants (administered by the U.S. Department of Education), the Fulbright Graduate Study and Research Program grants (administered by the Institute of International Education), and the National Security Education Program grants (administered by the Academy for Educational Development). The office conducts the screening processes for these programs on behalf of the university and also provides information to faculty on research abroad as well as overseas teaching opportunities.

## International Student and Faculty Office

Associate Provost; Deborah Pierce

The International Student and Faculty Office assists all nonimmigrant students, scholars, faculty, and staff at Northern Illinois University. The office follows up with all immigration-regulation-related matters of the university as required and necessary; processes immigration documents for all nonimmigrant students, scholars, faculty, and staff; coordinates all admission efforts for incoming international undergraduate students; and advises all international students, scholars, faculty, and staff in immigration-related issues.

The office provides ongoing support for all nonimmigrant population on campus with their academic, cultural, and social adjustment, with such programs as comprehensive orientation programs, workshops in various topics, and other activities as necessary. Through these efforts, the office makes continuing efforts to help international students, scholars, faculty, and staff to gain the maximum benefits from the many opportunities that the university offers, and also to increase international understanding and appreciation for diversity on campus.

## Study Abroad Office

Director: Anne Seitzinger

Throughout the year the Study Abroad Office, in association with various university departments and colleges, sponsors specialized study abroad programs overseas for academic credit. Opportunities are available in a wide range of subject areas and in many countries. Advisers regularly assist NIU faculty in developing new programs; such faculty-led programs are conducted primarily in English. Programs offered by outside consortia, as well as student exchanges with foreign universities, supplement the study and research opportunities available on the DeKalb campus. Graduate students considering exchanges or study abroad must have written permission from the Graduate School to participate.

## International Training Office

Director: Lina Davide-Ong

The International Training Office (ITO) develops and implements training programs for international audiences, using NIU resources, facilities, and services. As a training resource unit, ITO undertakes as its mission the development of meaningful programs that benefit professionals, especially those from developing countries. Its programs and activities provide varied opportunities for NIU faculty and graduate students to share their knowledge and expertise with training participants from diverse cultural backgrounds. Over the years, faculty specialists in a wide variety of disciplines have served as resource persons in ITO's programs. The office also collaborates with faculty members and academic units interested in developing appropriate training programs for international professionals. ITO provides all the necessary assistance in the design, planning, and implementation of such programs.

## University Libraries

Dean: Patrick José Dawson

Associate Dean: Byron Anderson

Associate Dean: Chalermsee Olson

Assistant Dean: T. J. Lusher

## Faculty

Byron Anderson, professor, M.L.S. & M.A., University of Wisconsin, Milwaukee

William Baker, Presidential Research Professor, M.L.S., Loughborough University, M.Phil. & Ph.D., University of London

Jana Brubaker, associate professor, M.L.S., Indiana University, M.A., Northern Illinois University

Michael J. Duffy IV, assistant professor, M.L.I.S., Dominican University, M.M., Northwestern University

Wayne E. Finley, assistant professor, M.L.I.S., University of Illinois, M.B.A., Western Illinois University, Quad Cities

Mary Frances Grosch, associate professor, M.S.L.S. & M.B.A., University of Illinois

Karen Hovde, associate professor, M.A., Northern Illinois University, M.A., Western Washington University

Jitka Hurych, professor, M.A., Northern Illinois University, M.A., Purkyne (formerly Masaryk) University, Czechoslovakia

Wendell Johnson, assistant professor, M.A., Northern Illinois University, Ph.D. & M.A., Rice University

Ladislava Khailova, assistant professor, M.A., Charles University, Czech Republic, M.L.I.S. and Ph.D., University of South Carolina

Charles Larry, associate professor, M.A. & M.F.A., Northern Illinois University

David F. Lonergan, associate professor, M.A., Western Washington University, M.S.L.S., University of North Carolina, Ph.D., Pennsylvania State University

T. J. Lusher, associate professor, M.L.I.S., University of Iowa, M.A., Iowa State University

Rebecca A. Martin, associate professor, M.L.I.S., University of Wisconsin, Milwaukee, M.A., Kent State University, M.A., Northern Illinois University

Sarah McHone-Chase, assistant professor, M.S.L.I.S., University of Illinois, M.A., Illinois State University  
 James Millhorn, associate professor, M.A.L.S., University of Iowa, M.A., University of Oklahoma  
 Chalermsee Olson, associate professor, M.A., Northern Illinois University, M.A., University of Pittsburgh  
 Nestor L. Osorio, professor, M.A. & M.L.S., State University of New York, Geneseo  
 Junlin Pan, associate professor, M.A.L.S. & Ph.D., University of Arizona, M.S., Southwest Missouri State University  
 Robert B. Marks Ridinger, professor, M.L.S., University of Pittsburgh, M.A., Case Western Reserve University  
 Cason Snow, assistant professor, M.L.I.S., University of Wisconsin-Milwaukee, M.A., Northern Illinois University  
 Lynne M. Thomas, assistant professor, M.S.L.I.S., University of Illinois, M.A., Northern Illinois University  
 Leanne VandeCreek, associate professor, M.S.L.S., Catholic University, M.S.W. Fordham University, Tarrytown  
 H. Stephen Wright, professor, M.L.S. & M.M., Indiana University

### **Regional History Center and University Archives**

Cindy S. Ditzler, director, M.A., Western Illinois University

The Northern Illinois University Libraries system consists of Founders Memorial Library, branch libraries which include Faraday Library, the Music Library, NIU Hoffman Estates Library, NIU Naperville Library, and NIU Rockford Library. The University Libraries contain over 2 million volumes as well as periodicals, government publications, microforms, maps, recordings, audiovisual materials, electronic databases, and over 26,000 electronic journals.

NIU Libraries are participants in the I-Share System, a network involving 76 academic institutions throughout Illinois. Using computer workstations in the libraries, or on the World Wide Web, users may immediately determine which libraries own desired research materials. Materials not owned by NIU can be obtained quickly from other I-Share member libraries.

Founders Memorial Library, the main library, has six levels with 327,000 square feet of space and seating capacity for 1600 students. The first floor houses key library services including the circulation desk, the reference desk, services to students with disabilities, library instruction, the information desk, document delivery services, the reserves collection, periodicals collection, and the Scholars' Den. Microforms/media services, the map collection, and government publications are located on the second floor; the Digital Convergence Lab and the Writing Center are housed on the third floor; and the Regional History Center/University Archives, rare books and special collections and the Southeast Asia collection are on the fourth floor. The upper three floors house circulating books.

Faraday Library serves faculty and students in the disciplines of chemistry and physics. Similarly, the Music Library serves the music curriculum. NIU Hoffman Estates Library, NIU Naperville Library, and NIU Rockford Library service the needs of library users at those sites. Regular, interim, and holiday hours are posted near the entrance to each library.

NIU libraries provide a variety of guides to collections and services. These materials are available at the information desk and at service desks in the reference and government publications areas in the Founders Memorial Library. Instruction in the use of the library is given to classes by librarians as part of the University Libraries library instruction program. Library instruction covers both basic library orientation and, for upper-level classes, in-depth instruction related to materials in particular subject areas.

## **College of Law**

Dean: Jennifer Rosato  
 Associate Dean: David Gaebler  
 Associate Dean for Student Services: Leonard B. Mandell

The College of Law offers a three-year, full-time day program and limited enrollment, part-time study leading to the J.D. degree. The College of Law is fully accredited by the American Bar Association and is a member of the Association of American Law Schools. Student enrollment is approximately 300.

The College of Law is housed in Swen Parson Hall, an impressive Gothic structure. The facilities as well as the student/faculty ratio promote a community atmosphere in which law faculty and students work and study in close proximity. In addition to academics, law students are involved with a wide variety of scholarly activities such as Law Review, several moot court teams, and a foreign study program in France.

Application for admission is made through the College of Law, not through the Graduate School. Information regarding degree programs, academic requirements, application procedures, and tuition and fees is available in the College of Law Bulletin, which may be obtained from the College of Law Office of Admission and Financial Aid, Room 151, at (800) 892-3050, or at law.niu.edu.

# University Administration

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 J. Daniel House, Ph.D., director, Institutional Research

# Notices

The university reserves the right to make changes in admission requirements, fees, degree requirements, and other specifications set forth in this catalog. Such changes take precedence over catalog statements. While reasonable effort is made to publicize such changes, the student should remain in close touch with departmental advisers and appropriate offices, because responsibility for complying with all applicable requirements ultimately rests with the student.

Although the university attempts to accommodate the course requests of students, course offerings may be limited by financial, space, and staffing considerations or may otherwise be unavailable. Nothing in this catalog may be construed to promise or guarantee registration in any course or course of study (whether required or elective) nor may anything be construed to promise or guarantee the completion of an academic program within a specified length of time.

## Student Responsibility

See "General Regulations."

## Human Rights Statement

Northern Illinois University is an equal opportunity/affirmative action institution and does not discriminate on the basis of race, color, religion, sex, age, marital status, national origin, disability, status as a disabled veteran or Vietnam-era veteran, or any other factor unrelated to professional qualifications, in employment or in admission or access to, treatment in, or operation of its educational programs and activities. Such discrimination is prohibited by Titles VI and VII of the Civil Rights Act, Title IX of the Education Amendments, Sections 503 and 504 of the Rehabilitation Act of 1973, the Age Discrimination Acts of 1974 and 1975, the Vietnam-Era Veterans' Readjustment Assistance Act of 1974, and other federal and state statutes and regulations. Inquiries concerning application of Title IX, Section 504, and other statutes and regulations may be referred to NIU's director of Affirmative Action and Diversity Resources, telephone 815-753-1118, or to the director of the Office of Civil Rights, U.S. Department of Education, Washington, D.C., 20024. The Constitution and Bylaws of Northern Illinois University afford equal treatment regardless of political views or affiliation, sexual orientation, or other factor unrelated to scholarly or professional performance (Constitution Article 9, Section 9.2; Bylaws Article 5, Section 5.211; Bylaws Article 7, Section 7.25 and Section 7.252; Bylaws Article 10; and Bylaws Article 18).

## Language of Instruction at NIU

Northern Illinois University recognizes the richness that students of diverse cultures bring to the university community, and likewise hopes to instill in its students an appreciation of such diversity. The university also recognizes the importance of assuring all of its students access to its educational benefits, and of fair and equitable treatment in the delivery of its academic programs, as well as its obligation to employers and other institutions that may assume competence in communication in English on the part of NIU graduates. English is the language of instruction at Northern Illinois University and the only common language of the university's faculty and students. Therefore, academic activities relating to graduate degree requirements or course

credit, including presentations, examinations, and theses and dissertations, are to be in English. Appropriate exceptions include classes, examinations, theses, and other academic activities within the Department of Foreign Languages and Literatures, which may be wholly or partially in another language as applicable; other examinations designed specifically to evaluate students' proficiency in languages other than English; any courses for which competency in a foreign language has been established as a prerequisite; foreign-language citations and quotations; and multicultural activities designed to expose students to the experience of other languages and cultures, when relevant to the nature of particular courses.

## Immigration Reform and Control Act Regulations Affecting Employment by the University

The 1986 Immigration Reform and Control Act mandates that any person employed by Northern Illinois University after November 6, 1986, must be either a U.S. citizen or possess current employment authorization from the U.S. Immigration and Naturalization Service. All such employees, including graduate assistants, must be prepared to present original documentation to the employing department/cost center within three days of the start date of their employment contract or risk cancellation of the contract.

## Conflict of Interest Policy for All University Employees

All employees of the university must conform with the ethics policies as set forth in the university's "Conflict of Interest Document" available in department offices and at the Graduate School. This document requires that all employees of the university, including students employed on a part-time basis or as graduate assistants, report on specified forms all real, potential, and apparent conflicts of interest.

## Leaves of Absence for Employees

Military leaves of absence will be granted in accordance with applicable Illinois statutes and executive orders issued by the State of Illinois in response to emergency situations and military operations.

Leaves of absence will be granted for volunteer services related to disaster relief in accordance with applicable Illinois statutes or executive orders issued by the State of Illinois in response to emergency situations.

## Storage in University Buildings

Students electing to utilize university buildings and/or facilities for the storage of personal property owned by them, thereby accept the responsibility for such storage and waive any and all responsibility and liability on the part of the university and its employees for loss of or damage to such personal property by any cause whatsoever including, but not limited to fire, water, windstorm, or other casualty, theft, or improper or inadequate humidity control.

## Conduct and Discipline Regulations

It is expected that all enrolled students intend to engage in serious educational pursuits. When students accept admission to Northern Illinois University, the university assumes that they thereby agree to conduct themselves in accordance with its standards.

The university expects all of its students, both on and off the campus, to conduct themselves in accordance with the usual standards of society and law-abiding citizenship. Every organization affiliated with the university or using its name is expected to conduct all its affairs in a manner creditable to the university.

While enrolled, students are subject to university authority. The university has the prerogative, in the interest of all of its students, to suspend or require the withdrawal of a student or group of students for acting in such a manner as to make it apparent that the student or group of students are not desirable members of the university. See also "Disruption of Instruction." Copies of the most current Student Judicial Code may be obtained at the university's Student Judicial Office.

### General Regulations

Students at Northern Illinois University are expected to abide by the university regulations set forth below as well as by applicable federal, state, and local laws. While the university will normally apply disciplinary sanctions only for violations of its regulations, a student is subject to public laws at all times, including the Illinois Compiled Statutes which contain provisions specifically directed at maintaining the orderly operation of state colleges and universities. It is the responsibility of the student to be particularly aware of the provisions of the Criminal Code in the Illinois Compiled Statutes and to be aware of the penalties therein provided for Criminal Damage to State Supported Property, Criminal Trespass to State Supported Land, Unauthorized Possession or Storage of Weapons, and Interference with a Public Institution of Higher Education.\* Conviction for offenses enumerated in the Criminal Code additionally makes almost certain the loss of federal- and state-supported scholarships, loans, or other grants.

Failure to abide by the following regulations may result, after a hearing by one of the University Judicial Boards or a representative of the Student Judicial Office, in disciplinary sanctions including, but not limited to warning, disciplinary probation, suspension, and dismissal from the university.

#### *Sanctions may result from*

*academic dishonesty.* Plagiarism, cheating, knowingly supplying false or misleading information to university officials or on official university records, forgery, and alteration or misuse of university documents, records, or identification cards all are prohibited.

*obstruction or disruption of university activities.* A student or students may not knowingly or willfully interfere with the normal educational activities of the university including teaching, research, administration, disciplinary procedures, or other university activities, including its public service functions. Disruption of university activities includes but is not limited to obstruction of access to the facilities of the university including corridors and doorways; interference with classroom activities or other scheduled events; interference with the performance of the duties of any institutional employee. Picketing may be permitted, but only under the following conditions: Students who picket on university premises must do so in peaceful and orderly fashion. Picketing should not involve invasion of the rights of others, interference with the operations of the university, or jeopardy to public order and safety. Specifically, the following conditions must be met.

Automobile, bicycle, and pedestrian traffic must not be obstructed.

Entrances to buildings and driveways must not be blocked or traffic interfered with.

Picketing inside university buildings is prohibited.

There will be no disturbing of classes by noise or by other means.

There will be no harassing of passers-by or other interference with their activities.

There will be no damage to property, including lawns and shrubs, nor littering of premises with signs, leaflets, or other materials.

*failure to abide by regulations governing the use of university premises and facilities.* No student shall remain alone or with others in a university building beyond its normal closing hours unless duly authorized by a university official nor shall an individual remain in a university building after being notified to depart there from by an authorized university official. Unauthorized entry to or use of university facilities is also prohibited.

*theft or damage.* A student or students may take no action or actions which damages or which as a probable consequence could damage property of the university or private property.

*physical abuse of persons.* A student or students may take no action or actions which disrupts or which as a probable consequence could disrupt the public peace or which endangers the safety, health, physical or mental well being, or life of any person.

*dangerous and narcotic drugs.* A student may not use, possess, sell, or distribute any of the narcotic, dangerous, or hallucinogenic drugs in any form except under the direction of a licensed physician or as expressly permitted by law.

*firearms.* Students may not have or keep any firearm on their persons, in their quarters, or in their motor vehicles at any time while on university property except with the permission of the chief security officer of the university.

*alcoholic beverages.* Delivery and sale of alcoholic beverages on university property is prohibited. Possession and use of alcoholic beverages on university property is restricted by the laws of the state of Illinois as to age and by the regulations of the university as to physical location.

*instructions from university officials.* A student must follow the oral or written instructions regarding university regulations or state law given by any university official whom the Board of Trustees or the President has vested with the authority to give such instructions.

*university regulations.* Students are responsible for knowing and abiding by university regulations and policies, including those not specifically enumerated in these general regulations, concerning such matters as the meeting of financial obligations to the university, university motor vehicle and parking regulations, registration of student organizations, as well as specific rules governing the use of particular facilities such as the residence halls, the libraries, and the Holmes Student Center.

### Disruption of Instruction

Graduate education is a privilege accorded to those students deemed able to profit from the associated intellectual experiences. When a student's behavior within a classroom, laboratory, or other formal instructional setting is such that the rights of other students to an effective learning environment are being violated, that student may lose the privilege of attending the class or receiving credit for the course in that term.

In any case of the disruption of instruction by a graduate student or student-at-large, the instructor may require that student to leave the class for the balance of that class session. Whether

\* In addition, the Criminal Code in the Illinois Compiled Statutes contains provisions relating to disorderly conduct, theft, inflicting bodily harm, arson, property damage, gambling, the use of drugs, mob action, and sex offenses.

or not the student is immediately removed from the class, the instructor may file a statement of the incident with the department chair, providing the student with a copy, and may ask that the chair suspend that student from further participation in the course. The chair of the department may, upon recommendation of the instructor and after investigating the incident, suspend that student from class attendance and recommend to the dean of the Graduate School that the student be permanently barred from the class for the remainder of that academic term. The student must be notified in writing of such a recommendation and may submit a written appeal of the department's recommendation to the dean within one week of the notification. Upon such an appeal, the dean or dean's designee shall conduct a hearing, providing for a presentation of the facts relative to the disturbance. The decision of the dean's office shall be final. If the recommendation to bar the student from class is upheld, the student will be officially withdrawn from the course following regular withdrawal procedures, with the date upon which the student was initially suspended as the effective date of the withdrawal.

Extreme and/or repeated disruptive behavior constitutes grounds for dismissal from the university. The Student Judicial Office handles such dismissals; the policies and procedures of that office are outlined in the Student Judicial Code.

### **Student Information and Records**

Documents submitted in support of an application for admission to the Graduate School or for student-at-large status become the property of Northern Illinois University and will not be returned to the applicant or transmitted to another institution. Such documents will be retained by the Graduate School for a minimum period of one year; retention beyond that minimum cannot be assured.

Information and data concerning individual students are collected, maintained, and used by the university only as needed in relation to its basic educational purposes and requirements. Presently, relevant policy and procedures are designed and operated to be in compliance with federal legislation, specifically, the Family Educational Rights and Privacy Act of 1974 as amended by Senate Joint Resolution 40, signed into law by the President of the United States on December 31, 1974. The official university procedures and a directory of educational materials maintained by Northern Illinois University are available for review in the Office of Registration and Records. All questions about interpretations or clarifications involving university policy and procedures regarding students' records are to be directed to the university legal counsel.

There are four basic types of student record: academic, financial, medical, and placement. The official academic record is established and kept current by the Office of Registration and Records. It is a cumulative history of the student's enrollment and educational participation and performance. Maintained in connection with the academic record is certain biographical and personal identification information as needed for enrollment purposes. In addition to certain elements of this record, the Graduate School maintains the student's graduate admissions record and a record of progress toward meeting requirements (Graduate School as well as departmental) of the student's graduate program(s). The Graduate School also maintains records relating to the academic progress of students-at-large. Some or all of these student data are provided by the Office of Registration and Records and the Graduate School as needed to the university's academic offices, colleges, schools, and departments for academic administration and advisement, and to other university administrative units as necessary for the functioning of various student and support services.

Student financial records are the responsibility of the Office of the Bursar, with respect to the billing, payment, and accounting of tuition and fees; the Student Financial Aid Office for operation of the university's student financial assistance program; and the

Graduate School for graduate fellowships and assistantships. The Bursar keeps a complete record of the student's financial transactions relative to payment of the university charges accrued.

For those students who require medical assistance and care from the University Health Service, at the time of their first contact with the service a medical history record is created and maintained by the Health Service staff. Only information pertinent to the health of the individual is included therein. Health Service medical records will be destroyed ten years after the last date medical services were provided.

The Office of Career Planning and Placement, with the student's voluntary participation, creates and distributes to potential employers a copy of a file which consists of a self-completed resume and various personal references.

Certain records within the university community are exempt from the above-cited federal legislation: records of instructional, supervisory, and administrative personnel which are the possession only of the maker and not accessible nor revealed to any other person except a substitute; files within the university's Department of Public Safety (University Police); and medical records used in connection with the provision of treatment for a student. Access to these is strictly limited to the university staff immediately involved with their creation and maintenance except for certain specific qualifications.

Further, the university is not required to make available to the student the financial records of his or her parents or confidential letters and statements of recommendation which were placed in the student's files prior to January 1, 1975, if such are used only for the purpose specifically intended.

Access to or release of each of the above types of records or their respective parts, or of any personally identifiable information, with the previous exceptions noted, is restricted to the following: the student or former student; parents of a legally defined dependent student (reference Section 152 of the Internal Revenue Code of 1954); university officials who have a legitimate university related educational or administrative interest and need to review an education record in order to fulfill their professional responsibility; certain specified state and federal representatives primarily as concerns the evaluation and auditing of government funded programs in which the university participates; officials of other colleges, universities, or schools in which the student intends to enroll, provided the student is informed of this type of request in advance of the information being released; individuals, agencies, and organizations in connection with the student's application for or receipt of financial aid; state and local officials as directed by State Statute adopted prior to November 19, 1974; with certain restrictions, organizations conducting studies for, or on behalf of, educational agencies or institutions for the purpose of developing, validating, or administering predictive tests, administering student aid programs, and improving instruction; accrediting organizations; and appropriate persons in connection with an emergency, if knowledge of such information is necessary to protect the health or safety of a student or other person. A university official for the purposes of this section is a person employed by the university in an administrative, supervisory, academic or research, or support staff position (including law enforcement unit personnel and health staff); a person or company with whom the university has contracted (such as an attorney, auditor, or collection agent); a person serving on the Board of Trustees; or a student serving on an official committee, such as a disciplinary or grievance committee, or assisting another school official in performing his or her tasks. In all other instances, access or release may be granted only with the student's written authorization. In cases where such records are to be furnished in compliance with a judicial order or pursuant to a lawfully issued subpoena, prior to their release the student shall be notified of such order or subpoena by personal service or certified mail to his or her last known address.

The student has the right to personally review his or her records in the presence of a university representative at an appropriate convenient campus location. This right pertains separately to each status to which the student has been in attendance at the university (i.e., undergraduate, student-at-large, law, graduate). The student should submit a written request to the appropriate university office identifying the record(s) he or she wishes to inspect. The university office will make arrangements for access and notify the student of the time and place where the records may be inspected within 45 days following receipt of such request. Where necessary, interpretation of the record shall be provided by qualified university personnel. Original records cannot be removed from university premises. A copy may be provided where failure to provide such copy would effectively prevent a student from exercising the right to inspect and review the educational records. While a charge may be made to cover costs of reproduction, in most instances this is not done. However, normal operational fees exist with respect to record reproduction within the Office of Career Planning and Placement, dependent upon the number of copies requested, and the Office of Registration and Records.

A student has the right to challenge the content of a record on the grounds that it is inaccurate, misleading, or otherwise in violation of privacy or other rights and to have inserted in the record his or her written explanation of its contents. (Academic grade review procedures are covered elsewhere.) To initiate such a challenge, the student shall, within 60 days after he or she has inspected and reviewed the record in question for the first time, file with the university office responsible for maintaining such records a written request for a hearing, in a form specified by the university. Within 30 days following receipt of such request the head of such office, or a designated representative, shall review the record in question with the student and either order the correction or amendment of such alleged inaccurate, misleading, or otherwise inappropriate portions of the record as specified in the request or notify the student of the right to a hearing at which the student and other persons directly involved in the establishment of the record shall have an opportunity to present evidence to support or refute the contention that the portions of the record specified in the request are inaccurate, misleading, or otherwise inappropriate. The student shall be given written notice of the time and place of such hearing no fewer than 10 working days in advance. The hearing will be conducted by a university representative who does not have a direct interest in the outcome. The student shall have the right to attend the hearing, to be represented and advised by other persons, and to call witnesses in his or her behalf. The student shall be notified in writing of the decision within 10 working days following the hearing or within 10 working days of a decision without a hearing. Such decision is final.

The student may waive the right of access to confidential statements submitted with respect to application for admission to the Graduate School or to another educational institution, an application for employment, or receipt of an honor or honorary recognition. However, the student is not required to do so. Further, the student who does waive right of access will be provided, upon request, with the names of all persons making confidential recommendations.

Directory information pertaining to students, as defined below, may be released by the university at any time provided that it publishes this definition at least once each academic year in the campus student newspaper and the individual student is given a reasonable period of time to inform the university that such information is not to be released without his or her prior consent. Such information is never knowingly provided any requester for a commercial purpose.

Directory information includes the student's name, address, telephone listing, e-mail address and photographic or electronic picture or image, date and place of birth, major field of study, classification, gender, participation in officially recognized activities and sports, weight and height of members of athletic

teams, dates of attendance and full- or part-time status, degrees and awards received, and the most recent previous educational agency or institution attended by the student.

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