



**Northern Illinois  
University**

**GRADUATE CATALOG  
2019-20**

*Effective Fall Semester 2019*

## 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.



**Northern Illinois  
University**

# **Graduate Catalog 2019-20**

**Effective Fall, 2019**

## **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)



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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 on the website, [www.grad.niu.edu](http://www.grad.niu.edu).

## Fall Semester 2019

### August 19-23, Monday-Friday

Department, college, and university faculty meetings

### August 26, Monday

Beginning of classes

### September 2, Monday

Labor Day Holiday (university closed)

### November 27, Wednesday

Beginning of Thanksgiving break

### December 2, Monday

Resumption of classes

### December 9-14, Monday-Saturday

Final examinations

### December 14, Saturday

Commencement ceremony

## Spring Semester 2020

### January 6-10, Monday-Friday

Department and college faculty meetings

### January 13, Monday

Beginning of classes

### January 20, Monday

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

### March 8, Sunday

Beginning of spring break

### March 16, Monday

Resumption of classes

### May 1, Friday

Reading Day

### May 2, 4-8, Saturday, Monday-Friday

Final examinations

### May 8, Friday

Commencement ceremony

## Summer Session 2020

### June 15, Monday

Beginning of classes

### July 3, Friday

Independence Day Holiday Observed (university closed)

### August 9, Sunday

End of summer session

### June 2019

S	M	T	W	T	F	S
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9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						

### July 2019

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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 2019

S	M	T	W	T	F	S
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11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

### September 2019

S	M	T	W	T	F	S
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15	16	17	18	19	20	21
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### October 2019

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### November 2019

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### December 2019

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### January 2020

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### February 2020

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### March 2020

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### April 2020

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### May 2020

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23	24	25	26	27	28	29
30	31					

# A Guide to Reading This Catalog

## Course Designators

ACCY–Accountancy	LEBM–School Business Management
AHCD–Allied Health and Communicative Disorders	LEEA–Educational Administration
AHPT–Physical Therapy	LESM–Sport Management
ANTH–Anthropology	LGBT–Lesbian, Gay, Bisexual, and Transgender Studies
ART–Art	LTCY–Literacy Education
ARTD–Art Design	LTIC–Bilingual/ESL
ARTE–Art Education	LTLA–Language Arts
ARTH–Art History	LTRE–Reading
ARTS–Art 2-D and 3-D Studio	MATH–Mathematical Sciences
AUD–Audiology	MEE–Mechanical Engineering
BIOS–Biological Sciences	MET–Meteorology
CAHC–Counseling	MGMT–Management
CAHE–Counseling, Adult and Higher Education	MILS–Military Science
CHEM–Chemistry	MKTG–Marketing
COMD–Communicative Disorders	MSDA–M.S. in Data Analytics
COMS–Communication Studies	MUED–Music Education
CSCI–Computer Science	MUHL–Musich History and Literature
ECON–Economics	MUSC–Music
ELE–Electrical Engineering	MUSE–Music Ensembles
ENGL–English	MUSP–Music Performance
ENVS–Environmental Studies	MUTC–Music Theory and Composition
EPFE–Foundations of Education	NURS–Nursing
EPS–Educational Psychology	NUTR–Nutrition, Dietetics, and Wellness
ETR–Research and Assessment	OMIS–Operations Management and Information Systems
ETRA–Educational Technology, Research and Assessment	PHHE–Public Health and Health Education
ETT–Instructional Technology	PHIL–Philosophy
FCNS–Family, Consumer, and Nutrition Sciences	PHYS–Physics
FINA–Finance	POLS–Political Science
FLAL–Applied Linguistics and General	PSPA–Public Administration
FLBU–Burmese	PSYC–Psychology
FLCL–Classical Languages	REHB–Rehabilitation Counseling
FLFR–French	SEAS–Southeast Asian Studies
FLGE–German	SEEC–Early Childhood Education
FLIN–Indonesian	SESE–Special Education
FLIS–Foreign Language Independent Study	SEVI–Visual Impairments
FLIT–Italian	SIHP–School of Interdisciplinary Health Professions
FLMT–Foreign Language Methods	SOCI–Sociology
FLPO–Portuguese	STAT–Statistics
FLPT–Foreign Language Student Teaching	TECH–Technology
FLRU–Russian	THEA–Theatre Arts
FLSP–Spanish	TH-D–Dance Performance
FLST–Foreign Language Special Topics	TLCI–Curriculum and Instruction
FLTA–Tagalog	TLEE–Elementary Education
FLTE–Foreign Language Instructional Technology	TLRN–Teaching and Learning
FLTH–Thai	UBUS–Interdisciplinary Business
GEOG–Geography	UEET–Interdisciplinary Engineering and Engineering Technology
GEOL–Geology	UHHS–Interdisciplinary Health and Human Sciences
HDFS–Human Development and Family Sciences	UNIV–University-Wide Interdisciplinary
HESA–Higher Education and Student Affairs	WGST–Women's, Gender and Sexuality Studies
HIST–History	
HSCI–Health Sciences	
IDSP–Inter-College Interdisciplinary	
IEET–Interdisciplinary Engineering and Engineering Technology	
ILAS–Interdisciplinary Liberal Arts and Sciences	
INTL–International Programs	
ISYE–Industrial Engineering	
JOUR–Journalism	
KNAT–Athletic Training	
KNDN–Physical Education Dance	
KNPE–Physical Education	

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.N.P.—Doctor of Nursing Practice  
 D.P.T.—Doctor of Physical Therapy  
 Ed.D.—Doctor of Education  
 Ed.S.—Educational Specialist  
 J.D.—Juris Doctor  
 M.A.C.—Master of Accountancy  
 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.S.—Master of Science  
 M.S.A.T.—Master of Science in Athletic Training  
 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, by the Graduate School 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 an educator license 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.

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

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

**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 vision of Northern Illinois University is to be the premier student-centered, research-focused public university in the Midwest, contributing to the advancement of knowledge for the benefit of the people of the region, the state, the nation, and the world.

With this vision, the mission of the University is to promote excellence and engagement in teaching and learning, research and scholarship, creativity and artistry, and outreach and service.

In pursuing our vision and fulfilling our mission, the University values:

- A community of diverse people, ideas, services, and scholarly endeavors in a climate of respect for the intrinsic dignity of each individual,
- Access for a broad spectrum of students to high quality undergraduate, graduate, and professional programs that prepare them to be lifelong learners and productive, socially conscious citizens,
- Engaged teaching and learning that evolves from the synergy of research, artistry, and service,
- Research and artistry in creating, transmitting, expanding, and applying knowledge,
- Student success supported through academic and co-curricular programming and activities,
- The application of current technology in enhancing and broadening all institutional endeavors,
- A system of shared governance that incorporates input from faculty, staff, and students in decision- and policy-making,
- Commitment to a public purpose addressing regional, state, national, and global challenges and opportunities.

Recognizing that students will need to learn throughout their lives, the university provides them with the opportunity to become more competent in critical thinking, communication, and creativity.

The university makes significant contributions to the expansion of knowledge. 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. It enthusiastically accepts its responsibility to contribute to the nation's scientific and technological leadership, to support advances and innovations in education, to bring ideas to bear on issues of public policy, to contribute to the sustained appreciation of our diverse cultural heritage, and to prepare a new generation of scholars and educational leaders. It accepts a responsibility to prepare citizens who understand the increasingly global nature of contemporary life.

The multiple and ever-changing demands of society require the continuing development of academic and professional programs that are current, responsive, and of the highest possible quality. The university thus seeks to recruit and retain faculty of national stature from diverse cultural and ethnic backgrounds, attentive to developments in their respective disciplines, and capable of educating students who will be able to serve the region, the state, the nation, and the world with distinction in the coming decades. Convinced that the intellectual resources of the nation are held in common, the university hopes to maintain access for all segments of the population, and, within the constraints of its budget, intends to admit those who can meet its entrance standards, to retain those who can benefit from its programs, and to educate students to the extent of their capabilities and desires.

## Accreditation and Affiliation

Northern Illinois University is accredited by the Higher Learning Commission, which accredits degree-granting post-secondary educational institutions in the North Central region. NIU is included in the Doctoral Universities Higher Research Activity category of the Carnegie Foundation for the Advancement of Teaching and has achieved the Community Engagement Classifications for Outreach and Partnerships and for Curricular Engagement.

The university and its colleges have institutional membership or other affiliations in or with the American Association of State Colleges and Universities (AASCU), American Association of Colleges for Teacher Education, American Council on Education (ACE), Association of Governing Boards of Universities and Colleges (AGBUC), Association of Public and Land-Grant Universities (APLU), Council for Higher Education Accreditation (CHEA), Council of Graduate Schools, and Universities Research Association.

The university is also fully accredited by the Council for Accreditation of Educator Preparation (CAEP) to offer teacher education programs and offers several educator licensure programs that are approved by the Illinois State Board of Education.

In the College of Business, programs leading to the baccalaureate and master's degrees are accredited by AACSB International-The Association to Advance Collegiate Schools of Business.

In the College of Education, the B.S. in athletic training is accredited by the Commission on Accreditation of Athletic Training Education (CAATE).

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

In the College of Health and Human Sciences, the School of Allied Health and Communicative Disorders offers a D.P.T. program that is accredited by the Commission on Accreditation in Physical Therapy Education (CAPTE). The Au.D. and M.A. with a specialization in speech-language pathology are accredited by the Council on Academic Accreditation (CAA) in Audiology and Speech-Language Pathology. The M.S. in rehabilitation counseling holds accreditation from the Council for Accreditation of Counseling and Related Educational Programs (CACREP). The specialization in marriage and family therapy in the Master of Science program in applied human development and family sciences offered by the School of Family and Consumer Sciences is accredited by the Commission on Accreditation for Marriage and Family Therapy (COAMFTE). In the School of Family and Consumer Sciences, the Child Development and Family Center is accredited by NAEYC and the B.S. in human development and family sciences is approved by the National Council on Family Relations (NCFR). The undergraduate and graduate programs in nursing in the School of Nursing are accredited by the Commission on Collegiate Nursing Education (CCNE). The School of Health Studies offers the master of public health program that is accredited by the Council on Education for Public Health (CEPH), a B.S. in medical laboratory sciences that is accredited by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS), and the graduate-level dietetic internship and the the M.S. degree in nutrition and dietetics are accredited by the Accreditation Council for Education of Nutrition and Dietetics (ACEND); the undergraduate didactic program in nutrition, dietetics, and wellness is approved by ACEND.

In the College of Liberal Arts and Sciences, the B.S. in chemistry is approved by the American Chemical Society (ACS). The clinical psychology and school psychology areas within the Doctor of Philosophy degree program in the Department of Psychology are accredited by the American Psychological Association (APA). The school psychology M.A. program leading to specialist-level certification is fully approved by National Association of School Psychologists (NASP) and the Council for the Accreditation of Educator Preparation (CAEP). The B.S. degree with emphases in professional chemistry and biochemistry are certified by the American Chemical Society (ACS). The Master of Public Administration degree offered by the Department of Public Administration is accredited by the National Association of Schools of Public Affairs and Administration (NASPAA).

Within the College of Visual and Performing Arts, the programs in art, music, and theatre arts are accredited, respectively, by the National Association of Schools of Art and Design (NASAD), the National Association of Schools of Music (NASM), and the National Association of Schools of Theatre (NAST).

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

## 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.niu.edu/grad](http://www.niu.edu/grad). The *Graduate School Guidelines for Preparing a Thesis or Dissertation at NIU* is available online on the Thesis and Dissertation Office page of the Graduate School website. *Information for International Graduate Students* is online at [www.niu.edu/grad/inter.html](http://www.niu.edu/grad/inter.html).

# The Graduate School

## Dean of the Graduate School and Associate Vice President for Graduate Studies: Bradley Bond, Ph.D.

### Graduate Council, 2019-2020

Theresa Arado, College of Law  
 Michael Barnes, College of Visual and Performing Arts  
 Hamid Bateni, College of Health and Human Sciences  
 Bradley Bond, Graduate School (ex officio)  
 Clayton Camic, College of Education  
 Kelly Furr, College of Health and Human Sciences  
 Courtney Gallaher, College of Liberal Arts and Sciences  
 Rodion (Jon) Gavieta, College of Business  
 Anne Hanley, College of Liberal Arts and Sciences  
 Lynn Herrmann, College of Health and Human Sciences  
 Wieteke Holthuijzen, College of Liberal Arts and Sciences  
 Stacy Kelly, College of Education  
 Eric Johnson, College of Visual and Performing Arts  
 Carrie Kortegast, College of Education  
 Kate Mantzke, College of Business  
 Nestor Osorio, University Libraries  
 Andrea Radasanu, College of Liberal Arts and Sciences  
 Federico Sciamarella, College of Engineering and Engineering Technology  
 Thomas Smith, College of Education  
 Sahar Vahabzadeh, College of Engineering and Engineering Technology  
 Matthew Werstler, College of Visual and Performing Arts  
 Yao Zheng, College of Business

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

### Department of Finance

Master of Science  
 Financial Risk Management (M.S.)

### Department of Management

### Department of Marketing

## Department of Operations Management and Information Systems

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

### College of Education

#### Department of Counseling and Higher Education

Master of Science in Education (M.S.Ed.)  
 Higher Education and Student Affairs  
*with specializations in*  
 Adult Education  
 Higher Education  
 Counseling  
*with specializations in*  
 Clinical Mental Health  
 Counseling School Counseling  
 Doctor of Education (Ed.D.)  
 Higher Education  
*with specialization in*  
 Community College Leadership  
 Doctor of Philosophy (Ph.D.)  
 Counselor Education and Supervision

#### Department of Curriculum and Instruction

Master of Arts in Teaching (M.A.T.)  
*with specialization in*  
 Elementary Education with initial licensure  
 Master of Science in Education (M.S.Ed.)  
 Curriculum and Instruction  
 Literacy Education  
 Doctor of Education (Ed.D.)  
 Curriculum and Instruction  
*with specializations in*  
 Curriculum Leadership  
 Literacy Education  
 Science, Social Studies, and Environmental Education  
 Integration

#### 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 Philosophy (Ph.D.)  
 Instructional Technology

#### Department of Kinesiology and Physical Education

Master of Science in Athletic Training (M.S.A.T.)  
 Master of Science (M.S.)  
 Sport Management  
 Master of Science in Education (M.S.Ed.)  
 Kinesiology and Physical Education  
*with specializations in*  
 Adapted Physical Education  
 Exercise Physiology  
 Pedagogy and Curriculum Development in Physical Education  
 Sport and Exercise Psychology

**Department of Leadership, Educational Psychology and Foundations**

Master of Science in Education (M.S.Ed.)  
 Educational Administration  
 Educational Psychology  
 School Business Management  
 Educational Specialist (Ed.S.)  
 Educational Administration  
 Doctor of Education (Ed.D.)  
 Educational Leadership and Policy Studies  
*with specializations in*  
 Educational Leadership  
 Educational Policy Studies  
 Doctor of Philosophy (Ph.D.)  
 Educational Psychology

**Department of Special and Early Education**

Master of Science in Education (M.S.Ed.)  
 Early Childhood Education  
 Special Education  
*with specializations in*  
 Advanced Special Education Practices  
 Learning Behavior Specialist I  
 Orientation and Mobility  
 Vision Rehabilitation Therapy  
 Visual Impairments

**College of Engineering and Engineering Technology**

Master of Science (M.S.)  
 Integrated Systems Engineering  
*with specializations in*  
 Mechatronics and Intelligent Systems  
 Biomedical and Health Systems Engineering  
 Master of Science in Teaching (M.S.T.)  
*with specialization in*  
 Engineering Education

**Department of Electrical Engineering**

Master of Science (M.S.)  
*with or without specialization in*  
 Applied Radio Frequency

**Department of Industrial and Systems Engineering**

Master of Science (M.S.)  
*with or without specialization in*  
 Engineering Management

**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.) in communicative disorders  
*with specializations in*  
 Audiology  
 Speech-Language Pathology  
 Doctor of Audiology (Au.D.)  
 Doctor of Physical Therapy (D.P.T.)

**School of Family and Consumer Sciences**

Master of Science (M.S.)  
 Applied Human Development and Family Sciences  
*with or without specializations in*  
 Leadership in Aging Studies  
 Marriage and Family Therapy

**School of Health Studies**

Master of Public Health (M.P.H.)  
*with specializations in*  
 Health Promotion  
 Health Services Management  
 Master of Science (M.S.)  
 Nutrition and Dietetics

**School of Interdisciplinary Health Professions**

Master of Science (M.S.)  
 Health Sciences  
 Rehabilitation Counseling  
 Doctor of Philosophy (Ph.D.)  
 Health Sciences

**Department of Military Science****School of Nursing and Health Studies**

Master of Science (M.S.)  
 Nursing  
*with specializations in*  
 Adult-Gerontology Clinical Nurse Specialist  
 Adult-Gerontology Primary Care Nurse Practitioner  
 Family Nurse Practitioner  
 Nursing Education  
 Doctor of Nursing Practice (D.N.P.)

**College of Liberal Arts and Sciences****School of Public and Global Affairs****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  
*with or without specialization in*  
 Nanoscience

**Department of Communication**

Master of Arts (M.A.)  
 Communication Studies

**Department of Computer Science**

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

**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 Geographic and Atmospheric Sciences**

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

**Department of Geology and Environmental Geosciences**

Master of Science (M.S.)  
 Geology  
 Master of Science in Teaching (M.S.T.)  
*with specialization in*  
 Geoscience 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.)  
 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.)  
 Physics  
*with or without specialization in*  
 Nanoscience

**Department of Political Science**

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

**Department of Psychology**

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

**Department of Public Administration**

Master of Public Administration (M.P.A.)  
*with specialization in*  
 Comparative Public Service  
 Fiscal Administration  
 Local Government Management  
 Nonprofit Management  
 Strategic Public Management and Leadership  
 Public Service Law and Management

**Department of Sociology**

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

**Department of Statistics and Actuarial Science**

Master of Science (M.S.)  
 Statistics

**Department of World Languages and Cultures**

Master of Arts (M.A.)  
 World Languages and Cultures -- Spanish and Hispanic Studies

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

Master of Arts (M.A.)  
*with specializations in*  
 Art History Research  
 Art History Teaching at the Two-Year College Level  
 Studio Art  
 Master of Science (M.S.)  
*with specialization in*  
 Art and Design Education  
 Master of Fine Arts (M.F.A.)  
 Doctor of Philosophy (Ph.D.)  
 Art and Design Education

**School of Music**

Master of Music (M.M.)  
*with specializations in*  
 Music Education  
 Performance  
 Performer's Certificate

**School of Theatre and Dance**

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

**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  
 Latin American 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 Education  
 Advanced Qualitative Methodology in Education  
 Advanced Quantitative Methodology in Education  
 Applied Mechanics  
 Applied Statistics  
 Art History  
 Assistive Technology Instructional Specialist for People with Visual Impairments  
 Behavior Analyst  
 Bioinformatics

CAD/CAM/CAE  
 Career Development  
 Children's and Young Adult Literature/Media  
 College Teaching  
 Data Analytics Using SAS Software—SAS Joint Certificate Program  
 Data Science for Business  
 Digital Image Processing  
 Digital Signal Processing  
 Digital Systems  
 Director of Special Education  
 Distance Education  
 Eating Disorders and Obesity  
 Education in English Language Arts  
 Elementary Mathematics Teaching  
 Enterprise Management Using SAP Software  
 Entrepreneurship  
 Facilities Management  
 Family and Child Development  
 Family Nurse Practitioner  
 Finance  
 Financial Engineering  
 Foreign Language Instructional Technology  
 Foundation of Accountancy  
 Foundations of Education and Policy Studies  
 Geographic Information Analysis  
 Gerontology  
 Health Education  
 Higher Education Administration  
 Homeland Security  
 Industrial Control  
 Integrated Manufacturing Systems  
 Integrated Systems Engineering  
 Interdisciplinary Study of Language and Literacy  
 International Business  
 Law and Women's and Gender Studies  
 Leadership in Aging Services  
 Lean Six Sigma  
 Lesbian, Gay, Bisexual, and Transgender Studies  
 Logistics  
 Management Information Systems  
 Managerial Leadership  
 Medical Family Therapy and Counseling  
 Mobile Programming  
 Museum Studies  
 Nursing Education  
 Postsecondary Developmental Literacy and Language Instruction  
 Public Health  
 Public Management  
 Quality Control of Manufacturing Processes  
 Response to Intervention  
 Semiconductor Devices  
 Semiconductor Fabrication  
 Simulation, Modeling, and Data Analyses  
 Southeast Asian Studies  
 Sport and Exercise Psychology  
 Sport Management  
 Strategic Marketing  
 Teaching English as a Second Language and Bilingual Education  
 Technical Writing  
 Thermal, Fluid, and Energy Systems  
 Trauma-Informed Counseling  
 Vibration, Robot, and Control System Design  
 VLSI Design  
 Women's and Gender Studies  
 Workplace Learning and Performance  
 World Languages and Cultures--French and Francophone Studies  
 World Languages and Cultures--German Studies  
 World Languages and Cultures--Spanish and Hispanic Studies

# 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: Rebecca T. Shorridge, chair of department  
 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 Special and Early Education  
 Allied Health and Communicative Disorders: Sherrill Morris, Ph.D., chair of school  
 Anthropology: Kendall Thu, Ph.D., chair of department  
 Apparel Studies: See Family, Consumer and Nutrition Sciences  
 Applied Human Development and Family Sciences: See Family and Consumer Sciences  
 Applied Probability and Statistics: See Statistics and Actuarial Science  
 Applied Radio Frequency (RF) Engineering: See Electrical Engineering  
 Art: Sinclair Bell, Ph.D., graduate coordinator of school  
 Athletic Training: See Kinesiology and Physical Education  
 Audiology: See Allied Health and Communicative Disorders  
 Bioinformatics: See Biological Sciences.  
 Biological Sciences: Neil Blackstone, Ph.D., departmental director of graduate studies  
 Business Administration: Ann Carrel, Ed.D., assistant dean, M.B.A. Program  
 Chemistry: Victor Ryzhov, Ph.D., departmental director of graduate studies  
 Communication Studies: Kathleen Valde, Ph.D., departmental director of graduate studies  
 Communicative Disorders: See Allied Health and Communicative Disorders  
 Community College Leadership: See Counseling and Higher Education  
 Comparative Public Service: See Public Administration  
 Computational Mathematics: See Mathematical Sciences  
 Computer Science: Kirk Duffin, Ph.D., departmental director of graduate studies  
 Counseling and Higher Education: Suzanne Degges-White, Ph.D., chair of department  
 Criminology: See Sociology  
 Curriculum and Instruction: Anne Gregory, Ph.D., chair of department  
 Curriculum Leadership: See Curriculum and Instruction  
 Design and Technology: See Theatre Arts  
 Directing: See Theatre Arts  
 Early Childhood Education: See Special and Early Education  
 Economics: Jeremy Groves, Ph.D., departmental director of graduate studies  
 Educational Administration: See Leadership, Educational Psychology and Foundations  
 Educational leadership: Department of Leadership, Educational Psychology, and Foundations  
 Educational Policy Studies: Department of 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: Wei-Chen Hung, Ph.D., chair of department  
 Electrical Engineering: Mansour Tahernezehadi, Ph.D., interim chair of department  
 Engineering Management: Purushothaman Damodaran, Ph.D., chair of department  
 English: David Gorman, Ph.D., departmental director of graduate studies  
 Exercise Physiology: See Kinesiology and Physical Education  
 Family and Consumer Sciences Education: See Family and Consumer Sciences  
 Family and Consumer Sciences: Thomas Pavkov, Ph.D., chair of school  
 Finance: Gina K. Nicolosi, Ph.D., chair of department  
 Fiscal Administration: See Public Administration  
 Geographic and Atmospheric Sciences: Ryan James, Ph.D., departmental coordinator of graduate studies  
 Geology: Mark Frank, Ph.D., departmental director of graduate studies  
 Health Promotion: See Health Studies  
 Health Sciences: See Interdisciplinary Health Professions  
 Health Services Management: See Health Studies  
 Health Studies: Jeanne Isabel, chair of school  
 Higher Education: Department of Counseling and Higher Education  
 History: Sean Farrell, Ph.D., acting departmental director of graduate studies  
 Human Anatomical Sciences: Christopher J. Hubbard, Ph.D., Department of Biological Sciences  
 Industrial and Systems Engineering: Purushothaman Damodaran, Ph.D., chair of department  
 Industrial Management: See Technology  
 Instructional Technology: See Educational Technology, Research and Assessment  
 Interdisciplinary Health Professions: Beverly Henry, interim chair of school  
 Kinesiology and Physical Education: Paul Carpenter, Ph.D., departmental director of graduate studies  
 Leadership and Policy Studies: See Leadership, Educational Psychology and Foundations  
 Leadership, Educational Psychology and Foundations: Carolyn Plum, Ph.D., chair of department  
 Learning Behavior Specialist I: See Special and Early Education  
 Literacy Education: See Curriculum and Instruction  
 Local Government Management: See Public Administration  
 Management: Sarah J. Marsh, Ph.D., chair of department  
 Management Information Systems: See Operations Management and Information Systems  
 Marketing: Geoffrey Gordon, Ph.D., chair of department  
 Marriage and Family Therapy: See Family and Consumer Sciences  
 Mathematical Sciences: Sien Deng, Ph.D., departmental director of graduate studies  
 Mechanical Engineering: Federico Sciammarella, Ph.D., interim chair of department  
 Music: James Brown, M.M., graduate coordinator of school  
 Non-profit Management: See Public Administration  
 Nursing: Jan Strom, Ph.D., chair of school

Nutrition and Dietetics: See Health Studies  
 Operations Management and Information Systems: Chang Liu, D.B.A., chair of department  
 Orientation and Mobility: See Special and Early Education  
 Pedagogy and Curriculum Development in Physical Education: See Kinesiology and Physical Education  
 Performer's Certificate: See Music  
 Philosophy: David Buller, chair of department  
 Physical Education: See Kinesiology and Physical Education  
 Physical Therapy: See Allied Health and Communicative Disorders  
 Physics: Philippe Piot, Ph.D., departmental director of graduate studies  
 Political Science: Michael Clark, Ph.D., departmental director of graduate studies  
 Psychology: Kevin Wu, Ph.D., departmental director of graduate studies  
 Public Administration: Kurt M. Thurmaier, Ph.D., chair of department  
 Public Health: See Health Studies  
 Public Service Law: See Public Administration  
 Rehabilitation Counseling: See Interdisciplinary Health Professions  
 School Business Management: See Leadership, Educational Psychology and Foundations  
 Science, Social Studies and Environmental Education Integration: See Curriculum and Instruction  
 Secondary Education: See Curriculum and Instruction  
 Sociology: Diane Rogers, Ph.D., chair of department  
 Spanish: Stephen Vilaseca, Ph.D., departmental coordinator  
 Special and Early Education: Gregory Conderman, Ed.D., chair of department  
 Special Education: See Special and Early Education  
 Speech-Language Pathology: See Allied Health and Communicative Disorders  
 Sport Management: Rodney Caughron, Ph.D., program coordinator  
 Statistics and Actuarial Science: Duchwan Ryu, director of graduate studies  
 Strategic Public Management Leadership: See Public Administration  
 Taxation: Katrina L. Mantzke, Ph.D., department program director for M.S.T.  
 Technology: Pradip Majumdar, Ph.D., interim chair of department  
 Theatre Arts: Terry McClellan, M.F.A., graduate coordinator of school  
 Vision Rehabilitation Therapy: See Special and Early Education  
 Visual Impairments: See Special and Early Education  
 World Languages and Cultures: Stephen Vilaseca, Ph.D., department coordinator of graduate studies

## Graduate Concentrations and Certificates of Graduate Study

Adapted Physical Education: Chair, Department of Kinesiology and Physical Education  
 Adult Education: Chair, Department of Counseling, Adult and Higher Education  
 Advanced Qualitative Methodology in Education: Chair, Department of Educational Technology, Research and Assessment  
 Advanced Quantitative Methodology in Education: Chair, Department of Educational Technology, Research and Assessment  
 Applied Mechanics: Chair, Department of Mechanical Engineering  
 Applied Statistics: Director, Division of Statistics  
 Art History:  
 Assistive Technology Instructional Specialist for People with Visual Impairments: Chair, Department of Special and Early Education  
 Behavior Analyst: Chair, Department of Special and Early Education  
 Biochemistry: Director, Center for Biochemical and Biophysical Studies  
 Bioinformatics: Neil Blackstone, Ph.D., Department of Biological Sciences  
 Biophysics: Director, Center for Biochemical and Biophysical Sciences  
 CAD/CAM/CAE: Chair, Department of Mechanical Engineering  
 Career Development: Chair, Department of Counseling, Adult and Higher Education

Children's and Young Adult Literature/Media: Chair, Department of Curriculum and Instruction  
 College Teaching: Chair, Department of Counseling and Higher Education  
 Data Analytics Using SAP Software-SAS Joint Certificate Program: Chair, Department of Operations Management and Information Systems  
 Data Science for Business: Chair, Department of Operations Management and Information Systems  
 Digital Image Processing: Chair, Department of Electrical Engineering  
 Digital Signal Processing: Chair, Department of Electrical Engineering  
 Digital Systems: Chair, Department of Electrical Engineering  
 Director of Special Education: Chair, Department of Special and Early Education  
 Distance Education: Chair, Department of Educational Technology, Research and Assessment  
 Eating Disorders and Obesity: Chair, School of Health Studies  
 Education in English Language Arts:  
 Elementary Mathematics Teaching: Chair, Department of Mathematical Sciences  
 Enterprise Management Using SAP Software: Chair, Department of Operations Management and Information Systems  
 Entrepreneurship: Office of M.B.A. Programs  
 Facilities Management: Chair, Department of Technology  
 Family and Child Development: Chair, School of Family and Consumer Sciences  
 Family Nurse Practitioner: Chair, School of Nursing  
 Finance: Office of M.B.A. Programs  
 Financial Engineering:  
 Foreign Language Instructional Technology: Chair, Department of World Languages and Cultures  
 Foundation of Accountancy: Chair, Department of Accountancy  
 Foundations of Education and Policy Studies: Chair, Department of Leadership, Educational Psychology and Foundations  
 Geographic Information Analysis: Chair, Department of Geographic and Atmospheric Sciences  
 Gerontology: Director, Gerontology Program, School of Family and Consumer Sciences  
 Health Education: Chair, School of Health Studies  
 Higher Education Administration: Chair, Department of Counseling and Higher Education  
 Homeland Security: See Inter-College Interdisciplinary Certificates  
 Industrial Control: Chair, Department of Electrical Engineering  
 Integrated Manufacturing Systems: Chair, Department of Industrial and Systems Engineering  
 Integrated Systems Engineering: Associate dean of research and graduate programs  
 Interdisciplinary Study of Language and Literacy: See Inter-College Interdisciplinary Certificates  
 International Business: Office of M.B.A. Programs  
 Latin American Studies: Director, Center for Latino and Latin American Studies  
 Law and Women's and Gender Studies:  
 Leadership in Aging Studies: Director of Gerontology Program, School of Family and Consumer Sciences  
 Lean Six Sigma: Chair, Department of Industrial and Systems Engineering  
 Lesbian, Gay, Bisexual, and Transgender Studies: Coordinator, Kristen Myers (Women's, Gender and Sexuality Studies Program and Department of Sociology)  
 Logistics: Chair, Department of Industrial and Systems Engineering  
 Management Information Systems: Office of M.B.A. programs  
 Managerial Leadership: Office of M.B.A. Programs  
 Medical Family Therapy and Counseling: Chair, Department of Curriculum and Instruction  
 Mobile Programming:  
 Museum Studies: Director, School of Art  
 Nursing Education: Chair, School of Nursing  
 Postsecondary Developmental Literacy and Language Instruction: Chair, Department of Curriculum and Instruction

Public Health: Chair, School of Health Studies  
Public Management: Chair, Department of Public Administration  
Quality Control of Manufacturing Processes: Chair, Department of Industrial and Systems Engineering  
Response to Intervention: Chair, Department of Educational Technology, Research and Assessment  
Semiconductor Devices: Chair, Department of Electrical Engineering  
Semiconductor Fabrication: Chair, Department of Electrical Engineering  
Simulation, Modeling and Data Analysis: Chair, Department of Mechanical Engineering  
Southeast Asian Studies: Director, Center for Southeast Asian Studies  
Spanish and Hispanic Studies: Chair, Department of World Languages and Cultures  
Sport and Exercise Psychology: Chair, Department of Kinesiology and Physical Education  
Sport Management: Chair, Department of Kinesiology and Physical Education  
Strategic Marketing: Office of M.B.A. Programs  
Teaching English as a Second Language and Bilingual Education: Chair, Department of Curriculum and Instruction  
Technical Writing: Director of Graduate Studies, Department of English  
Thermal, Fluid, and Energy Systems, Chair, Department of Mechanical Engineering  
Trauma-Informed Counseling: Chair, Department of Counseling and Higher Education  
Vibration, Robotics, and Control Systems: Chair, Department of Mechanical Engineering  
VLSI Design: Chair, Department of Electrical Engineering  
Women's and Gender Studies: Director, Women's, Gender and Sexuality Studies  
Workplace Learning and Performance: See Educational Technology, Research, and Assessment  
World Languages and Cultures -- French and Francophone Studies: Chair, Department of World Languages and Cultures  
World Languages and Cultures -- German Studies: Chair, Department of World Languages and Cultures  
World Languages and Cultures -- Spanish and Hispanic Studies: Chair, Department of World Languages and Cultures  
Leadership, Educational Psychology and Foundations

# 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.

The Graduate School requires degree-seeking applicants to submit the following materials:

- the application and application fee
- letters of recommendation,
- official test scores (GRE, MAT, or GMAT scores as appropriate; international students must also submit TOEFL, IELTS, or the PTE Academic scores),
- a statement of purpose, and
- official transcripts from all institutions attended.

Departments and programs may require additional supporting materials. Consult the appropriate departmental section of the 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 July 15 for admission to the fall semester, December 10 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: individuals who received a GRE or GMAT fee reduction or fee waiver, McNair Scholars, and qualified veterans under the Illinois Veterans’ Grant (IVG) Program. 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.

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 either the *International English Language Testing System* (IELTS), the *Test of English as a Foreign Language* (TOEFL), or the *Pearson Test of English Academic* (PTE Academic), as indicated below under “Examinations Required for Admission.”

Applicants must submit a Statement of Purpose. The statement should be a concise essay that describes the applicant’s interest in the proposed field of study and his/her reasons for wishing to undertake graduate study at NIU. Specific advice about constructing a Statement of Purpose can be obtained on the Graduate School webpage and through consultation with faculty in the department or program to which the applicant seeks admission.

The Graduate School scrutinizes application materials to determine their authenticity and legitimacy. Any applicant who provides information either on the application or in supporting materials that misrepresents his/her previous experience or ability to succeed in graduate school will be denied admission. If the student is enrolled when such a discovery is made, the student’s admission will be terminated immediately.

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.

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.

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.

## 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. 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 DS 2019 form will be issued.

International students must submit either IELTS, TOEFL, or PTE Academic 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>. Information about PTE Academic is available at: <https://pearsonpte.com/>. 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 Examination (GRE)

In order to be considered for admission the Graduate School, all applicants, other than those applying to programs listed below must provide official scores on all sections of the General Test of the Graduate Record Examinations (GRE) to the Graduate School.

Applicants to the following programs are exempt from the GRE:

- Master of Accounting Science (see Graduate Management Admission Test below)
- Master of Arts, Specialization in Studio Art (exempt)
- Master of Business Administration (see Graduate Management Admission Test below)
- Master of Fine Arts in School of Art and Design (exempt)
- Master of Fine Arts in School of Theatre and Dance (exempt)
- Master of Music (exempt)
- Master of Public Administration (exempt)
- Master of Public Health (exempt)
- Master of Science in Art and Design Education (exempt)

Master of Science in Athletic Training (exempt)  
 Master of Science in Education in Higher Education and Student Affairs (exempt)  
 Master of Science in Education in Literacy Education (exempt)  
 Master of Science in Education in Special Education (exempt)  
 Master of Science in Education in Counseling (exempt)  
 Master of Science in Financial Risk Management (see Graduate Management Admission Test below)  
 Master of Science in Geography (exempt)  
 Master of Science in Kinesiology and Physical Education (exempt)  
 Master of Science in Management Information Systems (see Graduate Management Admission Test below)  
 Master of Science in Nursing (exempt)  
 Master of Science in Rehabilitation Counseling  
 Master of Science in Taxation (see Graduate Management Admission Test below)  
 Performer's Certificate (exempt)  
 Doctor of Nursing Practice  
 Ed.D. in Higher Education (exempt)  
 Ph.D. in Health Science (applicants who have earned a graduate degree with a 3.50 or higher GPA from an accredited institution are exempt)  
 Ph.D. in Geography (exempt).

Applicants to graduate programs in curriculum and instruction, early childhood education, educational psychology, 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 or management information systems 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 the College of Business must submit official scores on the GMAT to the Graduate School, with exception to applicants who intend to pursue the Executive M.B.A., One-Year M.B.A., or Chicago M.B.A. No GMAT is required for these formats. With the approval of the applicant's prospective major department, the requirement to submit official scores on the GMAT may be waived if:

an applicant who has already earned a graduate degree from an accredited institution.

an applicant to the Global M.B.A. format or to the M.S. in Digital Marketing program who is an NIU University Honors graduate with a B.S. or B.A. in a STEM-related field;

an applicant to the M.S.T. program presents satisfactory scores on the LSAT or provides evidence of passing all parts of the C.P.A. examination;

an applicant to the M.A.S or MAC program has earned a baccalaureate degree from an accredited U.S. college or university;

an applicant to the M.S. in Management Information Systems may submit GRE scores in lieu of GMAT scores.

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, PTE, and TOEFL)

An applicant whose native language is not English must present an IELTS score of 6.5 or alternatively, a PTE Academic score of at least 53 or a TOEFL score of at least 80. 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. Possession of a baccalaureate or higher degree from an accredited institution in the U.S., the U.K., Ireland, Canada, Australia, New Zealand and a number of other countries serves as evidence of sufficient English proficiency for admission purposes. (A list of those other countries is maintained at [www.grad.niu.edu](http://www.grad.niu.edu).) Submission of English language proficiency scores is unnecessary 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 but not completed a degree 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). For PTE Academic information, contact <https://pearsonpte.com/>.

### 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.

Individual programs and departments make admission recommendations to the Graduate School; the Graduate School makes the admission decision. 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 in 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.

Students receiving early admission are ineligible to receive graduate assistantships or graduate tuition waivers. Their eligibility to receive financial aid and scholarships may be adversely affected by early admission. Students admitted early are admonished to consult a financial aid or scholarship counselor prior to enrolling in graduate level courses.

### Admission to Accelerated Baccalaureate/ Master's Degree Programs

Accelerated baccalaureate/master's degree programs allow advanced undergraduate students at NIU to enroll in up to 18 credits of graduate course work, some or all of which may be applied to a baccalaureate degree with the consent of the student's undergraduate adviser. NIU undergraduate students may apply to enter an accelerated program once they have achieved 90 hours of credit and a 3.00 GPA. Check with individual departments for specific requirements.

Application for early admission is made through the Graduate School. No student may enroll more than three terms in an accelerated program without completing all requirements for the baccalaureate degree. If a student is granted early admission and fails to graduate from the baccalaureate program at the end of the third term, admission to the Graduate School will be terminated until baccalaureate degree requirements are met.

Students receiving admission to accelerated programs are ineligible to receive graduate assistantships or graduate tuition waivers until they have received a baccalaureate degree. Their eligibility to receive financial aid and scholarships may be adversely affected by early admission. Students admitted to an accelerated program are admonished to consult a financial aid or scholarship counselor prior to enrolling in graduate level courses.

Accelerated baccalaureate/master's degree programs are available in the following majors:

- Athletic Training
- Digital Marketing
- Economics
- Electrical Engineering
- Industrial and Systems Engineering
- Kinesiology/Athletic Training
- Mathematical Sciences
- Mechanical Engineering
- Political Science
- Public Administration
- Public Health
- Rehabilitation and Disability Services/Rehabilitation Counseling
- Sociology

Descriptions of program and admission requirements for these programs are available in the Undergraduate Catalog.

### 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 one calendar year. 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.

### 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. 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).

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.

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.

A program of study is formulated by the student in consultation with the departmentally-assigned advisor or advisory committee. See "The Program of Study" for details.

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 Office of Community Standards and Student Conduct 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 Office of Community Standards and Student Conduct, making use of the *Academic Misconduct Incident Report*. Additional sanctions greater than an F in a course can be levied only through the system of due process established and overseen by the Office of Community Standards and Student Conduct 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

All students enrolled in a course registered on-campus are required by the Illinois College Student Immunization Act (110-ILCS 20) and University policy, to provide proof of immunity for tetanus, diphtheria, measles, mumps, and rubella. Documentation of immunity must be complete and on file at Health Services before the following dates:

Fall term enrollment August 1st

Spring term enrollment January 1st

Summer term enrollment June 1st

Failure to provide the required documentation by the tenth day of the semester will result in a late processing fee and registration hold. You will be notified at your NIU ZID email account if any documentation information is incomplete. Immunization information may be obtained from the Health Services web page at <http://www.niu.edu/healthservices/immunizations> or by phone at 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.

Additional information about meningococcal disease is available from the Illinois Department of Public Health. Read about meningococcal disease on the department's website or download a brochure, *Meningococcal Disease: What Parents and Students Need to Know*. The University is required through the Illinois Communicable Disease Prevent Act to make this brochure available to students and families.

## 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 a number of countries at which the language of instruction was English and in which English is the daily medium of communication for the majority of residents 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 written portion of the TOEFL, IELTS, or PTE Academic, 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 (0). 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. Grade of C or better required to satisfy written English proficiency requirement. Not available for graduate credit. PRQ: Placement by testing and consent of department.

ENGL 452. ESL RHETORIC AND COMPOSITION II (0). 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. Grade of C or better required to satisfy written English proficiency requirement. Not available for graduate credit. PRQ: ENGL 451 or consent of department.

ENGL 453. ESL RHETORIC AND COMPOSITION (0). 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. Grade of C or better required to satisfy written English proficiency requirement. Not available for graduate credit. PRQ: Placement into ENGL 453 and consent of department.

## Removal of Deficiencies

Departments or programs may identify course work deficiencies and require an admitted student to satisfactorily complete such course work prior to enrolling in courses applicable to a program of study that leads to a graduate degree. 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

Graduate students may be required to enroll full time. The definition of full-time enrollment may vary depending on the context. For example, requirements established by academic programs, lending agencies, government regulations, employing entities, and certain insurance policies may utilize different definitions of full-time enrollment.

A full-time load for a graduate student or student-at-large in a fall or spring semester is 9 or more semester hours and in a summer term is 6 or more semester hours. A graduate-level student's course load includes all courses for which the student is registered. A course from which the student has officially withdrawn is no longer part of that student's course load. Audited hours do not count in the calculation of total course load for any external official purpose.

A student enrolled in less than a full-time load will not receive official verification of full-time status for any purpose.

**International students** on an F-1 or J-1 visa must be enrolled full time for the purposes of Student Exchange and Visitor Information System (SEVIS) reporting. International students must be enrolled in a minimum of 9 semester hours in each fall and spring semester. Except in circumstances allowed by Federal regulation, those hours must meet degree requirements of the academic program to which the student is admitted. International graduate students who have a documented requirement to enroll in an undergraduate course or courses to address a perceived deficiency meet requirements of SEVIS reporting if they are enrolled in a fall or spring semester while enrolled in a combination of the specified deficiency courses

and courses that count toward their degree, provided that the total semester hours in which they are enrolled equals at least 9.

International students may not count audited courses toward meeting their enrollment requirement.

International students on an F-1 or J-1 visa whose first term of study is the summer must enroll in 6 semester hours as described above. For the purpose of SEVIS reporting, continuing students need not enroll in the summer term. However, they may be subject to other university policies that require enrollment. (See "Assistants and Fellows" below and "Continuous Enrollment.")

In circumstances defined by government regulations, international students may receive permission to register for less than full-time hours. Most commonly, students enrolled in their final semester of course work may request and receive an under load. An F-1 or J-1 student requesting such an under load must do so using the appropriate e-form on the Graduate School web page.

Additionally, for the purposes of full-time enrollment certification in SEVIS, international students in F-1 and J-1 status pursuing doctoral degrees registered for 3 semester hours will be considered full-time once all course work except 799 (dissertation) is complete and that continuous enrollment in 799 has begun, provided that they are not subject to the policies governing "Assistants and Fellows." An international doctoral student requesting such an under load must do so using the appropriate e-form on the Graduate School web page.

*All policies governing international student enrollment are ultimately governed by U.S. regulations and laws and are subject to change without notice.*

**Assistants and fellows** who are U.S. citizens or lawful permanent residents and who hold assistantships during a fall or spring semester should carry 9 semester hours of course work throughout the semester. In the summer term, assistants should carry 6 semester hours.

Reduction of up to 3 semester hours in the expected course load requires that the assistant consult with his or her degree program coordinator and adhere to program policy on enrollment. Failure to adhere to program policy on enrollment may result in termination of the assistant and/or dismissal from the program. Any reduction greater than 3 semester hours must be approved in advance, in writing, by the appointee's department chair and the office of the dean of the Graduate School. An e-form for requesting an under load can be found on the Graduate School webpage.

International assistants and fellows, except as previously described, must be registered for at least 9 semester hours of course work throughout the semester. If they are appointed to an assistantship or fellowship in summer, international assistants and fellows should be enrolled in 6 semester hours of course work; in the summer, international assistants and fellows are eligible for a reduction of up to 3 semester hours upon consultation with their program coordinator and eligible for a further reduction with prior approval, in writing, by the appointee's department chair and the office of the dean of the Graduate School.

**Maximum enrollment** limits are established by the Graduate School. A student in good academic standing may register for up to 16 semester hours in the fall and spring semester and 13 semester hours in the summer session. Enrollment in more than the established maximum-an overload-may be granted in unusual circumstances on a case-by-case basis or when a student is planning to enroll in courses with staggered start and end dates so that the student is not actively engaged in excessive hours simultaneously. For a graduate student in a degree program, this approval must be obtained, in advance, from the student's major department and the Graduate School; for a student-at-large, the prior written approval of the dean of the Graduate School is required. An e-form for requesting permission to enroll in excessive hours can be found on the Graduate School web page.

A graduate student or student-at-large on probation is urged not to attempt more than 9 semester hours in the fall or spring semesters or 6 semester hours in the summer term. Normally, requests for overloads for students on probation will not be approved.

### **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. Course credits taken in audit status will not count in the calculation of total course load for any external official purpose. Examples include but are not limited to: Calculation of full-time, part-time, or half-time enrollment status reported to external agencies; Eligibility for financial aid; Full-time status for international students to satisfy visa requirements; and Eligibility for loan deferment. With program approval, an audited course may be used to meet institutional enrollment requirements. A student who enrolls as an auditor will not receive credit for the course, and audited courses will be transcribed with a grade designation of 'O'. 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 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 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, the chair of the department offering the course, and from the office of the dean of the Graduate School to enroll in the course for undergraduate credit.

### **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 Department 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 educator licensure 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 licensure. In such a case, that department may approve retaking the course for credit.

A student who has taken a course at the undergraduate level, may take the same titled course at the graduate 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 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.

## 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 WF, WP, or O 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 assigned. 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 withdraw from a course or from the university in accordance with established procedure and by the established withdrawal deadlines, will 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
A-		3.67
B+	Satisfactory	3.33
B		3.00
B-	Marginal	2.67
C+		2.33
C		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>
C-	Deficient	1.67
D		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 C-, D, F, or U. Graduate credit is given only for those courses in which a grade of S, or C or better, is earned. A grade of S indicates that the student has performed at a level equivalent to at least a B.

### 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. 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 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/III8.htm](http://www.niu.edu/provost2/facpers/appm/III8.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, O, 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 I 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 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 C-, 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 or courses required to remove conditions of admission. Programs communicate such expectations to the student in writing.

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-Aboard 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. Exceptions to this limit will be allowed for students enrolled in the Ph.D. in economics and M.S. in applied probability and statistics, who may apply a specific 12 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. Typically, correspondence courses are noted as such on a transcript. They are defined as courses in which interaction between the instructor and the student is neither regular nor substantive and in which interaction is primarily initiated by the student. Most often, correspondence courses are self-paced.

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 of student learning outcomes is one of the ways the university measures the extent to which it fulfills its educational mission. Information gained from programmatic 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 help us gauge 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 testing, surveys and projects, occur with the goal of measuring students' knowledge and skills 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 are used to assess the quality of the university and its graduate and professional programs. Although summary data may be published or presented at conferences, all student performance data are aggregated; no individual student information is reported.

Questions regarding assessment should be directed to Accreditation, Assessment, and Evaluation, [assess@niu.edu](mailto:assess@niu.edu), or visit us at [go.niu.edu/assessment](http://go.niu.edu/assessment).

## 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. Some certificate programs may allow NIU law classes to apply toward a certificate, and law courses, provided they do not constitute more than one-half of the credits applied to a certificate, may satisfy certificate requirements when grades of Satisfactory or Credit are achieved. 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 reasonable accommodations with respect to course work or other academic requirements may be appropriate in consideration of a disability must contact the Disability Resource Center. The DRC is located on the 4th floor of the Health Services Building and can be reached by calling 815-753-1303.

A wide range of services may be available to eligible students with disabilities, including housing accommodations, transportation, adaptation of printed materials, and advocacy with faculty and staff.

## 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 Division of Research and Graduate Studies 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 Division of Research and Graduate Studies (see [www.orc.niu.edu](http://www.orc.niu.edu)). 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 research compliance office. 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.

### **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.

# 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.

## Learning Expectations

Graduate education is characterized by its diversity of purpose. Programs educate for reasons ranging from the purely academic to the purely applied. All hold in common overarching learning expectations. Building on the knowledge, skills, and abilities that students possess, graduate programs seek to develop among students specialized knowledge in a discipline or across disciplines; and they train students to act as innovators, problem solvers, advanced practitioners, creators of knowledge, and keepers of their discipline.

At the master's and professional doctorate levels, students evince knowledge in their discipline or across disciplines when they master at an advanced level the pertinent content and skills. They apply that knowledge in innovative ways to solve problems, to contribute to scholarly discourse, or to engage in mature performance of their craft. As innovators, scholars, and performers, students demonstrate a high level of competency in critical thinking when they demonstrate their knowledge and skills or when they independently apply appropriate research methods, concepts, and theories within their fields of study. They communicate effectively and professionally both orally and in writing.

At the doctorate level, students evince knowledge in their discipline or across disciplines when they become specialists in the content and skills necessary to be independent researchers and original contributors to knowledge within their fields. They understand and appreciate the philosophy and historical development of their discipline as a field of inquiry, and they know how that philosophy and history shape their own research. As independent researchers, they identify problems and develop solutions by employing appropriate research methods. They also effectively communicate in a scholarly fashion their knowledge and disseminate that knowledge orally and in writing.

## Graduation

See the Graduation section on the General Regulations page.

## Requirements for the Degrees:

**Master of Accountancy**

**Master of Accounting Science**

**Master of Arts**

**Master of Arts in Teaching**

**Master of Music**

**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 used to satisfy degree requirements 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. Graduate-level courses for which there exists an undergraduate equivalent (typically courses that are offered as 400/500 classes) shall not constitute more than 50% of hours applied toward a master's degree. Graduate-level student teaching credits are excluded from the 50% rule.

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. Typically, correspondence courses are noted as such on a transcript. They are defined as courses in which interaction between the instructor and the student is neither regular nor substantive and in which interaction is primarily initiated by the student. Most often, correspondence courses are self-paced.

### **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 Accountancy, no more than 9 semester hours of transfer course work may be applied to a master's degree. 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 Department of Electrical Engineering, 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. For the master's degree in Nursing 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 Arts in Teaching (specialization in elementary education), the Master of Science in Teaching (specialization in middle school mathematics education), the M.S.Ed. in counseling, the M.S.Ed. in literacy with focus on Bilingual/ESL Education, M.S.Ed. in physical education, the M.S. programs in computer science, 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 thesis may be presented in any format that reflects the professional standards of publication and ethics in its discipline, subject to departmental policies and approval of the advisory faculty. (See "Composition of Committees below.")

Previously published work and manuscripts submitted for publication may be included in a thesis fulfilling the requirements for graduate degree programs, subject to individual department and faculty approval. These may include chapters, sections of chapters, data, or the entire document authored by the degree candidate; however, the research, writing, and publication of the work must be wholly undertaken and completed while at NIU during the course of graduate study for the degree to which the thesis is submitted. The research, writing, and publication must have been performed under the supervision of a full or senior member of the graduate faculty from the major department.

Previously published material is subject to copyright restrictions. Students are responsible for understanding copyright law and securing written permission to reproduce previously published work in the thesis and must upload these permissions during submission or include them as appendixes in the document. In addition, acknowledgement of the previously published material must be included in the front matter or in footnotes where appropriate in the text. Previously published material must be reformatted to conform to the requirements of the Graduate School and ProQuest. The thesis must be successfully defended in an oral examination.

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

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.

A student writing a thesis must file an IRB Inquiry Form as soon as a research topic is identified but no later than the end of the first week of classes of the semester or term in which the student intends to defend the thesis. Forms are available on the Graduate School website. 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 ProQuest and must be accessible through their global digital library of dissertations and theses, as well as through NIU's digital institutional repository, Huskie Commons, a unit of Founders Memorial Library.

### 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. In any semester or term a student may enroll in 699 for the maximum number of hours stated in the course description; during a master's program students may register for an unlimited number of thesis hours. However, only the last 6 hours completed will count toward the degree. 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. (See the "Leave of Absence" policy located in the "General Requirements" section of this Catalog.)

A student must be in good academic standing, both overall and in the degree program, to be eligible to submit a thesis for review and acceptance by the Graduate School.

### 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 chair (or designee). A comprehensive examination committee needs no additional approval; however, a thesis committee must be nominated by the department and appointed by the dean of the graduate school. Committees must be appointed no later than the conclusion of the semester or term preceding that in which the student will defend the thesis or take the examination. A student intending to write a thesis should identify a prospective faculty director for the thesis and thesis committee members as soon as possible. The thesis director and thesis committee will judge the acceptability of the work. At any time, a faculty member may decline to serve as director or committee member of any particular thesis project. With the consent of the department and the approval of the graduate school dean, a student may propose to alter the composition of a thesis committee, provided that the faculty to be removed from and/or added to the committee expressly consent to the change. If a student wishes to remove a faculty member from a thesis committee, and the faculty member does not consent to be removed, the student may appeal to the dean of the Graduate School. The dean will make a decision with input from the student, the faculty members involved, the department chair, the committee chair, and the director of graduate studies; the decision of the dean will be final.

All members of the comprehensive examination and thesis committee must hold the status of full, senior, or provisional member of the graduate faculty or serve as graduate faculty scholars at Northern Illinois University. With regard to the voting members of the comprehensive examination and thesis committee:

A majority must be tenured or tenure-track faculty members at Northern Illinois University.

At least one-half of the members must be full or senior members of the graduate faculty at Northern Illinois University.

All members must belong to the graduate faculty in the student's program or a closely related one as determined by the department chair (or designee).

A provisional member of the graduate faculty may, with a full or senior member of the graduate faculty, co-chair a comprehensive examination or thesis committee.

### 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 Design 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 Doctor of Nursing Practice

See "Doctor of Nursing Practice" in the School of Nursing

### 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 higher education, curriculum and instruction, and educational administration through various departments in the College of Education. Doctor of Philosophy (Ph.D.) degrees are offered in art education, biological sciences, chemistry, counselor education and supervision, economics, educational psychology, English, geography, geology, history, instructional technology, 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."

### Credit Requirements for the Doctor of Philosophy and Doctor of Education

Graduate students working for a doctor of philosophy or a doctor of education degree must complete at least 72 semester hours of graduate work beyond the baccalaureate degree, including a minimum of 12 semester hours of dissertation credit. Departments may waive 30 semester hours for students holding a master's or educational specialist degree in the same field or related one, allowing the doctoral degree to be completed with 42 semester hours. Some doctoral programs require more than 72 semester hours. A description of program-level requirements for satisfying credit requirements can be found in the relevant departmental section of this catalog or in the graduate student handbook for each program.

The minimum GPA requirement of 3.00 applies to all graduate courses at NIU and applicable to the degree. Some programs require a higher GPA. Consult the departmental sections of this catalog 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 applicable to the doctoral degree, excluding deficiency courses and hours waived because a student holds a relevant masters degree, 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 must demonstrate competency in the course material. Transfer courses falling outside the limitation of time cannot satisfy degree hour requirements.

### Courses for Which Graduate Credit is Allowed

At NIU only courses which are numbered 500-799 carry credit toward the master's degree. Graduate-level courses for which there exists an undergraduate equivalent (typically courses that are offered as 400/500 classes) shall not constitute more than 50% of hours, exclusive of dissertation hours, applied toward a doctoral 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. Typically, correspondence courses are noted as such on a transcript. They are defined as courses in which interaction between the instructor and the student is neither regular nor substantive and in which interaction is primarily initiated by the student. Most often, correspondence courses are self-paced.

### 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. Research-Tool Requirements

The Graduate School requires that Ph.D. students demonstrate competency in at least one research tool prior to the candidacy examination. A research tool is defined as a relevant foreign language or languages or as a methodology for conducting research. The expectation of competency with a research tool ensures that a doctoral student possesses the knowledge, skills, and abilities to conduct research appropriate to his/her field of study, not only during the process of completing the dissertation but as a professional researcher.

Options for satisfying the requirement for competency in a research tool(s) are determined by program faculty. Programs may establish in writing requirements for competency in more than one research tool and may set a higher threshold for determining competency in a research tool than does the Graduate School.

A description of program-level requirements for satisfying the research tool requirement can be found in the relevant departmental section of this catalog or in the graduate student handbook for each program.

Students must demonstrate competency by achieving grades of B or better in no fewer than six hours of related graduate-level course work focused on a method of conducting research. The course work may be taken in a student's department or outside of it. Courses taken outside of a student's department to demonstrate competency in a research tool may, with program approval, count toward the hours necessary to satisfy degree requirements.

Students may also demonstrate competency in a relevant foreign language. Competency in a foreign language or languages may be demonstrated by achieving a grade of S (satisfactory) in FLFR, FLGE, FLIT, FLSP 501 and FLSP 502, provided that both courses are taken in a single language; by achieving a passing score on a translation examination approved by faculty in the student's program; by having achieved a grade of B or better in at least 12 hours of foreign language acquisition course work, or the equivalent, completed at an accredited U.S. institution of higher learning within five years of admission to, and enrollment in, the student's doctoral program. Competency 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. With the approval of the Graduate Dean, programs may verify competency in a foreign language through alternative means.

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

### 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 should be a significant contribution to knowledge in which the student exhibits original scholarship and the ability to conduct worthwhile research. The dissertation should demonstrate professional competencies relevant to the student's field of study, including effective communication skills (whether written, graphical, digital, or multimedia). The research must be in a subject area of the student's major, approved and completed under the supervision of a senior member of the graduate faculty from the student's major department. (See "Composition of Committees" below.)

The dissertation may be presented in any format that reflects the professional standards of publication and ethics in its discipline, subject to departmental policies and approval of the advisory faculty. The Graduate School maintains specific policies and requirements pertaining to acceptable, durable formats.

Previously published work and manuscripts submitted for publication may be included in a dissertation fulfilling the requirements for graduate degree programs, subject to individual department and faculty approval. These may include chapters, sections of chapters, data, or the entire document authored by the degree candidate; however, the research, writing, and publication of the work must be

wholly undertaken and completed while at NIU during the course of graduate study for the degree to which the dissertation is submitted. The research, writing, and publication must have been performed under the supervision of a senior member of the graduate faculty from the major department.

Previously published material is subject to copyright restrictions. Students are responsible for understanding copyright law and securing written permission to reproduce previously published work in the dissertation and must upload these permissions during submission or include them as appendixes in the document. In addition, acknowledgement of the previously published material must be included in the front matter or in footnotes where appropriate in the text. Previously published material must be reformatted to conform to the requirements of the Graduate School and ProQuest.

Students may collaborate on some aspects of the work contributing to their dissertations. However, each dissertation 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. The author must demonstrate to his or her committee satisfactory command of all aspects of the dissertation.

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 must identify a prospective faculty director for the dissertation and dissertation committee members soon after the candidacy examination, if not before. The proposed director and committee members must be nominated by the department, approved by the college, and appointed by the dean of the Graduate School. The dissertation director and dissertation committee will judge the acceptability of the dissertation. At any time, a faculty member may decline to serve as director or as a committee member of any particular dissertation project. With the consent of the department, college, and Graduate School, a student may propose to alter the composition of a dissertation committee, provided that faculty proposed to be removed from and added to the committee expressly consent to the change. If a student wishes to remove a faculty member from a doctoral committee, and the faculty member does not consent to be removed, the student may appeal to the dean of the Graduate School. The dean will make a decision with input from the student, the faculty members involved, the department chair, the committee chair, and the director of graduate studies; the decision of the dean will be final.

A student whose committee changes after initial or subsequent approval may need to undertake additional work, or to change research projects, in accordance with the expectations and expertise of new committee members.

A student writing a dissertation must file an IRB Inquiry Form as soon as a research topic is approved but no later than the end of the first week of classes of the semester or term in which the student intends to defend the dissertation. Forms are available on the Graduate School website. 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). In any semester or term, a student may enroll in 799 for the maximum number of hours stated in the course description; during a doctoral program students may register for an unlimited number of dissertation hours. 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 12 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. (See the "Leave of Absence" policy located in the "General Requirements" section of this catalog.)

After the dissertation has been reviewed and approved by the Graduate School, the approved version will be deposited electronically with ProQuest and must be accessible through their global digital library of dissertations and theses, as well as NIU's digital institutional repository, Huskie Commons, a unit of Founders Memorial Library. The abstract is also published in ProQuest Digital Dissertations, formerly Dissertation Abstracts International. This facilitates wide dissemination of the scholarship to interested parties..)

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### 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 three 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 department, approved by the college, and appointed by

the dean of the Graduate School. Candidacy examination committees must be appointed no later than the conclusion of the semester or term preceding the semester or term in which the student will take the examination; dissertation committees must be formed before or soon after the student passes the candidacy examination. 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. All members of the committee must hold the status of full, senior, or provisional member of the graduate faculty or serve as graduate faculty scholars at Northern Illinois University. With regard to the voting members of the comprehensive examination and thesis committee:

At least one-half of the members must be tenured or tenure-track faculty members at Northern Illinois University.

At least one-half of the members must be senior members of the graduate faculty at Northern Illinois University.

All members must belong to the graduate faculty in the student's program or a closely related one as determined by the department chair (or designee).

A graduate faculty scholar or a full member of the graduate faculty may, with a senior member of the graduate faculty, co-chair a dissertation committee. In addition, the dean of the Graduate School or the dean's designee 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."

# Educator Licensure Information

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

To teach in a public school in the state of Illinois an individual must possess an Illinois Professional Educator License (PEL). NIU offers initial educator licensure entitlement programs which are approved by the Illinois State Board of Education (ISBE). NIU is accredited by the Council for the Accreditation of Educator Preparation (CAEP).

Requirements for NIU educator licensure 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 licensure, a student may find his or her licensure requirements changed for reasons beyond the university's control.

A student pursuing licensure should meet with his or her adviser to develop a plan of study that will satisfy the licensure 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 licensure will not be changed by the adviser except to the extent that it may be necessary to satisfy changes in state licensure 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 licensure program plan of study and other published descriptions of licensure 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 educator licensure programs together with the academic department (or departments) at NIU with responsibility for administering each program.

Licensure Program	Academic Department/School
<i>Early Childhood</i> (birth through grade 2)	Special and Early Education
<i>Elementary (1-6)</i>	Curriculum and Instruction
<i>Middle Level(5-8)</i>	Curriculum and Instruction
<i>Secondary (9-12)</i>	
Biological Science	Biological Sciences
Chemistry	Chemistry and Biochemistry
English	English
Family and Consumer Sciences	Family and Consumer Sciences

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
<i>Special (K-12)</i>	
Art <sup>1</sup>	Art and Design
French	World Languages and Cultures
German	World Languages and Cultures
Music	Music
Physical Education	Kinesiology and Physical Education
Spanish	World Languages and Cultures
<i>Special Education (Pre-K – age 21)</i>	
Learning Behavior Specialist I	Special and Early Education
Visual Impairments	Special and Early Education

Students who wish to pursue more than one endorsement must complete the NIU program requirements for each additional endorsement. 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 educator licensure programs.

## Admission to Educator Licensure Programs

Each department has determined whether enrollment in a degree program is necessary to pursue the educator licensure 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 licensure program. Candidates for admission to an educator licensure program should apply directly to the academic department responsible for administering the program regarding information about admission.

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

## University Requirements for Educator Licensure

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

<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 licensure program.

## Common Requirements for Educator Licensure

Upon satisfactory completion of one or more of the above initial educator licensure programs, students will be recommended for licensure. In order to be licensed 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 licensure. (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 licensure program. A passing grade is required in all course work taken for educator licensure. Educator licensure requirements are deemed to be met only by obtaining a grade of C or better in courses using traditional A, A-, B+, B, B-, C+, C, D, F grading or an S in those professional or clinical courses in which S/U grading is used. An S is the equivalent to a C or better and a U is equivalent to a D or lower in educator licensure courses using S/U grading. In those courses in which S/U grading basis is applicable, the use of S and U will apply to all students registered in any class section in which S/U grading is employed. Individual students may not elect S and U grading. 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 license is sought.

An earned baccalaureate degree from a recognized institution.

Successful completion of a test of general academic proficiency and a test of subject matter knowledge administered by the Illinois Licensure 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 Educator Licensure

The university's general education requirements for educator licensure 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 licensure.

## Professional Education Requirements for Educator Licensure

Each endorsement requires the student to complete professional education courses.

### Early Childhood Endorsement Elementary Endorsement Middle Grades Endorsement High School Endorsement Special Endorsement

The courses are listed in the specific department sections of this catalog.

## 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 licensure 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 Educator Licensure Programs

Admission to educator licensure programs does not guarantee continued acceptance unless the student maintains satisfactory grades and other qualifications. A candidate for a student teaching assignment or licensure 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 educator licensure program are determined by the faculty offering that program; students should consult the academic department for information.

Specific degree, content-area, professional education and clinical coursework that forms part of an application for licensure, endorsement, or state approval must have been passed with a grade no lower than C, or the equivalent, in order to be counted towards fulfillment of the applicable ISBE requirements. Students must see individual program advisers for the list of courses required.

## 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 educator licensure 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.

For initial educator licensure and advanced programs with students who do not hold current employment in a school or district: Students should contact the school district office of their placement site to confirm the location and availability and to determine how to proceed to obtain an FBI finger-print based CBC. Students should follow the district's policies and use their preferred provider and

payment options. Students need to be aware that a new CBC will be required for each new district they will be placed at for a clinical or student teaching placement. This means there will be a charge for each new CBC required.

Students need to be aware there are potential consequences of having any criminal history. This FBI-mandated change means schools will now be the owners of the CBC information, and they will decide whether or not a conviction warrants exclusion from their schools and classrooms. Schools have the option of rejecting candidates based on their criminal history.

Contact your adviser for further details.

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

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

## Tuition

Graduate student tuition includes the cost of instruction and operation of the university. The operation of the university portion provides access to support services and privileges such as the use of the University Health Service; use of recreational facilities and participation in intramural activities; admission to the Huskie Bus service, athletic events, concerts, dramatic productions, lectures, and speeches; and subscriptions to certain student publications.

## Special Fees

Degree seeking application fee U.S. citizens (nonrefundable): \$60.00

Application fee international (nonrefundable): \$60.00

Non-degree seeking [student-at-large] (nonrefundable): \$10.00

Enrollment certification fee: \$5.00

Examination fees

Foreign language translation examinations

Average proficiency: \$45.00

High proficiency: \$65.00

Graduation fee (nonrefundable): \$35.00

(If a student fails to graduate at the close of the term for which the application for graduation has been submitted and the fee paid, the application can be transferred to a subsequent term. See section entitled "Graduation" elsewhere in this catalog.)

New international student fee: \$125.00

Replacement identification card (after the first is issued): \$25.00

Transcript fee: \$8.00

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

## Room and Board Rates

Residence hall room and board rates for the 2019-2020 academic year range from \$4,892 per semester for a double occupancy room to \$6,828 per semester for a single mini-suite. All residence hall options include the Huskie Classic Meal Plan. Students can optionally upgrade to the Huskie Block Meal Plan. Residents living in Northern View Community may optionally select one of the meal plan options made available to commuter students at [go.niu.edu/commuter-plans](http://go.niu.edu/commuter-plans).

Specific questions about NIU's room and board rates can be found at [niu.edu/housing](http://niu.edu/housing) or by calling Housing and Residential Services during regular business hours Monday through Friday, 8:00 a.m. to 4:30 p.m. at 815-753-1525.

## Tuition Waivers for Senior Citizens

The Senior Citizen Courses Act (110 ILCS 990) permits senior citizens, 65 years of age or older, to enroll in regularly scheduled credit courses at public institutions of higher education without the payment of tuition. This benefit does not include payment of fees.

This consideration is limited to persons whose annual household income is at or below 200% of the 2014 federal poverty level:

\$22,980 for a household of one

\$31,020 for a household of two

\$39,060 for a household of three

Applicants must meet the state requirements as stated in the Senior Citizen and Disabled Persons Property Tax Relief Act and Pharmaceutical Assistance Act (see <http://www.cbrx.il.gov> for more information). 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 balance will have a hold placed on the student's account records. This hold will prohibit the student from registering for classes and/or 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 assessed on 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, material 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 all tuition and fees, 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 and Enrollment Management 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 and Enrollment Management. (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 and Enrollment Management 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 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 Affairs.

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

Beginning Fall 2018 domestic students (including permanent residents, undocumented and select visa holding students) will be charged the same tuition rate, regardless of their state of U.S. residency. However, residency will still need to be determined for institutional reporting, financial aid purposes and a variety of other needs.

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 partial 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 <http://niu.edu/grad/funding/assistantships.shtml>.

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. Alternatively, non-native speakers of English meet the competency standard if they score at least 7 on the speaking portion of the IELTS, a 68 on both the Oral Fluency and Pronunciation portions of the PTE Academic, or 24 on the speaking portion of the TOEFL iBT.

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 partial waiver of tuition. Only U.S. citizens and permanent residents are eligible.

Policies governing assistantships and associated tuition waivers are available in NIU's Academic Policies and Procedures Manual.

## 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 Financial Aid and Scholarship 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, including loans, and are encouraged to seek advice about their individual situation prior to enrolling each term. In general, students-at-large are not eligible for federal student loans. Early admit and admitted graduate students taking preparatory course work are strongly encouraged to contact Financial Aid prior to each semester.

### Federal Direct Loan Program

Federal Direct Loans (DL) are low interest loans that are borrowed through the U.S. Department of Education by the student. Graduate student borrowers are responsible for paying interest which accrues during the in-school period. Eligible students may borrow from \$100 to \$20,500 per academic year, up to a \$138,500 combined undergraduate and graduate aggregate maximum. The Graduate PLUS loan may be borrowed, pending a credit check, up to a student's cost of attendance less all other aid received. There is no lifetime limit on the amount of Graduate PLUS loan a student may borrow.

To borrow a federal student loan, a student applicant must be a citizen of the United States or eligible non-citizen; admitted to a graduate program; 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-6 hours); capable of recognizing and accepting the responsibility of ultimate repayment of any loan indebtedness; not in default on any previous loans; not owing a refund on any Title IV financial aid; be making satisfactory academic progress; and agree to use any student financial aid received solely for education purposes.

All applicants must file the Free Application for Federal Student Aid (FAFSA) each year, and submit it at [fafsa.ed.gov](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. The amount of the loans and all other financial aid cannot exceed the cost of education.

Students will be sent an award notification to their student Z-ID e-mail 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.

### 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. An overview of NIU's Satisfactory Academic Progress Policy for Graduate Students is provided here. The official policy is available from the Student Financial Aid Office and at [www.niu.edu/financial-aid](http://www.niu.edu/financial-aid). Additional detail on each of the standards of satisfactory academic progress, the appeal process, criteria for appeals, and the conditions for reinstatement of aid are included in the policy.

Federal and state financial aid programs covered by this policy are the following: Federal Work Study (FWS), Direct Loan (subsidized and unsubsidized), graduate PLUS, and certain private loans. Institutional programs such as scholarship, tuition waivers, and stipends are not subject to federal Satisfactory Academic Progress standards.

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 (PACE)

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, A-, B+, B, B-, C+, 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 C-, D, F, WP, WF, I, or 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

Federal law limits the maximum time frame for which a student can receive federal financial aid including student loans. To continue to be eligible for federal aid, graduate students' hours attempted must not have exceeded the maximum number of credit hours established for their program and listed in the table below. The maximum time frame exceeds the minimum program requirements with an allowance for electives, internships, disruptions in enrollment, changes in concentration, and work on thesis or dissertations that exceed the minimum requirement. Student-at-large graduate hours and credit hours accepted for transfer courses are included in hours attempted.

Degree Program	Maximum Hours Attempted
Master's degree unless otherwise published in the Graduate Catalog or at <a href="http://www.niu.edu/fa">www.niu.edu/fa</a>	58
Combined Master of Science in Nutrition and Dietetics and Internship Program	100
Master of Arts in Communicative Disorders with a specialization in speech-language-pathology	80
Master of Arts in Psychology	72
Master of Arts in Teaching with a specialization in Elementary Education	70
Master of Fine Arts in Art	108
Master of Public Administration	75
Master of Public Health	70
Master of Science in Applied Human Development and Family Sciences	58
Master of Science in Education in Counseling	80
Master of Science in Education in Special Education	80

Degree Program	Maximum Hours Attempted
Master of Science in Nursing with a specialization in Nursing Education	72
Master of Science in Rehabilitation Counseling	80
Doctoral degree unless otherwise published in the Graduate Catalog or at <a href="http://www.niu.edu/fa">www.niu.edu/fa</a>	150
Doctor of Audiology	180
Doctor of Education in Counselor Education and Supervision	158
Juris Doctor	35

All graduate course work, including SAL and master's credit hours, will be included when determining maximum time frame for Ph. D. students.

#### *Graduate Change of Program*

In the appeal process one change of graduate program will be considered. No appeal will be considered for additional graduate program changes. One change of research dissertation or thesis will be considered for doctoral students.

#### *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 semester of a student's enrollment regardless of financial aid status eligibility. Satisfactory academic progress is evaluated after the completion of each 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 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 student is not meeting the standards of progress by the end of the next semester of attendance, the student becomes ineligible for financial aid; the student's awards are canceled.

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 after every term of enrollment.

### Appeals Procedures

Appeals must be submitted in writing to the Financial Aid and Scholarship Office and must include a written review from the student's graduate academic adviser. Note that federal regulations restrict those circumstances considered for appeal; the university does not have full discretion in this regard.

The following reasons **will be considered** as extenuating circumstances:

- documented medical circumstances
- documented learning disabilities
- documented death in family

The following **will not be considered** as extenuating circumstances:

- not performing well academically
- not adjusting in general to college life and/or academics
- changing academic program more than once
- being a transfer student
- working beyond a master's degree without admission to a doctoral program
- taking courses not required by the program to establish enrollment level eligibility for an assistantship or fellowship.

The Financial Aid and Scholarship Office's appeal decisions are final and cannot be overturned by the U.S. Department of Education.

The official Satisfactory Academic Progress policy published on the Financial Aid and Scholarship Office's website is the university's official policy and may have information more recent than the catalog publish date.

### Scholarships

A limited number of scholarships for graduate students are awarded through the academic departments, many of which have specific requirements for major academic classification and grade point average. Application requirements, deadlines, access to the on-line scholarship application system, and other scholarship resources can be found through the Financial Aid and Scholarship website at [niu.edu/financial-aid/scholarships](http://niu.edu/financial-aid/scholarships). Information about tuition waivers can be found on the Graduate School website at [niu.edu/grad/funding/waivers](http://niu.edu/grad/funding/waivers). Scholarship funds are generally disbursed in two equal amounts, half for the fall semester and the other half for the spring semester, unless the donor or awarding department indicates in writing that the funds should be disbursed differently.

### Veterans' Educational Benefits

Military and Post-Traditional Student Services 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 Military and Post-Traditional Student Services 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 Military and Post-Traditional Student Services of all changes in enrollment. Inquiries concerning educational benefits for veterans and their dependents may be directed to Military and Post-Traditional Student Services, Northern Illinois University, Campus Life Building, Room 240.

# Scholarly Activities at Northern Illinois

## Creative Work: Research and Artistry

Original research, scholarly, 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, scholarly, 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 Division of Research and Innovation Partnerships is responsible for the general encouragement of research, scholarship, and artistry.

## Board of Trustees Professorships

The Northern Illinois University Board of Trustees Professorship was established in 2007 to recognize those faculty who have achieved a consistent record of excellence in teaching, scholarship or artistry, service and outreach, and academic leadership; have earned a national/international reputation for professional achievements; and are deemed likely to make continued and substantial contributions in higher education. Special emphasis will be placed upon the recognition of faculty who are renowned scholars/artists who have engaged students in their research/or and other professional activities.

## Presidential Research, Scholarship, and Artistry Professorships and Distinguished Research, Scholarship, and Artistry Professorships

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

## Presidential Engagement Professorships

Established in 2011, the Presidential Engagement Professorships recognize faculty who exemplify NIU's commitment to engagement, that is, collaboration between the university and its larger communities for the mutually beneficial exchange of knowledge and resources in a context of partnership and reciprocity.

## External Support for Research and Development

Sponsored Programs Administration supports NIU faculty, student, and staff in securing and managing sponsored funding for research, instruction, service, and artistry. The office provides comprehensive services and support from funding development to project close-out. See [www.niu.edu/osp/](http://www.niu.edu/osp/).

The Technology Transfer Office (TTO) promotes the development and protection of university-owned intellectual property (IP) for public use and society benefit. University owned IP is generated by faculty, staff, students and non-employees while teaching, researching or working on scholarly projects with university resources, with external monies funded to the university or during the daily responsibilities to the university. The office protects proprietary information, original works, tangible research property and know-how via the administration of non-disclosure/confidentiality agreements, outgoing material transfer agreements, and by pursuing patent, trademark and copyright filings. The TTO administers the University Intellectual Property Policy, coordinates invention reporting and IP obligations with external research funding sponsors and facilitates third party agreements granting rights-to-use, develop and commercialize University owned IP. The office fosters innovation by encouraging public-private collaborations and assisting faculty, students and staff make relevant connections for product development and commercialization so research can be transferred for public use and contribute to economic growth. Income generated from the transfer agreements supports further research and development at the university. To learn more visit [www.tto.niu.edu/tto/](http://www.tto.niu.edu/tto/).

## 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

Econ Illinois is an integral unit of the Division of Outreach, Engagement, and Regional Development at NIU, working in tandem with the P-20 and NIU Centers on various economic/financial education programs and STEM initiatives. Econ Illinois, and its state-wide network of six university-based centers, offer economic and financial education programs for students, teachers, and individuals throughout the state. Econ Illinois' activities include, yet are not limited to, in-service and pre-service teacher training, K-12 student and teacher programs, and curriculum consultation. Econ Illinois also provides development, distribution, and evaluation of economic/finance education materials and assessments.

### **Northern Illinois Center for Economic Education**

The NIU Center for Economic Education is an affiliate of Econ Illinois and part of the NIU Center for P-20 Engagement. The center was established in 1970 to provide economic education professional development programs for K-12 teachers in the NIU service area. The center offers teachers, school districts, and community organizations the curriculum resources and training to teach the fundamental concepts and skills students need to understand and succeed in our market economy.

The NIU Center for Economic Education also provides services, materials, and consultation to school systems throughout 15 counties in northern Illinois. Contests for students, workshops for inservice teachers and preservice teachers, curriculum review, and classroom materials for teaching economics are among the offerings available through the Center for Economic Education. More information about the center is available at [www.niu.edu/econ\\_edu](http://www.niu.edu/econ_edu) or by contacting Judith Dymond at [jdymond@niu.edu](mailto:jdymond@niu.edu) or 815-753-4751.

### **Information Technology**

AnywhereApps provides course-specific software for desktops and mobile devices, free of charge to students. AnywherePrints makes printing, copying, and scanning available at locations throughout campus. Students submit print jobs from anywhere they have an internet connection and retrieve them at a campus printer of their choice.

Currently enrolled students have a free subscription to Microsoft Office 365 and the full Microsoft Office suite including Microsoft Word, Excel, PowerPoint and more. The software can be installed multiple times on desktops, laptops, tablets, and smartphones. Statistical analysis packages such as SAS and SPSS and some curriculum-specific software are also available in all labs.

NIU offers wired data connections to all buildings on all campuses and wireless coverage on the DeKalb campus for both authenticated and guest users.

NIU students have access to computers for research, instruction, and individual use in academic departments, classrooms, and student computing labs. Depending on the department and the location, labs contain both Windows and Macintosh computers and many offer adaptive technologies for students with disabilities.

The Division of Information Technology (DoIT) Service Desk offers support for NIU's network and student systems and is available 24/7/365 at [it.niu.edu](http://it.niu.edu) or 815-753-8100. The Technology Support Desk on the first floor of Founders Library provides walk-in assistance for computer virus removal, laptop and smartphone problems, password issues, email and enterprise application support, and many other technology-related questions.

For more information, visit [visit DoIT.niu.edu](http://visit DoIT.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 Burma Studies
- Center for Governmental Studies
- Center for Latino and Latin American Studies
- Center for Southeast Asian Studies
- 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).

### **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 three 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 and resources.

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 monographs and books of general interest. With a focus on the humanities and social sciences, NIU Press has particular strength in Russian and Slavic Studies; European, Southeast Asian, and U.S. history; religion; and philosophy. Seeking to advance knowledge about the Midwest, the press has published a wide range of books on the archaeology, history, literature, and culture of Chicago, Illinois, and surrounding states in the region. At present, NIU Press has nearly 600 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 innovation partnerships. The main function of the board is to assure high standards of quality in all 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**

The Northern Illinois Theatre Ensemble, SummerNITE, Northern Illinois University's professional intern company, works in collaboration with Chicago's Organic Theater Company. SummerNITE is dedicated to bridging the gap between training and the profession by providing opportunities for NIU's School of Theatre and Dance students to work with professionals in all the areas of theatre. SummerNITE fellows work as actors (both performing and understudying), technicians, assistant designers, and marketing and public relations trainees. The company is the ideal bridge between the academic and professional theatre worlds.

# 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 located in the heart of NIU's campus, offers lounge space, food options, and meeting rooms for students, student organizations, and the NIU community. It features the Duke Ellington Ballroom and Carl Sandburg auditorium and is the largest venue on campus for student events, meetings, and conferences. Wi-Fi is available throughout the building and an ATM machine is located on the main floor.

The Hotel at Holmes, with over 70 guest rooms, is the ideal place for family, friends, and visitors of the NIU campus and community to stay. It is also home to the Huskies Den, providing bowling, billiards, arcade games, and electronic gaming and Huskie Books and Gear, selling NIU spirit wear, school and art supplies, books, and textbooks.

## Housing

### Campus Living

NIU offers accommodating living arrangements for graduate students in its university residence halls and Northern View Community. 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 a convenient and affordable option for graduate students. Residence hall rooms are furnished with a bed, desk, desk chair, dresser, and combination refrigerator/freezer; additionally, utilities are covered within the residence hall contract (including cable TV, Internet, heat, gas, water, garbage, and electricity). Each residence hall has computer workstations available to meet the needs of students. Lobbies and common areas are equipped with wireless Internet, and students can access an Internet connection in their residence hall room. Other amenities available to hall residents include quiet study lounges, community safety centers, on-site laundry, vending machines, photocopiers, and easy access to the Huskie Bus Line.

Residence hall contracts also include an unlimited meal plan. Residents can choose to eat in any of the four dining units in the halls. Dining hours and menus can be found on the Dining website at [go.niu.edu/eat](http://go.niu.edu/eat).

Residence hall contracts are valid for the entire academic year (August to May). Optional winter break housing is available in select halls. Summer housing, as well as summer meal plans, is also available. Applications are available online at [niu.edu/housing](http://niu.edu/housing) and at the Housing Office located in Neptune East 101. Housing and Residential Services can be reached at 815-753-1525 or by e-mail at [housing@niu.edu](mailto:housing@niu.edu).

Graduate students may also choose to live in NIU's apartment-style housing in our Northern View Community (NVC), with options ranging from one- to three-bedroom apartments. Northern View Community is home to undergraduate students who are at least two years post high school, graduate students, law students, or any student who has a dependent and/or a partner or spouse. The NVC

apartments come unfurnished, though each apartment includes a stove, refrigerator, dishwasher, garbage disposal, microwave, washer and dryer, cordless telephone, and Internet access. Amenities within the community include a 24-hour computer lab, community room, game room, study areas, large courtyard, children's play room, children's outdoor playground, and easy access to the Huskie Bus. Students can learn more about Northern View Community at [go.niu.edu/nvc](http://go.niu.edu/nvc).

## Off-Campus Housing Services

The Office of Military and Post-Traditional Student Services, Campus Life Building, room 170, acts as a clearinghouse for information on rental properties in the DeKalb area. Staff is available from 8 a.m. - 4:30 p.m. weekdays to assist in locating a roommate or a place to live. Rental listings are also available online at [rentcollegepads.com/off-campus-housing/niu/search](http://rentcollegepads.com/off-campus-housing/niu/search), or call 815-753-9999.

## Health Services

The university partners with Northwestern Medicine, which operates and runs the on campus clinic. Health Services offers a wide variety of high quality, out-patient health care services to NIU students to assist with maintaining and improving their health. Health Services is available to all students who have been assessed on-campus student fees. There are no charges for physician or provider services, X-rays, most laboratory tests, and many other services. There are charges for medications, immunizations, specialized medical procedures and supplies, selected laboratory tests, and missed appointments. Health Services accepts most health insurance, including Student Health Insurance. Students may use Health Services without being enrolled in the university's Student Health Insurance Plan.

## Student Health Insurance

Students who register for 9 or more on campus semester hours by the 10th academic day of the semester are automatically assessed the fee for student health insurance on their tuition account through the Bursar's Office. The student health insurance plan provides coverage for hospitalization and/or medical treatment for injury and sicknesses 24 hours a day anywhere in the world. It is compliant with the Affordable Care Act.

Students working on their thesis or doctorate and taking at least one credit hour may enroll in the student insurance plan. These students must fill out the online enrollment form at [www.niu.edu/shi](http://www.niu.edu/shi) by the 10th academic day of the semester.

Students who have been assessed the student health insurance fee and have comparable health insurance coverage may apply for a waiver by completing the on-line Waiver Process at [www.niu.edu/shi](http://www.niu.edu/shi) on or before the 10th academic day of the semester. Students who successfully complete the waiver process are not assessed the student health insurance fee or covered by student health insurance for the following spring semester.

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

Students who are insured for the spring semester, are automatically covered through the summer whether or not they enroll in the summer session.

Information concerning the student health insurance may be obtained from the Student Health Insurance office, Health Services, Room 101, 815-753-0122 or e-mail to [studentinsurance@niu.edu](mailto:studentinsurance@niu.edu).

## Service Centers, Offices, and Agencies

### Asian American Resource 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 and their persistence to graduation. 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 Transportation

NIU maintains the largest student-run university bus system in Illinois. The 17-bus system, governed by the director of Mass Transit and the 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 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 NIU Department of Police and Public Safety, the director of Mass Transit runs Huskie Safe Line, which provides free safe passage home for students. The service operates on a daily basis from 11 p.m. to 5:30 a.m. and can be reached at 815-753-2222.

Through the director of Mass Transit 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 identify full-time employment through a centralized department serving all academic programs. Career Services helps students connect their majors to careers. Drop-in services are available Mondays through Fridays, from 10 a.m. until 3 p.m., to help students with creating resumes and cover letters to connecting with employers.

In addition to supporting graduate students in discovering their career paths, Career Services offers a range of resources and services to guide graduate students at each stage of their career preparation, including the following services:

Help with career decision making including a website for majors, with corresponding career options, at *What Can I Do with My Major?* (link to <http://www.careerservices.niu.edu/careerservices/career-resources/what-you-can-do.shtml>)

Online postings for internships and full-time positions through the Huskie Get Hired system at [www.gethired.niu.edu](http://www.gethired.niu.edu)

Drop-in and online resume and cover letter reviews

Career testing

University-wide career fairs

Networking for students with employers

Practice Interviews

Career Services staff members also assist students in their searches for internships, off-campus part-time and full-time employment. Visit our website at [CareerServices.niu.edu](http://CareerServices.niu.edu).

Career Services is located in the Campus Life Building, Room 220, and is open Monday-Friday from 8:00 a.m. to 4:30 p.m. More information about Career Services may be obtained online at [www.niu.edu/careerservices](http://www.niu.edu/careerservices) or by calling 815-753-1642.

### Center for Black Studies

The Center for Black Studies is an academic and research center that collects and analyzes data on the African-American and African diaspora. The center also coordinates an interdisciplinary undergraduate minor in Black studies. The center supports students, faculty, staff and community partners in gaining cultural understanding while serving as a collaborative and supportive space on campus.

### Child Development and Family Center

Child Development and Family Center will be merging with the Child Development Lab to offer NIU students, faculty, and staff full- and part-time expanded child care for children ages 3 months - 5 years. These centers are accredited by the National Association for the Education of Young Children, and have a Gold rating through ExceleRate Illinois, which serves as an indicator of a high-quality program. The centers are staffed with qualified teachers along with student workers, graduate students and students participating in their practicum experience. The center is open Monday through Friday, 7:15 a.m. to 5:30 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. Our preschool program is open to the community, no NIU affiliation needed. For more information, contact Child Development and Family Center at 815-753-0125 or visit the website at [www.ccc.niu.edu/cc](http://www.ccc.niu.edu/cc).

### Counseling and Consultation Services

Counseling and Consultation Services provides comprehensive mental health support for currently enrolled students at Northern Illinois University. As a department in the Division of Student Affairs, CCS is the designated campus counseling center for NIU students. We are a team of trained professionals committed to improving the mental health of students as they work to achieve their academic and personal goals.

Services include:

Individual and Group Counseling

Crisis Intervention and referral

Substance Use Intervention and education programs

Anger Workshops

Advocacy and Referral Services

Workshops on various topics (in residence halls, classes and other settings)

Consultation (regarding mental health issues, programming, and organizational development)

Training for graduate students

For more information, visit [www.niu.edu/counseling](http://www.niu.edu/counseling) or call 815-753-1206.

### Disability Resource Center

The Disability Resource Center has been designated by the university to determine appropriate disability accommodations for NIU students in consultation with several entities. Decisions for accommodations are based on the student's clarification about specific needs and barriers to success as well as past history, and documentation as needed from a qualified care provider.

Students who are seeking resources to learn about campus access or to request reasonable accommodations related to academic or residential concerns, should contact the Disability Resource Center on the fourth floor of the Health Services Building. Staff at the DRC may be reached at: 815-753-1303; email: [drc@niu.edu](mailto:drc@niu.edu); or visit the website at [www.niu.edu/disability](http://www.niu.edu/disability).

By providing support services for students with disabilities, the University is in compliance with Section 504 of the Rehabilitation Act of 1973; the Americans with Disabilities Act of 1990; and the Americans with Disabilities Act Amendments Act of 2008.

### Gender and Sexuality Resource Center

Gender and Sexuality Resource Center (GSRC) acknowledges the historical impacts of women and lesbian, gay, bisexual, transgender and/or queer (LGBTQ+) identities and provides a home away from home for all persons, inclusive of sexual and gender identities, and **all** forms of masculinity and femininity.

The GSRC serves as a central location for resources and support where acceptance of intersectional identities is encouraged and celebrated. Through student leadership development, advocacy, campus and academic engagement, and professional development opportunities, we collaborate with community, state, and national partners, alumni and other stakeholders to challenge societal constructs of gender and sexuality norms and promote social justice. The center offers a relaxing place to meet people, study, research, and get connected with supportive staff and peers. A lending library of books, films, and magazines on a range of gender and sexuality topics, computer stations for student use, and a variety of free brochures and handouts are available. Internships at the undergraduate and graduate levels are available.

### 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 Affairs."

### Latino Resource Center

The Latino Resource Center (LRC) focuses on student-centered services and retention offering a home-away-from-home to all Latino students attending NIU. The LRC is responsible for the planning of Latino Heritage Month and supports students through resources that enhance their academic, social, and cultural experiences at NIU, in addition to mentoring programs, the Latino honor society, and Latino graduation ceremony. The LRC also reflects the diversity of Latino cultures where all Latinos and non-Latinos can participate and learn from one another. The LRC offers students a lounge, smart classroom, computer laboratory (serving as an Anywhere printing site), library, art gallery, and wireless Internet connections. For more information, visit [www.niu.edu/lrc](http://www.niu.edu/lrc) or contact the center at 815-753-1986.

### Military and Post-Traditional Student Services

In October 2015, the offices of Military Students Services (MSS) and Off-Campus and Non-Traditional Student Services (OCNTSS) merged to create Military and Post-Traditional Student Services (MPTSS). Military and Post-Traditional Student Services is designed to support and enhance the educational, interpersonal, and social experiences of veteran, off-campus, commuter, transfer, and non-

traditional students. The office aims to help support students on the path to graduation by providing educational and social programmatic support, individual and collective advocacy, and, in the case of veterans, processing federal and state benefits for those who served and their dependents. The office also has a lounge in the basement of the Holmes Student Center for students to come and relax between classes, have lunch, study, or chat with other students. The lounge space includes comfortable furniture, a microwave, a full-sized refrigerator, a television, and computers for students to use. The staff assists students in getting connected with necessary services or navigating particular issues. For more information about MPTSS visit <http://www.niu.edu/mptss>, call 815.753.9999/0691, or stop by Holmes Student Center 023K or Campus Life Building 240.

### Office of the Ombudsperson

All members of the university community may consult the Office of the Ombudsperson for neutral and confidential assistance and advice regarding university-related concerns. The office provides assistance for any type of university matter, including academic, financial, housing, consumer, work-related, or interpersonal issues.

Members of the office staff will listen to concerns, discuss options, and offer suggestions and advice from an 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 Ombudsperson, disclosures to the office do not constitute notice to the university.

The Office of the Ombudsperson is located in the Holmes Student Center, Room 601. Services are free of charge and appointments may be made by calling 815-753-1414. Visit the office website [www.niu.edu/ombuds](http://www.niu.edu/ombuds) for additional information.

### 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 and Consumer Sciences **Child Development and Family Center** (CDFC) (Gabel Hall, Rooms 169-170, 815-753-1150) is accredited by the National Association for the Education of Young Children and is recognized by ExceleRate Illinois as a Gold Circle center, the highest level of quality. The CDFC provides high quality child care programs for children ages 8 weeks to 6 years. Enrollment in all programs is open to the university and DeKalb communities, with full-day enrollment throughout the year while NIU is open. 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 44 children, and is a research and training facility for child development majors sponsored by the School of Family and Consumer Sciences. For more information, contact the Child Development and Family Center.

The **Community Counseling Training Center at NIU** (Graham Hall 416; 815-753-9312) is a counseling and training clinic, providing free counseling services to children, adults, couples, and families of NIU and the surrounding communities. Counselors are advanced graduate counselors-in-training working under the supervision of NIU Counseling Faculty, who are Counselor Educators and Licensed Clinical Professional Counselors, Licensed Professional Counselors, or Professional Educator Licensed School Counselors. Counseling involves supporting clients in personal growth and the resolution of emotional challenges, as well as with academic and career concerns. Services provided include individual counseling, play therapy, couples counseling, family counseling, group counseling, and psychoeducational and career counseling. To request counseling services, you can visit their office or the Community Counseling Training Center website.

The **Couple and Family Clinic** at NIU (Wirtz Hall, Room 161, 815-753-1684) provides counseling for couples, families, children, and individuals to those affiliated with NIU and residents who live in the surrounding communities of Northern Illinois. The therapists are graduate student therapists 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 Commission on Accreditation for Marriage and Family Therapy Education. The facility and program are part of the School of Family and Consumer Sciences in the College of Health and Human Sciences.

The **Physical Therapy Clinic** (Family Health, Wellness and Literacy Center, 3100 Sycamore Road, 815-752-2675, ptc@niu.edu) offers a comprehensive program of evaluation and treatment for individuals with acute and chronic musculoskeletal conditions and balance/dizziness assessments and treatment. The clinic is a program of the School of Allied Health and Communicative Disorders and accepts most insurance plans.

The **Psychological Services Center** (Psychology Building, Room 86, 815-753-0591) offers psychotherapy and psychological evaluation services for individuals, couples, children and families from the general community as well as NIU. For full-time NIU students, therapy is free of charge; evaluations are at a reduced flat fee. For military-connected students, extensive assessment (e.g., disability claims, attention/learning issues) is available at very low or no cost. Clients from the local community pay according to a sliding fee scale for therapy and evaluations. The center is staffed by faculty and doctoral students in clinical and school psychology in the Department of Psychology.

The **Speech-Language-Hearing Clinic** (Family Health, Wellness and Literacy Center, 3100 Sycamore Road, 815-753-1481, slhc@niu.edu) offers a comprehensive program of evaluation and treatment for individuals with a hearing concern, tinnitus, dizziness/balance or concussion-related issues, as well as speech, language, cognitive communication and swallowing disorders. Hearing aids and cochlear implants, accessories, and repairs are available. The clinic is a program of the School of Allied Health and Communicative Disorders and accepts most insurance plans.

## 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, in the Duramad Building, 121 Normal Road, located on the corner of Normal Road and Lincoln Terrace at 815-753-1045.

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

## Recreation Services

Fee-paying NIU students on the DeKalb campus are automatically members of Campus Recreation for that semester. Campus Recreation also offers affordable memberships for students who have not paid NIU DeKalb campus fees and students' families and significant others. Current memberships with Campus Recreation include access to the Student Recreation Center, the Chick Evans Field House, Anderson and Gabel pools, the Outdoor Recreation Sports Complex, and New Hall and Gilbert Hall Fitness Rooms during Open Recreation hours. Within those facilities, members are able to take advantage of:

- Cardio and strength training rooms and equipment

- Exercise boxing area

- Racquetball/wallyball courts

- Multipurpose courts (basketball, volleyball, indoor tennis, badminton, floor hockey, indoor soccer, etc.)

- Indoor tracks

- Locker rooms with dry saunas

- Sports equipment check-out

- Open and lap swimming at pools

- One group cardio equipment orientation

- One group strength training session

- Nutrition consultations—healthy eating habits are critical to achieving wellness. Interns help determine calorie requirements needed to achieve an individual's weight goal and assist with food planning.

- New Hall and Gilbert Hall Fitness Centers

- Outdoor basketball courts

- Natural and artificial sports fields to accommodate: softball, baseball, flag football, lacrosse, soccer, ultimate Frisbee, and Quidditch.

Campus Recreation offers numerous recreation programs and services at affordable rates:

- Group Fitness Classes—trained instructors offer over 35 classes weekly and incorporate a unique blend of strength and conditioning exercise to give participants workouts that creates results.

- Personal Training—nationally certified trainers design and implement a program to meet your needs.

- The Outdoor Adventure Center 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, etc.

- Adventure trip leaders coordinate a variety of outdoor pursuits such as hiking, canoeing, backpacking, rock climbing, and caving.

- 31 sports clubs which practices and competes against other universities.

- Aquatics—swimming lessons, stroke clinics, and lifeguard certification classes are offered.

For more information regarding employment, programs, and services please contact Campus Recreation at 815-753-0231, e-mail at [CampusRecreation@niu.edu](mailto:CampusRecreation@niu.edu), or visit our website at [www.niu.edu/campusrec/](http://www.niu.edu/campusrec/) 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 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. There is extensive information regarding many legal issues on the office website at [www.niu.edu/legal](http://www.niu.edu/legal).

### 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 higher education and student affairs, counseling, curriculum and instruction, early childhood education, educational administration, literacy education, school business management, and special education; Ed.S. in educational administration; and Ed.D. in higher education, curriculum and instruction, and educational administration

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

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 and electronic communications.

The Office of the Vice President for University Advancement provides administrative direction for the Offices of Alumni Relations and Development, 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 long term relationships with NIU alumni and friends by communicating the message of excellence and creating opportunities for alumni and friends of the university to connect with the university community. The NIU Alumni Association programs and activities include events ranging from Alumni Scholarship Programs for current and incoming students to Homecoming and the newly created NIU Nexus - a volunteer community uniquely built for alumni. The NIU Alumni Association offers programs and services that foster pride in the university, support its goals, and meet alumni needs.

For further information, contact the Alumni Association at 815-753-2586 (ALUM) or at [www.myniu.com](http://www.myniu.com).

### Northern Illinois University Foundation

The Northern Illinois University Foundation seeks, receives, and administers gifts to benefit NIU. Through the Foundation, donors make life-changing gifts to benefit the university and the students it serves.

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 815-753-1386, or visit [www.NIUFoundation.org](http://www.NIUFoundation.org).

# College of Business

**Dean: Dean: Balaji Rajagopalan, Ph.D.**  
**Associate Dean: Daewoo Park, Ph.D.**

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

## College Mission Statement

Create knowledge; transform business; and develop principled, adaptable global citizens through innovative active learning and personalized experiences.

## 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), the International English Language Testing Services (IETS), or the Pearson Test of English Academic (PET) 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 Accountancy (MAC), the Master of Accounting Science (M.A.S.) with an area of study, the Master of Science in Taxation (M.S.T.), the Master of Science (M.S.) in financial risk management, the Master of Science (M.S.) in digital marketing, the Master of Science (M.S.) in data analytics, 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 Internet access, spreadsheet, and word document 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.

### Master of Business Administration Learning Goals and Objectives

#### Our graduates will demonstrate business acumen and analytical skills.

- NIU MBA graduates will solve business problems through integration of core business knowledge; including accounting, finance, marketing, management, information technology, and operations management.
- NIU MBA graduates will think critically to identify and analyze business problems, and prioritize reasonable alternatives.

#### Our graduates will communicate with impact.

- NIU MBA graduates will effectively convey their ideas, decisions, and recommendations through oral dialogue, the written word, and the visual medium.
- NIU MBA graduates will effectively persuade their audience through a combination of analytical reasoning and persuasive language.

#### Our graduates will be effective leaders.

- NIU MBA graduates will demonstrate skills that value diverse perspectives and work as a team player to accomplish organizational goals.
- NIU MBA graduates will demonstrate the skills required to lead organizational change and innovation.
- NIU MBA graduates will anticipate and adapt to global market changes and industry dynamics.

#### Our graduates will identify ethical issues and the implications on business, society, and individuals.

- NIU MBA graduates will identify situations when ethical leadership is required and demonstrate personal responsibility regarding the impact of ethical behavior on business, society, and individuals.

### 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. The GMAT is not required for the Executive, One-Year, and Chicago formats. 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.

NIU University Honors students who graduate with a B.A. or B.S. in a STEM-related field are guaranteed admission into the Global M.B.A. format as space permits. These students are exempt from the GMAT requirement.

### 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 AACSB-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 - Managing Individuals, Teams, and Organizations (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 (9).

**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."

**Program Format Options and Locations**

Contact the M.B.A. program office for information regarding delivery formats and locations.

**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.

**Certificates of Graduate Study****Entrepreneurship (12)**

This certificate will provide graduate students with a set of courses focused on entrepreneurship, and it is designed to help students develop insights and abilities to enhance business ventures' competitiveness through creation and renewal.

Students must achieve an average GPA of 3.00 in 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 627 – Entrepreneurial Creativity and Innovation (3)  
 MGMT 635 – Managing Individuals, Teams, and Organizations (3)  
 MGMT 637 – Entrepreneurship and Venture Management (3)  
 MGMT 657 – Corporate Entrepreneurship (3)

**Finance (12)**

This certificate will provide graduate students with a set of courses focused on the development of financial skill sets that are utilized in business and not for profit organizations. Furthermore, like any organization (profit or non-profit), students will also benefit from an expanded knowledge of investment and financing fundamentals

that can be used at an individual level. The certificate is designed to provide the student with a foundation of theoretical and practical tools to understand financial issues facing a global economy.

Students must achieve an average GPA of 3.00 in the courses applied toward the certificate and complete all certificate course work within six years immediately preceding awarding of the certificate.

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

**Requirements**

FINA 607 - Financial Analysis (3)  
 FINA 620 - Investment Fundamentals (3)  
 FINA 650 - Fundamentals of Financial Markets (3)  
 One of the following (3)

FINA 651 - Seminar in Financial Institution Management (3)  
 FINA 662 - Financial Management Strategies (3)  
 FINA 685 - International Business Finance (3)  
 FINA 695 - Seminar in Finance Topics (3)

**International Business (12)**

This certificate will prepare graduate students to identify and evaluate the challenges and opportunities in the diverse international business environment. It is designed to provide opportunities for students to develop a global perspective of the cultural, social, economic, and other factors that influence business practices.

Students must achieve grades of B or better in 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 635 - Managing Individuals, Teams, and Organizations (3)  
 One of the following:

MGMT 601 - International Study in Management (3)  
 MKTG 601 - International Study in Marketing (3)

Two of the following:

FINA 685 - International Business Finance (3)  
 MGMT 647 - International Management (3)  
 MKTG 656 - Global Marketing Strategy (3)

**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 College of Business MBA Program Office.

#### Requirements

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 Application 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)

#### 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 - Managerial Leadership (3)
- MGMT 635 - Managing Individuals, Teams, and Organizations (3)

Two of the following (6)

- MGMT 625 - Coaching and Mentoring In Business (3)
- MGMT 640 - Leading Teams (3)
- MGMT 655 - Change Management (3)

#### Strategic Marketing (12)

This certificate will provide graduate students with a set of courses focused on the development of marketing tactics and strategies that can be utilized across diverse business areas. It is designed to help grow students' skills and abilities in the areas of products/services marketing and general marketing strategy development.

Students must achieve an average GPA of 3.00 in 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

- MKTG 654 - Marketing Management (3)

Three of the following:

- MKTG 625 - Buyer Behavior (3)
- MKTG 626 - Brand Strategy (3)
- MKTG 630 - Services Marketing (3)
- MKTG 655 - Promotional Strategy (3)
- MKTG 656 - Global Marketing Strategy (3)
- MKTG 660 - Marketing Seminar (3)
- MKTG 664 - New Product and Service Innovation (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: Rebecca T. Shortridge

## Graduate Faculty

Meghann A. Cefaratti, associate professor, Grant Thornton Professor of Accountancy, Ph.D., Virginia Tech  
 Natalie T. Churyk, professor, William F. Doyle 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, associate professor, Gaylen and Joanne Larson Professor of Accountancy, C.P.A., Ph.D., University of Nebraska-Lincoln  
 Ann C. Dzurarin, associate professor, C.P.A., Ph.D., University of South Florida  
 Candice R. Hux, assistant professor, C.P.A., Ph.D., Bentley University  
 Chih-Chen Lee, professor, William and Dian Taylor Professor of Accountancy, C.P.A., Ph.D., Southern Illinois University at Carbondale  
 Katrina L. Mantzke, associate professor, Donna R. Kieso Professor of Accountancy, C.P.A., Ph.D., University of Wisconsin  
 Linda J. Matuszewski, associate professor, Dean and Brenda DuCray Professor of Accountancy, C.P.A., Ph.D., University of Cincinnati  
 Martin J. Ndicu, assistant professor, C.P.A., Ph.D., Mississippi State University  
 Mark E. Riley, associate professor, Dean and Brenda DuCray Professor of Accountancy, C.P.A., Ph.D., Texas Tech University  
 Rebecca T. Shortridge, professor, Donald E. Kieso Endowed Chair in Accountancy Professor, C.P.A., Ph.D., Michigan State University  
 Pamela A. Smith, Distinguished Teaching Professor, Board of Trustees Professor, KPMG Professor of Accountancy, 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  
 James C. Young, Distinguished Teaching Professor, PwC Professor of Accountancy, C.P.A., Ph.D., Michigan State University  
 S. Carol Yu, associate professor, C.P.A., Ph.D., University of Houston  
 Aleksandra B. Zimmerman, assistant professor, CPA., C.M.A., A.B.V., Ph.D., Case Western Reserve University

The Department of Accountancy offers three 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. The Master of Accountancy (MAC) is an evening program designed to provide graduate students who have an undergraduate degree in a discipline other than accounting with a set of courses focused on the foundational areas within the accountancy discipline, enhancing their understanding of the role of accounting in business and other organizations.

## 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. 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.

Admission to the Master of Accounting Science program is competitive. Candidates may 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.

## Early Admission

Students in the NIU Bachelor of Science in Accountancy program may apply for early admission to the Master of Accounting Science program. If admitted, dual-admit students may enroll in up to six hours of graduate credit, with department consent, during their final semester in the undergraduate program. Student must have Phase I Accountancy courses (ACCY 310, 320, 331, 332, 360, and 450) completed before beginning M.A.S. course work, or consent of the department. A student enrolling in both graduate and undergraduate hours may enroll in a maximum of sixteen credit hours in the fall or spring semester, and six credit hours in the summer semester.

The NIU Graduate School requirements for "Early Admission of NIU Undergraduates" also apply.

## Master of Accounting Science Learning Goals and Objectives

Graduates from the NIU Department of Accountancy Master of Accounting Science (Leadership) will fulfill the following learning goals and objectives.

**Learning Goal 1: Apply accounting concepts and technology to solve problems.**

Learning Objective 1: Demonstrate appropriate knowledge of technical accounting concepts.

Learning Objective 2: Develop critical thinking skills necessary to solve problems.

Learning Objective 3: Support conclusions using appropriate research and authoritative pronouncements.

Learning Objective 4: Analyze problems with appropriate technology.

**Learning Goal 2: Demonstrate leadership and professional skills.**

Learning Objective 5: Communicate accounting and business information clearly and persuasively.

Learning Objective 6: Develop skills to receive and provide feedback.

**Learning Goal 3: Assess decision alternatives of ethical choices.**

Learning Objective 7: Evaluate the ethical implications of increasingly complex and uncertain problems.

**Phase One**

The College of Business has Phase One requirements that must be completed by each student. See Phase One Requirements listed under "Graduate Study in Business."<sup>1</sup> College of Business Phase One courses must be completed before enrolling in Phase Two M.A.S. requirements. No Phase One course may be used to satisfy a Phase Two elective or requirement. The director of graduate studies in Accountancy will determine which College of Business Phase One graduate courses will be included in each student's program of courses based upon successful completion of undergraduate course work.

The M.A.S. has Phase One requirements that 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. A student with a baccalaureate degree in accountancy and acceptable undergraduate grades may have already satisfied M.A.S. Phase One requirements. Courses completed for the Foundation of Accountancy certificate of graduate study meet most of the M.A.S. Phase One accountancy requirements. Earning a Foundation of Accountancy certificate of graduate study does not waive the admission criteria. The director of graduate studies in Accountancy will determine which M.A.S. Phase One graduate courses will be included in each student's program of courses. A student must have a C or better in each M.A.S. Phase One accountancy course. A student enrolled in M.A.S. Phase One courses may take Phase Two courses at the discretion of the director of graduate studies in Accountancy provided the student has successfully completed all prerequisites for the Phase Two courses and has maintained a 3.00 GPA in M.A.S. Phase One courses. None of the required M.A.S. Phase One courses may be counted as accountancy electives in Phase Two. It is recommended that calculus be taken in addition to finite math (equivalent to MATH 210). The writing of a thesis is optional.

**Required Accountancy Courses (M.A.S. Phase One Course Work):**

ACCY 510 - Accounting Information Systems (3)

ACCY 520 - Intermediate Cost Management (3)

ACCY 531 - Financial Reporting I (3)

ACCY 532 - Financial Reporting II (3)

ACCY 550 - Principles of Taxation (3)

ACCY 560 - Assurance Services (3)

**Phase Two**

Students are required to complete a minimum of 30 semester hours of course work beyond Phase One and the baccalaureate degree. The total Phase Two credits accepted in transfer from other institutions

may not exceed 9 semester hours. ACCY courses numbered 600 or above and completed with a C or better in either the Certificate of Advanced Study in Accountancy or the Certificate of Advanced Study in Accounting Analytics meet Phase Two requirements; however, students must maintain a minimum average GPA of 3.00 in all graduate course work completed in Phase Two.

**Leadership Area of Study**

Students pursuing the Leadership area of study must complete a minimum of 30 semester hours of course work and all required activities related to professional development. Students may pursue a program of study with an emphasis on financial reporting and assurance, managerial accounting systems, data analytics, or taxation, or may work with an adviser to tailor a program of study to their specific academic and career goals.

Students must complete 21 semester hours of graduate-level accounting course work including:

ACCY 670 - Accounting Research (3),

OR ACCY 645 - Professional Tax Research (3)

ACCY 672 - Professional Development Skills in Accounting (3)

ACCY 675 - Data Analytics and Decision Making in Accounting (3)

ACCY 690 - Accountancy Capstone/Financial Statement Analysis and Business Valuation (3)

Students must also complete:

Nine semester hours of additional graduate-level course work approved by the department (9)

**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.

**Master of Science in Taxation Learning Goals and Objectives**

Graduates from the NIU Department of Accountancy Master of Science in Taxation program will fulfill the following learning goals and objectives.

**Learning Goal 1: Integrate and apply knowledge of primary tax authority.**

Learning Objective 1: Demonstrate knowledge of primary authority and apply this knowledge to answer tax questions for various taxpayers and transactions.

Learning Objective 2: Research solutions for tax issues using appropriate primary authority.

Learning Objective 3: Communicate tax solutions and recommendations in a professional manner.

Learning Objective 4: Prepare tax returns and other filings to comply with stipulated reporting requirements.

**Learning Goal 2: Evaluate ethical business practices.**

Learning Objective 5: Apply relevant professional standards and codes of conduct to resolve ethical tax dilemmas.

**Admission**

Admission to the Master of Science in Taxation program is competitive. At a minimum, applicants must meet the admission requirements of the NIU Graduate School. An applicant is also required to have a baccalaureate degree or a master's degree from an accredited

institution with at least 15 semester hours in accounting (including an income tax concepts course) 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).

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.

### Transfer Credit

The total semester hours accepted in transfer from accredited institutions may not exceed 9 semester hours.

### Requirements

ACCY 644 - Advanced Taxation (3) (students who test out of ACCY 644 may substitute with an approved ACCY elective)

ACCY 645 - Professional Tax Research (3)

ACCY 647 - Corporate Taxation (3)

ACCY 649 - Taxation of Flow-Through Entities (3)

ACCY 656 - Tax Concepts and Property Transactions (3)

ACCY 676 - Data Analytics and Decision Making in Taxation (3)

Course work from the following (12)

ACCY 605 - Independent Study in Taxation (1-3)

ACCY 646 - Tax Practice and Procedure (3)

ACCY 648 - Advanced Corporate Taxation (3)

ACCY 651 - Federal Estate and Gift 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 677 - Advanced Data Analytics and Decision Making in Taxation (3)

## Master of Accountancy

The Master of Accountancy (MAC) is designed to provide graduate students who have an undergraduate degree in a discipline other than accounting with a set of courses focused on the foundational areas within the accountancy discipline, enhancing students' understanding of the role of accounting in business and other organizations. The MAC degree is designed to prepare candidates for a professional accountancy career and qualify them to sit for the Certified Public Accountant examination in Illinois.

The MAC program is a part-time cohort program with students admitted only in the fall semester. Guaranteed admission into the program is available for University Honors students who have successfully completed a non-accountancy undergraduate degree from NIU, subject to capacity.

### Master of Accountancy Learning Goals and Objectives

The NIU Master of Accountancy program provides advanced study in accounting for graduate students who have an undergraduate degree in a discipline other than accounting.

#### Learning Goal 1: Our students will apply accounting concepts and technology to solve problems.

Learning Objective 1: Our students will demonstrate appropriate knowledge of technical accounting concepts.

Learning Objective 2: Our students will develop critical thinking skills necessary to solve problems.

Learning Objective 3: Our students will support conclusions using appropriate research and authoritative pronouncements.

#### Learning Goal 2: Our students will demonstrate awareness of ethical issues in business and accounting.

Learning Objective 4: Our students will articulate relevant codes of conduct and professional standards.

### Admission

Admission to the Master of Accountancy program is competitive. At minimum, applicants must meet the admission requirements of the NIU Graduate School.

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. Students interested in the degree should apply no later than the Graduate School fall admission deadline.

To successfully complete the MAC program, a student must have a cumulative GPA of 3.00 in degree courses. All courses must be completed at NIU within six calendar years of starting.

Students are required to complete a minimum of 36 semester hours of course work beyond the required pre-requisites and the baccalaureate degree. The total credits accepted in transfer from other institutions may not exceed 9 semester hours. Students must maintain a minimum GPA of 3.00 in all graduate course work completed in the MAC program.

A two-course Principles of Accounting sequence and general business courses in finance, statistics, and economics 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. The general business course requirements may be met by completing courses at a university, community college, or select online providers.

### Core Courses (36)

ACCY 510 - Accounting Information Systems (3)

ACCY 520 - Intermediate Cost Management (3)

ACCY 531 - Financial Reporting I (3)

ACCY 532 - Financial Reporting II (3)

ACCY 550 - Principles of Taxation (3)

ACCY 560 - Assurance Services (3)

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 675 - Data Analytics and Decision Making in Accounting (3)

Three Accountancy or College of Business elective hours (3)

## Certificate of Graduate Study

### Foundation of Accountancy (15)

The Foundation of Accountancy certificate of graduate study in accountancy is designed to provide working professionals and non-accountancy graduate students with a set of courses focused on the foundational areas in the accountancy discipline. The Foundation of Accountancy certificate in accountancy will enhance a student's understanding of the role of accounting in business and other organizations. The courses partially fulfill the educational requirements to sit for the CPA examination and count towards completion of the M.A.S. Phase One accountancy courses for the Master of Accounting Science (see Master of Accounting Science admission requirements) and Master of Accountancy (see Master of Accountancy admission requirements) programs.

**Required courses**

ACCY 510 - Accounting Information Systems (3)  
 ACCY 520 - Intermediate Cost Management (3)  
 ACCY 531 - Financial Reporting I (3)  
 ACCY 532 - Financial Reporting II (3)  
 One of the following (3)  
 ACCY 550 - Principles of Taxation (3)  
 ACCY 560 - Assurance Services (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.

507. MANAGERIAL ACCOUNTING PRINCIPLES (2). Introduction to the study of the information required for decision making 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 cost-volume-profit analysis, standard costing, budgeting, job order costing, activity based costing, and process costing. Open to students with fewer than 4 semester hours in accounting, or by consent of the department. A student may not receive credit for both ACCY 207 and ACCY 507. PRQ: ACCY 206 or ACCY 505 or equivalent or consent of department.

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.

510. ACCOUNTING INFORMATION SYSTEMS (3). Study 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, including internal controls, databases, and other information technologies through a case study approach. 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 310 and ACCY 510. 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.

515. DATA ANALYTICS IN ACCOUNTING (3). Study of the use of accounting data to identify, analyze, and solve business problems. Examines the processes needed to develop, report, and analyze accounting data and the business risks related to data collection, storage, and use. A student may not receive credit for both ACCY 415 and ACCY 515. A student must earn a grade of C or better in an accounting information systems course, two intermediate financial accounting courses, and an assurance services course prior to enrollment.

520. INTERMEDIATE COST MANAGEMENT (3). Study of managers' use of accounting information for decision making in manufacturing and service organizations. Topics include budgeting, cost estimation, cost allocation, cost-volume-profit analysis, non-routine decision making, transfer pricing, performance measurement, and the use of Excel for modeling business decisions. 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). Study of advanced topics related to managers' use of accounting information for management planning and control systems. Topics include advanced costing techniques, division performance measurement, customer profitability analysis, incentive systems, and other contemporary cost management issues. 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 (3). Study of financial accounting and reporting issues including the conceptual framework, balance sheet and income statement preparation, revenue recognition, time value of money, monetary assets, inventories, plant assets, current liabilities, and long-term debt. Employ authoritative sources in researching accounting issues. 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). Study of financial accounting and reporting issues, including accounting for income taxes, pension and other benefit plans, leases, earnings per share, accounting changes, stockholders' equity, investments, and statement of cash flows. Employ authoritative sources in researching accounting issues. 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 332 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). Study of financial accounting and reporting issues, including accounting for business combinations, consolidated financial statements, conversion of foreign financial statements, foreign currency denominated transactions, and derivatives and hedging activities. Employ authoritative sources in researching accounting issues. 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.

535. SEC REPORTING AND CORPORATE GOVERNANCE (3). Examination of topics related to the origin, nature, and legal framework of the Securities and Exchange Commission (SEC); SEC registration and reporting; the requirements, procedures, and responsibilities of being a public company; and the theory and practice of corporate governance. Students may not receive credit for both ACCY 435 and ACCY 535. A student must earn a grade of C or better in an intermediate financial reporting I course prior to enrollment.

550. PRINCIPLES OF TAXATION (3). Study of basic concepts of federal income taxation related to business entities and individuals. Includes the study of property transactions. 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 Department of Public Administration or the Department of Accountancy.

560. ASSURANCE SERVICES (3). Study of assurance services including auditing and attestation. Emphasis on underlying concepts, standards, and procedures associated with assurance services, including engagement planning, risk assessment, internal control testing, evidence gathering and documentation, and communication of 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). Study of internal audit objectives, processes and reporting. Topics include internal audit standards, internal controls, risk assessment, risk-based audit procedures, documentation, and communications. Employ authoritative sources to examine ethical issues, emerging issues, and industry specific issues. 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). Study of fraud detection and control from the perspective of public, internal, and private accountants. Topics include principles and standards for fraud-specific examination, fraud-specific internal control systems, and proactive and reactive investigative techniques. 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). Study of state and local government accounting; not-for-profit organization accounting including tax issues and industry specific issues in healthcare and colleges and universities; Government Auditing Standards and the Single Audit Act; and federal government accounting. 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 under supervision of a member of the graduate tax faculty of topics not covered in regular course offerings. 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). Accounting and reporting issues related to business combinations, equity method accounting for investments, consolidation of financial statements, recording foreign currency denominated transactions, and conversion of foreign currency denominated financial statements. Introduction to the use of derivative financial instruments to mitigate risks and the requirements for hedge accounting. 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 property transactions. A student may receive credit for only one of the following: ACCY 450, ACCY 550, ACCY 644, or ACCY 650. Not available for Phase II credit in the MAS program. A student must earn a grade of C or better in an intermediate financial reporting II course prior to enrollment.

645. PROFESSIONAL TAX RESEARCH (3). Study of the legal tax research process with emphasis on the effective use of an electronic tax research service. Students complete several individual research projects designed to emphasize the evaluation of various tax authorities. CRQ: A grade of C or better in ACCY 644 or consent of the department.

646. TAX PRACTICE AND PROCEDURE (3). Study of the structure, powers, and procedures of the Internal Revenue Service, and examination of the practice of tax and the representation of taxpayers. PRQ: A grade of C or better in ACCY 644 or consent of the department.

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 organizations, corporate operations, distributions to shareholders, stock redemptions, and corporate liquidations. A student may receive credit for only one of the following: ACCY 456, ACCY 556, ACCY 644, ACCY 647, ACCY 650. PRQ: A grade of C or better in ACCY 644 or consent of the department.

648. ADVANCED CORPORATE TAXATION (3). Study of the federal income taxation of corporate reorganizations, carryover of tax attributes, and additional advanced corporate tax topics. PRQ: A grade of C or better in ACCY 647 or consent of department.

649. TAXATION OF FLOW-THROUGH ENTITIES (3). Study of the federal income taxation of partnerships and S-corporations, with emphasis on the tax laws related to the formations, operations, allocations, distributions, liquidations, and sales/exchanges of partnership and S-corporation interests. PRQ: A grade of C or better in ACCY 644 or consent of the department.

650. ADVANCED ISSUES IN TAXATION (3). Continuation of ACCY 450. Study of advanced concepts of federal taxation as it applies to business entities. Introduction to jurisdictional tax issues and gift and estate taxation. A student may receive credit for only one of the following: ACCY 456, ACCY 556, ACCY 644, ACCY 647, 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 the preparation of related tax returns. Exploration of tax-planning techniques designed to minimize transfer taxes and ensure the orderly transfer of assets to succeeding generations. PRQ: A grade of C or better in ACCY 644 or consent of the department.
652. TAXATION OF ESTATES AND TRUSTS (3). Study of federal income taxation of estates and trusts with emphasis on the preparation of fiduciary income tax returns and the use of trusts in tax planning to minimize income, estate, and gift taxes. PRQ: A grade of C or better in ACCY 644 or consent of the department.
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 and how financial statement tax liabilities are reported on tax returns. A framework for exercising judgment to appropriately address such uncertainties is also provided. PRQ: A grade of C or better in ACCY 644 or consent of the department.
654. SPECIAL TAX TOPICS (1-3). Study of selected topics of current interest. May be repeated to a maximum of 6 semester hours when topic varies. Enrollment may take place in any combination of semesters, including multiple enrollments during a single semester. PRQ: A grade of C or better in ACCY 644 or consent of the department.
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. PRQ: A grade of C or better in ACCY 647 or consent of department.
656. TAX CONCEPTS AND PROPERTY TRANSACTIONS (3). Study of the conceptual foundations of the federal income tax system and the appropriate tax treatment of a variety of property transactions, focusing on key federal tax statutes, regulations, rulings, and case law. Topics include loss limitations, characterization of gain/(loss), like-kind exchanges, and involuntary conversions. PRQ: A grade of C or better in ACCY 644 or consent of the department.
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. PRQ: A grade of C or better in ACCY 644 or consent of the department.
658. STATE AND LOCAL TAXATION (3). Study of the nature and purpose of state and local taxation including examination of income, property, and excise taxes imposed at the state level on business enterprises. Covers constitutional, jurisdictional, apportionment, multistate, and other issues, with current trends and law changes. PRQ: A grade of C or better in ACCY 644 or consent of the department.
659. TAX ACCOUNTING METHODS AND PERIODS (3). Study of timing issues related to federal income taxation including adoption of changes in accounting periods, cash, accrual, and installment methods of accounting, and tax consequences of changing accounting methods. Study of other common law doctrines involving transactional concepts including claim of right, tax benefit, and duty of consistency. Study of tax policy as it relates to "fairness," economic growth, simplicity, enforcement, and review of various tax reform alternatives. PRQ: A grade of C or better in ACCY 644 or consent of the department.
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; specific rules for the taxation of limited liability companies and their members, 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 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 trends in asserting tax jurisdiction via economic nexus and agency relationships, changing apportionment factors, taxing flow-through entities, transaction taxes, credits and incentives, and other current trends and controversies. PRQ: A grade of C or better in ACCY 658 or consent of department.
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, the impact of regulation on auditing, risk assessment, audit planning, audit process and evidence, and preparation of audit reports. 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 auditing of computer-based accounting information systems with a focus on control and security. Topics include information technology as it relates to assurance services, internal control assessments, and evidence-gathering activities. A student may not receive credit for both ACCY 467 and ACCY 667. 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 reports of selected accounting literature. Major paper required. PRQ: 18 semester hours of accounting or consent of department.
672. PROFESSIONAL DEVELOPMENT SKILLS IN ACCOUNTING (3). Study and practice of professional development skills in an accounting context with a focus on issues related to critical thinking, communication, and influence. Class activities highlight key applications of academic work related to professional development and provide opportunities to develop professional skills critical for success in the accounting profession.
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. PRQ: Completion of both college and department Phase One requirements and consent of department.
675. DATA ANALYTICS AND DECISION MAKING IN ACCOUNTING (3). Examination of the role accounting professionals play in judgment and decision making in organizations. Draws upon both economic and behavioral theories to develop critical thinking and decision making skills. Examines the use of data and data analytics in accounting decision making. Development of statistical models to predict and evaluate accounting information. Challenges students to operate effectively with ambiguity, embrace change, and pursue creative techniques to communicate complex accounting concepts to non-accounting managers. A student must earn a C or better in an intermediate financial accounting II class prior to enrollment.
676. DATA ANALYTICS AND DECISION MAKING IN TAXATION (3). Examination of the use of data analysis as both an investigative tool and a graphic medium for communicating business information. Challenges students to build their data and analytic competency to become less reactive and more proactive so they can embrace change, operate with ambiguity, and pursue creative techniques to communicate complex information within and beyond the tax department. Focuses on ensuring the quality of data and its impact on strategic decision. PRQ: A grade of C or better in ACCY 644 or consent of the department.
677. ADVANCED DATA ANALYTICS AND DECISION MAKING IN TAXATION (3). Advanced examination of the use of technology to identify and solve tax problems for the firm. Relies heavily on the use of communication skills and decision making to propose unique and innovative solutions that require the manipulation of large amounts of data. Focuses on effective communication of actionable tax and business strategies for organizations. PRQ: A grade of C or better in ACCY 676 or consent of the 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 information, as well as information about the economic environment and business strategies, in a valuation context. Requires synthesis and integration of knowledge and skills learned throughout M.A.S. program. PRQ: ACCY 675 with a grade of C or better, 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: Gina K. Nicolosi

## Graduate Faculty

Diane S. Docking, associate professor, C.P.A., Ph.D., University of Kansas  
James M. Johnson, Distinguished Teaching Professor, Ph.D., Ohio State University

Leonard L. Lundstrum, professor, Ph.D., Indiana University  
Gina K. Nicolosi, associate professor, Ph.D., University of Cincinnati  
Sukesh Patro, associate professor, Ph.D., University of Pittsburgh  
Nan Qin, assistant professor, Ph.D., Virginia Tech  
Yao Zheng, assistant professor, Ph.D., University of New Orleans  
Lei Zhou, professor, Ph.D., University of Florida

## Master of Science in Finance

The advanced study in the M.S. in Finance program provides the tools and skills to prepare students for careers in a variety of fields, including investment and commercial banking, asset and wealth management, insurance, trading, and corporate finance and treasury functions. Small M.S. in Finance classes, as well as courses taken with MBA students, maximize interaction and learning throughout the program. Graduate Certificates of Study that reflect the current demands of the job market offer the flexibility to tailor students' learning experience to their career goals.

## Admission

In addition to the College of Business standards listed under "Graduate Study in Business," an applicant is required to have a baccalaureate degree from an accredited institution. Students with non-finance undergraduate degrees may be required to take additional undergraduate and graduate courses, as determined by the department. Such courses do not apply toward the degree.

## Requirements

Students seeking the M.S. in Finance degree must complete 18 semester hours of required course work along with 12 semester hours of electives.

### Required Courses (18)

FINA 575 - Financial Data Analysis (3)  
FINA 607 - Financial Analysis (3)  
FINA 620 - Investment Fundamentals (3)  
FINA 630 - Analysis of Fixed Income Securities (3)  
FINA 650 - Fundamentals of Financial Markets (3)  
FINA 674 - Financial Risk Management I (3)

### Four of the following electives (12)

FINA 555 - Analysis of Derivative Securities (3)  
FINA 560 - Financial Markets and Investments (3)  
FINA 603 - Seminar in Financial Research (3)  
FINA 622 - Security Analysis (3)  
FINA 623 - Investment Management (3)  
FINA 662 - Financial Management Strategies (3)  
FINA 688 - Financial Risk Management II (3)

## 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 607, 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. 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 or FINA 505, 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.

674. FINANCIAL RISK MANAGEMENT I (3). Introduction to financial risk management including an overview of the purpose and function of financial risk management within varying financial contexts. Topics include the basic types of financial risk management and an understanding of how financial risk management creates value. PRQ: Consent of department. CRQ: FINA 575.

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.

688. FINANCIAL RISK MANAGEMENT II (3). In-depth examination of advanced financial risk management issues including operational risk, risk adjusted returns, and the effects of banking and other financial regulation. PRQ: FINA 674 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, professor, D.B.A., Boston University  
 James P. Burton, professor, Ph.D., University of Washington  
 Amanda J. Ferguson, assistant professor, Ph.D., London Business School  
 Charles R. Gowen, professor, Ph.D., Ohio State University  
 Sarah J. Marsh, associate professor, Ph.D., University of North Carolina  
 Brian W. McCormick, assistant professor, Ph.D., University of Iowa  
 Christine H. Mooney, associate professor, Ph.D., Indiana University  
 Devaki Rau, associate professor, Ph.D., University of Minnesota  
 Barton M. Sharp, associate professor, Ph.D., Purdue University  
 Mahesh Subramony, associate professor, Ph.D., Central Michigan University

## 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. MANAGERIAL LEADERSHIP (3). Examination of classic and emerging leadership theory, with an emphasis upon meeting the challenges and opportunities of effective leadership. An accompanying focus is the identification of individual leadership skills and limitations, as well as the development of new skills and strategies. 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.
627. ENTREPRENEURIAL CREATIVITY AND INNOVATION (3). Identifying, understanding and developing the methods and skills used to recognize entrepreneurial opportunities and develop innovative solutions. Topics include theories of creativity, enterprise idea generation and evaluation, and other concepts, models, and techniques used to identify and evaluate new venture opportunities, innovations, and entrepreneurial solutions. PRQ: All Phase One courses or consent of department.
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.
631. SOCIAL VENTURE COMPETITION (3). Identifying, understanding, and developing the skills necessary to recognize social needs and identify opportunities in order to develop revenue generating business models to solve problems. Topics include theories of social entrepreneurship, social problem identification, enterprise idea generation and evaluation, social innovation, strategic design and development of the business model, social venture communication, and partnering. Students may not receive credit for both MGMT 431 and MGMT 631. PRQ: 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. MANAGING INDIVIDUALS, TEAMS, AND ORGANIZATIONS (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.

640. LEADING TEAMS (3). Examination of ways to effectively lead teams in organizations, with a focus on issues related to team design, managing team processes, and evaluating team effectiveness. Activities highlight key applications of team research and development of team leadership skills. 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.

657. CORPORATE ENTREPRENEURSHIP (3). Recognize, understand, and apply entrepreneurial processes and principles in the context of established organizations. Topics include environmental dynamics that drive entrepreneurship, venture motives and response options, and patterns and approaches to support entrepreneurial ventures. PRQ: All Phase One courses and MGMT 635, or consent of department.

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: Vijaykumar Krishnan Palghat

## Graduate Faculty

Timothy W. Aurand, professor, James E. Thompson Professor of Marketing, Ed.D., Northern Illinois University  
 Elisa Fredericks, associate professor, Ph.D., University of Illinois, Chicago  
 Geoffrey L. Gordon, professor, Ph.D., University of Kentucky  
 Mark D. Groza, associate professor, Enterprise Holdings Professor of Sales, Ph.D., University of Massachusetts  
 Mya Groza, assistant professor, Ph.D., University of Wyoming  
 Vijaykumar Krishnan Palghat, associate professor, Ph.D., University of Cincinnati  
 Robert M. Peterson, professor, Ph.D., University of Memphis  
 Paul R. Prabhaker, professor, Ph.D., University of Rochester  
 Denise D. Schoenbachler, professor, Douglas and Cynthia Crocker Endowed Professor in Business, Ph.D., University of Kentucky  
 Ursula Sullivan, associate professor, Ph.D., Northwestern University

## Master of Science in Digital Marketing

The M.S. in digital marketing program provides advanced study in marketing and digital marketing to prepare students for the challenges of working in the digital marketing field. The program's online format and professional orientation provide an opportunity for a large population of potential graduate students who cannot commit to either a full-time or location-based program to obtain the advanced degree. The program is designed to meet both the needs of full-time students and working professionals who desire to earn the degree while continuing to work full time. Graduates of the program will possess a set of marketable skills along with the business acumen needed to identify, engage, and continue meaningful relationships with both business customers and consumers.

The program provides opportunities to develop knowledge related to marketing and digital marketing concepts. 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 for professional conduct.

## Master of Science in Digital Marketing Learning Goals

Graduates from the NIU Department of Marketing's Master of Science in digital marketing program will fulfill the following learning goals:

### Learning Goal 1: Demonstrate Appropriate Knowledge of the Impact of Digital Technologies on Marketing Strategies

### Learning Goal 2: Demonstrate Problem Solving and Critical Thinking Skills

### Learning Goal 3: Demonstrate Communication and Presentation Skills

### Learning Goal 4: Demonstrate Marketing Metrics Skills

### Learning Goal 5: Demonstrate Global Business Environment Knowledge

### Learning Goal 6: Demonstrate Ethical Business Practice Awareness

## Admission

Admission to the Master of Science in digital marketing program is competitive. At a minimum, applicants must meet the admission requirements of the NIU Graduate School and demonstrate that they possess the following minimum qualifications:

### For applicants with a baccalaureate or higher degree from an accredited U.S. college or university:

- Strong record of academic achievement demonstrated by cumulative GPA.  
*Note: The GMAT is not required but may be submitted to supplement the academic record if GPA does not fully demonstrate academic ability.*
- Positive recommendations, preferably from an academic source.

### For International applicants without a baccalaureate or higher degree from an accredited U.S. college or university:

- Strong record of academic potential demonstrated by GMAT score.
- Command of both oral and written English--those for whom English is not their first language must submit a minimum TOEFL (IBT) score of 80 or IELTS score of 6.5. Possession of a baccalaureate or higher degree from an accredited institution may serve in lieu of the TOEFL score.
- Positive recommendations, preferably from an academic source.

### For NIU University Honors/STEM baccalaureate graduates:

NIU University Honors students who graduate with a B.A. or B.S. in a STEM-related field are guaranteed admission into the Master of Science in Digital Marketing program as space permits. These students are exempt from the GMAT requirement.

## Degree Requirements (30-37)

The Master of Science in digital marketing consists of two phases. Phase One is designed to address deficiencies in undergraduate course work considered to be prerequisite for the Phase Two (30-31 semester hours) graduate course work. Students with significant undergraduate course work in business may be waived from some, or all, of the Phase One requirements.

Phase Two consists of 12 courses, five courses are required from Marketing Foundation (15 semester hours) and six courses are required from Digital Marketing Foundation (12-13 semester hours). Students must either complete a capstone project or a capstone thesis (3 semester hours).

### Phase One (6):

MKTG 505 - Graduate Survey of Marketing (2)  
 MKTG 515 - Marketing Metrics and Statistical Analysis Tools (2)  
 OMIS 507 - Business Information Systems (2)

### Phase Two (30-31):

#### Marketing Strategy Foundation (15)

##### Required courses (9):

MKTG 603 - Marketing Research and Analysis (3)  
 MKTG 654 - Marketing Management (3)  
 MKTG 670 - Digital Marketing Strategy (3)

Two of the following (6):

MKTG 626 - Brand Strategy (3)  
 MKTG 630 - Services Marketing (3)  
 MKTG 640 - Digital Selling Strategy (3)

MKTG 650 - Personal Selling for Managers (3)  
 MKTG 655 - Promotional Strategy (3)  
 MKTG 656 - Global Marketing Strategy (3)  
 MKTG 660 - Marketing Seminar (3)  
 MKTG 664 - New Product and Service Innovation (3)

### Digital Marketing Foundation (12-13)

Six of the following (12-13):

MGMT 627 - Entrepreneurial Creativity and Innovation (3)  
 MKTG 671 - Digital Marketing and Search Engine Optimization (2)  
 MKTG 672 - Mobile Marketing (2)  
 MKTG 673 - Social Media Marketing and Advertising (2)  
 MKTG 674 - Digital Marketing Campaign Measurement (2)  
 MKTG 675 - Content Marketing (2)  
 MKTG 677 - Building and Managing Responsive Websites (2)  
 MKTG 678 - Marketing Data Visualization (2)  
 MKTG 679 - Database Marketing (2)  
 MKTG 680 - Digital Marketing Metrics (2)  
 MKTG 682 - Online Reputation Management (2)

### Capstone (3)

MKTG 684 - Capstone Application in Digital Marketing (3)  
 OR MKTG 686 - Capstone Digital Marketing Project (3)

### 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.

515. MARKETING METRICS AND STATISTICAL ANALYSIS TOOLS (2). Introduction to key marketing metrics and statistical analysis tools utilized in the development and implementation of marketing strategies. Provides a working knowledge of a wide variety of metrics utilized across all facets of marketing including finance/investment analysis, marketing planning, customer analysis, competitor analysis, etc. Basic marketing statistical analysis tools are introduced and applied to address marketing challenges in such areas as customer acquisition and retention, customer lifetime value, digital marketing communication, costs per conversion, and product/pricing assessment. Extensive use of real-life case studies and hands-on examples.

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: MKTG 505 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 MKTG 515, 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 STRATEGY (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.

630. 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 in a global economy. Topics include the distinct elements of services marketing in multiple cultural environments, 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. Emphasis is placed on services marketing in a global context. PRQ: MKTG 505 or consent of department.

640. DIGITAL SELLING STRATEGY (3). Explores digital selling and current changes to the selling process including: researching prospects (digitally/socially), social listening, leveraging tools and techniques to connect with buyers, creating content to engage, building networks, and social branding. These components are combined to craft digital strategies to assist customers' journeys. PRQ: All Phase One courses 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.

650. 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. Role playing is utilized to develop skills and theoretical frameworks for the development of major accounts and the salesforce; selling skills for both dyadic and group situations, and presentations by students in a variety of business-related selling situations. 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.

670. DIGITAL MARKETING STRATEGY (3). Introduction to digital marketing strategy emphasizing the foundations of website development with search engine optimization, mobile advertising, inbound marketing, social media, and paid search. PRQ: All Phase One courses, and MKTG 603, and MKTG 654, or consent of department.

671. DIGITAL MARKETING AND SEARCH ENGINE OPTIMIZATION (2). Examination of effective digital marketing campaigns. Topics include a study of leading paid search, display, and mobile advertising platforms, as well as selecting keywords and testing content for maximum ROI. Provides a pathway for earning certifications for the most relevant search engines. PRQ: MKTG 603 and MKTG 670, or consent of department.

672. MOBILE MARKETING (2). Analysis of how mobile marketing helps organizations reach a specific audience on their smartphones, tablets, and other related devices. Designed to help marketers understand the latest mobile technologies and create compelling campaigns that take advantage of them. PRQ: MKTG 603 and MKTG 670, or consent of department.

673. SOCIAL MEDIA MARKETING AND ADVERTISING (2). In-depth examination of the use of social media platforms and websites to promote a product or service. Covers topics such as developing social media content calendars, using automated tools to manage campaigns and develop advertising campaigns that produce sales leads. Provides a pathway for earning relevant certifications for several leading social media platforms. PRQ: MKTG 603 and MKTG 670, or consent of department.

674. DIGITAL MARKETING CAMPAIGN MEASUREMENT (2). Develop means to use enterprise analytics tools to measure website, app, digital, and offline data to gain customer insights. Provides a pathway for earning certifications for leading search engine analytics tools. PRQ: MKTG 603 and MKTG 670, or consent of department.

675. CONTENT MARKETING (2). Development of a content marketing strategy that aligns with the organization's sales and marketing objectives prior to implementing social media channels. Covers how to choose a content marketing platform, build and optimize a blog, develop a comprehensive content calendar, and optimize inbound marketing content to improve organic search results and generate traffic to an organization's website. PRQ: MKTG 603 and MKTG 670, or consent of department.

677. BUILDING AND MANAGING RESPONSIVE WEBSITES (2). Design and implementation of websites which will serve as the center of an organization's digital marketing universe. Development of responsive designs that can be viewed on any desktop or mobile device. Provides the strategic and marketing framework in a hands-on manner to using open-source content management systems to create, optimize, and promote responsive websites that integrate seamlessly with social media channels and blogs. PRQ: MKTG 603 and MKTG 670, or consent of department.

678. MARKETING DATA VISUALIZATION (2). Learn how to visualize data to speed decision making by using digital marketing data sets. Topics include data acquisition, data cleansing, creating calculated measures, deciding on types of visualization, and building reports and dashboards. PRQ: MKTG 603 and MKTG 670, or consent of department.

679. DATABASE MARKETING (2). Examination of relational database management systems (RDBMS) from a marketing perspective. Focus on current marketing systems and their use in developing marketing campaigns to effectively reach a target audience of customers. PRQ: MKTG 603 and MKTG 670, or consent of department.

680. DIGITAL MARKETING METRICS (2). Understand how to create and implement key performance indicators (KPIs) used frequently by digital marketers. Study the components of each KPI and the source of data required to measure and track these KPIs using sample data sets and case studies. PRQ: MKTG 603 and MKTG 670, or consent of department.

682. ONLINE REPUTATION MANAGEMENT (2). Study of how to develop strategies to counteract negative publicity, brand, attacks, and competitor marketing offensives in a digital marketing environment. Topics include managing negative reviews and malicious attacks on an organization's reputation by using automated monitoring tools. Development of a comprehensive crisis communications plan designed to provide stakeholders step-by-step instructions on what to do when a negative attack occurs. PRQ: MKTG 603 and MKTG 670 and MKTG 672 and MKTG 674.

684. CAPSTONE APPLICATION IN DIGITAL MARKETING (3). Individual study related to digital marketing and its application to marketing strategy. Specific topic to be determined by the student and the capstone instructor. PRQ: Completion of all Marketing Foundation requirements and completion of 10 or more hours of Digital Marketing Foundation course work.

686. CAPSTONE DIGITAL MARKETING PROJECT (3). Comprehensive project involving individuals working with a for- or non-profit organization to develop a digital advertising or marketing plan. Student and capstone instructor work together to develop a proposal. PRQ: Completion of all Marketing Foundation requirements and completion of 10 or more hours of Digital Marketing Foundation course work.

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)

Chair: Chang Liu

## Graduate Faculty

Xinyan Cao, assistant professor, Ph.D., University of Wisconsin  
 Charles E. Downing, Distinguished Teaching Professor, Ph.D., Northwestern University  
 Kishen Iyengar, assistant professor, Ph.D., University of Texas  
 Jungyoung Lee, assistant professor, Ph.D., Michigan State University  
 Min Kyung Lee, assistant professor, Ph.D., Clemson University  
 Chang Liu, professor, D.B.A., Mississippi State University  
 Yipeng Liu, assistant professor, Ph.D., University of Florida  
 Onkar Malgonde, assistant professor, Ph.D., University of South Florida  
 Kathleen L. McFadden, Board of Trustees Professor, Ph.D., University of Texas, Arlington  
 John Pendergrass, assistant professor, Ph.D., University of Illinois, Urbana-Champaign  
 Charles G. Petersen II, professor, Ph.D., Indiana University  
 Balaji Rajagopalan, professor, Ph.D., University of Memphis  
 Andrew J. Setterstrom, assistant professor, Ph.D., Southern Illinois University  
 Jiao Wu, assistant professor, Ph.D., University of Wisconsin

## Master of Science in Data Analytics

The M.S. program in data analytics provides students the advanced knowledge and skills to analyze organizational data. The use of analytics is accelerating due to technological advancements, exponential growth in data, and increasingly sophisticated application by organizations. Analytics is embedded in all industries, business functions, and employee workflows. The program prepares students for data-driven leadership and problem solving. Graduates of the M.S. in data analytics will be data-driven thinkers to approach business decision-making more rigorously and confidently, while effectively communicating data findings, interpreting complex data, and guiding their organizations in making more informed and actionable strategic decisions.

The program is in an online format for a large population of potential graduate students who cannot commit to either a full-time or location-based program to obtain the advanced degree. The program consists of two phases. Phase One (6 semester hours) is designed to address deficiencies in undergraduate course work considered to be prerequisite for the Phase Two (30 semester hours) graduate course work. Students with significant undergraduate course work in business may be waived from some, or all, of the Phase One requirements. Exemption exams are also available to waive Phase One requirements. There is no charge for the exam, however, a student may only attempt each exam once. Phase Two consists of 10 courses to ensure an in-depth study in data analytics.

## Learning Outcomes

### Master of Science in Data Analytics Learning Goals and Objectives

Graduates from the NIU Department of Operations Management and Information Systems' Master of Science in data analytics program will fulfill the following learning outcomes.

### Learning Outcome 1: Demonstrate Data-Driven Problem Solving and Decision Making Skills

- 1.1 Demonstrate how analyzing data can improve decisions throughout an organization's value chain.
- 1.2 Research and evaluate emerging technologies and data analytics trends in order to develop innovative data-driven organizational strategies and solutions.

### Learning Outcome 2: Demonstrate the Ability to Access, Collect, Integrate, and Analyze Data in Order to Solve Business Problems

- 2.1 Differentiate different forms of analytics and the methods used in each.
- 2.2 Prepare data for statistical analysis.
- 2.3 Use analytical tools and software widely used in practice.
- 2.4 Perform basic exploratory and descriptive analysis, as well as predictive and prescriptive analyses.
- 2.5 Explain complex analytical models.

### Learning Outcome 3: Demonstrate Business Communication and Presentation Skills

- 3.1 Effectively present results using data visualization tools.
- 3.2 Communicate and present complex analytics results to business clients, using practical and simple business terms that can be understood by general non-technical audiences.

### Learning Outcome 4: Demonstrate Project Management and Critical Thinking Skills

- 4.1 Manage a data analytics project to interpret complex data and to guide their organizations in making more informed and actionable decisions.
- 4.2 Analyze critical factors leading to the identification of a business problem or opportunity. This may also lead to smarter business moves, more efficient operations, higher profits, and happier customers.

## Admission

Admission to the Master of Science in data analytics program is competitive. At minimum, applicants must meet the admission requirements of the NIU Graduate School and demonstrate that they possess the following minimum qualifications:

For applicants with a baccalaureate or higher degree from an accredited U.S. college or university:

- Strong record of academic achievement demonstrated by cumulative GPA.
- The GMAT/GRE is not required but may be submitted to supplement the academic record if GPA does not fully demonstrate academic ability.

For International applicants without a baccalaureate or higher degree from a U.S. college or university, GRE or GMAT is required for admission:

- Strong record of academic potential demonstrated by GMAT or GRE score.
- Official IELTS (minimum 6.5 overall) or TOEFL (minimum 80) score received directly from the testing agency.
- For NIU University Honors graduates:

NIU University Honors students who graduate with a B.A. or B.S. are guaranteed admission into the Master of Science in Data Analytics (MSDA) program as space permits.

### Phase One (6)

The Phase One foundations consist of three 2-semester-hour courses. Phase One foundation courses will be required in students' program of study unless they have earned a C or better in corresponding undergraduate courses or a B or better in equivalent graduate courses elsewhere, or have passed the first and only attempt of Phase One exemption examination. The department program adviser will determine which Phase One courses will be included in students' program of courses. Credits earned in Phase One will not count toward the Phase Two requirements. Phase One consists of the following courses:

OMIS 505 - Principles of Operations Management (2)  
OMIS 507 - Business Information Systems (2)  
OMIS 524 - Business Statistics (2)

### Phase Two (30)

#### Business and Communication (9)

MSDA 628X - Supply Chain Business Analytics (3)  
MSDA 673X - Business Data Visualization (3)  
MSDA 690X - Information Technology Project Management (3)

#### Statistics (3)

MSDA 645X - Applied Statistics for Business Analytics Using SAS (3)

#### Programming (3)

MSDA 649X - Business Computing Environment (3)

#### Big Data (15)

MSDA 652X - Business Applications of Database Management Systems (3)  
MSDA 661X - Business Intelligence Applications and Tools (3)  
MSDA 665X - Big Data Analytics for Business (3)  
MSDA 681X - Advanced Predictive Data Analytics for Business (3)  
MSDA 683X - Business Applications of Text Mining (3)

#### Total hours (30-36)

## 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.

The program consists of two phases. Phase One is designed to address deficiencies in undergraduate course work considered to be prerequisite for the Phase Two (30 semester hours) graduate course work. Students with significant undergraduate course work in business may be waived from some, or all, of the Phase One requirements. Exemption exams are also available to waive Phase One requirements. There is no charge for the exam, however, a student may only attempt each exam once.

Phase Two consists of 10 courses, seven of which are required of all majors and three of which consist of elective courses selected by the student with the approval of the academic program coordinator. Whereas the required courses ensure an in-depth exposure to important management information systems issues and technology, the elective courses enable the student to survey related areas or to focus in a particular area of his or her choice. Moreover, the focus

can also be achieved through selecting courses from the Business Analytics Specialization and/or SAP and Business Enterprise Computing Specialization offered in the program.

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.

Each MIS student will not be allowed to take more than 12 credit hours per semester.

NIU University Honors students who graduate with a B.A. or B.S. are guaranteed admission into the Master of Science in Management Information Systems (MIS) program as space permits.

### Master of Science in Management Information Systems Learning Goals and Objectives

1. The NIU MIS program provides advanced study to prepare students with **professional skills, values, and attitudes** for the challenges of the professional practice of information technology. The **learning outcomes** of the professional skills, values, and attitudes are: The students will be able to:

- P1) Communicate effectively both written and orally.
- P2) Work effectively in teams to solve MIS/Business-related problems.
- P3) Understand the role of leadership in carrying out IT strategy and directing teams.
- P4) Demonstrate strong ethical principles and apply professional rules of conduct.
- P5) Demonstrate analytical skills in terms of effective decision-making and problem solving.

2. The NIU MIS program provides advanced study to prepare students to be able to make solid **business driven decisions**. The **learning outcomes** of making business driven decisions are: The students will be able to:

- D1) Understand the role of MIS in supporting organizational decision-making and for achieving competitive advantage.
- D2) Develop appropriate IT strategies & policies for organizations.
- D3) Understand the social, political, & strategic value of information creation, access, ownership, & use in a global environment.
- D4) Research & evaluate emerging technologies and MIS trends in order to develop innovative organizational solutions.

3. The NIU MIS program provides advanced study to prepare students to have **MIS knowledge and skills**. The **learning outcomes** of MIS knowledge and skills are: The students will be able to:

- S1) Demonstrate skills in modeling organizational processes, business rules, and data, as well as defining and implementing technical and process solutions.
- S2) Apply project management concepts, processes, knowledge areas, and tools to plan and manage IT projects that bring value to organizations.
- S3) Develop a computer-based application using a contemporary computer language or development tool.
- S4) Demonstrate a socio-technical understanding that systems consist of people, processes, software, hardware, and data.
- S5) Design and evaluate secure computer networks.

### Phase One

The Phase One foundations consist of four 2-semester-hour courses. Phase One foundation courses will be required in the student's program of study unless he or she 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 department MIS program adviser will determine which Phase One courses will be included in each student's program of courses. Phase One courses cannot be used as Phase Two electives; credits earned in Phase One will not count toward the Phase Two requirements.

Phase One consists of the following courses:

ACCY 505 - Financial Accounting Concepts (2)  
FINA 505 - Fundamentals of Financial Management (2)

OMIS 507 - Business Information Systems (2)

One of the following (2)

MGMT 505 - Principles of Management (2)  
MKTG 505 - Graduate Survey of Marketing (2)  
OMIS 505 - Principles of Operations Management (2)

### Phase Two - Required Courses (18)

OMIS 598 - Career Planning in Management Information Systems (0)

OMIS 599 - Degree Completion Seminar (0)

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 690 - Information Technology Project Management (3)

### Phase Two - Electives (12)

To be selected from the following courses or from among relevant graduate offerings elsewhere in the university with approval of the academic program coordinator.

OMIS 605 - Independent Study in Information Systems (3)

OMIS 645 - Applied Business Analytics Using SAS (3)

OMIS 653 - Enterprise Systems Configuration with SAP (3)

OMIS 661 - Business Intelligence Applications and Tools (3)

OMIS 665 - Big Data Analytics for Business (3)

OMIS 670 - Social Media Analytics for Business (3)

OMIS 682 - Advanced Networking and Network Security (3)

OMIS 694 - Advanced Topics in Information Systems (3)

OMIS 695 - Internship in Management Information Systems (3)

OMIS 698 - Projects in Management Information Systems (3)

A specialization is not required to complete the MIS program. But students may choose one or two of the following specializations in the program.

### Specialization in Business Analytics (9)

The specialization in Business Analytics is for the students to solve complex decision problems in a business environment with a combination of quantitative skills, modeling techniques, and hands-on expertise using current software applications for data driven decision making. Students with these skills are in high demand in a variety of industries and sectors including accounting, management, marketing, finance, information systems, operations, health care, engineering, and energy. Equipped with a solid technical foundation in data analysis and model-driven management decision making, this specialization prepares students for successful careers in this growing field.

#### Specialization in Business Analytics consists of the following courses:

OMIS 645 - Applied Business Analytics Using SAS (3)

OMIS 665 - Big Data Analytics for Business (3)

OMIS 670 - Social Media Analytics for Business (3)

Students who choose this specialization will use the above three courses and one other elective course to serve the Phase Two Elective requirement.

### Specialization in SAP and Business Enterprise Computing (9)

SAP is the market leader in business enterprise computing software and Business Enterprise Computing is a broad category of technologies, applications, and practices for gathering, storing, accessing, and analyzing enterprise data to support effective business operations. The specialization in SAP and Business Enterprise Computing will allow the students to understand how to run organizations more effectively by improving various business processes and using SAP technology.

#### Specialization in SAP and Business Enterprise Computing consists of the following courses:

OMIS 653 - Enterprise Systems Configuration with SAP (3)

OMIS 661 - Business Intelligence Applications and Tools (3)

OMIS 663 - Advanced Business Application Development and Analytics Using SAP (3)

Students who choose this specialization will use the above three courses and one other elective course to serve the Phase Two Elective requirement.

### Certificates of Graduate Study

#### Data Science for Business (12)

Coordinator: Academic Adviser, Department of Operations Management and Information Systems

This certificate is offered in online format and is designed for all majors who would like to become data science professionals looking to harness data in new and innovated ways. The use of analytics is accelerating due to technological advancements, exponential growth in data, and increasingly sophisticated application by organizations. Analytics is embedded in all industries, business functions, and employee workflows. Data science professionals are the most advanced analytics professionals. They have advanced capabilities in programming, modeling, and machine learning.

The certificate brings together technology, data, and strategic decision making and prepares students to work in a data-rich environment in making more informed and actionable strategic decisions.

Students must maintain good academic standing within the university, achieve a minimum grade of a C in each course applied toward the certificate, and complete all certificate course work within a period of four calendar years. Only courses taken at NIU may be applied toward the certificate. Some courses may have 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. Applications are available in the Department of Operations Management and Information Systems.

#### Required Courses

MSDA 645X - Applied Business Analytics Using SAS (3)

MSDA 649X - Business Computing Environments (3)

MSDA 681X - Advanced Predictive Data Analytics for Business (3)

MSDA 683X - Business Applications of Text Mining (3)

#### Enterprise Management Using SAP Software (12)

Coordinator: Academic Adviser, Department of Operations Management and Information Systems

This certificate is designed for all working professionals who wish to have a certificate in Enterprise Management using SAP software. Enterprise software is a category of computer programs used to run a business. Enterprise software is designed to solve organization-wide problems, rather than individual departmental problems. The goal for an organization adopting enterprise software is improved

productivity and efficiency through better management of its core business processes. The market leader in enterprise software is SAP. A certificate in Enterprise Management Using SAP Software will give working professionals the opportunity to add value to their positions through advanced course work, to obtain credentials necessary to support their current position, and increase employability within the field of enterprise software, particularly in the SAP job market space.

Students must achieve a minimal grade of B in each course applied toward the certificate requirements. Only courses taken at NIU may be applied toward the certificate. Students interested in the certificate should apply no later than the beginning of their final semester, but they are urged to apply as soon as they begin their course work. Applications are available in the Department of Operations Management and Information Systems.

#### **Pre-Admission Requirements:**

OMIS 507 - Business Information Systems (2),  
OR OMIS 351 - Information Systems in Organizations (3)

#### **Required Courses:**

OMIS 643 - Enterprise Process Improvement (3)  
OMIS 653 - Enterprise Systems Configuration with SAP (3)  
OMIS 661 - Business Intelligence Applications and Tools (3)  
OMIS 663 - Advanced Business Application Development and Analytics Using SAP (3)

### **Data Analytics Using SAS Software—SAS Joint Certificate program (12)**

Coordinator: Steven Kispert, Department of Operations Management and Information Systems

This certificate is designed for all graduate students. It helps organizations harness their data and use it to identify new opportunities. That, in turn, leads to smarter business moves, more efficient operations, higher profits and happier customers. The explosion of data isn't new. What has changed is the velocity of growth, the diversity of the data and the imperative to make better use of information to transform the business. Data Analytics has been consistently ranked as one of the top 10 hottest technical areas by the ComputerWorld. This is true across every industry and discipline, including: accounting, management, marketing, finance, information systems, operations, health care, engineering, and energy. Nearly all organizations need talented professionals who understand how to manage data and how to gain clarity from it.

SAS is the leader in business analytics application software. SAS analytical talent is in short supply and high demand in today's business world. This certificate is a SAS Joint Certificate Program approved by SAS Global Academic Program to prepare students to work in a data-rich environment.

Students must maintain good academic standing within the university, achieve a minimum grade of a B in each course applied toward the certificate. Some courses may have 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. Applications are available in the Department of Operations Management and Information Systems.

#### **Required Courses**

OMIS 645 - Applied Statistics for Business Analytics Using SAS (3)  
OMIS 661 - Business Intelligence Applications and Tools (3)  
OMIS 665 - Big Data Analytics for Business (3)  
OMIS 670 - Social Media Analytics for Business (3)

## **Course List**

### **M.S. Data Analytics (MDSA)**

628X. SUPPLY CHAIN BUSINESS ANALYTICS (3). Crosslisted as OMIS 628. Development and application of optimization methods to analyze supply chain issues. Covers linear programming, network optimization, integer programming, and nonlinear programming with an emphasis on model formulation, solution techniques, and interpretation of results.

645X. APPLIED STATISTICS FOR BUSINESS ANALYTICS USING SAS (3). Crosslisted as OMIS 645. Comprehensive study of statistical methods in business analytics using SAS. Emphasis on the appropriate data analyses and interpretation of the results to assist business leaders in decision making.

649X. BUSINESS COMPUTING ENVIRONMENT (3). Crosslisted as OMIS 649. Introduces students to the fundamentals of data management and analysis using SAS and R. Emphasis will be placed on the management of large distributed data sets and data manipulation, including reading, processing, recoding, and reformatting of data. Topics of this course include: advanced programming, using SQL with SAS and R, and optimizing SAS and R programs.

652X. BUSINESS APPLICATIONS OF DATABASE MANAGEMENT SYSTEMS (3). Crosslisted as OMIS 652. 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.

661X. BUSINESS INTELLIGENCE APPLICATIONS AND TOOLS (3). Crosslisted as OMIS 661. Provides a foundation in the area of business intelligence (BI). Introduction to various BI technologies such as Microsoft SQL Server Management Studio, Analysis Services, Reporting Services, and/or SAP Business Objects to analyze enterprise data. Use of software tools to build an end-to-end BI solution. PRQ: MSDA 652X or consent of department.

665X. BIG DATA ANALYTICS FOR BUSINESS (3). Crosslisted as OMIS 665. In-depth study of the concepts, methods, and tools for Data Science and Big Data Analytics with the focus on business scenarios. Topics include the Data Analytics Lifecycle, Basic Data Analytics Methods using the open-source RStudio, Advanced Analytics Theories and Methods including Clustering, Association Rules, Linear and Logistic Regression, Classification and Time Series Analysis, and Advanced Analytics Technology and Tools including the open-source software MapReduce and Hadoop. PRQ: MSDA 652X or Consent of department.

673X. BUSINESS DATA VISUALIZATION (3). Crosslisted as OMIS 673. Visualization design and evaluation principles. Creating visualizations that effectively communicate the meaning behind data to people through visual perception. Comprehensive understanding of data visualization and the abilities to apply techniques for visualizing multivariate, text-based, temporal, geospatial, hierarchical, and network/graph-based data. Required use of SAS and R software. Application of related concepts and techniques in case studies to lead data-driven decisions in the real business world. PRQ: Consent of department.

681X. ADVANCED PREDICTIVE DATA ANALYTICS FOR BUSINESS (3). Crosslisted as OMIS 681. Comprehensive study of advanced predictive modeling methods and tools used in business to predict future events or to discover meaningful patterns. Emphasis on formulating predictive analytics questions, determining the most appropriate predictive analytics methods and tools, and interpreting results and presenting data-driven solutions.

683X BUSINESS APPLICATIONS OF TEXT MINING (3). Crosslisted as OMIS 683. Introduction to the power of large amounts of text data and the computational methods to find patterns in such large texts using R. Focus will be geared more towards the application of various text mining techniques to business problems, rather than on the intricacies of different algorithms.

690X. INFORMATION TECHNOLOGY PROJECT MANAGEMENT (3). Crosslisted as OMIS 690. 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.

### Operations Management and Information Systems (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 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.

598. CAREER PLANNING IN MANAGEMENT INFORMATION SYSTEMS (0). Career planning and job search skills of benefit to students in their initial employment search and throughout their careers. Topics include, but are not limited to, researching a company, writing a resume and cover letter, and interviewing techniques. PRQ: Management Information Systems major or consent of department.

599. DEGREE COMPLETION SEMINAR (0). Completion of the MIS program assessment and exit survey during the last semester of the program. S/U grading.

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. BUSINESS PROCESS SIMULATION MODELING (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. SUPPLY CHAIN BUSINESS ANALYTICS (3). Crosslisted as MSDA 628X. Development and application of optimization methods to analyze supply chain issues. Covers linear programming, network optimization, integer programming, and nonlinear programming with an emphasis on model formulation, solution techniques, and interpretation of results.

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.

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.

645. APPLIED BUSINESS ANALYTICS USING SAS (3). Crosslisted as MSDA 645X. Comprehensive study of statistical methods in business analytics using SAS. Emphasis on the appropriate data analyses and interpretation of the results to assist business leaders in decision making.

649. BUSINESS COMPUTING ENVIRONMENTS (3). Crosslisted as MSDA 649X. Introduces students to the fundamentals of data management and analysis using SAS and R. Emphasis will be placed on the management of large distributed data sets and data manipulation, including reading, processing, recoding, and reformatting of data. Topics include: advanced programming, using SQL with SAS and R, and optimizing SAS and R programs.

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). *Crosslisted as MSDA 652X*. 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.

653. ENTERPRISE SYSTEMS CONFIGURATION WITH SAP (3). Continues to build skills and knowledge about SAP. Provides a thorough understanding of both the role that Enterprise Resource Planning Systems (ERPs) play in an organization and the challenging task of implementing and configuring the Information System (IS) function. Projects and case studies will be assigned that afford the opportunity to work through many real-life business situations using the SAP ERP Central Component (ECC) system and explore the interaction among the different business processes.

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 INTELLIGENCE APPLICATIONS AND TOOLS (3). *Crosslisted as MSDA 661X*. Provides a foundation in the area of business intelligence (BI). Introduction to various BI technologies such as Microsoft SQL Server Management Studio, Analysis Services, Reporting Services, and/or SAP Business Objects to analyze enterprise data. Use of software tools to build an end-to-end BI solution. PRQ: OMIS 652 or consent of department.

663. ADVANCED BUSINESS APPLICATION DEVELOPMENT AND ANALYTICS USING SAP (3). SAP is the global market leader in ERP software. Covers advanced topics in SAP ERP. Topics include customization of SAP ERP using ABAP and the use of SAP tools to carry out the data analytics lifecycle. PRQ: OMIS 643.

665. BIG DATA ANALYTICS FOR BUSINESS (3). *Crosslisted as MSDA 665X*. In-depth study of the concepts, methods, and tools for Data Science and Big Data Analytics with the focus on business scenarios. Topics include the Data Analytics Lifecycle, Basic Data Analytics Methods using the open-source RStudio, Advanced Analytics Theories and Methods including Clustering, Association Rules, Linear and Logistic Regression, Classification and Time Series Analysis, and Advanced Analytics Technology and Tools including the open-source software MapReduce and Hadoop. PRQ: OMIS 645 or consent of department.

670. SOCIAL MEDIA ANALYTICS FOR BUSINESS (3). Designed to continue to build skills and knowledge about data analytics on consumer and enterprise social media platforms. Understanding of various analytics techniques to analyze data generated on consumer oriented social media platforms such as Twitter and Facebook as well as enterprise social media platforms such as Yammer and Chatter. Focus on understanding how businesses can leverage data to meet the objectives of their business functions such as information technology, marketing, and customer relationship management.

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.

673. BUSINESS DATA VISUALIZATION (3). *Crosslisted as MSDA 673X*. Visualization design and evaluation principles. Creating visualizations that effectively communicate the meaning behind data to people through visual perception. Comprehensive understanding of data visualization and the abilities to apply techniques for visualizing multivariate, text-based, temporal, geospatial, hierarchical, and network/graph-based data. Required use of SAS and R software. Application of related concepts and techniques in case studies to lead data-driven decisions in the real business world. PRQ: 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.

681. ADVANCED PREDICTIVE DATA ANALYTICS FOR BUSINESS (3). *Crosslisted as MSDA 681X*. Comprehensive study of advanced predictive modeling methods and tools used in business to predict future events or to discover meaningful patterns. Emphasis on formulating predictive analytics questions, determining the most appropriate predictive analytics methods and tools, and interpreting results and presenting data-driven solutions.

682. ADVANCED NETWORKING AND NETWORK SECURITY (3). In depth examination of the design, implementation and management of business network systems with an emphasis on network security. PRQ: OMIS 660 or consent of department.

683. BUSINESS APPLICATIONS OF TEXT MINING (3). *Crosslisted as MSDA 683X*. Introduction to the power of large amounts of text data and the computational methods to find patterns in such large texts using R. Focus will be geared more towards the application of various text mining techniques to business problems, rather than on the intricacies of different algorithms.

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). *Crosslisted as MSDA 690X*. 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.

692. ADVANCED PROJECT MANAGEMENT IN BUSINESS (3). An in-depth study of advanced topics for managing information technology (IT) projects in business. An emphasis on case studies and simulations to provide a deeper understanding of key project management areas such as project selection, project planning, and project decision making. PRQ: OMIS 690 or consent of department.

694. ADVANCED TOPICS IN INFORMATION SYSTEMS (3-9). 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 9 semester hours provided no repetition of topic occurs. Concurrent enrollment in multiple sections and topics is permissible with a maximum of 6 semester hours per semester. 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: Laurie Elish-Piper, Ph.D.**

**Associate Dean, Academic Affairs: David Walker, Ph.D.**

**Associate Dean: William Pitney, Ed.d.**

Department of Counseling and Higher Education  
 Department of Curriculum and Instruction  
 Department of Educational Technology, Research and Assessment  
 Department of Kinesiology and Physical Education  
 Department of Leadership, Educational Psychology and Foundations  
 Department of Special and Early Education

## 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.

## State Requirements for Educator Licensure

### Basic Skills Testing

Successful completion of the Illinois Licensure Testing System (ILTS) Test of Academic Proficiency is required for entry into most educator licensure 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 an educator licensure program and need to take this test should register for and take the ICTS Test of Academic Proficiency as soon as possible.

### Grade Minimum

All professional education and content-area course work that forms part of an application for licensure, endorsement, or approval must have been passed with a grade no lower than C or equivalent in order to be counted towards fulfillment of the applicable ISBE requirements. Students must see individual program advisors for list of courses.

## Educator Licensure

In order to be licensed 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 licensure 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 licensure 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 licensure by entitlement and endorsement. Licensure is not an automatic procedure. In order to qualify for licensure, each student in an entitlement program must complete an application for licensure 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 licensure and endorsement programs are available at the graduate level only and are approved by the Illinois State Board of Education.

Special K-12  
 Library Information Specialist  
 Reading  
 Technology Specialist  
 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 "Educator Licensure 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 licensure 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 - Issues of Diversity in Children's Literature (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 - Visual and Print Literacy in Children's Literature (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 Professional Educator License (PEL). It is available to candidates who can document two full years of full-time special education teaching or service as a school social worker, school psychologist, school nurse, school counselor, or speech-language pathologist with a valid PEL. Candidates must have 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 and pass the appropriate content area test prior to recommendation for the Director of Special Education endorsement. Application materials for this certificate are available through the Department of Special and Early Education. The following sequence of courses meets requirements for the Director of Special Education certificate as delineated by the Illinois State Board of Education.

- LEEA 575/SESE 575X - Special Education Finance (3)
- LEEA 577 - Administration and Supervision of Special Education (3)
- LEEA 726 - Special Education: Leadership and the Law (3)
- SESE 592 - Seminar in Special Education (3),  
OR SESE 747 - Advanced Seminar in Special Education (3)
- SESE 760 - Director of Special Education (3)
- SESE 765 - Seminar: Professional Collaboration in Schools (3)
- SESE 786 - Internship in Special Education (2)

### 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.

# Department of Counseling and Higher Education (CAHC, CAHE, HESA)

Chair: Suzanne E. Degges-White

## Graduate Faculty

Adam W. Carter, assistant professor, Ph.D., University of North Carolina at Charlotte  
 Suzanne E. Degges-White, professor, Ph.D., University of North Carolina at Greensboro  
 Melissa Fickling, assistant professor, Ph.D., University of North Carolina at Greensboro  
 Teresa A. Fisher, professor, Ph.D., University of Illinois  
 LaVerne Gyant, professor, Ed.D., Pennsylvania State University  
 Xiaodan Hu, assistant professor, Ph.D., University of Florida  
 Dana Isawi, assistant professor, Ph.D., University of North Carolina at Charlotte  
 Katy S. Jaekel, assistant professor, Ph.D., Iowa State University  
 Carrie A. Kortegast, assistant professor, Ph.D., Iowa State University  
 Scott Wickman, associate professor, Ph.D., Southern Illinois University

The Department of Counseling and Higher Education offers graduate courses leading to the degrees: Master of Science in Education, Doctor of Education, and Doctor of Philosophy. The department advances scholarly activity for faculty and students and supports individual and collaborative efforts in institutional and noninstitutional settings.

Students interested in educator licensure should also see "Educator Licensure Information."

## Master of Science in Education<sup>1</sup>

Higher education and student affairs  
 Counseling

## Doctor of Education<sup>1</sup>

Higher education

## Doctor of Philosophy<sup>1</sup>

Counselor education and supervision

## Admission

The faculty in the Department of Counseling 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 Higher Education and Student Affairs

This 36-semester-hour program offers theoretical and methodological bases for professional development, while providing comprehensive scholarly, paraprofessional 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. This program is designed to prepare students to assume a variety of administrative positions within postsecondary institutions.

The student learning outcomes for this degree are located at <http://www.niu.edu/assessment/clearinghouse/outcomes/index.shtml>.

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

A maximum of 9 student-at-large and transfer semester hours in combination may be applied toward the master's degree in higher education and student affairs. 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 higher education and student affairs.

## Requirements

The The M.S.Ed. in higher education and student affairs requires a minimum of 36 semester hours. Students are required to take 24 semester hours of the common core, 3 semester hours of internship, and 9 semester hours of electives. Focus areas will be developed in consultation with and approved by their adviser.

In no case will a master's degree student be allowed to register for HESA 598, Capstone in Higher Education and Student Affairs, or HESA 699, Master's Thesis, without having completed 27 semester hours of course work in a master's level program approved by the higher education and student affairs adviser.

## Non-Thesis Option

### Specialization in Adult Education

Students are required to take 15 semester hours of the specialization core, 6 semester hours of research core, 3 semester hours of internship, and 12 semester hours in a focus area. Focus areas will be developed in consultation with and approved by the adviser. Students have the option to complete a certificate offered by adult and higher education.

This specialization is designed to prepare students to assume a variety of administrative positions within academic institutions, community-based programs, healthcare, corporate businesses and governmental organizations. Students can choose to complete a focus area in teaching and adult development, community programming and development, or develop another focus area with adviser's approval.

**Specialization Core**

- CAHA 500 - The Nature of Adult 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 Postsecondary Contexts (3)
- CAHA 598 - Issues in Adult and Higher Education (3)

**Research Core**

- CAHA 710 - Evaluating Adult Education Programs (3)
- ETR 520 - Introduction to Research Methods in Education (3)

**Internship Core**

- CAHA 586 - Internship in Adult and Higher Education (3)  
(This requirement may be waived through current professional experience as approved by program adviser.)

**Suggested Focus Areas**

Twelve semester hours in one of the following focus areas with approval of adviser or a focus area developed in consultation with program adviser.

**Teaching and Adult Development**

- Four of the following:
- CAHA 530 - Instructional Theory, Practice and Teaching in Postsecondary Education (3)
- CAHA 560 - Nontraditional Adult Higher Education (3)
- CAHA 759 - Critical and Feminist Pedagogies in Adult and Higher Education (3)
- ETT 535 - Distance Education: Design and Delivery (3)
- ETT 536 - Web-Based Learning (3)
- Elective approved by adviser (3)

**Community Programming and Development**

- Four of the following:
- CAHA 545 - Planning and Promoting Noncredit Adult Education (3)
- CAHA 581 - Community Project Development and Adult Education (3)
- CAHA 722 - Adult and Higher Education in Social Context (3)
- CAHE 544 - Alternatives in the Counseling and Placement of Adults (3)
- Elective approved by adviser (3)

**Specialization in Higher Education**

Students are required to take 15 semester hours of the specialization core, 6 semester hours of research core, 3 semester hours of internship, and 12 semester hours in a focus area. Focus areas will be developed in consultation with and approved by their adviser. Students have the option to complete a certificate offered by adult and higher education.

This specialization is designed to prepare students to assume a variety of administrative positions within postsecondary institutions. Students can choose to complete a focus area in student affairs administration, higher education leadership, or develop another focus area with adviser's approval.

**Specialization Core**

- CAHA 598 - Issues in Adult and Higher Education (3)
- CAHE 500 - Foundations of Higher Education (3)
- CAHE 502 - Equity, Diversity, and Social Justice in Higher Education (3)
- CAHE 503 - U.S. College Students (3)
- CAHE 522 - College Student Development Theory (3)

**Research Core**

- CAHE 572 - Assessment Methods in Higher Education (3)
- ETR 520 - Introduction to Research Methods in Education (3)

**Internship Core**

- CAHA 586 - Internship in Adult and Higher Education (3)  
(This requirement may be waived through current professional experience as approved by program adviser.)

**Suggested Focus Areas**

One of the following focus areas with approval of adviser or a focus area developed in consultation with program adviser.

**Student Affairs Administration**

- Four of the following:
- CAHA 562 - Helping Skills for Student Affairs Professionals (3)
- CAHE 509 - Campus Environments and Student Cultures (3)
- CAHE 523 - Advocacy, Outreach, and Interventions in Student Affairs (3)
- CAHE 701 - Student Affairs Administration and Practice (3)
- CAHE 702 - Advanced College Student Development Theory (3)
- Elective approved by adviser (3)

**Higher Education Leadership**

- Four of the following:
- CAHA 555 - Seminar in the Community College (3)
- CAHE 703 - Postsecondary Access in Higher Education (3)
- CAHE 770 - The Administration of Higher Education (3)
- CAHE 771 - Legal Aspects of Higher Education Administration (3)
- CAHE 772 - Financing Higher Education (3)
- Elective approved by adviser (3)

**Thesis Option**

Same as the non-thesis option except that instead of taking HESA 598 for 3 semester hours, students complete 6 semester hours of HESA 699, Master's Thesis.

**Comprehensive Examination**

Students in the non-thesis option fulfill the comprehensive examination requirement by successfully completing a comprehensive writing assignment while enrolled in CAHA 598. 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.

The student learning outcomes for this degree are located at <http://www.niu.edu/assessment/clearinghouse/outcomes/index.shtml>.

**Admission**

An applicant must demonstrate satisfactory academic and professional progress as indicated by data included in the application for admission to the Graduate School and separate application to the counseling program.

Applicants to the program in counseling must attend a pre-admission workshop and be selected by the faculty on the basis of aptitude, ability, professional disposition and personal qualifications requisite for the field. Prior to the pre-admission workshop, applicants must complete the supplementary data forms and take any required tests. Admission to the master's program in counseling is competitive and takes place once a year in the spring. Students are admitted for the summer session or fall semester. All materials must be received by the Graduate School and the Department of Counseling and Higher Education by February 1. Applicants are usually notified of an admission decision within three weeks of the pre-admission workshop.

Prospective students who fail to satisfy the Graduate School's GPA requirement may request special consideration of their applications.

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.

Admitted students will be required to successfully pass a Criminal Background Check before progressing into their practicum field-based curriculum experiences.

### 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 60 semester hours. Students are required to take 39 semester hours in the core curriculum, 12 semester hours of the specialization core, and 9 semester hours in supervised practicum and internship. Students select from one of the following: a specialization in clinical mental health counseling or a specialization in school counseling. In consultation with an adviser, the student selects a thesis or non-thesis option.

### Common Core (39)

CAHC 500 - Professional Identity and Ethics in Counseling (3)  
 CAHC 501 - Diagnosis of Mental Health Issues in Counseling (3)  
 CAHC 510 - Counseling Interventions across the Lifespan (3)  
 CAHC 511 - Career Counseling (3)  
 CAHC 521 - Counseling Children and Adolescents (3)  
 CAHC 525 - Counseling Skills and Strategies (3)  
 CAHC 530 - Counseling Theories (3)  
 CAHC 533X - Standardized Testing (3)  
 CAHC 540 - Group Counseling (3)  
 CAHC 565 - Multicultural and Social Justice Counseling (3)  
 CAHC 567 - Substance Use and Addictions in Counseling (3)  
 CAHC 593 - Crisis Intervention (3)  
 ETR 520 - Introduction to Research Methods in Education (3)

### Clinical Core (9)

CAHC 550 - Practicum in Counseling (3)  
 CAHC 586 - Internship in Counseling (6)

### Specialization in Clinical Mental Health Counseling

This area of specialization is designed for students seeking professional counseling positions in agencies that assist clients to resolve psychological disorders and/or developmental issues through crisis intervention, remediation, and/or primary prevention interventions.

### Clinical Mental Health Counseling Specialization Core (12)

CAHC 524 - Clinical Mental Health Counseling: Programs, Issues, and Practices (3)  
 CAHC 784X - Systems, Couples, and Family Counseling (3)  
 Two electives chosen with adviser's approval (6)

### Specialization in School Counseling

This area consists of course work and experiences that prepare students to do counseling in a K-12 school setting. Candidates seeking professional educator licensure must successfully complete the Illinois Licensure Testing System (ILTS): Test of Academic Proficiency (TAP; or state approved substitution) no later than the semester prior to practicum. Candidates must also pass the tests required by their licensure field (ILTS School Counselor [181] exam) prior to internship. See also "Educator Licensure information."

### School Counseling Specialization Core (12)

CAHC 513 - Postsecondary and College Counseling for School Counselors (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 student who chooses the thesis option must enroll 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 Higher Education

The Ed.D. program in higher education provides a sequenced program with course work in areas of instruction, educational policy, administration, and research to prepare both generalists and specialists in the field. Doctoral students in higher education prepare for leadership and teaching roles in a variety of adult and higher education contexts including student affairs, academic affairs, and other areas of higher education administration.

The student learning outcomes for this degree are located at <http://www.niu.edu/assessment/clearinghouse/outcomes/index.shtml>.

### Application Deadlines

Admission to the doctoral program in higher education is competitive and takes place once a year in the spring. Students are admitted for the fall semester. All materials must be received by the Graduate School and the Department of Counseling and Higher Education no later than March 1.

### Admission

Admission to the doctoral program requires a master's degree either in higher education and student affairs 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 submit a resume/CV and written goals statement. An interview with the higher education admissions committee is required. The faculty reserves the right to request additional evidence of potential such as assessment letters from higher education faculty. Applicants must contact the admissions committee chair about additional requirements.

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

Students-at-large are normally prohibited from registering for higher education Ed.D. courses. Transfer students will be considered on a case-by-case basis and can transfer in a maximum of 9 semester hours into a student's doctoral degree program. See "Requirements for Graduate Degrees" for limitation on study-abroad credit.

## Requirements

Upon admission, students are expected to meet with their adviser to complete a program of study and choose an emphasis: College Teaching or Higher Education Administration.

The Ed.D. program in higher education requires a minimum of 54 semester hours beyond the master's degree. Students are required to take 21 semester hours of common requirements, 21 semester hours in their specialization, and 12 semester hours of dissertation.

### Common Requirements (21)

ETR 521 - Educational Statistics 1 (3)  
 HESA 570 - Organization, Personnel Management, and Academic Administration (3)  
 HESA 710 - Evaluating Higher Education Programs (3)  
 HESA 720 - Review of Research in Adult and Higher Education (3)  
 HESA 721 - Applied Research Design in Adult and Higher Education (3)  
 HESA 798 - Research Seminar in Adult and Higher Education (3)  
 HESA 770 - Administration of Higher Education (3)

### Area of Study (15)

Choose with guidance from academic adviser.

#### College Teaching

HESA 504 - Educating for Equity and Social Justice in Higher Education (3)  
 HESA 702 - Philosophy of Postsecondary Education (3)  
 HESA 530 - Instructional Theory, Practice and Teaching in Postsecondary Education (3)  
 HESA 733 - Theory Building for Learning in Postsecondary Education (3)  
 HESA 740 - Pedagogical Innovations and Student Learning (3)  
 HESA 759 - Critical and Feminist Pedagogies in Adult and Higher Education (3)  
 Elective (3)

#### Community College Leadership

HESA 555 - Seminar in the Community College (3)  
 HESA 575 - Public Policy Studies in Higher Education (3)  
 HESA 704 - Strategic Marketing and Enrollment Management (3)  
 HESA 740 - Pedagogical Innovations and Student Learning (3)  
 HESA 751 - Community College Students (3)  
 HESA 771 - Legal Aspects of Higher Education Administration (3)  
 HESA 772 - Financing in Higher Education (3)

#### Higher Education Administration

HESA 504 - Educating for Equity and Social Justice in Higher Education (3)  
 HESA 575 - Public Policy Studies in Higher Education (3)  
 HESA 702 - Philosophy of Postsecondary Education (3)  
 HESA 703 - Postsecondary Access in Higher Education (3)  
 HESA 771 - Legal Aspects of Higher Education Administration (3)  
 HESA 772 - Financing Higher Education (3)  
 Elective (3)

### HESA 799 - Doctoral Research and Dissertation (12)

When students pass the required exams and are eligible for dissertation, they must remain continuously enrolled and take a minimum of 3 semester hours of dissertation hours (HESA 799) per semester (spring, summer, and fall) to continue enrollment in the Ed.D. program.

## Examinations

Students will need to successfully pass their candidacy examination prior to registering for CAHA 799 - Doctoral Research and Dissertation.

Once a student has successfully completed the candidacy examinations and is admitted to candidacy, they must assemble a dissertation committee. This committee ordinarily includes a chair from the 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.

A final oral examination related to the dissertation is required and is conducted in accordance with the general requirements of the Graduate School.

## Specialization in Community College Leadership

The specialization in Community College Leadership is designed to prepare students to advance in a variety of administrative positions within community college settings. The cumulating experience for the program is a dissertation that takes an innovative, practice-based problem approach to research.

### Requirements

The Ed.D. in adult and higher education requires a minimum of 54 semester hours beyond master's degree. Students are required to take 27 semester hours of the community college core, 15 semester hours of the research core, and 12 semester hours of dissertation.

### Community College Core

CAHA 555 - Seminar in the Community College (3)  
 CAHA 570 - Organization, Personnel Management, and Academic Administration (3)  
 CAHA 575 - Public Policy Studies in Higher Education (3)  
 CAHA 740 - Pedagogical Innovations and Student Learning (3)  
 CAHE 503 - U.S. College Students (3)  
 CAHE 704 - Strategic Marketing and Enrollment Management (3)  
 CAHE 770 - The Administration of Higher Education (3)  
 CAHE 771 - Legal Aspects of Higher Education Administration (3)  
 CAHE 772 - Financing in Higher Education (3)

### Research Core

CAHA 721 - Applied Research Design in Adult and Higher Education (3)  
 ETR 519 - Applied Educational Research (3)  
 ETR 521 - Educational Statistics I (3)  
 ETR 531 - Program Evaluation in Education (3)  
 ETR 790 - Workshop in Research and Assessment (3)

### Dissertation

HESA 799 - Dissertation (12)

## Doctor of Philosophy in Counselor Education and Supervision

The doctoral program in counselor education and supervision offers advanced professional preparation for those intending to become university professors of counselor education and/or supervisors. This program is nationally accredited by the Council for the Accreditation of Counseling and Related Educational Programs (CACREP).

The student learning outcomes for this degree are located at <http://www.niu.edu/assessment/clearinghouse/outcomes/index.shtml>.

### 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 and current resume or curriculum vitae to be submitted to the department.

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 counselor education and supervision is competitive and takes place once a year in the spring. Students are admitted for the summer session or fall semester. All materials must be received by the Graduate School and the Department of Counseling and Higher Education by February 1. All applicants must complete and pass a criminal background check as part of their application process.

### Advisement

As soon as the graduate student is admitted into the program, the student is assigned an interim faculty adviser in counselor education and supervision. The graduate student should make an appointment as soon as possible with the faculty adviser, who will assist the student in selecting a program 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.

### Requirements

The Ph.D. in counselor education and supervision requires a minimum of 84 semester hours, including a maximum of 30 semester hours from the master's degree plus a minimum of 54 additional semester hours normally distributed as follows.

#### Common Core

- CAHC 700 - Professional Orientation to Counselor Education: Identity and Ethics (3)
- CAHC 701 - Professional Seminar in Counselor Education and Development (3)
- CAHC 730 - Advanced Theories of Counseling (3)
- CAHC 750 - Advanced Practicum in Individual Counseling (3)
- CAHC 752 - Supervision in Counseling (3)
- CAHC 765 - Applied Multicultural and Social Justice Counseling (3)
- CAHC 786 - Internship in Counseling (6)
- CAHC 790 - Research and Scholarship in Counselor Education (3)

#### Research Core (12)

- ETR 521 - Educational Statistics I (3)
- ETR 522 - Educational Statistics II (3)
- ETR 525 - Qualitative Research in Education (3)
- ETR 720 - Advanced Research Methods in Education (3)
- Dissertation (15)
- CAHC 799 - Doctoral Research and Dissertation (15)

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 program chair.

### Internship

An approved internship, comprised of teaching, supervision, research, advanced clinical counseling, and professional leadership, is a required part of the doctoral program. The specific division of internship hours is to be determined in consultation with the student's program committee.

### Examinations

All doctoral students in counseling are required to pass the candidacy exam prior to admission to candidacy.

The candidacy 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.

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.

### 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 Education (18)

The certificate of graduate study in adult 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 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 Postsecondary Contexts (3)

Two of the following (6)

- CAHA 530 - Instructional Theory, Practice and Teaching in Postsecondary Education (3)
- CAHA 575 - Public Policy Studies in Higher Education (3)
- CAHA 581 - Community Project Development and Adult Education (3)
- CAHA 700<sup>3</sup> - Seminar in Adult and Higher Education (1-6) (may be taken twice for up to 6 credit hours)
- CAHA 710 - Evaluating Adult Education Programs (3)
- CAHA 761 - Adult Learning in Social Movements: Building Civil Society (3)
- CAHE 572 - Assessment Methods in Higher Education (3)

### Career Development (12)

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 511 - Career Counseling (3)
- CAHC 512 - Organization and Administration of Career Counseling Programs (3)
- CAHC 575 - Assessment in Career Counseling (3)
- CAHC 595 - Career Counseling and Development in a Multicultural Society (3)

### College Teaching (12)

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.

### Requirements

- HESA 530 - Instructional Theory, Practice and Teaching in Postsecondary Education (3)
- HESA 533 - Applied Learning Theories in Postsecondary Education (3)
- Two of the following (6)
  - HESA 540 - Curriculum and Program Development in Postsecondary Contexts (3)
  - HESA 590<sup>4</sup> - Workshop in Adult and Higher Education (3)
  - HESA 733 - Theory Building for Learning in Postsecondary Education (3)
  - HESA 740 - Pedagogical Innovations and Student Learning (3)
  - HESA 759 - Critical and Feminist Pedagogies in Adult and Higher Education (3)
  - ETT 510 - Instructional Media and Technology (3)
  - ETT 535 - Distance Education: Design and Delivery (3)

### Higher Education Administration (12)

The certificate of graduate study in higher education administration 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.

Students who wish to pursue this certificate of graduate study must complete an application with the academic counselor. Students will need to gain approval from the academic counselor regarding which 9 semester hours from the list below will comprise the course work for the certificate.

### Four of the following (12)

- HESA 555 - Seminar in the Community College (3)
- HESA 575 - Public Policy Studies in Higher Education (3)
- HESA 590<sup>1</sup> - Workshop in Adult and Higher Education (3)
- HESA 509 - Campus Environments and Student Cultures (3)
- HESA 522<sup>2</sup> - College Student Development Theory (3)
- HESA 572<sup>2</sup> or ETR 572X<sup>2</sup> - Assessment Methods in Higher Education (3)
- HESA 701 - Student Affairs Administration and Practice (3)
- HESA 702<sup>2</sup> - Advanced College Student Development Theory (3)
- HESA 770<sup>2</sup> - The Administration of Higher Education (3)
- HESA 771 - Legal Aspects of Higher Education Administration (3)
- HESA 772 - Financing Higher Education (3)

### Trauma-Informed Counseling (12)

The certificate of graduate study in trauma-informed counseling is available to any graduate-level student in good standing. This certificate is designed to prepare or enhance master's- or doctoral-level clinicians in various agency and treatment contexts. Courses focus on understanding elements of traumatic exposure, common threads of treatment and outcomes, trauma-sensitive care and organizational commitment, crisis intervention, and developmental, exposure-based, experiential and cognitive-behavioral approaches for multiculturally relevant treatment across the life span.

- CAHC 593 - Crisis Intervention (3)
- CAHC 715 - Concepts in Trauma-Informed Counseling (3)
- CAHC 716 - Counseling for Complex Trauma (3)
- One of the following (3)

- CAHC 717 - Creative and Experiential Approaches in Trauma-Informed Counseling (3)
- CAHC 718 - Resiliency and Wellness in Trauma-Informed Counseling (3)

### 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.

### Professional Educator License with and Endorsement in School Counseling

A student who completes the approved program in school counseling may qualify for the Professional Educator License with an endorsement in School Counseling.

Students entering the counseling program who want to specialize in school counseling will have to pass the School Counseling Content Test #181 from the Illinois State Board of Education (ISBE) prior to entering internship. Students who do not have a previous teaching endorsement must complete additional course work in education. This course work must be approved by a faculty adviser in counseling. This course work includes 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.

<sup>1</sup> Workshop must be directly related to higher education and approved by the higher education certificate coordinator.

<sup>2</sup> Cannot be used if student is enrolled in adult and higher education master's degree.

<sup>3</sup> Seminars must be directly related to adult continuing education and approved by the adult continuing education certificate coordinator.

<sup>4</sup> Workshop must be directly related to college teaching.

Students work with their adviser to determine appropriate courses. Candidates who successfully fulfill the program requirements are eligible to receive faculty recommendation to the ISBE for a Professional Educator License with an Endorsement in School Counseling.

## Course List

### Higher Education and Student Affairs (HESA)

500. FOUNDATIONS OF HIGHER EDUCATION (3). Introduction to the study of higher education, with emphasis on history, administration, and organization of various types of U.S. postsecondary institutions.

501. STUDENT AFFAIRS ADMINISTRATION AND PRACTICE (3). Comprehensive study of the organization, history, and practice of student affairs administration at various postsecondary institutions. Examines the ethical, educational, and administrative roles of student affairs practitioners.

502. EQUITY, DIVERSITY, AND SOCIAL JUSTICE IN HIGHER EDUCATION (3). Addresses critical issues related to areas of diversity, equity, and social justice in higher education. Drawing from historical, contemporary, theoretical, and research-based literature, centers on aspects issues of access and participation, identity and identity development, campus policies, campus environments, and issues of inclusion, exclusion, and segregation.

503. U.S. COLLEGE STUDENTS (3). Overview of college student characteristics and patterns of participation in U.S. higher education. Examines the theoretical and research literature related to the impact of the college on student development, persistence, and learning.

504. EDUCATING FOR EQUITY AND SOCIAL JUSTICE IN HIGHER EDUCATION (3). Analysis and critique of economic, educational, sociological, cultural, and professional issues having an impact on equity, inclusion, and social justice in postsecondary context. Focus on the development of educational programs and classes which address these issues.

509. CAMPUS ENVIRONMENTS AND STUDENT CULTURES (3). Concepts of culture, subculture, and societal participation with reference to college students and campus environments.

522. COLLEGE STUDENT DEVELOPMENT THEORY (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.

523. ADVOCACY, OUTREACH, AND INTERVENTIONS IN STUDENT AFFAIRS (3). Exploration of advocacy, outreach, and intervention strategies provided on college campuses, related to college student transitions, adjustments, and concerning behavior. Topics included, but not limited to, college student mental health; power-based interpersonal violence; health and wellness; stigma, climate, and familiarity attached to seeking resources and help; and various aspects of transitioning into a college campus community.

530. INSTRUCTIONAL THEORY, PRACTICE AND TEACHING IN POSTSECONDARY EDUCATION (3). Development of methods, techniques, and strategies for the instruction in postsecondary contexts.

533. APPLIED LEARNING THEORIES IN POSTSECONDARY EDUCATION (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.

540. CURRICULUM AND PROGRAM DEVELOPMENT IN POSTSECONDARY CONTEXTS (3). Application of curriculum development and program planning principles to education and training programs designed specifically for postsecondary contexts.

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.

562. HELPING SKILLS FOR STUDENT AFFAIRS PROFESSIONALS (3). Develops skills in current approaches to interviewing and counseling for student affairs professionals. Overview of the helping process will be discussed. Emphasis on the practice of listening, attending, reflecting, questioning, confrontation, observation, influencing, and sequencing skills with clients from various cultures.

570. ORGANIZATION, PERSONNEL MANAGEMENT, AND ACADEMIC ADMINISTRATION (3). Organizing, financing, staffing, promoting, and evaluating individuals and academic programs. Management resources and the role of the academic administrator.

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.

573. APPLIED ASSESSMENT METHODS IN HIGHER EDUCATION (3). *Crosslisted as ETR 573X*. Opportunity to practice and apply assessment methods through an active higher education assessment project. Instruction and guidance to conceptualize, operationalize, and implement a higher education assessment project.

575. PUBLIC POLICY STUDIES IN HIGHER EDUCATION (3). Critical analysis of the formation and implementation of higher education public policy within educational and other social institutions. Use of a variety of theoretical perspectives to examine selected case studies from the higher education public policy literature and the students' own work experience.

586. INTERNSHIP IN HIGHER EDUCATION AND STUDENT AFFAIRS (1-3). 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. PRQ: Admission to the master's program in higher education and student affairs and consent of department.

590. WORKSHOP IN HIGHER EDUCATION AND STUDENT AFFAIRS (1-3). Designed for teachers, counselors, and administrators to study contemporary issues in higher education and student affairs. 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 HIGHER EDUCATION AND STUDENT AFFAIRS (1-6). 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.

598. CAPSTONE IN HIGHER EDUCATION AND STUDENT AFFAIRS (3). Integration and synthesis of the concepts, principles, trends, and issues in higher education and student affairs. Completion of a capstone writing experience for the master's degree in higher education and student affairs. Not open to doctoral students. May be repeated to a maximum of 6 semester hours. PRQ: Completion of 27 semester hours in an approved master's level program, and consent of department. PRQ or CRQ: An approved research course.

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 HIGHER EDUCATION AND STUDENT AFFAIRS (1-6). Advanced study and discussion of important issues relating to the field of higher education and student affairs. 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.

702. PHILOSOPHY OF POSTSECONDARY EDUCATION (3). Brings philosophical theories and discourses to bear on moral and political questions regarding the ultimate aims of postsecondary education. Inquiry will be guided by two questions: 1) What is/should be moral and political nature of postsecondary education in today's world? 2) How/do we promote democratic aims of postsecondary education through our work?

703. POSTSECONDARY ACCESS IN HIGHER EDUCATION (3). Explores historical, philosophical, individual, organizational, and policy-based perspectives to investigate postsecondary access from a holistic perspective. Consideration of the future of postsecondary access on federal, state, and local levels.

704. STRATEGIC MARKETING AND ENROLLMENT MANAGEMENT (3). Recruiting, enrolling, and graduating college students are important activities within higher education administration. Enrollment management and strategic marketing involve multiple offices across the university including communications, admission, financial aid, and the registrar to improve student and institutional outcomes.

710. EVALUATING HIGHER EDUCATION PROGRAMS (3). Advanced study of program design and evaluation methods necessary to analyze and improve programs in higher education effectively.

720. REVIEW OF RESEARCH IN HIGHER EDUCATION (3). Comprehensive study of research literature in higher education and related social science fields.

721. APPLIED RESEARCH DESIGN IN HIGHER EDUCATION (3). Provides the opportunity to practice and apply research design skills to an active higher education research project (e.g., pilot study, dissertation). Emphasis placed on providing instruction and guidance in planning, conducting, and reporting research and providing opportunity to conceptualize, operationalize, and develop a higher education research project.

733. THEORY BUILDING FOR LEARNING IN POSTSECONDARY EDUCATION (3). Analyses of theory building for learning how to learn with emphasis on understanding theories and the application of these theories in varied postsecondary educational contexts.

740. PEDAGOGICAL INNOVATIONS AND STUDENT LEARNING (3). Pedagogical theories and practices in higher education settings. Particular attention is paid to how pedagogical strategies span both programs as well as classrooms.

751. COMMUNITY COLLEGE STUDENTS (3). Seminar on student characteristics, services, and topics peculiar to the community college students. Analysis of current practice and research on student characteristics, development, persistence, and learning in community college settings.

757. SEMINAR IN HIGHER EDUCATION (3). Overview of American higher education and analysis of selected problems and issues.

759. CRITICAL AND FEMINIST PEDAGOGIES IN 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 HIGHER EDUCATION (3). Examination of the present status and context of higher education internationally.

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. FINANCING HIGHER EDUCATION (3). Analysis of mechanisms, sources, and theories related to the financing of U.S. higher education. Particular focus on examining current financial issues and policies at the national, state, and institutional levels.

797. INDEPENDENT RESEARCH IN HIGHER EDUCATION (1-6). Independent research at post-master's degree levels under faculty supervision. May be repeated to a maximum of 12 semester hours, although typically only 6 semester hours are applied to the program of study.

798. RESEARCH SEMINAR IN HIGHER EDUCATION (1-3). Designed for the advanced doctoral student interested in planning and conducting research studies in 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, but no more than 30 semester hours may be applied toward the Ed.D. degree in higher education. PRQ: Candidacy for the doctoral degree and consent of chair of doctoral committee.

### General (CAHE)

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.

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. 720. REVIEW OF RESEARCH IN HIGHER EDUCATION (3). Comprehensive study of research literature in higher education and related social science fields.

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.

### 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.

510. COUNSELING INTERVENTIONS ACROSS THE LIFESPAN (3). Explores counseling strategies that are culturally, ethically, and developmentally appropriate for individuals and family development across the lifespan. Theories of lifespan development, resiliency, and wellness are examined.

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 CHILDREN AND ADOLESCENTS (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 REHB 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 (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.

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 (3). Constructs, principles, dynamics, and process of group counseling. Focus on experiential activities, facilitation strategies, and here-and-now interaction in group settings.

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 AND SOCIAL JUSTICE 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 USE AND ADDICTIONS 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.

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 Ph.D. degree in counseling. Enrollment in more than one section of this course during a semester is permitted.

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 Ph.D. degree in counseling.

593. CRISIS INTERVENTION (3). Role and responsibilities of counselors in crisis intervention. Assessment and case management for crisis situations.

594. COUNSELING THE LESBIAN, GAY, BISEXUAL, TRANSGENDERED, AND QUEER COMMUNITY (3). Focus on unique challenges facing lesbian, gay, bisexual, transgendered, and queer (LGBTQ) individuals as well as their families; theoretical understandings, developmental experiences, and multicultural influences; diversity within the LGBTQ community, societal prejudice, oppression, and other salient themes. This course is appropriate for all graduate-level students of any discipline.

595. CAREER COUNSELING AND DEVELOPMENT IN A MULTICULTURAL SOCIETY (3). Examination of the psychological, demographic, sociocultural, and interpersonal influences on the career development of diverse populations. PRQ: CAHC 511 or consent of department.

596. RELIGIOUS AND SPIRITUAL ISSUES IN COUNSELING (3). Focus on competencies for appropriately responding to religious and spiritual issues during counseling sessions.

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 ORIENTATION TO COUNSELOR EDUCATION: IDENTITY AND ETHICS (3). Philosophical and historical roots of counselor education, systems which affect its functioning, and ethical and legal standards which guide it. Orientation to the expectations of advanced graduate study in counselor education and the responsibilities of professionals in the field. PRQ: Admission to the doctoral program in counseling or consent of department.

701. PROFESSIONAL SEMINAR IN COUNSELOR EDUCATION AND DEVELOPMENT (3). Strategies for implementing the core CACREP standards for counselor and counselor educator preparation within counselor training programs. Focus on preparation methods for counselors in CACREP programs, multicultural competencies applied to counselor education, and development of a philosophy of counselor education.

705X. INTRODUCTION TO MEDICAL FAMILY THERAPY AND COUNSELING (3). *Crosslisted as HDFS 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-Master's Certificate Program.

706X. MEDICAL FAMILY THERAPY AND COUNSELING: FAMILIES, DISABILITY AND CHRONIC ILLNESS (3). *Crosslisted as HDFS 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 HDFS 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 HDFS 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 HDFS 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 HDFS 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.
715. CONCEPTS IN TRAUMA-INFORMED COUNSELING (3). Roles and responsibilities of counselors and other helping professionals in post-trauma exposure intervention. Covers types of potentially traumatic events, effects of trauma, assessment issues and potential outcomes, and common elements in treatment interventions for trauma. PRQ: CAHC 593 or consent of department.
716. COUNSELING FOR COMPLEX TRAUMA (3). Roles and responsibilities of counselors and other helping professionals in working in settings wherein clients have experienced multiple exposures to traumatic stressors throughout childhood and continuing into adulthood. Examines the neurobiological, developmental, cognitive, behavioral and relational issues that emerge from childhood/lifespan abuse. Examines how to adapt treatment for clients presenting with complex trauma exposures. PRQ: CAHC 593 or consent of department.
717. CREATIVE AND EXPERIENTIAL APPROACHES IN TRAUMA-INFORMED COUNSELING (3). Roles and responsibilities of counselors and other helping professionals in creative arts, drama, play, and other experiential approaches in trauma-informed counseling across the life span. Use of metaphor, somatic exercises, and body-based interventions. PRQ: CAHC 593 or consent of department.
718. RESILIENCY AND WELLNESS IN TRAUMA-INFORMED COUNSELING (3). Roles and responsibilities of counselors and other helping professionals in the life span development of resistance, resiliency, and recovery skills during prevention and early intervention. How to work with settings that have repeated community traumas, e.g., crime and gun violence. Self-care of the counselor. PRQ: CAHC 593 or consent of department.
730. ADVANCED 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. LEADERSHIP, ADVOCACY, AND MENTORING (3). Emphasis on the analysis and attainment of behaviors that are most facilitative of individual, relationship, 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. APPLIED MULTICULTURAL AND SOCIAL JUSTICE 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. Emphasis on strategies for seeking equity, and an end to oppression and injustice affecting clients, students, counselors, families, communities, schools, workplaces, governments, and other social and institutional systems.
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 HDFS 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. RESEARCH AND SCHOLARSHIP IN COUNSELOR EDUCATION (3). Intended for advanced counselor education students, focuses on applying research methods and critiquing relevant literature for designing the doctoral dissertation proposal. PRQ: Admission to the doctoral program in counselor education and ETR 520 (or equivalent); 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 12 semester hours but no more than 6 hours may be applied toward an Ph.D. degree in counselor education. 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 Curriculum and Instruction (LT--, MLTL, TLCI, TLEE)

Chair: Sally Blake

## Graduate Faculty

Brenda Aranda, assistant professor, Ph.D., University of Texas at El Paso  
 Sally Blake, professor, Ph.D., University of Mississippi  
 James A. Cohen, associate professor, Ph.D., Arizona State University  
 Mayra C. Daniel, professor, Ed.D., Illinois State University  
 Laurie Elish-Piper, Distinguished Teaching Professor, Presidential Engagement Professor, Ph.D., University of Akron  
 Joseph Flynn, associate professor, Ph.D., Michigan State University  
 Mary Beth Henning, professor, Ph.D., Pennsylvania State University  
 Melanie D. Koss, associate professor, Ph.D., University of Illinois, Chicago  
 Jodi Lampi, assistant professor, Ph.D., Texas State University  
 Eui-kyung Shin, professor, Ph.D., University of South Carolina  
 Peet Smith, assistant professor, Ph.D., University of Maryland  
 John Evar Strid, associate professor, Ph.D., Northwestern University  
 Melanie Walski, assistant professor, Ph.D., University of Illinois at Chicago  
 Donna E. Werderich, associate professor, Ed.D., Northern Illinois University  
 Corrine M. Wickens, associate professor, Ph.D., Texas A&M University  
 Elizabeth Wilkins, professor, Ph.D., Southern Illinois University  
 C. Sheldon Woods, associate professor, Ph.D. Kansas State University

The Department of Curriculum and Instruction offers the M.A.T. specialization in elementary education, M.S.Ed. degree in curriculum and instruction and literacy education, and the Ed.D. degree in curriculum and instruction with three specializations: curriculum leadership; literacy education; and science, social studies and environmental education integration. A list of requirements for each program is available in the department office. Several courses of study leading to licensure, endorsement, and teacher approval are also offered. The department offers course work in reading, the language arts, children's literature, bilingual education, English as a second language, social studies, science education, elementary educator licensure, and multicultural education.

## Master of Arts in Teaching

### Master of Science in Education

Curriculum and instruction  
 Literacy education

### Doctor of Education

Curriculum and instruction

## Internships

The Department of Curriculum and Instruction 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 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.

The student learning outcomes for this degree are located at <http://www.niu.edu/assessment/clearinghouse/outcomes/index.shtml>.

## 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 Licensure

The Master of Arts in Teaching specialization in elementary education with initial licensure prepares students to become teachers in elementary schools. They will complete all requirements for a Professional Educator License to teach grades first through sixth.

## Deficiency Study

Depending upon a student's prior programming background, successful completion of deficiency courses may be required. Students who have not successfully completed a basic educational technology course will be required to fulfill that requirement. 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 licensure requires a minimum of 45 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)  
 SESE 556 - Methods for Inclusion and Collaboration in the General Education 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)  
 LTRE 511 - Teaching Reading in the Content Areas (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 - Student Teaching (5)  
 TLEE 587 - Teaching Practicum in Education (1)

## Master of Science in Education in Curriculum and Instruction

### Non-Thesis Option

### Thesis Option

### Teacher Leader Endorsement Option

The major in curriculum and instruction prepares knowledgeable, reflective practitioners and instructional leaders 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.

This program provides three paths: Teacher Leadership; Curriculum and Cultural Practices; or Academic Literacy, Language and Culture. Teacher leadership courses focus on building leadership capacity in classrooms, schools, and districts through courses that qualify educators for a teacher leader endorsement on their professional educator license. Curriculum and cultural practices courses focus on examining teaching and learning from a global perspective. Academic literacy, language and culture courses focus on the social and cultural dimensions of language and literacy learning.

The student learning outcomes for this degree are located at <http://www.niu.edu/assessment/clearinghouse/outcomes/index.shtml>.

### 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 degree area. Students elect either the non-thesis, thesis, or teacher leader endorsement 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)  
 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.

#### Teacher Leader Endorsement Option (33)

The Teacher Leader Endorsement Option is designed to prepare licensed educators for leadership roles as mentor teachers, department chairs, curriculum directors, deans, and other quasiadministrative positions designated by a school district.

M.S.Ed. in Curriculum and Instruction w/Teacher Leader Endorsement Option course work:

- A 9-semester-hour Curriculum and Instruction Core comprised of: TLCI 500, TLCI 510, and TLCI 598.
- A 3-semester-hour course focused on educational research and data analysis: ETR 528.
- A 3-semester-hour course focused on educational psychology: EPS 518.
- A 12-semester-hour Teacher Leadership Core courses comprised of: TLCI 505, TLCI 537, TLCI 595, and TLCI 795.
- 6 semester hours of electives focusing on student's interests and professional goals.

Candidates wishing to obtain the Teacher Leader Endorsement must meet the following requirements in order to pursue and qualify for the Teacher Leader Endorsement option:

Candidates must hold a valid and current Illinois Professional Educator License, be in a current full-time teaching or school support personnel position, and have two or more years of experience as a licensed educator in a Pre-K-12 setting.

Candidates must have successfully passed the Test of Academic Proficiency (TAP).

Candidates must have an undergraduate degree indicating a GPA of 2.75 or higher or a minimum 3.20 cumulative grade point average in all graduate course work.

To remain in good academic standing, students in the Teacher Leader Endorsement program must maintain a minimum GPA of 3.00 in all courses required for the Teacher Leader Endorsement. A student who fails to maintain a GPA of 3.00 in course work required for the Teacher Leader Endorsement may, upon recommendation of the program, be subject to termination of admission to the Teacher Leader Endorsement program.

#### Requirements for candidates choosing only Teacher Leader Endorsement (24):

The option for pursuing only the endorsement is available to candidates who already possess an M.S.Ed. The program of study for just the Teacher Leader Endorsement is 24 semester hours. Up to 12 semester hours can be applied from the candidate's previously earned M.S.Ed. provided courses demonstrate equivalency and meet program standards. In addition, applicants must meet the admission criteria noted above.

#### Course work requirements for pursuing only the Teacher Leader Endorsement:

EPS 518, ETR 528, TLCI 500, TLCI 505, TLCI 510, TLCI 537, TLCI 595, and TLCI 795.

#### Course work options for pursuing the Curriculum and Cultural Practices:

EPFE 505, LTCY 592, LTIC 501, LTLA 539, TLCI 534, TLCI 540, TLCI 567, TLEE 535, TLEE 541.

#### Course work options for pursuing the Academic Literacies, Language, and Culture:

EPFE 505, EPS 519, LTCY 536, LTCY 592, LTIC 553, LTLA 541, LTLA 543, LTRE 505, LTRE 510, LTRE 511, LTRE 519.

## 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 licensure, endorsement, or approval in a literacy education field should refer to the section "Licensure at the Graduate Level."

The student learning outcomes for this degree are located at <http://www.niu.edu/assessment/clearinghouse/outcomes/index.shtml>.

### Admission

The Department of Curriculum and Instruction 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. 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 for the candidates in the reading focus

#### **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**

The student learning outcomes for this degree are located at <http://www.niu.edu/assessment/clearinghouse/outcomes/index.shtml>.

### **Specialization in Curriculum Leadership**

#### **Specialization in Literacy Education**

#### **Specialization in Science, Social Studies, and Environmental Education Integration**

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. 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. The specialization in science, social studies and environmental education integration focuses on preparing students to be knowledgeable practitioners, scholars, and leaders in the fields of science, social studies and environmental education integration. Students study science, social studies, and environmental integration 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 science, social studies, and environmental integration for all learners.

### **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 background in a student's 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 licensure.

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 Literacy Education**

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.)

Successful completion of a candidacy examination. 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 Curriculum and Instruction.

LTCY 699, Doctoral Research and Dissertation (15-30)

### 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)

TLEE 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. No specific number of semester hours is required.

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)

## Certificates of Graduate Study

### Postsecondary Developmental Literacy and Language Instruction (12)

The certificate of graduate study in postsecondary developmental literacy and language instruction is an interdisciplinary and intercollegiate program of study administered by the Department of Curriculum and Instruction in the College of Education and is available to any graduate-level student in good academic standing at Northern Illinois University. This certificate is intended to prepare current and future college educators to serve a diverse group of students in a variety of postsecondary literacy contexts, including learning assistance programs and developmental/transitional programs in both community colleges and universities. Students completing the certificate will be equipped to understand and critically analyze the historical context of developmental literacy instruction; recognize the social, cultural, linguistic, and academic diversity of students enrolled in developmental literacy coursework; design and implement appropriate and effective evidence-

based instruction; and participate professionally in the field of postsecondary developmental literacy.

### Requirements (12)

LTRE 512 - Disciplinary Reading Instruction at the Postsecondary Level (3)

LTRE 518 - Curriculum and Program-Level Design in Postsecondary Reading (3)

LTRE 519 - Teaching Postsecondary Reading (3),

OR LTRE 719 - Principles and Methods of Teaching Postsecondary Reading (3)

LTRE 521 - Postsecondary Reading Assessment (3)

One of the following (3)

HESA 509 - Campus Environments and Student Cultures (3)

HESA 522 - College Student Development Theory (3)

LTCY 592 - Special Topics in Literacy Education (3)

LTCY 597 - Independent Research in Literacy Education (3)

LTIC 551 - Teaching Literacy Skills to Adult English Language Learners: Methods and Materials (3)

LTIC 553 - Crosscultural Issues in the Adult ESL Classroom (3)

LTRE 718 - Adult Reading Instruction (3)

### Teaching English as a Second Language and Bilingual Education (15-18)

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 - 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 - Teaching Literacy Skills to Adult English Language Learners: Methods and Materials (3)

LTIC 552 - Curriculum Development for Adult English Language Learners (3)

LTIC 553 - Crosscultural Issues in the Adult ESL Classroom (3)

TLA 539 - Issues of Diversity in Children's Literature (3)

Internship (0-3)

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. If chosen, take 3 semester hours in one of the following:

ENGL 696 - Practicum in the Teaching of College English (3)

LTCY 586 - Internship in Literacy Education (1-12)

## Endorsement at the Graduate Level

The K-12 reading specialist program 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. As teachers progress through the program, they have the opportunity to meet the requirements for reading teacher (24 semester hours in reading) and/or reading specialist (32 semester hours in reading). Course work in Bilingual/English as a Second Language meets all Illinois State Board of Education standards and leads to state endorsement to work with English language learners as an English as a second language teacher and/or as a bilingual teacher. This endorsement consists of 18 semester hours and must be attached to elementary or secondary licensure. Students may use these hours toward a Master's Degree in Curriculum and Instruction (33 semester hours) with an emphasis on Bilingual/ESL.

## Course List

### Bilingual/ESL (LTIC)

500. INTRODUCTION TO TEACHING ENGLISH LANGUAGE LEARNERS (3). Survey of practices and principles for teaching English language learners in multilingual contexts.

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.

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.

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: LTIC 545, or consent of department.

550. TEACHING ORAL SKILLS TO ADULT ENGLISH LANGUAGE LEARNERS: METHODS AND MATERIALS (3). 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). 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). 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). Examination of cultural differences and their influences on adults learning English language skills and acquiring general perceptions of their social environment.

555. METHODS AND MATERIALS FOR ENGLISH LEARNERS WITH DISABILITIES (3). *Crosslisted as SESE 555X*. Issues of learning English as a new language for students with special needs. Addresses theoretical bases, instructional strategies, materials, and activities facilitating individualized education plans and interventions for English Learners with disabilities, particularly those with learning disabilities.

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.

715. USAGE-BASED LINGUISTICS IN THE CLASSROOM (3). An overview of Usage-based Linguistics and research methods to examine language learning in the classroom. Designed for advanced graduate students looking to develop research on language learning in the classroom.

716. SEMIOTICS: UNPACKING THE MEANING MAKING PROCESS (3). An overview of semiotics as a method of research and analysis in the educational setting, designed for advanced graduate students who want to develop an interdisciplinary approach in their research. Designed primarily for doctoral students.

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.

## Curriculum and Instruction (TLCI)

### General

500. COMMUNITY INFLUENCES IN CURRICULUM AND INSTRUCTION (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 PERSPECTIVES 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. PRQ: Consent of department.

586G. INTERNSHIP: NATIONAL BOARD CERTIFICATION (3-9). For students seeking course credits after successful completion of National Board Certification/ACE credits. PRQ: Submission of ACE/National Board Certification transcript.

## 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.

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.

## 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.

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. PRQ: Consent of department.

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.

## 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. PRQ: Consent of department.

## 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. ADVANCED SURVEY OF RESEARCH IN CURRICULUM AND INSTRUCTION (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 and consent of department.

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.

795. SEMINAR ON TEACHER INDUCTION AND MENTORING (3). Theory and practice about teacher induction and mentoring. Provides teachers, department chairs, and administrators with research about and current practices in induction and mentoring at the national and state levels.

### 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.

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 student teaching requirement. PRQ: TCLI 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.

### Language Arts (LTLA)

520X. LANGUAGE ARTS IN EARLY CHILDHOOD EDUCATION (3). *Crosslisted as SEEC 520.* Focus on language arts and associated experiences as an integral part of the young child's growth and development.

530. CONTEMPORARY LANGUAGE ARTS (3). Introduction to contemporary applied language arts programs. Emphasis on methods, materials, and instructional procedures for elementary school children.

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. ISSUES OF DIVERSITY IN CHILDREN'S LITERATURE (3). A historical and current perspective of multicultural influences and issues 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.

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. VISUAL AND PRINT LITERACY IN CHILDREN'S LITERATURE (3). Candidates conduct a close investigation of picture books and graphic novels using visual and print literacies. A focus will be on the intersection between text and illustrations. Connections will be made to the use of picture books and graphic novels for all learners.

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. PRQ: Recommended introductory children's literature course. Consent of department.

760. ADVANCED SEMINAR IN LANGUAGE ARTS (3). Identification and analysis of problems and current issues in language arts education.

### Literacy Education (LTCY)

536. LITERACY RESEARCH (3). Detailed study of selected research in school-based literacy programs with emphasis on principles, trends, methods, and materials. Focus on curriculum patterns and innovations. PRQ: ETR 520 or consent of department.

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.

512. DISCIPLINARY READING INSTRUCTION AT THE POSTSECONDARY LEVEL (3). Emphasis on the history, current scholarship, and best practices for disciplinary reading instruction at the postsecondary level.

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.

518. CURRICULUM AND PROGRAM-LEVEL DESIGN IN POSTSECONDARY READING (3). Emphasis on research, policy, and best practices related to curriculum and program-level design and implementation for postsecondary reading.

519. TEACHING POSTSECONDARY READING (3). Emphasis on historical, theoretical, and pedagogical models relevant to methods of teaching postsecondary reading.

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.

521. POSTSECONDARY READING ASSESSMENT (3). Emphasis on the history, theory, research, policy, and practice related to reading assessment at the postsecondary level. Survey of various placement, diagnostic, informal, affective and non-cognitive, and exit-level measures.

525. READING INTERESTS OF ADULTS (3). 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.

### 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.
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.
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. STUDENT TEACHING (3-9). Student teaching for one entire semester. Assignments arranged with the department. See "Educator Licensure Requirements." 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. S/U grading. PRQ: 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.
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.
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. STUDYING TEACHER EDUCATION (3). Survey of selected undergraduate programs of preparation which have been designed to educate teachers for the public 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.

# Department of Educational Technology, Research and Assessment (ETR, ETT)

Chair: Wei-Chen Hung

## Graduate Faculty

Cynthia S. Campbell, associate professor, Ph.D., Southern Illinois University  
 Vicki L. Collins, assistant professor, Ph.D., University of Oregon  
 Fatih Demir, assistant professor, DCD, University of Baltimore  
 Pi-Sui Hsu, associate professor, Ph.D., Pennsylvania State University  
 Wei-Chen Hung, professor, Ph.D., Indiana University  
 Rebecca D. Hunt, associate professor, Ph.D., University of Toledo  
 Laura Johnson, associate professor, Ph.D., University of California, Berkeley  
 Olha Ketsman, clinical assistant professor, Ph.D., University of Nebraska, Lincoln  
 Kyung Kim, assistant professor, Ph.D., Pennsylvania State University  
 Yanghee Kim, professor, Ph.D., Florida State University  
 Hayley J. Mayall, associate professor, Ph.D., University of Connecticut  
 Todd D. Reeves, assistant professor, Ph.D., Boston College  
 Jason Rhode, assistant professor, Ph.D., Capella University  
 Thomas J. Smith, professor, Ph.D., University of Illinois  
 David A. Walker, professor, Ph.D., Iowa State University  
 Ying Xie, associate professor, Ph.D., Pennsylvania State University  
 Cynthia York, associate professor, Ph.D., Purdue University

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 Philosophy degree in instructional technology. The department also offers licensure programs for technology specialist and library information specialist. The licensure 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 educator licensure should also see "Educator Licensure Information."

## Master of Science

Educational research and evaluation

## Master of Science in Education

Instructional technology

## Doctor of Philosophy

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.

The student learning outcomes for this degree are located at <http://www.niu.edu/assessment/clearinghouse/outcomes/index.shtml>.

## 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)  
 OR ETR 699C - Master's Portfolio (1) AND an additional 5 semester hours of courses in Educational Research and Evaluation

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

Students in the advanced quantitative methodology area of study must take ETR 529, see requirements above.

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 33-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, information access, materials' selection and evaluation, media administration, program evaluation, and instructional design, development, and evaluation.

The student learning outcomes for this degree are located at <http://www.niu.edu/assessment/clearinghouse/outcomes/index.shtml>.

#### Admission

An applicant may submit 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 endorsement as a Technology Specialist or Library Information Specialist. 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 licensure requirements as a Library Information Specialist or Technology Specialist 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 33 semester hours of graduate course work, determined jointly by the student and adviser. An approved program of courses includes general requirements in instructional technology, and electives as follows.

ETT 501 - Proseminar in Instructional Technology (3)

ETT 510 - Instructional Media and Technology (3)

ETT 511 - Advanced Media Design (3)

OR ETT 531 Visual Literacy (3)

ETT 553 - Professional Standards in Instructional Technology (3)

OR ETT 542- Information Access and Social Responsibilities For Library Information Specialists (3)

ETT 570 Instructional Technology Administration (3)

OR ETT 533 Administration of School Library Media Centers (3)

ETT 569 Practicum: Instructional Design (3)

OR ETT 586 Internship in Instructional Technology (3-6)

One research course from the following (3)

ETR 519 - Applied Educational Research (3)

ETR 520 - Introduction to Research Methods in Education (3)

ETR 531 - Program Evaluation in Education (3)

One production course from the following (3)

ETT 530 - Instructional Technology Tools (3)

ETT 536 - Web-based Learning (3)

ETT 538 - Developing Educational Software (3)

ETT 555 - Media Design: Multimedia (3)

ETT 558 - Instructional Video I (3)

9 additional credit hours in major or approved by adviser.

#### Comprehensive Examination

The comprehensive examination requirement is fulfilled by successfully completing and presenting a portfolio of student work that demonstrates competency in all core areas of the program. Students must have completed 24 credit hours toward the M.S.Ed. degree in order to participate in the portfolio process.

### Doctor of Philosophy in Instructional Technology

The Ph.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.

The student learning outcomes for this degree are located at <http://www.niu.edu/assessment/clearinghouse/outcomes/index.shtml>.

#### 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 April 1 for admission for the summer term and for the fall semester, and October 1 for admission for the spring semester.

#### 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 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 endorsement for Technology Specialist or Library Information Specialist. 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 licensure requirements for technology specialist or library information specialist 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.

Research core including ETR 521, ETR 525, and two additional ETR research electives agreed upon by student and advisory committee (12)

Additional course work in learning and development theory, or sociocultural analyses of education (3)

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, technology specialist, or library information specialist licensure 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 two of the following:

ETR 739X - Fieldwork Methods in Educational Research (3),

ETR 745X - Interpretive Methods in Educational Research (3)

ETR 746 - Interview 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 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 724 - Multilevel Modeling (3)

ETR 725 - Bayesian Approach to Educational Statistics and Decision Making (3)

Another quantitative methodology course approved by adviser. (3)

### Distance Education (18)

The certificate has been designed to prepare professionals to develop and improve their knowledge, skills, and practices in designing, developing, and evaluating distance, online, and virtual learning experiences (DOVE). Emerging practices encompass DOVE learning and courses in this certificate support the attainment of necessary knowledge, skills, and practices to improve teaching and learning in these environments.

#### Required Core (15)

ETT 510 - Instructional Media and Technology (3)

ETT 535 - Distance Education: Design and Delivery (3)

ETT 536 - Web-based Learning (3)

ETT 560 - Instructional Design I (3)

ETT 592 - Special Topics in Instructional Technology (3)

**Select one of the following or another course as approved by program adviser (3)**

ETT 529 - Theories of Instructional Design and Technology (3)  
 ETT 531 - Visual Literacy (3)  
 OR ETT 511 - Advanced Instructional Media Design (3)  
 ETT 551 - Instructional Technology for the Future (3)  
 ETT 552 - Instructional Technology for Diverse Cultures (3)  
 ETT 592 - Special Topics in Instructional Technology (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)**

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.

ETT 529 - Theories of Instructional Design and Technology (3),  
 OR HESA 530 - Instructional Theory, Practice and Teaching in Postsecondary Education (3)  
 ETT 561X - Human Resource Development (3),  
 OR 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)  
 HESA 530 - Instructional Theory, Practice and Teaching in Postsecondary Education (3) (If not taken to fulfill requirements above.)  
 ETR 531 - Program Evaluation in Education (3)  
 ETR 560 - Computer Data Analysis (3)  
 ETT 562 - Instructional Design II (3) (If not taken to fulfill requirements above.)  
 ETT 565 - Advanced Instructional Design (3)  
 ETT 715X - Strategic Human Resource Development (3)  
 ETT 764 - Advanced Training and Performance Technology (3)  
 ETT 765X - Consultation in Human Services (3)

**Illinois Licensure and Endorsement**

**Educator Licensure as a Library Information Specialist**

Persons holding a baccalaureate degree may complete requirements for the State of Illinois Special (K-12) Library Information Specialist License 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 Council for the Accreditation for Educator Preparation (CAEP) standards for Library Information Specialist. Individuals interested in becoming a library information specialist (Type 10 license or endorsement) should contact the department office for details.

Also see "Educator Licensure Information."

**Educator Licensure as a Technology Specialist**

Persons holding a baccalaureate degree may complete requirements for the State of Illinois Special (K-12) Technology Specialist License 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 license or endorsement) should contact the department office for details.

Also see "Educator Licensure 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 history, definitions, theoretical issues and trends, career options, and required competencies in the field of instructional technology and their impact on the effective selection, design, utilization, and evaluation of instructional media.

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 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.

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 INSTRUCTIONAL DESIGN AND TECHNOLOGY (3). Emerging theories and models relating to instructional technology, human performance technology, instructional design, computer literacy, and other uses of technology as instructional media. Topics include the history and review of educational theories related to instructional design and learning in technological environments. Emerging theories will be investigated. PRQ: ETT 510 or consent of department.

530. INSTRUCTIONAL TECHNOLOGY TOOLS (1-3). Advanced use of common as well as new and emerging instructional technology software and hardware tools. May be repeated to a maximum of 12 semester hours.

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.

537. INTRODUCTION TO HUMAN COMPUTER INTERACTION DESIGN (3). Introduction to human computer interaction (HCI) theories and principles for designing effective interactive systems. Survey of general processes involved in designing HCI in instructional technology.

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.

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 510 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.

556. MEDIA DESIGN: AUDIO MATERIALS (3). Designing presentations for instruction. Emphasis on audio format.

557. USER EXPERIENCE (UX) DESIGN (3). Introduction to user experience (UX) design methods, focusing on phases of design, human behaviors, interface types, interaction design, information architecture, and prototyping.

558. INSTRUCTIONAL VIDEO I (3). Practical methods for the production and use of video in educational settings. Preparation and presentation of televised instructional materials.

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. PRQ: ETT 510 or consent of department.

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 TLCl 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 LEADERSHIP (3). Theories and methods for developing and managing instructional technology programs and services in educational settings. PRQ: ETT 510, or consent of department.

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.

587. INSTRUCTIONAL E-PORTFOLIO DESIGN AND DEVELOPMENT (1-6). Demonstrate the design and development competency in developing an instructional e-portfolio. May be repeated up to a maximum of six semester hours. S/U grading. PRQ: Consent of department.

590. WORKSHOP IN INSTRUCTIONAL TECHNOLOGY (1-3). Study of current issues related to instructional technology. May be repeated to a maximum of 12 semester hours. Students may enroll in more than one section in a given term.

592. SPECIAL TOPICS IN INSTRUCTIONAL TECHNOLOGY (1-3). Topics announced. May be repeated to a maximum of 12 semester hours when topic varies. Students may enroll in more than one section in a given term.

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 or consent of department.

742. SEMINAR: INSTRUCTIONAL TECHNOLOGY RESEARCH (1-3). 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.

749. INSTRUCTIONAL TECHNOLOGY INQUIRY (3). Survey of a variety of classic and contemporary research approaches on emerging topics in Instructional Technology (IT); methods for comprehending, reviewing, and understanding IT literature.

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.

790. ADVANCED WORKSHOP IN INSTRUCTIONAL TECHNOLOGY (1-3). Advanced study of current issues related to instructional technology. Students may enroll in more than one section in a given term. May be repeated to a maximum of 12 semester hours.

792. ADVANCED TOPICS IN INSTRUCTIONAL TECHNOLOGY (1-3). Study of advanced topics in instructional technology for advanced instructional technology students, announced in advance. Students may enroll in more than one section in a given term. May be repeated to a maximum of 12 semester hours.

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 (1-3). 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. May be repeated up to 3 credit hours.

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 RESEARCH METHODS IN EDUCATION (3). Introductory course in empirical methods of research in education; evaluating published research; planning a research study; developing skills in problem identification, identifying methods for data collection and research design, and preparing a research proposal.

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 604 or SOCI 575, or consent of department.

524. ASSESSING STUDENTS WITH SPECIAL NEEDS (3). Nondiscriminatory assessment procedures for identifying and enhancing educational outcomes for students with special needs. PRQ: SESE 240 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.

535. MIXED-METHODS RESEARCH (3). Overview of mixed-methods research designs in which quantitative and qualitative procedures are combined to address research problems and answer research questions. Examination of the foundations of mixed-methods research, types of mixed-methods designs, and process of conducting mixed-methods research. PRQ: ETR 520, ETR 521, and ETR 525; 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.

537. METHODS OF LEARNING ANALYTICS (3). Exploration of methods of learning analytics and applications to real-world problems, research, and practice. Leveraging educational data for teaching and research.

540. SURVEY RESEARCH METHODS. (3) Methods used in survey research. Conceptualizing the survey process; choosing an appropriate survey platform (e.g., paper, electronic); selecting and creating survey instruments; sampling techniques; analyzing, interpreting, and communicating the results of survey data.

556. USER EXPERIENCE (UX) RESEARCH METHODS (3). Introduction to user experience (UX) research methods in instructional technology. Focus on UX, research methods, and collecting and analyzing UX research data to improve product development.

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 604 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 604 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.

573. APPLIED ASSESSMENT METHODS IN HIGHER EDUCATION (3). *Crosslisted as HESA 573X*. Opportunity to practice and apply assessment methods through an active higher education assessment project. Instruction and guidance to conceptualize, operationalize, and implement a higher education assessment project.

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. Students may enroll in more than one section in a given term.

592. SPECIAL TOPICS IN RESEARCH AND ASSESSMENT (1-3). Topics announced. May be repeated to a maximum of 9 semester hours when topic varies. Students may enroll in more than one section in a given term.

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.

699C. MASTER'S PORTFOLIO (1). Design of a cumulative portfolio of work in the Educational Research and Evaluation (ERE) program. Process will be mentored by an ERE faculty member. May be repeated to a maximum of 3 credit hours. PRQ: Consent of department.

720. ADVANCED RESEARCH METHODS IN EDUCATION (3). Advanced course in empirical in education. Identification of methodological procedures that align with research objectives, including development of research questions/problems, sampling, instrumentation, interview and observational protocols, threats to validity, ethical considerations, and methods for collecting, analyzing, and interpreting data. PRQ: ETR 519 or ETR 520; and ETR 521 and ETR 525; 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 606 or consent of department.

724. MULTILEVEL MODELING (3). Analysis of nested data and growth modeling of repeated measures data using multilevel techniques. Theory, assumptions, modeling process, current trends, and use of multilevel software packages. Applications in education and social sciences emphasized. PRQ: ETR 521 and ETR 522, 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 604 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 604 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 EPFE 745 and EPS 745X*. 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.

746. INTERVIEW METHODS IN EDUCATIONAL RESEARCH (3). Provides knowledge and skills to conduct qualitative interviews and design and implement qualitative interview studies in educational research. Provides a theoretical foundation in qualitative research and qualitative interviewing in education, along with hands-on experience conducting qualitative interviews. 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. Students may enroll in more than one section in a given term.

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: Chad McEvoy

## Graduate Faculty

Clayton L. Camic, associate professor, Ph.D., University of Nebraska-Lincoln  
 Rodney L. Caughron, associate professor, Ph.D., University of Iowa  
 Peter J. Chomentowski, III, assistant professor, Ph.D., University of Pittsburgh  
 Todd A. Gilson, associate professor, Ph.D., Michigan State University  
 Shaune E. Henert, associate professor, Ph.D., University of Minnesota  
 Steven M. Howell, associate professor, Ph.D., Purdue University  
 Jennifer M. Jacobs, assistant professor, Ph.D., Northern Illinois University  
 So-Yeun Kim, associate professor, Ph.D., Oregon State University  
 Chad D. McEvoy, professor, Ed.D., University of Northern Colorado  
 Jenny Parker, associate professor, Ed.D., University of Massachusetts  
 William A. Pitney, professor, Ed.D., Northern Illinois University  
 James D. Ressler, associate professor, Ph.D., Ohio State University  
 Claire C. Zvosec, assistant professor, Ph.D., University of Kansas  
 Zachary A. Wahl-Alexander, assistant professor, Ph.D., University of Alabama  
 Paul M. Wright, Presidential Engagement Professor, Ph.D., University of Illinois, Chicago  
 Shuqi Zhang, assistant professor, Ph.D., Louisiana State University  
 Lauriece L. Zittel, 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.

University Honors students with a B.A. or B.S. in a related field are guaranteed admission into the M.S. in Sport Management as space permits.

The student learning outcomes for this degree are located at <http://www.niu.edu/assessment/clearinghouse/outcomes/index.shtml>.

### Non-Thesis Option

Select one from the Research Core (3)

- LESM 543 - Research Seminar in Sport Management (3),
- LESM 545 - Analytic Techniques and Trends in Sport (3),
- Other graduate-level research methodology course approved by adviser (3)

Required Core Courses (18)

- LESM 536 - Sport Industry and Organizations (3)
- LESM 538 - Managing the Sport Enterprise (3)
- LESM 539 - Sport and the Law (3)
- LESM 542 - Sport Marketing and Promotions (3)
- LESM 544 - Sport Finance (3)
- LESM 586 - Internship in Sport Management (1-3),
- OR LESM elective with approval of graduate program adviser (3)

Electives with approval of graduate program adviser (9)

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 Athletic Training

The degree in athletic training reflects the requirements of the Commission on the Accreditation of Athletic Training Education, and students who want to sit for the Board of Certification (BOC) examination must complete this degree. Admission to the athletic training program is competitive and limited. University admission does not necessarily constitute eligibility for admission into this degree program.

Retention in the program requires an overall NIU GPA of 3.00. Students enrolled in the program may be dismissed from the program for academic reasons or for unprofessional behavior or actions that threaten the health and safety of others. The Athletic Training Student Handbook describes the policies of the program. Students are required to adhere to all current policies and procedures. Refer to the program website for additional information, including program deadlines.

### Admission

To be considered for admission to the M.S.A.T program, an applicant must be admitted to Graduate School at NIU and have completed the following baccalaureate course work:

- Human anatomy and physiology (8 semester hours preferred, 4 semester hours mixed course minimum)
- General chemistry with lab (4 semester hours)
- Physics with lab (4 semester hours)
- Cellular biology with lab (4 semester hours)
- Biomechanics/kinesiology
- Exercise physiology
- Human nutrition or sport nutrition
- BLS or Healthcare Provider CPR and First Aid First aid/CPR for the Professional Rescuer Certification required
- Psychology or sport psychology

Applicants must complete a limited admissions application, which will include a letter of interest, resume, three letters of recommendation, minimum of 50 observation hours with a BOC certified athletic trainer within the last 10 months prior to application, transcripts, and syllabi for all prerequisite courses. Qualified applicants will undergo a pre-admission interview. The GRE is not required for admission. Applicants will be ranked based on their overall GPA, the GPA of their prerequisite coursework, letters of recommendation, and interview performance.

Students will be required to undergo criminal background checks in order to be placed at clinical experience sites. If the student has a prior criminal record, he or she may not be able to complete the program or required courses.

## Requirements for Accelerated B.S. in Kinesiology/M.S. in Athletic Training

The accelerated sequence leads to both a B.S. in kinesiology and an M.S. in athletic training degrees. Students who want to complete this program must identify themselves to the Department of Kinesiology and Physical Education as undergraduate majors, ideally in their first semester on campus, and gain successful entry to the M.S.A.T.

program. Admission to the M.S.A.T program will be on a competitive basis, and the likelihood of admission will depend on the number and quality of the applicants to the program.

Eligibility requirements for application to the M.S.A.T. program through the accelerated B.S. in kinesiology program are:

Undergraduate majoring in kinesiology

Completion of at least 90 semester hours of undergraduate designated course work as approved by advisor

Minimum of 3.00 GPA

Completion of all application requirements, including application to the graduate school, statement of purpose, resume, three letters of recommendation, minimum of 50 observation hours with a BOC certified athletic trainer within the last 10 months prior to application, and transcripts for all college course work. Qualified applicants will undergo a pre-admission interview. The GRE is not required for admission.

Admission will be on a competitive basis, and the likelihood of admission will depend on the number and quality of the applicants to the program, the number and quality of applicants to the M.S.A.T in general, as well as other factors normally considered in admissions decisions by the Graduate School and the Athletic Training program.

Failure to meet requirements of the accelerated sequence may lead to a B.S. degree only, but only after all the requirements for that degree have been met. Students are required to fulfill all requirements for the M.S.A.T. degree mentioned in the previous section in order to be awarded this degree.

### Program Requirements

KNAT 500 - Principles of Athletic Injury and Illness Management and Emergency Care (3)

KNAT 502 - Clinical Physical Examination and Diagnosis in Athletic Training I (3)

KNAT 503 - Clinical Physical Examination and Diagnosis Lab I (3)

KNAT 504 - Clinical Physical Examination and Diagnosis in Athletic Training II (3)

KNAT 505 - Clinical Physical Examination and Diagnosis Lab II (3)

KNAT 515 - Special Topics and Culminating Experience in Athletic Training (3)

KNAT 519 - Athletic Training Clinical Administration (3)

KNAT 520 - Integrated Therapeutic Interventions in Athletic Training I (3)

KNAT 521 - Integrated Therapeutic Interventions in Athletic Training Lab I (3)

KNAT 522 - Integrated Therapeutic Interventions in Athletic Training II (3)

KNAT 523 - Integrated Therapeutic Interventions in Athletic Training Lab II (3)

KNAT 550 - Research Methods and Evidence Based Practice in Athletic Training (3),

OR other graduate-level course in research methods and evidence based practice with approval of graduate program adviser

KNAT 551 - Athletic Training Clinical Experience I (3)

KNAT 552 - Athletic Training Clinical Experience II (3)

KNAT 553 - Immersive Athletic Training Clinical Experience I (4)

KNAT 556 - Immersive Athletic Training Clinical Experience II (4)

KNAT 650 - Directed Research and Applied Evidence Based Practice in Athletic Training (3)

## Master of Science in Education in Kinesiology and Physical Education

The student learning outcomes for this degree are located at <http://www.niu.edu/assessment/clearinghouse/outcomes/index.shtml>.

### Admission

To be considered for admission to the M.S.Ed. program in kinesiology and 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 M.S.Ed. program are not required to take the GRE. Student transcripts and life experiences will be evaluated to determine if deficiencies exist. If they do exist, students should consult the graduate program academic adviser and conditional admission may be granted to complete identified deficiencies and 9 semester hours of program specific graduate-level course work designated by the adviser. Conditional admission requirements must be satisfied within 3 semesters for students to be reclassified as regularly admitted (see the Conditional Admission section of this catalog).

Applicants to the master's degree program in kinesiology 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.

University Honors students who graduate with a B.A. or B.S. in a related field are guaranteed admission into the M.S.Ed. program as space permits.

### 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 specialization in adapted physical education, a specialization in exercise physiology, 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 each of the specializations, students are required to take 9-15 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 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 additional 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.

### 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. 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 (15)**

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)

Two of the following (6)

KNPE 569 - Instructional Skills for Physical Education (3)

KNPE 577 - Physical Education in the Elementary School (3)

KNPE 620 - Seminar in Physical Education Curriculum (3)

Select one from the science core (3-4)

KNPE 557 - Applied Physiology of Exercise (4)

KNPE 578 - Seminar in Motor Development (3)

KNPE 686 - Seminar in Motor Learning (3)

Select one from the social science core (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 (3)

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 work approved by an adviser.

**Specialization in Exercise Physiology**

This specialization is designed to provide knowledge and skills to students in the area of exercise physiology. Students with such a professional background are prepared to assume various roles related to exercise physiology: research, teaching, and applied/practical/laboratory positions in hospitals, corporations, and health clubs. Applied exercise physiology 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 561 - Advanced Exercise Physiology (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)**

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 (15)

KNPE 620 - Seminar in Physical Education Curriculum (3)

KNPE 569 - Instructional Skills for Physical Education (3)

KNPE 577 - Physical Education in the Elementary School (3)

Two of the following (6)

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 557 - Applied Physiology of Exercise (4)

KNPE 578 - Seminar in Motor Development (3)

KNPE 686 - Seminar in Motor Learning (3)

Select one from the social science core (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 (3)

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 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.

## Certificates 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)  
One 500/600-level course within Special and Early Education (3),  
OR KNPE 549 - Independent Study in Kinesiology and Physical Education (3)

### Sport and Exercise Psychology (12)

This certificate is a 12-semester-hour certificate program that provides graduate students and working professionals with a focused curriculum designed to enhance their understanding of psychological and sociological processes salient for the experiences of sport and exercise participants. This certificate is applicable for students who are concurrently pursuing graduate or post-baccalaureate studies in kinesiology, sport management, psychology, sociology, physical therapy, and/or statistics. However, students from any graduate major at Northern Illinois University, any other acceptable graduate degree-granting institution, or Student-at-Large are eligible to apply for and obtain a certificate of graduate study in Sport and Exercise Psychology. Moreover, these courses partially fulfill the educational requirements and can be applied towards completion of the M.S.Ed. in Sport and Exercise Psychology at Northern Illinois University (see the M.S.Ed. in Sport and Exercise Psychology degree requirements in the Graduate Catalog). If applicable, some or all Certificate of Graduate Study in Sport and Exercise Psychology courses may be counted toward students' graduate degree requirements in their respective departments. Students presently enrolled in the M.S.Ed. in Sport and Exercise Psychology program at Northern Illinois University are ineligible to obtain this certificate.

Students wishing to pursue this certificate must be accepted into the Graduate School (as either a degree-seeking student or a student-at-large), formally file an enrollment application with the certificate coordinator before completion of 9 hours of course work related to this certificate, develop a plan of study approved by the certificate coordinator, maintain a cumulative 3.00 grade point average or better in all certificate courses, and complete all certificate course work within six calendar years.

#### Primary Content Area (9)

KNPE 582 - Psychology of Sport and Exercise (3)  
KNPE 583 - Psychology of Coaching (3)  
KNPE 586 - Sport in Society (3)

#### Additional Requirements (3)

Certificate coordinator-approved graduate-level courses focusing on areas such as: sport management, psychology, sociology, physical therapy, statistics, or other relevant topic(s).

### Sport Management (12)

This certificate is a 12-semester-hour program designed to provide current non-sport management graduate students and working professionals with a set of courses focused on specific areas of sport management, and will enhance and further a student's understanding of the current sporting landscape and sport-specific industries. This certificate is suggested for students concurrently pursuing graduate or post-baccalaureate studies in business, economics, kinesiology, law, or statistics. However, students from any graduate major at Northern Illinois University, any other acceptable graduate degree-granting institution, or a student-at-large are eligible to apply for and obtain this certificate. Moreover, these courses partially fulfill the educational requirements of, and can be applied towards completion of, the M.S. in Sport Management at NIU (see M.S. Sport Management degree requirements in the Graduate Catalog). If applicable, some or all Certificate of Graduate Study in Sport Management courses may be counted toward students' graduate degree requirements in their respective departments. Students presently enrolled in the M.S. in Sport Management program at NIU are ineligible to obtain this certificate.

Students wishing to pursue this certificate must be accepted into the Graduate School (as either a degree-seeking student or a student-at-large), formally file an enrollment application with the certificate coordinator before completion of 9 semester hours of course work related to this certificate, develop a plan of study approved by the certificate coordinator, maintain a cumulative 3.00 grade point average or better in all certificate courses, and complete all certificate course work within six calendar years.

#### Select three of the following (9)

LESM 536 - Sport Industry and Organizations (3)  
LESM 538 - Managing the Sport Enterprise (3)  
LESM 539 - Sport and the Law (3)  
LESM 541 - Organization and Administration of Interscholastic Athletics (3)  
LESM 542 - Sport Marketing and Promotions (3)  
LESM 544 - Sport Finance (3)  
LESM 545 - Analytic Techniques and Trends in Sport (3)  
LESM 550 - Sport Sponsorship and Retention (3)  
LESM 553 - Sport Leadership  
LESM 555 - Sport Globalization and International Governance (3)  
LESM 560 - Sport Facilities and Event Management (3)  
LESM 565 - Sport Communications (3)  
LESM 592 - Special Topics in Sport Management (1-3)

#### Additional requirements (3)

Certificate coordinator-approved, graduate-level course(s) focusing on areas such as: business, economics, law, sport, statistics, or other related topics (3)

## K-12 Licensure in Physical Education

The physical education entitlement program is designed for students interested in teaching physical education in Grades K to 12. The student plans a program of study in consultation with the adviser for educator licensure. Upon completion of physical education deficiencies, the physical education professional program, and professional education requirements for licensure, the student may be recommended for admission to teacher education.

### Deficiencies in Undergraduate Work

Candidates for the M.S.Ed. degree and K-12 educator licensure must show proficiency in the following courses, or their equivalent, through transcript evaluation.

BIOS 311 - Functional Human Anatomy (4),  
OR BIOS 357 - Human Anatomy and Physiology (5)  
KNPE 235 - Fundamental Sport Skills (3)  
KNPE 313 - Mechanical Kinesiology of Motor Skills (3),  
OR KNPE 314 - Applied Kinesiology (4)

## Physical Education Professional Course Requirements

- KNDN 351 - Multicultural Dance (3)  
 KNPE 365 - Introduction to Adventure Education (3),  
 KNPE 368 - Sport Education (3)  
 KNPE 544 - Field Experience in the Elementary School (1)  
 KNPE 545 - Assessment in Kinesiology and Physical Education (3)  
 KNPE 557 - Applied Physiology of Exercise (4)  
 KNPE 567A - Field Experience in the Middle School (1)  
 KNPE 567B - Field Experience in the High School (1)  
 KNPE 569 - Instructional Skills for Physical Education (3)  
 KNPE 570 - Field Experience in Outdoor Environments (1)  
 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 589 - Inclusion Strategies for Special Populations: Theory and Practice (3)  
 KNPE 592 - Clinical Experience in Special Physical Education (1-2)  
 KNPE 598A - Elementary School Student Teaching in Physical Education (6)  
 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 educator licensure must contact the adviser for educator licensure regarding professional education and should also see "Educator Licensure Information."

Upon satisfactory completion of the initial educator licensure program, professional education requirements, and Illinois State Board of Education requirements, students will be recommended for licensure. Students may earn the M.S.Ed. degree by completing the additional hours required for the degree (normally 9-18 semester hours).

## Course List

### Athletic Training (KNAT)

500. PRINCIPLES OF ATHLETIC INJURY AND ILLNESS MANAGEMENT AND EMERGENCY CARE (3). An overview of athletic injuries and illness and the principles of injury prevention and emergency management as well as the practical application of selected athletic training procedures. PRQ: Admission to the athletic training program.
502. CLINICAL PHYSICAL EXAMINATION AND DIAGNOSIS IN ATHLETIC TRAINING I (3). In-depth study of the physical examination and diagnosis of common injuries to the spine and extremities. Emphasis on concepts of human anatomy and physiology, pathomechanics and pathophysiology, and evidence based practice. PRQ: KNAT 500.
503. CLINICAL PHYSICAL EXAMINATION AND DIAGNOSIS LAB I (3). Laboratory experience in development of physical examination and diagnostic skills of common injuries to the spine and extremities. CRQ: KNAT 502.
504. CLINICAL PHYSICAL EXAMINATION AND DIAGNOSIS IN ATHLETIC TRAINING II (3). In-depth study of the physical examination and diagnosis of common injuries to the head, chest, thorax and abdomen as well as general medical conditions. Emphasis on concepts of human anatomy and physiology, pathomechanics and pathophysiology, and evidence based practice. PRQ: KNAT 502 and KNAT 503.
505. CLINICAL PHYSICAL EXAMINATION AND DIAGNOSIS LAB II (3). Laboratory experience in development of physical examination and diagnostic skills of common injuries to the thoracic and cervical spine, head and face, thorax, abdomen, and abdomen, as well as general medical conditions. CRQ: KNAT 504.
515. SPECIAL TOPICS AND CULMINATING EXPERIENCE IN ATHLETIC TRAINING (3). Investigation of special topics in athletic training including current research and emerging contemporary issues with a focus on interprofessional experiences. CRQ: KNAT 556.

519. ATHLETIC TRAINING CLINICAL ADMINISTRATION (3). Introduction to research methods and evidence based practice as well as the statistical techniques relevant to athletic training. PRQ: KNAT 502.

520. INTEGRATED THERAPEUTIC INTERVENTIONS IN ATHLETIC TRAINING I (3). An overview of the theory of therapeutic interventions common to the rehabilitation of select musculoskeletal injuries and conditions. Emphasis on the foundational theories such as physiology of injury, pain, stages of healing, altered movement as well as the exercises, modalities, pharmacological and psychosocial interventions specific to the inflammatory and proliferation stages of healing. PRQ: KNAT 502.

521. INTEGRATED THERAPEUTIC INTERVENTIONS IN ATHLETIC TRAINING LAB I (3). Application of therapeutic interventions common to the rehabilitation of select musculoskeletal injuries and conditions. Emphasis on exercises, modalities, pharmacological and psychosocial interventions specific to the inflammatory and proliferation stages of healing. CRQ: KNAT 520.

522. INTEGRATED THERAPEUTIC INTERVENTIONS IN ATHLETIC TRAINING II (3). Overview of the theory of therapeutic interventions common to the rehabilitation of select musculoskeletal injuries and conditions. Emphasis on exercises, modalities, pharmacological and psychosocial interventions specific to the remodeling stage of healing and the return to participation. Special considerations for the physical rehabilitation of various anatomical segments will also be explored. PRQ: KNAT 520, KNAT 521.

523. INTEGRATED THERAPEUTIC INTERVENTIONS IN ATHLETIC TRAINING LAB II (3). Application of therapeutic interventions common to the rehabilitation of select musculoskeletal injuries and conditions. Emphasis on exercises, modalities, pharmacological and psychosocial interventions specific to the remodeling stage of healing, return to participation and specific body segments. CRQ: KNAT 522.

550. RESEARCH METHODS AND EVIDENCE BASED PRACTICE IN ATHLETIC TRAINING (3). Introduction to research methods and evidence based practice as well as the statistical techniques relevant to athletic training. PRQ: KNAT 502.

551. ATHLETIC TRAINING CLINICAL EXPERIENCE I (3). Pre-professional clinical experience designed to introduce the athletic training student to professional practice and the principles of patient care. Primary focus on injury management, acute care, and refinement of psychomotor athletic training skills. PRQ: KNAT 500, CRQ: KNAT 502.

552. ATHLETIC TRAINING CLINICAL EXPERIENCE II (3). Pre-professional clinical experience with primary focus on psychomotor athletic training skills of the spine and upper and lower extremities. PRQ: KNAT 551, KNAT 503.

553. IMMERSIVE ATHLETIC TRAINING CLINICAL EXPERIENCE I (4). Pre-professional clinical experience designed to refine psychomotor athletic training skills and professional behaviors with a primary focus on the identification of general medical conditions and implementation of therapeutic interventions. PRQ: KNAT 504, KNAT 520.

556. IMMERSIVE ATHLETIC TRAINING CLINICAL EXPERIENCE II (4). Culminating clinical experience designed to assist with the transition to clinical practice. Emphasis on professional socialization, inter-professional collaboration, implementing evidence based practice and administrative duties of the athletic trainer. PRQ: KNAT 553.

650. DIRECTED RESEARCH AND APPLIED EVIDENCE BASED PRACTICE IN ATHLETIC TRAINING (3). Supervised research in a specialized area of athletic training with an emphasis on evidence based practice to answer clinical questions. PRQ: KNAT 553.

### 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.

### **Kinesiology and Physical Education (KNPE)**

503. ADVANCED CLINICAL EXPERIENCE IN PHYSICAL EDUCATION (1). Application of theory courses through micro-teaching episodes in K-12 physical education contexts in a partnership school district. Cannot be counted toward the M.S.Ed. in Kinesiology and Physical Education.

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.

544. FIELD EXPERIENCE IN THE ELEMENTARY SCHOOL (1). Practicum in supervised experiences that include observations, small group teaching, and large group teaching in the public and/or parochial schools. Cannot be counted toward the M.S.Ed. in kinesiology and physical education. CRQ: KNPE 577 or consent of department.

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 kinesiology and 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.

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.

561. ADVANCED EXERCISE PHYSIOLOGY (3). In-depth study and hands-on skill enhancement in the application of advanced laboratory techniques for evaluating health and training benefits associated with exercise and for predicting and enhancing human performance.

564. EXERCISE IS MEDICINE (3) In-depth study of chronic diseases and how exercise can be used as a treatment or prevention for the disease. Emphasis is on interrelationships among organ systems in deviations from homeostasis. Topics include the etiology, physical signs and symptoms, prognosis, current management of the disease, mechanisms for the benefits of exercise, and training programs individuals for the diseases.

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.

567A. FIELD EXPERIENCE IN MIDDLE SCHOOL (1). Practicum in supervised experiences that include observations, small group teaching, and large group teaching in the public and/or parochial schools. Cannot be counted toward the M.S.Ed. in kinesiology and physical education. CRQ: KNPE 567B or consent of department.

567B. FIELD EXPERIENCE IN HIGH SCHOOL (1). Practicum in supervised experiences that include observations, small group teaching, and large group teaching in the public and/or parochial schools. Cannot be counted toward the M.S.Ed. in kinesiology and physical education. CRQ: KNPE 577 or consent of department.

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.

570. FIELD EXPERIENCE IN OUTDOOR ENVIRONMENTS (1). Observations, small group teaching, large group teaching, and team teaching in an outdoor education setting with students of multicultural backgrounds. Cannot be counted toward the M.S.Ed. in kinesiology and physical education. S/U grading. CRQ: KNPE 567A or consent of department.

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 licensure.

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.

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.

591. ASSESSMENT AND PROGRAM PLANNING IN ADAPTED PHYSICAL EDUCATION (3). Application of psychomotor testing procedures and program planning in adapted physical education.

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. CRQ: KNPE 589, 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 kinesiology and physical education.

596. SPECIAL TOPICS IN KINESIOLOGY AND PHYSICAL EDUCATION (1-3). Topics announced. May be repeated to a maximum of 9 semester hours when subject varies.

597A. INTERNSHIP (1-6). Internship for students in the M.S.Ed. program. 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 "Educator Licensure Requirements." This course cannot be counted toward the M.S.Ed. in kinesiology and physical education. S/U grading. 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 "Educator Licensure Requirements." This course cannot be counted toward the M.S.Ed. in kinesiology and physical education. S/U grading. PRQ: KNPE 569.

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 "Educator Licensure Requirements." This course cannot be counted toward the M.S.Ed. in kinesiology and physical education. S/U grading. 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 kinesiology and 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.

701. PEDAGOGY IN KINESIOLOGY AND PHYSICAL EDUCATION (3). Introduction to teaching in kinesiology and physical education disciplines at the college level. Development of methods, techniques, and strategies for student instruction at the college level. PRQ: Consent of department.

702. ADVANCED PEDAGOGY IN KINESIOLOGY AND PHYSICAL EDUCATION (3). Practical teaching experience within kinesiology and physical education disciplines. Further development of methods, techniques, and strategies for student instruction at the college level; as well as the development of a teaching portfolio. PRQ: Consent of department.

711. ADVANCED SEMINAR IN KINESIOLOGY AND PHYSICAL EDUCATION I (3). Socializes students into the worlds of science, graduate education, and kinesiology and physical education research and practice. Particular emphasis placed on the responsible conduct of research, shared and unique expectations of graduate students and mentors across various kinesiology and physical education concentrations, professional development, and the nurturing of academic community. PRQ: Consent of department.

712. ADVANCED SEMINAR IN KINESIOLOGY AND PHYSICAL EDUCATION II (3). Professional preparation immersion for entry into academic careers, and help students formulate a curricular and research program to structure the doctoral experience. PRQ: Consent of department.

721. SCHOLARSHIP IN KINESIOLOGY AND PHYSICAL EDUCATION (3). Analysis of classic works in kinesiology and physical education for doctoral students to plan and conduct research studies in their cognate area. Particular emphasis on the interdisciplinary nature of kinesiology and physical education and becoming an active member of the research community. Preparation for grant positioning, academic writing, dissertation development, etc. PRQ: Consent of department.

771. DIRECTED RESEARCH IN KINESIOLOGY AND PHYSICAL EDUCATION (1-15). Supervised doctoral research in a specialized area of kinesiology and physical education. Research topic must be approved by supervisor prior to registration. May be repeated to a maximum of 30 semester hours. PRQ: Consent of department.

786. INTERNSHIP IN KINESIOLOGY AND PHYSICAL EDUCATION (1-15). Supervised experience for doctoral students in kinesiology and physical education. May be repeated to a maximum of 15 semester hours. PRQ: Consent of department.

792. SPECIAL TOPICS IN KINESIOLOGY AND PHYSICAL EDUCATION (1-3). Topics announced. May be repeated to a maximum of 12 semester hours when topic varies. PRQ: Consent of department.

797. INDEPENDENT STUDY IN KINESIOLOGY AND PHYSICAL EDUCATION (1-15). Independent study under direction of faculty member. May be repeated to a maximum of 30 semester hours. PRQ: Consent of department.

799. DOCTORAL RESEARCH AND DISSERTATION (1-15). Dissertation research hours. 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.

## 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. PRQ: Admission into the M.S. in sport management program or consent of department.

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. PRQ: Admission into the M.S. in sport management program or consent of department.

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. PRQ: Admission into the M.S. in sport management program or consent of department.

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. PRQ: Admission into the M.S. in sport management program or consent of department.

543. RESEARCH SEMINAR IN SPORT MANAGEMENT (3). Investigation and analysis of current issues and trends in sport management. Topics may vary depending on recent literature and research findings. This is a research and writing intensive course. PRQ: Admission into the M.S. in sport management program or consent of department.

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. PRQ: Admission into the M.S. in sport management program or consent of department.

545. ANALYTIC TECHNIQUES AND TRENDS IN SPORT (3). A comprehensive study of the current trends present within the sporting industry. Research and analysis examining sport-focused data provides unique opportunities to test management and social theories, as well as investigate the roles that sports play in shaping the market and economy. Using various data analytic techniques, examines issues pertaining to professional and amateur sports, including league structures (e.g., revenue sharing, competitive balance, and global markets) and policy issues (e.g., athlete compensation, franchise valuation, and Title IX).

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. PRQ: Admission into the M.S. in sport management program or consent of department.

551. SPORT TICKET SALES (3). Practical application of sales strategies, techniques, operations, and practices specific to the sport ticketing industry. PRQ: Admission into the M.S. in sport management program or consent of department.

552. ADVANCED SPORT MANAGEMENT EXPERIENCE (3). Enhancement of students' practical experiences in the sport management field. Via a series of guest lecturers, individual and group assignments, and practical experiences, students will hone organizational, planning, managing, marketing, leadership, and selling skills. Serves as a capstone course for the program. Opportunities to utilize the skills developed through the program. PRQ: LESM 538, LESM 542, LESM 543, and LESM 544; or consent of department.

553. SPORT LEADERSHIP (3). Study of the theories of leadership and their application to and effect on a sport organization and its member constituents. PRQ: Admission into the M.S. in sport management program or consent of department.

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. PRQ: Admission into the M.S. in sport management program or consent of department.

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: Admission into the M.S. in sport management program or consent of department.

586. INTERNSHIP IN SPORT MANAGEMENT (1-12). Supervised experience for students in a sports management setting. May be repeated to a maximum of 12 semester hours. PRQ: Consent of department.

592. SPECIAL TOPICS IN SPORT MANAGEMENT (1-3). Topics announced. May be repeated to a maximum of 9 semester hours when topic varies. PRQ: Admission into the M.S. in sport management program or 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, and admittance into the M.S. in sport management program; and/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, and admittance into the M.S. in sport management program; and/or consent of department.

# Department of Leadership, Educational Psychology and Foundations (EPFE, EPS, LEBM, LEEA)

Chair: Carolyn Pluim, Ph.D.

## Graduate Faculty

Kerry Burch, professor, Ph.D., University of Hawaii at Manoa  
 Benjamin M. Creed, assistant professor, Ph.D. Michigan State University  
 Daryl Dugas, assistant professor, Ph.D., University of Chicago  
 Lindsay Harris, assistant professor, Ph.D., University of Pittsburgh  
 Carolyn Pluim, associate professor, Ph.D., Georgia State University  
 Patrick Roberts, associate professor, Ph.D., University of Illinois at Chicago  
 Leslie A. Sassone, associate professor, Ph.D., Purdue University  
 Hidetada Shimizu, associate professor, Ed.D., Harvard University  
 Kelly H. Summers, assistant professor, Ph.D., Northern Illinois University  
 Cynthia Taines, associate professor, Ph.D., University of Wisconsin  
 Stephen M. Tonks, associate professor, Ph.D., University of Maryland  
 Teresa Wasonga, Presidential Engagement Professor, Ed.D., University of Missouri

The Department of Leadership, Educational Psychology and Foundations offers programs leading to degrees in educational administration, educational psychology, 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  
 School business management

## Educational Specialist

Educational administration

## Doctor of Education

Curriculum and instruction  
 Educational administration

## Doctor of Philosophy

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 licensure-only programs in the department should contact the department for application materials.

## Licensure 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 License. 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 License. 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 License. Students seeking licensure 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 licensure 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 36-semester-hour principal preparation program focuses on the knowledge, skills, and dispositions required for persons who are interested in obtaining a principal endorsement on a Professional Educator License (PEL) in order to be eligible to work as a principal, an assistant principal, or in related or similar positions. The goal of the program is to prepare visionary leaders with the skills and knowledge to effectively implement and manage an educational environment that utilizes evidence of student learning to drive continuous school improvement.

Check departmental information for any additional requirements.

The student learning outcomes for this degree are located at <http://www.niu.edu/assessment/clearinghouse/outcomes/index.shtml>.

## Admission

Applicants for this program must complete all Northern Illinois University application procedures for admission related to the graduate program in the College of Education and meet that program's admission criteria. Faculty decisions are based on the total profile of each applicant.

Applicants must possess and provide evidence of the following in order to be considered for admission:

A minimum undergraduate GPA of 3.50

For teachers, a valid and current Illinois professional educator license (PEL) (i.e., early childhood, elementary, middle level, secondary, special K-12, or special preschool-age 21) and data providing evidence of two years of student growth and learning within the last five years. For school support personnel, a valid and current Illinois professional educator license (PEL) (i.e., school support personnel) and a minimum of two years of related experience in an educational setting.

Passage of the Test of Academic Proficiency (TAP) or Basic Skills Test as approved by the State.

Submission of a portfolio that presents evidence of a candidate's achievements during his or her educational experience (see Requirements).

A nomination letter from the superintendent in the district where they will be completing their internship.

A prospective internship mentor commitment letter.

Successful completion of LEEA 500 with a grade of B or higher.

Selection through an in-person interview with at least two full-time NIU faculty members.

Successful completion of a written response to a scenario.

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

Prior to formal admission into the MS.Ed. in Educational Administration principal preparation program, prospective students must enroll in and complete LEEA 500 as a "student at large." The preparation of the admission portfolio, the response to a written scenario, and the interview with two full-time NIU faculty members takes place as part of LEEA 500.

Students enrolled in the NIU Principal Preparation Program must complete the 10-course sequence plus a 3-semester internship.

Course work includes curricula that addresses student learning and school improvement with a focus on:

All grade levels (i.e., preschool-12)

The role of instruction with an emphasis on literacy and numeracy

The Illinois Professional Teaching Standards (12 Ill. Adm. Code 24 Standards for All Illinois Teachers)

Students with special needs (e.g., students with disabilities, English language learners, gifted students, students in early childhood programs)

Collaborative relationships with all members of the school community (e.g., parents, school board members, local school councils or other governing councils, community partners)

Candidates may transfer up to 15 credits pending an evaluation of official transcripts from accredited institutions for comparable courses. A final determination of the courses for transfer will be made by the LEPF department chair (or designee) upon transcript review requirements.

## 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.

The student learning outcomes for this degree are located at <http://www.niu.edu/assessment/clearinghouse/outcomes/index.shtml>.

### 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.

University Honors students who graduate with a B.A. or B.S. in a related field are guaranteed admission into the M.S.Ed. program as space permits. University Honors student applicants will still need to complete an application including submission of letters of recommendation, goals statement, and CV/resume.

### 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 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 license 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 License. Program flexibility permits elective courses which may be applied toward meeting minimal educational requirements for the general administrative endorsement.

The student learning outcomes for this degree are located at <http://www.niu.edu/assessment/clearinghouse/outcomes/index.shtml>.

**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 - School District Fiscal Strategic Planning (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 30-semester-hour program of advanced study in educational administration is designed to prepare candidates for school district superintendent level positions. The program includes a total of 24 credit hours of course work (eight courses) and a 6-credit-hour internship that provides for a yearlong district leader preparation experience. Students earn their superintendent endorsement upon successfully completing the program and fulfilling all state requirements. The goal for the Superintendent Preparation Program is to prepare visionary leaders with the skills and knowledge to effectively implement and manage an educational environment that utilizes evidence of student learning to drive continuous school improvement.

The student learning outcomes for this degree are located at <http://www.niu.edu/assessment/clearinghouse/outcomes/index.shtml>.

**Admission**

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.

Applicants for this program must complete all Northern Illinois University application procedures for admission related to the graduate program in the College of Education and meet that program's admission criteria. Prior to formal admission into the Ed.S. in Educational Administration, prospective students must enroll in and complete LEEA 700 and be enrolled in LEEA 710. The preparation

of the admission portfolio, response to a written scenario, and the interview with two NIU faculty members takes place during LEEA 710.

Applicants must possess and provide evidence of the following in order to be considered for admission:

An approved application to Northern Illinois University at the time of admission.

A letter of recommendation from the superintendent where the candidate is currently employed.

Copies of previous performance evaluations and/or letters of recommendation from current/former supervisors demonstrating support for

- all students achieving high standards of learning
- an analysis of classroom or school learning data
- work with families and/or community groups
- examples of analytical abilities; and evidence of curriculum development, student assessments, or other initiatives that resulted from involvements with school committees.

Selection through an in-person interview with at least two full-time NIU faculty members.

Completed LEEA 700 with a grade of B or higher and be enrolled in LEEA 710.

A valid and current Illinois professional educator license endorsed in general administrative, principal, chief school business official, or director of special education.

A passing score on the Illinois state-approved Test of Academic Proficiency (TAP) or Basic Skills Test as approved by the state.

At least two years of full-time administrative or supervisory experience in a public school district or nonpublic school.

Successful completion of a written response to a scenario.

Submission of a portfolio that demonstrates evidence of a candidate's proficiency in each of the following categories:

- support for all students achieving high standards of learning
- use of data to improve learning
- significant building leadership roles
- strong oral and written communication skills
- analytic abilities needed to collect and analyze data for student improvement
- demonstrated respect for family and community
- strong interpersonal skills.

Candidates may transfer up to 12 credits pending an evaluation of official transcripts from accredited institutions for comparable courses. A final determination of the courses for transfer will be made by the Leadership, Educational Psychology and Foundations Department Chair (or designee) upon transcript review.

## Requirements

The Ed.S. in educational administration requires 30 semester hours, which includes a total 24 hours of course work and a 6-hour internship that provides for a yearlong district leader preparation experience.

- LEEA 700 - The Nature and Theory of Administration (3)
- LEEA 710 - The Superintendency (3)
- LEEA 720 - Education Finance and Asset Management (3)
- LEEA 725 - Education Law II (3)
- LEEA 727 - Multitiered Systems of Support for Prevention and Intervention (3)
- LEEA 735 - Administration and Supervision of Educational Personnel (3)
- LEEA 745 - Survey of Research in Educational Administration (3)
- LEEA 754 - The Politics of Educational Administration (3)
- LEEA 786A - Internship in Educational Administration (3)
- LEEA 786B - Internship in Educational Administration (2)
- LEEA 786C - Internship in Educational Administration (1)

## Doctor of Education in Educational Leadership and Policy Studies

The Ed.D. program in educational leadership and policy studies 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.

The student learning outcomes for this degree are located at <http://www.niu.edu/assessment/clearinghouse/outcomes/index.shtml>.

### Admission

Students wishing to obtain the Illinois Superintendent Endorsement as part of the Ed.D. program in Educational Leadership and Policy Studies must first complete the 30 credit hour Ed.S. program in Educational Administration w/ Superintendent Endorsement. Upon admission into the Ed.D. program, 30 hours of Ed.S. course work credit can transfer into the doctoral program to fulfill the concentration course work requirement.

An applicant for admission to the Ed.D. program in educational leadership and policy studies must submit

- 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 licensure

The faculty in the educational leadership and policy studies program area 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 leadership and policy studies requires a minimum of 42 semester hours of graduate work beyond the master's degree. Students may choose between two distinct specializations: Educational Leadership or Educational Policy Studies. The Educational Leadership specialization is designed for individuals who have completed their Ed.S. and hold an Illinois Superintendent Endorsement. The Educational Policy Studies specialization is designed for individuals who hold a master's degree but do not hold or wish to pursue an Ed.S. degree and are interested in doctoral-level analysis of educational issues, policies, and practices. Please note: neither specialization leads to Superintendent Endorsement.

### Specialization in Educational Leadership

If the applicant holds an Ed.S. degree from NIU, the doctoral program requires a minimum of 42 semester hours as follows:

- Course work in research understandings and skills, learning and development theories, and sociocultural analyses of education (24)
- Transfer credit from the Ed.S. degree or equivalent (6)
- Successful completion of a candidacy examination
- LEEA 799 - Doctoral Research and Dissertation (12)

If the applicant holds an Ed.S. degree from an institution other than NIU, the doctoral program requires 42 semester hours as follows:

Course work in research understandings and skills, learning and development theories, sociocultural analyses of education (24)

Electives approved by adviser or program coordinator (6)

Successful completion of candidacy exam

LEEA 799 - Doctoral Research and Dissertation (12)

### Specialization in Educational Policy Studies

For students without an Ed.S. degree, the doctoral program requires a minimum of 66 semester hours beyond the master's degree as follows:

Course work in research understandings and skills, learning and development theories, and sociocultural analyses of education (24)

Concentration course work in educational policy studies (30)

Successful completion of a candidacy examination

LEEA 799 - Doctoral Research and Dissertation (12)

### Candidacy Exam

The candidacy examination requires demonstration of applicable knowledge in educational leadership and policy studies. 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, shall not be permitted to continue work toward the Ed.D. degree, and admission to that program shall be terminated.

### Administrative Endorsements to a Professional Educator License

In conjunction with the degrees described above, students may meet requirements for various endorsements to an Illinois Professional Educator License. Departmental approval is required for an administrative endorsement application. Application packets may be obtained from the department office for students interested in an administrative endorsement only rather than a degree program. Students seeking an administrative endorsement 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.

### Principal Endorsement

Students seeking the principal endorsement to a Professional Educator License as part of a graduate degree program in the department must possess a baccalaureate degree and a current Illinois Professional Educator License. Students seeking an endorsement 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 all program and state requirements including a three-semester internship experience and completion of the Illinois State board of Education's supervisory training modules.

### 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 Philosophy 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.

The student learning outcomes for this degree are located at <http://www.niu.edu/assessment/clearinghouse/outcomes/index.shtml>.

### 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 on Human Development in Educational Settings (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 Ph.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 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

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.

## Certificates of Graduate Study

### Foundations of Education and Policy Studies (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.

EPFE 555 - Sociology of Classrooms (3)

EPFE 557 - Sociology of Urban Education (3)

EPFE 740 - Interpretive Methods in Educational Research (3)

EPFE 715 - Foundations of Educational Policy (3)

EPFE 721 - Seminar in American Educational Thought (3)

EPFE 745 - Interpretive Methods in Educational Research (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)

**Course List****Course Information**

All courses with the EPFE 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 LEADERSHIP AND DATA-INFORMED DECISION MAKING (3). Examination of administrative practices in the areas of implementing effective educational programs, utilizing evidence of student learning to inform instructional practices, and creating a culture of continuous school improvement.

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.

526. LEGAL ISSUES IN THE EDUCATION OF DIVERSE LEARNERS (3). In-depth review of local, state, and federal laws and regulations governing special education, gifted and English Language Learners (ELL) programs and services for prospective principals in their role as instructional leaders. Impact, application of the laws and regulations, and strategies for compliance in birth-to-three, Early Childhood Education (ECE), and K-12 settings will be addressed.

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.

575. SPECIAL EDUCATION FINANCE (3). *Crosslisted as SESE 575X*. An examination of federal, state and local financial sources in funding special education. Focus on the constructs of financial planning, budgeting, and administration. Review and evaluation of grants, financial reporting systems, and special education staffing. Awareness and understanding of facilities, transportation, equipment, and technology in support of special education.

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.

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.

586C. INTERNSHIP IN EDUCATIONAL ADMINISTRATION (3). Part of the culminating internship experience for candidates enrolled in the NIU Principal Preparation Program. Provides an opportunity for meaningful, competency-based administrative experiences at the building level. Students who are completing LEEA 586C as part of the 3-semester, 6-semester hour requirement for the principal endorsement to an Illinois Professional Educator License must register for 3 semester hours. CRQ: LEEA 586B or consent of department.

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 topics vary.

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.

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 AND ASSET MANAGEMENT (3). Theoretical aspects of financial administration, state and local tax systems, cost-quality relationships, operational finance and asset management. Focus on the many social, economic, and political considerations related to public financing of education.

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.

727. MULTITIERED SYSTEMS OF SUPPORT FOR PREVENTION AND INTERVENTION (3). Addresses the skills and knowledge needed by superintendents to effectively implement and manage an educational environment that utilizes research and data to ensure a robust multitiered system of support for all students in order to drive continuous district improvement. Building multitiered systems of Support for academic, behavior, and social-emotional needs will be addressed.

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.

786A. INTERNSHIP IN EDUCATIONAL ADMINISTRATION (3) Culminating internship experience for candidates enrolled in the Superintendent Preparation Program. Opportunity for meaningful, competency-based administrative experiences at the building level. Students who are completing LEEA 786A as part of the 3-semester, 6-credit requirement for the superintendent endorsement must register for 3 semester hours. CRQ: Successful completion of 24 semester hours in the Superintendent Preparation Program or consent of department.

786B. INTERNSHIP IN EDUCATIONAL ADMINISTRATION (2). A culminating internship experience for candidates enrolled in the Superintendent Preparation Program. Opportunity for meaningful, competency-based administrative experiences at the building level. Students who are completing LEEA 786B as part of the 3-semester, 6-credit requirement for the superintendent endorsement must register for 2 semester hours. CRQ: Successful completion of 24 semester hours in the NIU Superintendent Preparation Program and LEEA 786A, or consent of department.

786C. INTERNSHIP IN EDUCATIONAL ADMINISTRATION (1). Culminating internship experience for candidates enrolled in the Superintendent Preparation Program. Opportunity for meaningful, competency-based administrative experiences at the building level. Students who are completing LEEA 786C as part of the 3-semester, 6-credit requirement for the superintendent endorsement must register for 1 semester hour. CRQ: Successful completion of 24 semester hours in the NIU Superintendent Preparation Program, and LEEA 786A, and LEEA 786B; 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 educator licensure. 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 educator licensure 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. EDUCATOR, FAMILY, COMMUNITY: RELATIONS 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.

552. CLASSROOM MANAGEMENT FOR ADOLESCENT STUDENTS (3). Applications of motivation and management principles and procedures to maintain a positive learning environment in classrooms, focusing particularly on the developmental needs of adolescent students. Topics include building relationships with students, establishing classroom structures and expectations, managing and resolving conflict appropriately, responding effectively to student misbehavior, and effectively implementing a variety of instructional modalities. Intended for middle and secondary licensure.

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.

560. MIND, BRAIN, AND EDUCATION (3). Neuro-cognitive bases of learning, memory, and motivation, and their implications for educational practice. Survey topics include basic neuroanatomy and an overview of neuroscience methodologies; evaluating claims of "brain-based" educational techniques; genetic, cultural, and environmental influences on brain development and learning; the cognitive and neural substrates of reading, mathematical reasoning, and creativity; and the cognitive and neural substrates of learning disability and giftedness. For each topic, classroom implications will be considered.

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 ON HUMAN DEVELOPMENT IN EDUCATIONAL SETTINGS (3). Examination and analysis of recent research in human development framed in sociocultural theory and research. Focus on development of skills for conducting research in child human development on and learning applicable to all educational settings.

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 or EPS 524 or consent of department.

770X. WRITING FOR PUBLICATION IN EDUCATIONAL PSYCHOLOGY AND SPECIAL EDUCATION (3). *Crosslisted as SESE 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 SESE 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 745X.* 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.

### 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 LEAA 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. SCHOOL DISTRICT FISCAL STRATEGIC PLANNING (3). Culminating experience in the School Business Management field. Demonstration of basic skills and understandings in the Illinois Association of School Business Officials standards and specific business manager areas. Development of understanding of practical techniques to develop school districts long term fiscal strategic plan. 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 Special and Early Education (SEED)

Chair: Greg Conderman

## Graduate Faculty

Natalie Andzik, assistant professor, Ph.D., Ohio State University  
 Jeffrey Chan, associate professor, Ph.D., University of Texas at Austin  
 Greg Conderman, professor, Ed.D., University of Northern Colorado  
 Stephanie DeSpain, assistant professor, Ed.D., Illinois State University  
 Laura Hedin, associate professor, Ph.D., University of Illinois  
 Jesse Johnson, associate professor, Ed.D., Northern Illinois University  
 Sarah Johnston-Rodriguez, associate professor, Ph.D., University of Wisconsin, Madison  
 Myoungwhon Jung, associate professor, Ph.D., Indiana University  
 Gaylen G. Kapperman, professor emeritus, Ed.D., University of Northern Colorado  
 Stacy Kelly, associate professor, Ed.D., Northern Illinois University  
 Lisa Liberty, assistant professor, Ph.D., University of Washington  
 Robin Miller Young, assistant professor, Ed.D. Northern Illinois University  
 William Penrod, associate professor, Ed.D., University of Louisville  
 Erika Pinter, associate professor, Ph.D., University of Washington  
 Toni Van Laarhoven, Presidential Teaching Professor, Ed.D., Northern Illinois University  
 Natalie Young, assistant professor, Ed.D., Northern Illinois University

The Department of Special and Early Education offers the M.S.Ed. degree in early childhood education and special education. State of Illinois approved programs leading to educator licensure are offered in early childhood 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

Early childhood education  
 Special education

## Admission

The Department of Special and Early 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.

Specific admission requirements for the early childhood and special education programs are described in each respective section.

Decisions about admission to programs in the department are ordinarily made at least once each term. Applicants to the programs are not required to take the GRE or MAT to be assured of consideration. Completed applications containing all required data (application forms, official transcripts, and letters of recommendation) must be received by the Graduate School no later than July 15 for admission for the fall term, December 10 for admission for the spring term, and June 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 candidate is assigned an adviser when admitted to a department degree or licensure program and develops a program of study in consultation with the adviser. Candidates are responsible for contacting their advisers to develop a program of study and for responding to the periodic posted notices of deadlines for professional semester applications and schedules for advance registration advisement. Courses with the designator TLRN may be counted toward the major in any of the department's degree programs with adviser approval.

Each candidate also is assigned a faculty mentor who provides guidance throughout the program.

## Retention

Candidates 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. Specific retention requirements for the early childhood and special education programs are described in each respective section.

## Internships

The Department of Special and Early Education offers internships in early childhood 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 candidates pursuing the M.S.Ed. degree in 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 candidate's background in the chosen specialty is limited, the individual may be required to fulfill deficiency requirements. 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 candidate in a chosen specialty.

## Master of Science in Education in Early Childhood Education

The M.S.Ed. in early childhood education program 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 candidate's undergraduate preparation, experience, and professional goals. Candidates pursuing this M.S.Ed. may also choose course work to meet Early Childhood Illinois Professional Educator License (PEL) requirements to teach children from birth through grade 2 in Illinois public schools. Candidates who meet the PEL requirements will be automatically eligible to receive the Gateways to Opportunity Level 5 Early Childhood Education (ECE) credential. Candidates may also elect to complete course work to fulfill early childhood special education

approval requirements for teaching children with disabilities and special needs in pre-kindergarten. Advisers evaluate candidates' prior course work, professional experience, and previous credentials to determine individual programs leading to PEL with early childhood endorsement and/or early childhood special education approval as well as the Gateways Level 5 ECE credential.

The student learning outcomes for this degree are located at <http://www.niu.edu/assessment/clearinghouse/outcomes/index.shtml>.

## 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. Candidates elect either the non-thesis or thesis option.

### Non-Thesis Option

One graduate-level course in research, such as ETR 519 or ETR 520 or ETR 521, or approved by adviser (3)  
 EPS 506 - Theories and Research in Child Behavior and Development (3),  
 OR HDFS 532 - Theories of Child Development (3)  
 SEEC 500 - Analysis of Instruction in Early Childhood Education (3)  
 SEEC 504 - Developmentally Appropriate Practice in the Primary Classroom (3)  
 SEEC 511 - Comparative/International Early Childhood Education (3)  
 SEEC 521 - Educational Diagnosis and Assessment of Young Children with Special Needs (3),  
 OR SESE 523 - Observation and Assessment in Early Childhood Special Education (3),  
 SEEC 535 - Family and School Partnerships for Academic Success (3)  
 SEEC 598 - Master's Project (3)

A focus area will be 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 must occur in conjunction with the oral defense of the master's project.

### Thesis Option

Candidates 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 SEEC 699, Master's Thesis. Candidates electing the thesis option are still required to take SEEC 598.

## Master of Science in Education in Special Education

**Specialization in Advanced Special Education Practices**  
**Specialization in Learning Behavior Specialist I**  
**Specialization in Orientation and Mobility**  
**Specialization in Vision Rehabilitation Therapy**  
**Specialization in Visual Impairments**

The specializations in Advanced Special Education Practices is designed to serve the needs of individuals who are seeking to gain additional competencies and/or endorsements. See the individual program descriptions for information about requirements for these programs.

The specializations in Learning Behavior Specialist I and Visual Impairments are designed to serve the needs of individuals with baccalaureate degrees who wish to obtain an initial Illinois Professional Educator License (PEL) Pre-K with preschool through age 21 endorsement in Learning Behavior Specialist I or Teacher of Students Who are Blind or Visually Impaired. In some cases candidates working toward both the PEL and master's degree may need to complete additional semester hours.

Candidates seeking licensure must successfully complete the Illinois Licensure Testing System Test of Academic Proficiency (or state-approved substitution) no later than the semester prior to student teaching. Candidates must also pass the tests required by their licensure field prior to student teaching. See also "Educator Licensure Information."

The specializations in Vision Rehabilitation Therapy and Orientation and Mobility are designed to serve individuals who have previously earned baccalaureate degrees and wish to obtain national certification as a vision rehabilitation therapist or orientation and mobility specialist from the Academy for Certification of Vision, Rehabilitation, and Education Professionals (ACVREP).

The student learning outcomes for this degree are located at <http://www.niu.edu/assessment/clearinghouse/outcomes/index.shtml>.

## Admission

From among the applicants satisfying the requirements for admission to the Graduate School, the faculty select those most qualified, ordinarily requiring a GPA of 3.00 or higher for the last two years of undergraduate work.

Each prospective candidate must have two letters of recommendation from employers, supervisors, or professors and a personal statement describing his or her reasons for applying to the program and his or her goals related to special education.

## Retention

To be retained in the M.S.Ed. program, a candidate must demonstrate acquisition and application of specific competencies, through practical experiences, that are requisite in the candidate's specialization.

Candidates 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. Candidates receiving lower than a B in any of these professional courses must retake the course. In concert with the university policy, candidates may retake a course only once. If this required grade is not achieved on the second attempt, the candidate may be dropped from the program.

Candidates in the LBS I and Visual Impairments specializations must pass the Illinois State Board of Education (ISBE) content area test and General Education Curriculum test before enrolling in student teaching or internship courses. Candidates in the LBS I specialization take the Learning Behavior Specialist I content test and candidates in the Visual Impairment emphasis take the content test on Teacher of Students Who Are Blind or Visually Impaired. Candidates in other specializations or who are seeking endorsement also may be required to complete content area tests before enrolling in student teaching or internship courses. The graduate advising staff will assist candidates in identifying required tests for each area of specialization. Advising staff review course grades at the end of each semester and verify passing scores on the content area and general education curriculum test prior to student teaching. In addition to meeting all Graduate School and College of Education standards for retention, candidates 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 candidate is assigned a graduate adviser when admitted to the program. The candidate also is assigned to a faculty mentor. Candidates are strongly encouraged to contact their faculty mentors early in their degree program. Courses of study are developed for each candidate in consultation with the graduate adviser. It is always the responsibility of the candidate to be aware of university policies and regulations affecting his or her program. Candidates should, therefore, familiarize themselves with the *Graduate Catalog* early in the program.

## Requirements

Each candidate must select a specialization. Each specialization requires a minimum of 30-36 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 candidate's adviser. A candidate wishing to write a thesis may, with the approval of the adviser, include 3-6 semester hours of credit in SESE 699 in the elective portion of the program.

For a candidate 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 candidate's adviser. However, in all cases, at least 50 percent of the semester hours required for the degree must be in special education. For candidates 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 30-36 semester hours of the master's degree program.

All M.S.Ed. program candidates are required to pass a comprehensive examination. Information about this exam will be provided by the graduate adviser and faculty mentor.

Candidates must pass the Safety Tutorial and Mandated Reporter training prior to the first early field experience. Additionally, candidates must pass the Teacher Performance Assessment (edTPA) prior to receiving an initial Professional Educator License with endorsement in Teacher of Students Who Are Blind or Visually Impaired or Learning Behavior Specialist I. The edTPA is completed during student teaching.

## Field Work

In cases in which candidates' backgrounds in their chosen specialties are limited, they may be required to fulfill deficiency requirements established by the department. Deficiency course hours are not counted toward the minimum semester hours of the master's degree program.

The LBS I endorsement is a cross-categorical endorsement that encompasses all categories of disability from Pre-K through age 21. As a result, early clinical experiences and student teaching practicum involve working with students with mild and moderate disabilities in both elementary and secondary settings. Student teaching in the LBS I endorsement, SESE 609 and SESE 610, consists of two eight-week (Monday - Friday) full-day placements, one at the elementary level and one at the secondary level. Candidates fulfill various instructional and assessment responsibilities as well as complete the edTPA during student teaching practicum. These placements range from full-inclusion classrooms to residential schools and serve a diverse student population in urban, rural, and suburban settings. Candidates who seek to add the LBS I endorsement to an existing teacher educator license may have some early clinical and student teaching requirements waived. This will be determined by the candidate's graduate adviser and faculty mentor.

## Internship Programs

The Department of Special and Early Education 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.

## Specialization in Advanced Special Education Practices

This specialization focuses on a program of study to strengthen the professional development of candidates. Candidates may choose from several options or develop a unique plan of study that meets their professional development needs.

### Required courses in this specialization

SESE 592 - Seminar in Special Education (3)  
 OR SESE 747 - Advanced Seminar in Special Education (3)  
 SESE 692 - Seminar in Evidence-Based Practices in Special Education:  
 Single Case Research Methods (3)  
 Course work in the major (12-18)  
 Additional course work approved by adviser (6-9)

## Specialization in Learning Behavior Specialist I

This specialization prepares candidates to obtain an initial Illinois Professional Educator License with the cross-categorical Learning Behavior Specialist I endorsement. Candidates who successfully complete the program requirements and pass the state mandated Teacher Performance Assessment will have completed all required ISBE and CAEP standards for receiving university recommendation for licensure and special education endorsement in Learning Behavior Specialist I. This includes completing the Safety Tutorial prior to the first early clinical course, passing the Learning Behavior Specialist I content test and the General Education Curriculum test prior to student teaching, and passing the Teacher Performance Assessment (edTPA) during student teaching. Candidates who do not receive a passing score on the edTPA may opt to receive a degree without university recommendation for licensure or defer graduation until the edTPA is passed.

Candidates who already have a Professional Educator License may have courses and program requirements waived based on prior course work and experience. This will be determined by the candidate's graduate adviser and faculty mentor. A minimum of 36 hours of graduate course work is required for the master's degree. Required courses for this specialization include:

SESE 540 - Foundations of Special Education (3)  
 SESE 552 - Assistive Technology/Multiple Disabilities (3)  
 SESE 559 - Transition Planning and Vocational Programming for  
 Students with Disabilities (3)  
 SESE 561 - Methods for Teaching Individuals with Developmental  
 Disabilities (3)  
 SESE 601 - Methods for Teaching Elementary Students with Mild  
 Disabilities (4)  
 SESE 602 - Methods for Teaching Middle and Secondary Students with  
 Mild Disabilities (3)  
 SESE 603 - Functional Analysis for Special Educators (3)  
 SESE 605 - Consultation, Collaboration, and Communication Skills for  
 Special Educators (3)  
 SESE 606 - Methods for Teaching Students with Emotional/Behavioral  
 Disorders (3)  
 SESE 607 - Special Education Capstone/Pre-Student Teaching Seminar  
 (1)  
 SESE 608<sup>1</sup> - Field Experience in Special Education: Learning Behavior  
 Specialist I (2-6)  
 SESE 609 - Elementary Practicum: Learning Behavior Specialist I (3)  
 SESE 610 - Secondary Practicum: Learning Behavior Specialist I (3)  
 ETR 524 - Assessing Students With Special Needs (3)  
 One graduate level course in research, such as SESE 692, or approved by  
 adviser.

<sup>1</sup> With approval of the department, may be waived for candidates who have documented sufficient professional experience.

In addition, individuals not currently holding a professional educator license (PEL) in the State of Illinois must include courses required by the State for the professional educator licensure (PEL). Your program advisor will have a list of the requirements and courses needed.

### Specialization in Orientation and Mobility

This specialization prepares candidates 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 certification body of the Academy for Certification of Vision, Rehabilitation, and Education Professionals. Candidates may combine this specialization with the specialization for Vision Rehabilitation Therapy and/or Visual Impairments.

- SEVI 510 - Anatomy, Pathology, and Functioning of the Eye (3)
- SEVI 520 - Literary Braille (3)
- SEVI 530 - Basic Orientation and Mobility for Teachers of Persons with Visual Impairments (3)
- SEVI 550 - Assistive Technology for Persons with Visual Impairments (3)
- SEVI 551 - Assistive Technology for Persons with Visual Impairments: Advanced Topics (3)
- SEVI 552 - Collaboration Principles and Skills for Professionals Working with Persons with Visual Impairments (3)
- SEVI 541 - Instructional Systems for Utilization of Low Vision (3)
- SEVI 570 - Advanced Orientation and Mobility (6)
- SEVI 571 - Principles of Orientation and Mobility Techniques for Learners with Visual and Multiple Impairments (3)
- SEVI 585C - Internship in Orientation and Mobility Instruction of Persons with Visual Impairments (6)

One graduate level course in research, such as: SESE 692 or ETR 520 or approved by adviser.

Elective course work with adviser's approval

### Specialization in Vision Rehabilitation Therapy

This specialization prepares candidates to instruct individuals with visual impairments in independent living skills and to obtain national licensure as rehabilitation teachers from the Association for Education and Rehabilitation of the Blind and Visually Impaired.

- SEVI 510 - Anatomy, Pathology, and Functioning of the Eye (3)
- SEVI 520 - Literary Braille (3)
- SEVI 530 - Basic Orientation and Mobility for Teachers of Persons with Visual Impairments (3)
- SEVI 540 - Communication Systems Used by Persons with Visual Impairments (3)
- SEVI 541 - Instructional Systems for Utilization of Low Vision (3)
- SEVI 543 - Teaching Activities of Daily Living to Persons with Visual and Multiple Disabilities (3)
- SEVI 550 - Assistive Technology for Persons with Visual Impairments (3)
- SEVI 551 - Assistive Technology for Persons with Visual Impairments: Advanced Topics (3)
- SEVI 552 - Collaboration Principles and Skills for Professionals Working with Persons with Visual Impairments (3),
- OR SEVI 560 - Rehabilitation of Adults with Visual Impairments (3)

- SEVI 585B - Internship in Rehabilitation Teaching of Persons with Visual Impairments (6)

One graduate-level course in research, such as: SESE 692 or ETR 520 or approved by adviser.

Elective course work with adviser's approval.

### Specialization in Visual Impairments

This specialization prepares candidates to obtain an Illinois teacher license with endorsement in vision impairments. Candidates may combine this specialization with the specialization for Orientation and Mobility and/or Vision Rehabilitation Therapy. Candidates who successfully complete the program requirements and pass the state mandated Teacher Performance Assessment will have completed all required ISBE and CAEP standards for receiving university recommendation for licensure and special education endorsement in Visual Impairments. Candidates who do not receive a passing score on the edTPA may opt to receive a degree without university recommendation for licensure or defer graduation until

the edTPA is passed. Candidates who already have an educator license may have courses and program requirements waived based on prior coursework and experience. This will be determined by the candidate's graduate adviser and faculty mentor.

- SEVI 500 - Education of Students with Visual Impairments (3)
- SEVI 510 - Anatomy, Pathology, and Functioning of the Eye (3)
- SEVI 520 - Literary Braille (3)
- SEVI 521 - Advanced Braille (3)
- SEVI 530 - Basic Orientation and Mobility for Teachers of Persons with Visual Impairments (3)
- SEVI 540 - Communication Systems Used By Persons with Visual Impairments (3)
- SEVI 541 - Instructional Systems for Utilization of Low Vision (3)
- SEVI 550 - Assistive Technology for Persons with Visual Impairments (3)
- SEVI 551 - Assistive Technology for Persons with Visual Impairments: Advanced Topics (3)
- SEVI 552 - Collaboration Principles and Skills for Professionals Working with Persons with Visual Impairments (3)
- SEVI 581 - Student Teaching in Elementary Special Education: Vision Impairments (3-6)
- SEVI 582 - Student Teaching in Secondary Special Education: Vision Impairments (3-6)
- SEVI 586 - Topical Seminar in Teaching Students with Visual Impairments (3)

One graduate level course in research, such as: SESE 792 or ETR 520 or approved by adviser.

Candidates also may be required to complete prerequisite courses prior to enrolling in specific graduate courses.

## Certificates of Graduate Study

### Special Education Certificates of Graduate Study

#### Assistive Technology Instructional Specialist for People with Visual Impairments (21)

This certificate is designed for educators and rehabilitation professionals seeking additional competencies in applications of instructional and assistive technologies for people with visual impairments.

- SEVI 550 - Assistive Technology for Persons with Visual Impairments (3)
- SEVI 551 - Assistive Technology for Persons with Visual Impairments: Advanced Topics (3)
- SESE 552 - Assistive Technology/Multiple Disabilities (3)
- SEVI 585D - Internship in Assistive Technology for Persons with Visual Impairments (9)
- SEVI 596 - Seminar in Assistive Technology for the Workforce Readiness of Persons with Visual Impairments (3)

Candidates who complete this course sequence and are also a licensed teacher of students with visual impairments (TVI), Certified Orientation and Mobility Specialist (COMS), or Certified Vision Rehabilitation Therapist (CVRT) will be eligible to take the Certified Assistive Technology Instructional Specialist for People with Visual Impairments (CATIS) exam.

#### Behavior Analyst (21)

This certificate is designed for educators and other professionals who wish to gain expertise in behavior analysis. Candidates who complete this certificate will gain the necessary skills to solve problems and address concerns related to individuals with learning and behavioral challenges in school and community settings. This sequence meets the course work requirements for eligibility to take the Board Certified Behavior Analyst Examination.

- SESE 554 - Applied Behavior Analysis and Positive Behavior Support in School and Community Settings (3)  
 SESE 570 - Concepts and Principles in Behavior Analysis (3)  
 SESE 603 - Functional Analysis for Special Educators (3)  
 SESE 709 - Advanced Applied Behavior Analysis and Research-Based Interventions for Individuals with Autism Spectrum Disorder (3)  
 SESE 710 - Behavioral Applications and Consultation in School and Community Settings (3)  
 SESE 711 - Ethics and Professional Behavior for Behavioral Consultation in Special Education (3)  
 SESE 792 - Seminar: Single-Case Research Methodologies for Behavior Analysts (3)

### Director of Special Education (20)

This certificate is designed for school leaders seeking the Director of Special Education endorsement on the Professional Educator License (PEL). It is available to candidates who can document two full years of full-time special education teaching or service as a school social worker, school psychologist, school nurse, school counselor, or speech-language pathologist with a valid PEL. Candidates must have 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 and pass the appropriate content area test prior to recommendation for the Director of Special Education endorsement. Application materials for this certificate are available through the Department of Special and Early Education. The following sequence of courses meets requirements for the Director of Special Education certificate as delineated by the Illinois State Board of Education.

- LEEA 575/SESE 575X - Special Education Finance (3)  
 LEEA 577 - Administration and Supervision of Special Education (3)  
 LEEA 726 - Special Education: Leadership and the Law (3)  
 SESE 592 - Seminar in Special Education (3),  
 OR SESE 747 - Advanced Seminar in Special Education (3)  
 SESE 760 - Director of Special Education (3)  
 SESE 765 - Seminar: Professional Collaboration in Schools (3)  
 SESE 786 - Internship in Special Education (2)

In addition, candidates who hold an administrative endorsement may request a transcript evaluation through Special and Early Education advising.

### Endorsement at the Graduate Level

The special education endorsement consists of a selected group of courses totaling 18-24 semester hours. This group of courses meets the Illinois State Board of Education standards for the endorsement. It is available to licensed teachers. Candidates may apply these hours toward a master's degree in advanced special education practices. Contact the SEED academic adviser for details.

## 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.
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.

### Early Childhood Education (SEEC)

500. ANALYSIS OF INSTRUCTION IN EARLY CHILDHOOD EDUCATION (3). Study of learning continuity in early years with an emphasis on historical analysis and a review of current developmentally appropriate practices in programs for children under six. Includes 10 hours of clinical practice. PRQ: Consent of department.
501. IMPROVEMENT OF INSTRUCTION IN EARLY CHILDHOOD EDUCATION (3). Investigation and analysis of common problems in teaching and supervision of early childhood programs. PRQ: Consent of department.
504. DEVELOPMENTALLY APPROPRIATE PRACTICE IN THE PRIMARY CLASSROOM (3). Existing and emerging theory and practice with focus on direct, active involvement of each child 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. Includes six hours of clinical practice. PRQ: Consent of department.
510. PRESCHOOL MOVEMENT IN THE UNITED STATES (3). Study of the development of the American preschool movement. PRQ: Consent of department.
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. Includes examining the impact of countries' geographical influence on culture, economy, and the lives of families and children. PRQ: Consent of department.
520. LANGUAGE ARTS IN EARLY CHILDHOOD EDUCATION (3). *Crosslisted as LTLA 520X*. Focus on language arts and associated experiences as an integral part of the young child's growth and development continuity of language development in family, community, and school. Includes ten hours of clinical practice. PRQ: Consent of department.
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. Includes 10 hours of clinical practice. 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: HDFS 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: SEEC 523 or consent of department.
531. SOCIAL LEARNING AND SOCIAL SCIENCE IN EARLY CHILDHOOD EDUCATION (3). Principles and procedures in the development of social experiences, with focus on social emotional learning for the young child. Emphasis on child growth and development, and implementation of social science curriculum, including democratic values and processes, geographical and historical concepts, civic and political institution, and economy. PRQ: Consent of department.
532. YOUNG CHILDREN'S EXPLORATION OF THE PHYSICAL WORLD (3). The application of theories, best practice and learning standards in mathematics and science in early childhood classrooms (birth to age 8). Attention given to physical science content and early number concepts for young children. This course addresses developmental progressions through levels of thinking in mathematics and science and effective instructional strategies. PRQ: Consent of department.
533. SCIENCE AND MATHEMATICS FOR YOUNG CHILDREN (3). Instructional methods and materials for teaching earth science, life science, and mathematics to young children ages 5 to 8. Attention given to content, current issues, research, and educational application.

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. Includes four hours of clinical practice. PRQ: Consent of department.

560. SEMINAR: NEW DEVELOPMENTS IN EARLY CHILDHOOD EDUCATION (3). Philosophy and psychology of early childhood education as related to factors in the contemporary scene. PRQ: Consent of department.

582. PREPRIMARY CLINICAL EXPERIENCE (1). Pre-student teaching clinical in early childhood programs for children 3 years through 5 years of age for graduate candidates seeking an early childhood educator license. May be repeated for a maximum of four semester hours of credit. Field placements arranged by the department. S/U grading. PRQ: Consent of department.

583. PRIMARY CLINICAL EXPERIENCE (2). Pre-student teaching practicum for graduate candidates seeking an early childhood educator license. Participation and observation in classrooms where children ages 5 through 8 are enrolled. May be repeated for a maximum of four semester hours. Field placements made by the department. S/U grading. PRQ: Consent of department.

585A. PREPRIMARY STUDENT TEACHING (3-12). Student teaching for one-half semester or one entire semester in early childhood programs for children three years through five years of age. Application of theories of learning and development in the classroom using varied methodologies. Field placements arranged by the department. S/U grading. PRQ: Consent of department.

585B. PRIMARY STUDENT TEACHING (3-12). Student teaching for one-half semester or one entire semester in classrooms where children ages five (5) through eight (8) are enrolled. Application of theories of learning and development in the classroom using varied methodologies. Field placements arranged by the department. S/U grading. PRQ: Consent of department.

586. INTERNSHIP (1-9). Internship in agencies and programs serving children from birth to age eight and their families. Students are required to participate in a minimum of 30 clock hours per credit hour. May be repeated to a maximum of 9 semester hours. PRQ: Consent of department.

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: SEEC 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. PRQ: Consent of department.

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. PRQ: 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.

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. PRQ: Consent of department.

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. PRQ: Consent of department.

### Special Education (SESE)

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 524, SESE 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 524, SESE 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 524 or ETR 534; and SESE 540; or consent of department.

520. DISABILITY IN FILM AND TELEVISION (3). Study of the representation and portrayal of various disabilities in motion pictures and television. Special emphasis is placed on evaluating stereotypes that are perpetuated on screen and creating plans to increase public awareness of trends and issues that affect individuals with disabilities.

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. OBSERVATION AND ASSESSMENT IN EARLY CHILDHOOD SPECIAL EDUCATION (3). Recommended practices and strategies for conducting formal and informal assessment of young children including physical, communication, early academic and academic, adaptive, and social-emotional development as well as assessment of center/classroom-based settings and natural environments. Includes data analysis and data-based decision making.

524. METHODS AND STRATEGIES FOR PROMOTING DEVELOPMENT AND TEACHING INFANTS, TODDLERS, AND YOUNG CHILDREN WITH DISABILITIES AND SPECIAL NEEDS (3). Methods, strategies, and recommended practices and evidence-based curricula for promoting development and teaching infants, toddlers, and young children with disabilities and special needs in classroom and natural settings.

526. WORKING WITH AND SUPPORTING FAMILIES OF YOUNG CHILDREN WITH DISABILITIES AND SPECIAL NEEDS (3). Strategies to promote positive and productive family/professional relationships and family-centered practices, for working with and supporting families of young children with disabilities and special needs (birth to eight years).

527. ISSUES AND RECOMMENDED PRACTICES IN EARLY CHILDHOOD SPECIAL EDUCATION (3). Trends, issues, concerns, and recommended practices in the field of early intervention/early childhood special education (birth to eight years of age). In-depth analysis of current issues related to children with disabilities and special needs, and children at risk and their families, service providers, and other early childhood professionals. PRQ: SESE 523 and SESE 524 and SESE 526; or consent of department.

540. FOUNDATIONS OF SPECIAL EDUCATION (3). Overview of characteristics and abilities of diverse and exceptional learners including contemporary philosophy regarding the nature of differences; emphasis on laws and legal issues, and history of the field of special education.

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: SESE 592 or consent of department.

550. COUNSELING IN VISION REHABILITATION THERAPY (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.

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. APPLIED BEHAVIOR ANALYSIS AND POSITIVE BEHAVIOR SUPPORT IN SCHOOL AND COMMUNITY SETTINGS (3). Discussion of the concepts and principles of behavior analysis and the application of research-based practices in applied behavior analysis and positive behavior support. Designed to enable educators to design effective environments, conduct functional assessments, develop positive behavior intervention plans, and implement group and individualized behavior programs to promote appropriate academic and social behavior and to prevent and decrease challenging behavior in classroom, school, and community settings.

555X. METHODS AND MATERIALS FOR ENGLISH LEARNERS WITH DISABILITIES (3). *Crosslisted as LTIC 555*. Issues of learning English as a new language for students with special needs. Addresses theoretical bases, instructional strategies, materials, and activities facilitating individualized education plans and interventions for English Learners with disabilities, particularly those with learning disabilities.

556. METHODS FOR INCLUSION AND COLLABORATION IN THE GENERAL EDUCATION CLASSROOM (3). Presents knowledge and skills to make adaptations for learners with exceptionalities in the general education classroom. Provides an overview of relevant laws and legal issues, evidence-based methods, assistive technologies, collaboration skills, ways of differentiating lessons, and information about disabilities and exceptionalities. Does not count toward degree program in special education. PRQ: Consent of department.

557. METHODS FOR INCLUDING MIDDLE AND SECONDARY STUDENTS WITH EXCEPTIONALITIES IN THE GENERAL EDUCATION CLASSROOM (3). Designed to provide preservice and inservice middle and secondary educators knowledge and skills to make adaptations for learners with exceptionalities in the general education classroom. Provides an overview of relevant laws and legal issues, evidence-based methods, assistive technologies, collaboration skills, ways of differentiating lessons, and information about disabilities and exceptionalities. Does not count toward degree program in special education.

559. PLANNING FOR THE TRANSITION FROM SCHOOL TO EMPLOYMENT, CAREER AND POSTSECONDARY EDUCATION FOR STUDENTS WITH DISABILITIES (3). Strategies for effectively planning the transition from school to employment, career, postsecondary education and community for students with disabilities in secondary school settings. Emphasis on student-centered planning, career and transition assessment involving students, families, school and community supports. Includes field-based assignments. PRQ: ETR 434 or ETR 524, and SESE 540; 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: SESE 540 or SESE 592; and SESE 454 or SESE 554; 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: SESE 540; and ETR 434 or ETR 524 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: SESE 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 524 or ETR 534; and SESE 540, and SESE 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. CONCEPTS AND PRINCIPLES OF BEHAVIOR ANALYSIS (3). The theoretical and conceptual framework of behavior analysis as well as the historical and philosophical underpinnings of the experimental analysis of behavior. Emphasis on the experimental research from which behavior analysis is derived.

575X. SPECIAL EDUCATION FINANCE (3). *Crosslisted as LEEA 575*. An examination of federal, state, and local financial sources in funding special education. Focus on the constructs of financial planning, budgeting, and administration. Review and evaluation of grants, financial reporting systems, and special education staffing. Awareness and understanding of facilities, transportation, equipment, and technology in support of special education.

576. CROSS-CATEGORICAL SPECIAL EDUCATION INSTRUCTIONAL METHODS (3). Analysis of evidence-based instructional methods for learners with mild to severe disabilities. Emphasis on academic and social-behavioral interventions and individualized adaptations for students with disabilities.

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: SESE 563 or SESE 606 or consent of department.

585. 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: SESE 540 or 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.

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.

600. INTRODUCTION TO INSTRUCTIONAL PLANNING AND TEACHER PERFORMANCE ASSESSMENT (2). Introduction to instructional planning, teacher performance assessment (edTPA). Development and delivery of lesson plans created for diverse learners with an emphasis on evaluation and reflection of instructional practices and student learning. Activities include an overview of design, implementation, and evaluation of lesson plans using digital technology. PRQ: At least 16 semester hours completed in program and completion of at least two of the following courses: SESE 601, 602, 604, 606; or consent of department.

601. METHODS FOR TEACHING ELEMENTARY STUDENTS WITH MILD DISABILITIES (4). Organization, design, implementation, and adaptation of elementary school reading, writing, and math curricula for students with mild disabilities. Emphasis on explicit systematic instructional approaches such as Direct Instruction and Cognitive Strategy Instruction, as well as data-driven decision making in lesson planning. Includes field-based activities and experience. PRQ: SESE 540 and ETR 524; or consent of department.

602. METHODS FOR TEACHING MIDDLE AND SECONDARY STUDENTS WITH MILD DISABILITIES (3). Curricula, methods, and materials for teaching middle and secondary students with mild disabilities. Emphasis on instructional procedures, learning and study strategies, curriculum supports, and informal assessments. Includes field-based activities and experience. PRQ: ETR 434 or ETR 534 or ETR 524; and SESE 540; or consent of Department.

603. FUNCTIONAL ANALYSIS FOR SPECIAL EDUCATORS (3). Principles and methods of behavior analysis applied to the learning and behavior management of students exhibiting challenges in learning and behavior. Emphasis on functional behavior assessment and the development of function-based interventions in the classroom, home, and community settings. Includes field-based activities and experience. PRQ: SESE 540; and SESE 417 or SESE 554; or consent of department.

604. ASSISTIVE TECHNOLOGY AND METHODS FOR TEACHING INDIVIDUALS WITH AUTISM AND DEVELOPMENTAL DISABILITIES (4). Methods for assessing and teaching academic and functional skills, identifying and using assistive technology supports, and modifying curriculum in inclusive and community-based environments for individuals with autism and developmental disabilities. Includes field-based activities and experience. PRQ: SESE 540; and ETR 434 or ETR 534; or consent of department.

605. CONSULTATION, COLLABORATION, AND COMMUNICATION SKILLS FOR SPECIAL EDUCATORS (3). Strategies for effectively consulting, collaborating, and communicating with general education teachers, administrators, paraprofessionals, families, teams, and community personnel. Emphasis on effective interpersonal skills, conflict resolution, problem solving, facilitating meetings, and co-teaching. Includes field-based assignments. PRQ: SESE 540 and minimum of 20 graduate program semester hours; or consent of department.

606. METHODS FOR TEACHING STUDENTS WITH EMOTIONAL/BEHAVIORAL DISORDERS (3). Characteristics of and effective instructional practices for students with emotional/behavioral disorders. Focus on programs, methods, and materials in the organization of the school and classroom environment to facilitate management of academic and social behavior. Reviews theory, eligibility issues, assessment, and instructional methods for educating children with emotional and behavioral disorders. Provides specific techniques to teach social skills in the classroom setting and promote and support social competency in students in grades K-12. Includes field-based activities and experience. PRQ: SESE 603; or consent of department.

607. SPECIAL EDUCATION CAPSTONE/PRE-STUDENT TEACHING SEMINAR (1). Preparation for student teaching, the Teacher Performance Assessment, and applying for special education positions. S/U grading. PRQ: SESE 540 and 30 hours in program; or consent of department.

608. FIELD EXPERIENCE IN SPECIAL EDUCATION: LEARNING BEHAVIOR SPECIALIST I (2-6). Supervised field experience in inclusive or special education settings. Candidates complete a minimum of 100 hours observing and working with groups of students with disabilities in a variety of educational settings. May be repeated for up to 6 semester hours. S/U grading. PRQ: Minimum of 20 graduate program semester hours or consent of department.

609. ELEMENTARY PRACTICUM: LEARNING BEHAVIOR SPECIALIST I (3-6). Provides supervised student teaching of children and adolescents with disabilities and special needs in diverse cultural and educational settings. All teacher candidates must satisfy the regulations governing student teaching. Candidates will complete a minimum of 3 semester hours at the elementary level. May be repeated up to 6 hours. S/U grading. PRQ: Completion of all professional education and related course work, or consent of the department.

610. SECONDARY PRACTICUM: LEARNING BEHAVIOR SPECIALIST I (3-6). Provides supervised student teaching of children and adolescents with disabilities and special needs in diverse cultural and educational settings. All teacher candidates must satisfy the regulations governing student teaching. Candidates will complete a minimum of 3 semester hours at the secondary level. May be repeated up to 6 hours. S/U grading. PRQ: Completion of all professional education and related course work, or consent of the department.

686. PRACTICUM IN BEHAVIOR ANALYSIS (3). Supervised field experience in behavior analysis in schools, agencies, and other facilities. May be repeated to a maximum of 9 semester hours. PRQ: Consent of department.

692. SEMINAR IN EVIDENCE-BASED PRACTICES IN SPECIAL EDUCATION: SINGLE CASE RESEARCH METHODS (3). In-depth analysis of critical issues and research supported practices in the field of special education. Consideration of major concepts underlying single-case research regarding individuals with disabilities. Serves as a capstone experience for candidates in the LBS1 master's program. May be repeated up to 6 semester hours. PRQ: SESE 603 and completion of 15 additional semester hours in SEED course work, 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.

709. ADVANCED APPLIED BEHAVIOR ANALYSIS AND RESEARCH-BASED INTERVENTIONS FOR INDIVIDUALS WITH AUTISM SPECTRUM DISORDER (3). Advanced principles and methods of behavior analysis with an emphasis on research-based interventions for individuals with autism spectrum disorder. PRQ: SESE 560 or SESE 603; or consent of department.

710. BEHAVIORAL APPLICATIONS AND CONSULTATION IN SCHOOL AND COMMUNITY SETTINGS (3). Advanced principles and methods of behavior analysis with an emphasis on effective implementation of behavioral interventions in applied settings. In addition, focus on effective behavioral consultation and supervision of behavior change agents. PRQ: SESE 560 or SESE 603, and SESE 709; or consent of department.

711. ETHICS AND PROFESSIONAL BEHAVIOR FOR BEHAVIORAL CONSULTATION IN SPECIAL EDUCATION (3). An in-depth analysis of the ethical responsibilities required of applied behavior analysts or behavioral consultants in special education, school or community settings. Informed consent, protection of confidentiality, and selection of least intrusive, least restrictive behavior change procedures will be presented and discussed. Legal issues addressed by direct service providers will be addressed. Ethical decision-making processes within the context of group functions will be emphasized. PRQ: SESE 560 or SESE 603; or consent of department.

742. EDUCATIONAL ASPECTS OF INTELLECTUAL DISABILITIES (3). Study of the educationally significant characteristics of individuals with intellectual disabilities with emphasis on research. PRQ: Consent of department.

743. PSYCHOLOGICAL AND SOCIOLOGICAL ASPECTS OF INTELLECTUAL DISABILITIES (3). Study of psychological and sociological challenges and characteristics of individuals with intellectual disabilities, 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, rehabilitation for adults who are blind or visually impaired, 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: SESE 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: SESE 565 or SESE 605; 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 CASE RESEARCH METHODOLOGIES FOR BEHAVIOR ANALYSTS (3). In-depth analysis of major concepts underlying single-case research regarding individuals with disabilities. Includes overview of single-case designs, data analysis, identification of variables, intervention planning, measurement systems, and parameters most critical in study of children and youth with special needs. Serves as a capstone experience for candidates in the Board Certified Behavior Analyst master's program. May be repeated up to 6 credit hours. PRQ: SESE 603 or 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.

### Visual Impairments (SEVI)

500. 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. PRQ: Consent of department.

505. THE BLINDNESS EXPERIENCE (3). Analysis of diverse views of blindness, underlying societal factors that influence these views, and adaptations commonly used by people who are blind or have low vision to maximize their well-being.

510. 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. PRQ: Consent of department.

520. 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. PRQ: Consent of department.

521. 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: SEVI 520 or consent of department.

530. BASIC ORIENTATION AND MOBILITY FOR TEACHERS OF PERSONS WITH VISUAL IMPAIRMENTS (3). Emphasis on concept development, sensory skills, organizational techniques, pre-cane 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.

540. 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: SEVI 510 and SEVI 520; or consent of department.

541. 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: SEVI 510 or consent of department.

542. 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: SEVI 500 and SEVI 510 and SEVI 520 and SEVI 521 and SEVI 530 and SEVI 540 and SEVI 550 and SEVI 551 and SEVI 552; or consent of department.

543. 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. PRQ: Consent of department.

545. HOME MANAGEMENT FOR PERSONS WITH VISUAL IMPAIRMENTS AND MULTIPLE DISABILITIES (3). Study of adaptive techniques involved in teaching home management and related life skills to individuals who are visually impaired and/or multiply disabled. Emphasis on individuals who are transition-aged, vocational-aged, and seniors. Includes simulated visual impairments during completion of common home tasks. PRQ: Consent of department.

550. 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 SEVI 450. PRQ: SEVI 520 or consent of department.

551. 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: SEVI 450 or SEVI 550 or consent of department.

552. 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. PRQ: Consent of department.

560. 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. PRQ: Consent of department.

570. 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: SEVI 530 or consent of department.

571. 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: SEVI 530 and SEVI 570; or consent of department.

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. PRQ: Consent of department.

580A. INITIAL FIELD EXPERIENCE IN SPECIAL EDUCATION: VISION IMPAIRMENTS (1-3). Supervised observation and teacher-directed experiences with children with vision impairments in culturally and educationally diverse settings. May be repeated to a maximum of 3 semester hours. PRQ: SESE 540 or consent of department.

580B. 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.

580C. 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.

580D. 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: SEVI 541.

581. STUDENT TEACHING IN ELEMENTARY SPECIAL EDUCATION: VISION IMPAIRMENTS (3-6). Provides supervised student teaching of children and adolescents with vision impairment and special needs in diverse cultural and educational settings. All teacher candidates must satisfy the regulations governing student teaching. Candidates will complete a minimum of 3 semester hours at the elementary level. May be repeated up to 6 hours. Completion of all professional education and related course work. PRQ: Consent of department.

582. STUDENT TEACHING IN SECONDARY SPECIAL EDUCATION: VISION IMPAIRMENTS (3-6). Provides supervised student teaching of children and adolescents with vision impairment and special needs in diverse cultural and educational settings. All teacher candidates must satisfy the regulations governing student teaching. Candidates will complete a minimum of 3 semester hours at the secondary level. May be repeated up to 6 hours. Completion of all professional education and related course work. PRQ: Consent of department.

585A. SUPERVISED FIELD EXPERIENCE IN SPECIAL EDUCATION: VISUAL IMPAIRMENTS (1-12). Supervised field experience working with children and adolescents with visual impairments in culturally and educationally diverse settings. All candidates must satisfy the regulations governing the certification they are pursuing. PRQ: Consent of department.

585B. 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.

585C. 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.

585D. INTERNSHIP IN ASSISTIVE TECHNOLOGY FOR PERSONS WITH VISUAL IMPAIRMENTS (1-12). Supervised internship with emphasis on application of assistive technology in culturally and educationally diverse settings with individuals who are visually impaired. All students must satisfy the regulations governing internships. May be repeated to a maximum of 12 semester hours. PRQ: SEVI 550, SEVI 551, SEVI 596, and consent of department.

586. TOPICAL SEMINAR IN TEACHING STUDENTS WITH VISUAL IMPAIRMENTS (3). Trends and issues in the education of individuals with visual impairments across the full continuum of educational environments. PRQ: Consent of department.

596. SEMINAR IN ASSISTIVE TECHNOLOGY FOR THE WORKFORCE READINESS OF PERSONS WITH VISUAL IMPAIRMENTS (3). Addresses the technologies persons with visual impairments use to secure employment. Examines commercially available tools, including specialized hardware and crowdsourcing tools. Emphasis on exploration and problem solving involved in emergent assistive technology solutions. PRQ: SEVI 550 and consent of department.

# College of Engineering and Engineering Technology

**Dean: Donald R. Peterson, Ph.D., FAIMBE**  
**Senior Associate Dean, Research and Graduate Programs:**  
**Mansour Tahernezehadi, Ph.D., P.E.**  
**Acting Associate Dean, Undergraduate Programs: Abul K. M. Azad, Ph.D.**

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 licensed 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.

The student learning outcomes for this degree are located at <http://www.niu.edu/assessment/clearinghouse/outcomes/index.shtml>.

## 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 licensure 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. The program is only offered at the request of a school district.

## Mission

The Master of Science in Teaching (M.S.T.) with specialization in Engineering Education prepares licensed 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)

## Master of Science in Integrated Systems Engineering

Product and process innovation is critical in maintaining the United States' competitive edge in the global market place. As products and processes are becoming increasingly more complex in nature, there is a growing need for engineers who can manage the interplay of integrated subsystems of these products and processes to ensure overall long term system viability. The College of Engineering and Engineering Technology recognizes the increasing need for engineers who can integrate and analyze various subsystems in product and process design, testing, manufacturing and engineering services. A Master of Science in Integrated Systems Engineering prepares skilled engineers to meet such needs.

## Student Learning Outcomes

The program leading to the Master of Science in Integrated Systems Engineering is designed to prepare students to: (1) develop innovative solutions to complex integrated systems engineering problems; (2) collect, analyze, and interpret data relevant to integrated systems engineering problems; and (3) apply analytical and computational skills to model, analyze, and design integrated engineering systems.

## Admission

Students seeking admission to the M.S. program in Integrated Systems Engineering must hold an accredited B.S. degree in engineering, engineering technology, or a science field with a minimum GPA of 2.75. Although applicants are required to submit GRE scores for admission to the Graduate School, for NIU students with a GPA of 3.00 or better, the GRE may be waived by recommendation of the college.

## Advising Committee

A college-wide advising committee assists in placement of students in appropriate specialization areas. The advising committee is chaired by the Associate dean of research and graduate programs and shall have a representative from each engineering department. The advising committee also provides directions for students' capstone course projects, master's theses, master's projects, or master's papers to ensure a high quality of integrated systems engineering content.

## Curriculum

The Master of Science in Integrated Systems Engineering curriculum features the following specialization areas:

- Mechatronics and Intelligent Systems
- Biomedical and Healthcare Systems

Students in either specialization can enroll either in thesis, project, or course option as described below:

### Thesis Option

- 30 semester hours
- 6 semester hours of integrated systems engineering core courses
- 18 semester hours in a specialization area
- 6 semester hours of IEET 699 Master's Thesis

### Project Option

- 30 semester hours
- 6 semester hours of integrated systems engineering core courses
- 18 semester hours in a specialization area
- 3 semester hours of 600-level electives as approved by the advising committee
- 3 semester hours of IEET 697 Independent Study. The project report needs to be examined by a project committee.

### Course Option

- 33 semester hours
- 6 semester hours of integrated systems engineering core courses
- 18 semester hours in a specialization area
- 6 semester hours of 600-level electives as approved by the advising committee
- 3 semester hours of IEET 697 Independent Study. This requirement may be met by a company internship report or master's paper. The report or paper needs to be examined by a graduate committee.

### Core Courses (6)

- IEET 591 - Integrated Systems Engineering I (3)
- IEET 592 - Integrated Systems Engineering II (3)

## Specialization Areas

Students holding a B.S. degree in mechanical engineering, electrical engineering, or industrial and systems engineering can select from the following specialization areas:

- Mechatronics and Intelligent Systems
- Biomedical and Health Systems Engineering

Students from other engineering or science majors should fulfill deficiency requirements in order to meet the needed prerequisites for courses in each specialization area.

## Specialization in Mechatronics and Intelligent Systems (18)

Required Courses (9)

- MEE 523 - Mechanical Reliability (3)
- ISYE 630 - Advanced Quality Control (3)
- ELE 689 - Introduction to Neural Networks (3)

Select 9 semester hours in one department (9)

Mechanical Engineering Discipline-Specific Courses

- MEE 521 - Dynamic Systems and Control II (3)
- MEE 526 - Mechatronics System Design (3)
- MEE 625 - Robot Programming and Control (3)

Electrical Engineering Discipline-Specific Courses

- ELE 651 - Random Signal Processing (3)
- ELE 659 - Adaptive Signal Processing (3)
- ELE 685 - Control Laws and Strategies for Multilink Manipulators (3)

Industrial and Systems Engineering Discipline-Specific Courses

- ISYE 553 - Integrated Product and Process Design (3)
- ISYE 640 - Advanced Production Planning and Inventory Control (3)
- ISYE 650 - Advanced Lean Manufacturing Systems (3)

## Specialization in Biomedical and Health Systems Engineering (9-10)

Required Courses (9)

- ELE 687 - Fuzzy Logic in Engineering (3)
- ISYE 531 - Reliability Engineering (3)
- ISYE 675 - Advanced Decision Analysis for Engineering (3)

Select 9-10 semester hours in one department

Electrical Engineering Discipline-Specific Courses

- ELE 520 - Biomedical Instrumentation (4)
- ELE 521 - Biomedical Sensor Engineering (3)
- ELE 651 - Random Signal Processing (3)

Industrial and Systems Engineering Discipline-Specific Courses

- ISYE 593 - Contemporary Topics in Industrial Engineering (3)
- ISYE 671 - Linear Programming and Network Flows (3)
- ISYE 691 - Occupational Ergonomics (3)

## Certificate of Graduate Study

### Integrated Systems Engineering (10-12)

The certificate program requires four courses:

- IEET 590 - Topics in Engineering and Engineering Technology (1-3)
- IEET 591 - Integrated Systems Engineering I (3)
- IEET 592 - Integrated Systems Engineering II (3)
- MEE 523 - Mechanical Reliability (3)
- OR ISYE 531 - Reliability Engineering (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.

IEET 591. INTEGRATED SYSTEMS ENGINEERING I (3). Introduction to the fundamental principles of integrated systems engineering and their applications to the development of integrated systems. Covers integrated systems engineering principles, integrated systems engineering processes and methodologies, integration of the necessary technical disciplines and integrated systems engineering project management. PRQ: B.S. degree in engineering or related field or consent of college.

IEET 592. INTEGRATED SYSTEMS ENGINEERING II (3). Advanced integrated systems engineering and related applications, with focus on integrated systems engineering of complex systems, products and services; application of principles in integrated systems engineering processes and methodologies; incorporating concepts such as integrated systems reliability management, maintenance, safety, security and cost optimization. PRQ: IEET 591 or consent of college.

IEET 697. INDEPENDENT STUDY (1-3). Independent pursuit of advanced problems in integrated systems engineering under faculty supervision. A written report is required. May be repeated to a maximum of 3 semester hours. PRQ: Consent of college.

IEET 698. SPECIAL TOPICS IN INTEGRATED SYSTEMS ENGINEERING (3). Advanced study of integrated systems engineering topics offered in a regular class format. PRQ: Consent of college.

IEET 699. MASTER'S THESIS (1-6). May be repeated to a maximum of 6 semester hours. PRQ: Consent of college.

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)

Interim Chair: Mansour Tahernezhad

## Graduate Faculty

Ibrahim Abdel-Motaleb, professor, Ph.D., P.E., University of British Columbia

Veysel Demir, associate professor, Ph.D., Syracuse University

Benedito Fonseca, assistant professor, Ph.D., University of Wisconsin

Michael Haji-Sheikh, assistant professor, Ph.D., University of Texas, Arlington

Reza Hashemian, professor, Ph.D., P.E., University of Wisconsin

Venumadhav Korampally, assistant professor, Ph.D., University of Missouri

Wei Li, assistant professor, Ph.D., University of Victoria

Lichuan Liu, associate professor, Ph.D., New Jersey Institute of Technology

Mansour Tahernezhad, Presidential Engagement Professor, Ph.D., P.E., University of Oklahoma

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.

Upon completion of their studies, graduates of the M.S. program will be able to:

1. Demonstrate the ability to formulate, analyze and solve advanced electrical engineering problems.
2. Demonstrate the ability to apply advanced design processes to engineering.
3. Demonstrate the ability to conduct research and development to investigate or create new systems, components, or processes.
4. Demonstrate the ability to communicate effectively.

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.

## Requirements for Graduates with a B.S. in Electrical Engineering

By the end of first semester, students must declare an option under which they want to study. Students desiring to change their option may petition the department graduate committee with their request.

### Thesis Option

#### Option 1

This option is designed to prepare students for graduate work at the doctoral level or work in jobs that require original research or product innovation. The degree concentrates on original research techniques

that lead to the development of publishable work or patentable products. Because of the interdisciplinary nature of research topics in this option, the student shall be advised by an adviser and one or more co-advisers. The advising committee shall be created by the department's chair after the student is accepted. The 30-semester-hour graduate program of courses must include at least 6 semester hours of ELE 699A, Master's Thesis, a minimum of 3 semester hours of ELE 690, Master's Proposal, a minimum of 6 semester hours of ELE 695, Research in Electrical Engineering, and a minimum of 12 semester hours of 600-level courses from the Department of Electrical Engineering at NIU, excluding ELE 690, ELE 695, ELE 699A, and ELE 699B. The thesis must be satisfactorily defended at an oral examination in front of the advising committee and a minimum of two other members from the graduate faculty or industry.

#### Option 2

This option is the traditional M.S. option where more course work and less research than Option 1 are required. Students must complete 31 semester hours of graduate course work with a minimum of 12 semester hours at the 600 level from the Department of Electrical Engineering, excluding ELE 699A, ELE 699B, and ELE 690. In addition, at least 1 semester hour of ELE 690 and 6 semester hours of ELE 699A, Master's Thesis, on a topic approved by the student's graduate committee must be taken. The thesis must be original research and satisfactorily defended at an oral examination.

### Non-Thesis Option

Students pursuing a M.S. degree under this option must earn a minimum of 31 semester hours of graduate credit including 1 credit hour of ELE 690, Master's Proposal, and 3 semester hours of ELE 699B, Master's Project, which must lead to significant original work and must be defended at an oral examination and submission of a written report.

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 are encouraged to take all course work at the 600 level. However, with the prior written approval of the adviser, a maximum of 12 semester hours can be taken at the 500 level.

## 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 Accelerated B.S./M.S. Sequence

This accelerated 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 accelerated sequence may lead to a

B.S. degree only, but only after all the requirements for that degree have been met.

With this program, M.S. courses can be taken three semesters prior to earning the B.S. degree and have up to 18 semester hours count towards both the M.S. and B.S. degrees. A GRE is not required. Students must meet Graduate School application deadlines. Interested students should talk with an adviser as early as possible and are encouraged to apply during the spring semester of their junior year.

Students wishing to take part in this program should be aware of all the regulations and restrictions of accelerated baccalaureate/master's degree programs as outlined in the NIU Graduate School Catalog under the heading of Early Admission of NIU Undergraduates, and Admission to Accelerated Baccalaureate/Master's Degree Programs.

All students enrolled in this sequence must have their schedules approved by their faculty advisers each semester. Any deviation from an approved course schedule may delay graduation.

### 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)

#### Other Requirements

Independent study courses may not be used to fulfill the M.S. degree requirements. Approved courses taken from other engineering or science departments or transferred from other institutions cannot be counted for the required 600-level courses from the Department of Electrical Engineering at NIU. Portions of the research or the project work required by ELE 699A or ELE 699B may be performed at off-campus facilities if approved by the student's graduate committee. No more than 9 semester hours of transfer work plus credit earned as a student at large may be applied to the master's degree.

### 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)

- Choose 4 from the following with at least one being at a 600 level
- ELE 551 - Digital Filter Design (3)
- ELE 552 - Real-Time Digital Signal Processing (3)
- ELE 559 - Signal Processing Detection Theory (3)
- ELE 650 - Digital Signal Processing Credits: (3)
- ELE 651 - Random Signal Processing Credits: (3)
- ELE 660 - Digital and Analog Communication Systems (3)

#### Digital Systems (12)

- ELE 530 - Design with Field Programmable Logic Devices (3)
- ELE 557 - Processor-based Systems (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 computer-aided tools. PRQ: ELE 250 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 CMOS circuits. Introduction to physical layout of VLSI circuits and SPICE modeling of MOS transistors for analog circuits. Introduction to design methodologies and advances in analog designs. Design of different MOS circuits such as current mirrors, voltage references, amplifiers, operational amplifiers, and OTAs. 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 315 and 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 315 and 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 pointing 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. PROCESSOR-BASED SYSTEMS (3). Analysis of contemporary processor/core based systems including desktop, laptop, tablet computers, smart phones, MP3 players, Smart TVs. Emphasis on components such as memory, display, I/O, touch screen, USB, HDMI, Wi-Fi, BT, and GPS. PRQ: ELE 356 and ELE 360 or consent of department.
559. SIGNAL PROCESSING DETECTION THEORY (3). Hypothesis Testing; Neyman-Pearson detector; Receiver Operating Characteristic (ROC) Curve; Bayesian detector; Composite Hypothesis Testing; Multiple Hypothesis Testing (Classification problems); detection of deterministic and random signals; detection of signals with unknown model parameters and the GLRT detector; detectors based on machine learning approaches. PRQ: ELE 360 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 557 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 voltage-controlled 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.

690. MASTER'S PROPOSAL (1-3). Conducting literature search and preliminary studies about the M.S. thesis or project topic. Students must submit a report about the proposed work and defend it in front of the student's graduate committee. Proposal should clearly show that the proposed work is original and potentially leading to journal articles or patents. Must be passed with a grade of B or better. May be repeated up to a maximum of 6 semester hours. PRQ: Consent of department.

695. RESEARCH IN ELECTRICAL ENGINEERING (1-9). Continuing research based upon topics proposed in ELE 690. PRQ: ELE 690 or consent of department.

699A. MASTER'S THESIS (1-9). May be taken every semester of enrollment, but only 6 semester hours will count towards the degree. PRQ: ELE 690 or consent of department.

699B. MASTER'S PROJECT (1-3). May be repeated to a maximum of 3 semester hours. PRQ: ELE 690 or consent of department.

701. INDUSTRY RESIDENCY (1-3). Work on a project at a sponsoring company site. Identify a workable problem that later may be used as dissertation topics. The student and faculty advisor must prepare 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 department.

791. DOCTORAL SEMINAR (1). Analysis of selected problems and issues in electrical engineering. Must be taken at least 3 times. PRQ: Candidacy of doctoral degree, or consent of department.

799. DOCTORAL RESEARCH AND DISSERTATION (1-12). Students must accumulate a minimum of 27 semester hours prior to graduation. PRQ: Candidacy for the doctoral degree, and consent of department.

# Department of Industrial and Systems Engineering (ISYE)

Chair: Purushothaman Damodaran

## Graduate Faculty

Ehsan Asoudegi, assistant professor, Ph.D., West Virginia University  
 Shi-Jie Chen, professor, Ph.D., State University of New York-Buffalo  
 Purushothaman Damodaran, professor, Ph.D., Texas A&M University  
 Omar Ghayeb, professor, Ph.D., New Mexico State University  
 Jaejin Hwang, assistant professor, Ph.D., Ohio State University  
 Murali Krishnamurthi, Distinguished Teaching Professor, Ph.D., Texas A&M University  
 Reinaldo Moraga, associate professor, Ph.D., University of Central Florida  
 Christine Nguyen, assistant professor, Ph.D., University of Southern California  
 Ziteng Wang, assistant professor, Ph.D., North Carolina State University

## 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.

## Educational Objectives

The department's graduate program is designed to provide students with the knowledge, skills, and tools to become proficient in the application of advanced industrial and systems engineering concepts and techniques to design, analyze and improve manufacturing, as well as service systems; become capable of conducting in-depth, independent research/projects and reporting the results of that research in both written reports and formal presentations; and to recognize the need for engaging in life-long learning.

## Program Outcomes

The department's graduate program is designed to provide graduates with the ability to use math and scientific tools to design, describe, predict, improve, and optimize the performance of human-technology systems; the ability to independently research and learn new topics; and the ability to effectively communicate ideas/concepts and research findings through technical reports and professional presentations.

## 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.

For the thesis and project option, the student must complete at least 31 semester hours of graduate-level course work. For the paper option, the student must complete at least 32 semester hours of graduate-level course work. For all options, at least 50 percent of the non-capstone hours must be earned from 600-level courses. Capstone hours are defined as those earned in 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 18 semester hours of graduate level industrial and systems engineering courses, ISYE 695, ISYE 698, and 12 additional semester hours of graduate courses approved by the department.

## Accelerated 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 accelerated 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. A minimum GPA of 3.00 must be maintained during the course of study. Failure to meet the requirements of the accelerated sequence may lead to a B.S. degree only, but only after all the requirements for that degree have been met. University Honors students who are actively accumulating points through honors course work or Engage PLUS are guaranteed admission.

Students can enroll no more than three terms in the accelerated program without completing the baccalaureate degree. Up to 18 semester hours of graduate credit may be applied towards the baccalaureate degree with the approval of the department.

Students wishing to take part in this program should be aware of all the regulations and restrictions of accelerated baccalaureate/master's degree programs as outlined in the NIU Graduate School Catalog under the heading of Early Admission of NIU Undergraduates; and Admission to Accelerated Baccalaureate/Master's Degree Programs.

All students enrolled in this sequence must have their schedules approved by their faculty advisers each semester. Any deviation from an approved course schedule may delay graduation.

## Specialization in Engineering Management (30)

### Admission

Students seeking admission to the M.S. program in Industrial and Systems Engineering with a Specialization in Engineering Management must hold an accredited B.S. degree in any of the engineering majors, or Technology, or a related science field.

### Required Courses (21)

ACCY 505 – Financial Accounting Concepts (2)  
 FINA 505 – Fundamentals of Financial Management (2)  
 ISYE 539 – Six Sigma Performance Excellence and Modern Problem Solving (3)  
 ISYE 542 – Engineering Project Management (3),  
 OR TECH 694<sup>1</sup> – Industrial Project Management (3)  
 ISYE 590 – Systems Engineering Management (3),  
 OR ISYE 693<sup>1</sup> – Advanced Topics in Industrial Engineering (3)  
 ISYE 620 – Economic Analysis of Engineering Projects (3)  
 ISYE 699B – Graduate Project (3)  
 MGMT 505 – Principles of Management (2)

### Specialization Electives (9)

#### Choose Track 1 OR Track 2

#### Track 1 - Engineering Decision Analysis

Three of the following (9)  
 ISYE 535 - Experimental Design for Engineering (3)  
 ISYE 575 - Decision Analysis for Engineering (3)  
 ISYE 635 - Advanced Experimental Design for Engineering (3)  
 ISYE 670 - Data Analytics for Engineers (3)  
 ISYE 675 - Advanced Decision Analysis for Engineering (3)  
 TECH 638 - Risk Management (3)

#### Track 2 - Global Logistics

Three of the following (9)  
 ISYE 566 - Analysis and Design of Supply Chain Systems (3)  
 ISYE 660 - Facilities Layout and Location Analysis (3)  
 ISYE 670 - Data Analytics for Engineers (3)  
 ISYE 671 - Linear Programming and Network Flows (3)  
 ISYE 681 - Introduction to System Dynamics and Applications (3)  
 ISYE 693 - Advanced Topics in Industrial Engineering (3)

## 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. Only courses taken at NIU for graduate credit may be applied toward a certificate. Students must achieve a minimum of a B in each course applied toward all certificates.

## 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.

Four of the following (12)  
 ISYE 535 - Experimental Design for Engineering (3)  
 ISYE 539 - Six Sigma Excellence and Modern Problem Solving (3)  
 ISYE 550 - Lean Manufacturing Systems (3)  
 ISYE 630 - Advanced Quality Control (3)  
 ISYE 650 - Advanced Lean Manufacturing Systems (3)

## Logistics (12)

This certificate equips graduate students with advanced skills required to effectively manage a supply chain and its constituents. Effective management of supply chain and its constituents is important to effectively and efficiently compete in a global economy.

Take four out of the following seven courses (12)  
 ISYE 540 - Production Planning and Control (3)  
 ISYE 550 - Lean Manufacturing Systems (3)  
 ISYE 560 - Facilities Planning and Design (3)  
 ISYE 561 - Warehousing and Distribution Systems (3)  
 ISYE 566 - Analysis and Design of Supply Chain Systems (3)  
 ISYE 574 - Scheduling and Logistics (3)  
 ISYE 660 - Facility Layout and Location Analysis (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 (1-3). 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.

504. OPERATIONS RESEARCH MODELS FOR ISYE APPLICATIONS (3). A review of several operations research techniques such as linear programming, nonlinear programming, dynamic programming, goal programming, queuing theory, and Markov chains, and their applications to Industrial and Systems Engineering related problems. PRQ: consent of the department.

<sup>1</sup> Only for students who took the 400-level equivalent ISYE course when completing the B.S. degree requirements with an emphasis in Engineering Management at NIU.

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.

520. INTRODUCTION TO ENERGY MANAGEMENT SYSTEMS (3). Introduction to analytic and strategic issues related to energy systems management through systems thinking and modeling. Energy management in commercial building and industrial plants. Exposure to practical analytical skills of energy economics and planning approaches that takes into account the cost of environment impacts. Interrelationship between energy, economics and the environment, as well as other important issues in energy policy. PRQ: Consent of department.

521. INTRODUCTION TO GREEN ENGINEERING (3). Basic principles of green engineering, impact of engineering activities on the global environment and ways to minimize the impact through better selection of materials, design of products and processes, distribution and reuse of products, and management of their life cycle, etc. Life cycle analysis concepts and their application to product and process life cycles. Environmental ethics and environmental auditing, including ISO environmental standards. PRQ: 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 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 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 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 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 either STAT 208 or STAT 350 or ISYE 335; 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 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.

570. INTRODUCTION TO DATA ANALYTICS FOR ENGINEERS (3). A broad introduction to the key analytical tools and techniques to effectively extract and interpret complex patterns found in large amounts of data. Reinforce statistic modeling skills, and develop core skills to make informed decisions. Major topics include: data manipulation and transformation, data visualization, sampling methods, classification methods, linear regression analysis. PRQ: Consent of the 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 335 or STAT 350 or UBUS 223, or consent of department.
577. HEURISTIC OPTIMIZATION (3). Introduction to heuristic methods to solve integer or combinatorial problems, characteristics and limitation of each method, theory and applications. PRQ: ISYE 370 or consent of the 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: ISYE 335 or STAT 350 or UBUS 223; 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.
605. HEALTHCARE SYSTEMS ENGINEERING (3). Introduction to healthcare systems engineering with a focus on the applicability of industrial and systems engineering approaches (e.g., statistics, lean, six sigma, simulation, scheduling, inventory control, supply chain) to the problems of healthcare service and delivery systems including case study and analysis. Discussion of various operations and process flows (e.g., patient flow, medication flow, work flow, information flow) in the healthcare setting. Current research issues and topics in healthcare systems engineering also addressed. PRQ: STAT 350 and ISYE 370; or consent of the department.
610. COMPUTATIONAL BIOMECHANICS (3). Applying biomechanical tools and bioinstrumentation techniques to quantitatively evaluate the physical stresses of the body structures in workers. Based on the biomechanical considerations, design or improve the workplace to minimize the physical stresses of workers and improve the productivity. Major topics include body structure, anthropometry, bioinstrumentation, occupational biomechanical models, and workplace design. PRQ: ISYE 510, or consent of the 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.
670. DATA ANALYTICS FOR ENGINEERS (3). *Crosslisted as MEE 635X*. Applying analytical tools and techniques to effectively extract and interpret complex patterns found in large amounts of engineering data. Develop predictive modeling skills to make informed decisions on problems that occur in engineering practice. Major topics include: data visualization, modeling, classification methods, clustering, and learning algorithms. PRQ: ISYE 335 or STAT 350, or consent of the 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/1 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.

681. INTRODUCTION TO SYSTEM DYNAMICS AND APPLICATIONS (3). Topics on conceptualizing dynamic policy problems, developing appropriate simulation models, and using models for decision making and policy analysis, with special focus on the use of system dynamics (SD) tool. Major topics include: systems thinking, feedback structure, policy simulation, model construction and formulation in SD specialized software, delays and oscillations, and case studies. PRQ: Consent of the 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 (1-3). 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.

701. INDUSTRY RESIDENCY (3). Professional practice in industry that relates to industrial and systems engineering under the guidance of a faculty member. Open only to doctoral students. PRQ: Candidacy of doctoral degree, or consent of department.

795. DOCTORAL SEMINAR (1). Analysis of selected problems and issues in industrial and systems engineering. Must be taken at least 3 times. PRQ: Candidacy of doctoral degree, or consent of department.

799. DOCTORAL DISSERTATION (1-15). Open only to Ph.D. students. May be repeated up to a maximum of 100 semester hours, but no more than 21 semester hours will be applied to the Ph.D. degree. PRQ: Candidacy for the doctoral degree, and consent of department.

# Department of Mechanical Engineering (MEE)

Chair: Federico Sciammarella

## Graduate Faculty

Sachit Butail, assistant professor, Ph.D., University of Maryland, College Park

Kyu Taek Cho, assistant professor, Ph.D., Pennsylvania State University  
Brianno Collier, Distinguished Teaching Professor, Ph.D., Cornell University

Jenn-Terng Gau, professor, Ph.D., Ohio State University  
Nicholas A. Pohlman, associate professor, Ph.D., Northwestern University

Ji-Chul Ryu, assistant professor, Ph.D., University of Delaware  
Iman Salehinia, assistant professor, Ph.D., Washington State University  
Federico Sciammarella, Associate professor, Ph.D., Illinois Institute of Technology

John Shelton, assistant professor, Ph.D., University of South Florida  
Scott R. Short, assistant professor, Ph.D., P.E., University of Dayton  
Robert Sinko, assistant professor, Ph.D., Northwestern University  
Jifu Tan, assistant professor, Ph.D., Lehigh University  
Sahar Vahabzadeh, assistant professor, Ph.D., Washington 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 accelerated B.S./M.S. sequence after finishing 90 semester hours with a GPA of at least 3.00. University Honors students who are actively accumulating points through honors course work or Engage PLUS are guaranteed admission.

## Educational Objectives

Graduate students in the M.S. program are expected to attain the following objectives by the time and within a few years of graduation: 1. become successful professionals; 2. contribute to their professional fields and assume leadership roles in industry or research organizations; 3. assume professional responsibilities and exhibit effective communication skills; 4. collaborate with faculty and conduct research and scholarly activities at the forefront of the field and engage in professional societies by publishing professional papers and attending and presenting papers at professional conferences.

## Program Outcomes

Program graduates should attain the following outcomes by the time of graduation: design a system, component, or process to meet desired needs in one of the specialty areas (applied mechanics, computer-aided design and computer-aided manufacturing, design of thermal-fluid systems, vibrations, dynamics and control systems); identify, formulate, and solve engineering problems and to conduct

research in one of the specialty areas; communicate effectively; understand professional and ethical responsibility; use of modern engineering tools.

## 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 two courses in applied mathematics or advanced engineering analysis from the following (6)

MEE 692 – Advanced Mechanical Engineering Analysis (3)

One of the following (3)

MEE 580 – Finite Element Methods (3)

MEE 611 – Continuum Mechanics (3)

MEE 615 – Advanced Finite Element Methods (3)

MEE 658 – Computational Heat Transfer and Fluid Mechanics (3)

Or a mathematics course approved by adviser (3)

Complete two courses from one of the following groups (6)

Applied Mechanics—MEE 610, MEE 611, MEE 612,

MEE 613, MEE 614, MEE 616, MEE 617

Dynamic Systems and Control—MEE 620, MEE 621,

MEE 622, MEE 623, MEE 624, MEE 625, MEE 626, MEE 627

Materials and Manufacturing— MEE 628, MEE 629, MEE 630, MEE

631, MEE 632, MEE 633, MEE 634, MEE 636, MEE 637

Thermal-Fluid Engineering—MEE 640, MEE 642, MEE 650,

MEE 652, 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 Accelerated B.S./M.S. Sequence

This accelerated sequence leads to both the B.S. and M.S. degrees in mechanical engineering and mechatronics 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 accelerated 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 accelerated 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 semester hours.

Students are required to fulfill all requirements for thesis option, project option, or course option mentioned in the previous section.

With this program, a student can take B.S. and M.S. courses simultaneously, up to three semesters before earning the undergraduate degree. One can have up to 18 semester hours count towards both the undergraduate and graduate degrees. A GRE is not required. Students must meet Graduate School application deadlines. Interested students should talk with an adviser as early as possible and are encouraged to apply during the spring semester of their junior year.

Students wishing to take part in this program should be aware of all the regulations and restrictions of accelerated baccalaureate/master's degree programs as outlined in the NIU Graduate School Catalog

under the heading of Early Admission of NIU Undergraduates, and Admission to Accelerated Baccalaureate/Master's Degree Programs.

All students enrolled in this sequence must have their schedules approved by their faculty advisers each semester. Any deviation from an approved course schedule may delay graduation.

University Honors students who are actively accumulating points through honors course work or EngagePLUS are guaranteed admission to the B.S./M.S. program.

## 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.

Complete four courses from the following (12)

MEE 510 - Intermediate Mechanics of Materials (3)

MEE 580 – Finite Element Methods (3),

OR MEE 615 – Advanced Finite Element Methods (3)

MEE 610 - Experimental Stress Analysis (3)

MEE 611 – Continuum Mechanics (3)

MEE 612 - Advanced Mechanics of Materials (3)

MEE 613 – Fatigue and Fracture Mechanics (3)

MEE 614 – Theory of Elasticity and Applications (3)

MEE 616 – Mechanical Behavior of Composites (3)

### CAD/CAM/CAE (12)

Course work for this certificate unifies the methods applied to design of products simultaneous with full consideration of manufacturing methods.

Complete four courses from the following (12)

ISYE 553 - Integrated Product and Process Design (3),

OR TECH 523 - Automated Manufacturing Systems (3),

OR TECH 525 - Advanced Programmable Electronic Controllers (3)

MEE 522 - Design of Robot Manipulators (3)

MEE 530 - Computer-Aided Design and Manufacturing (3)

MEE 532 - Laser Materials Processing (3)

MEE 533 - Advanced Manufacturing Processes (3)

MEE 580 - Finite Element Methods (3),

OR MEE 615 - Advanced Finite Element Methods (3)

MEE 631 - Computer-Aided Design of Mechanical Systems (3)

MEE 633 - Computer-Aided Manufacturing (3)

### Simulation, Modeling and Data Analysis (12)

Course work for this certificate unifies the methods applied to design and simulation analysis of products and processes.

Complete the following four courses (12)

MEE 580 - Finite Element Methods (3)

MEE 631 - Computer Aided Design of Mechanical Systems (3)

MEE 635X - Data Analytics for Engineers (3)

MEE 658 - Computational Heat Transfer and Fluid Mechanics (3)

### Thermal, Fluid, and Energy 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.

Complete four courses from the following (12)  
 MEE 551 - Refrigeration and Air Conditioning (3)  
 MEE 552 - Design of Thermal Systems (3)  
 MEE 553 - Propulsion (3)  
 MEE 554 - Alternative and Renewable Energy (3)  
 MEE 555 - Energy Conservation and Environmental Sustainability (3)  
 MEE 650 - Advanced Thermodynamics (3)  
 MEE 655 - Conduction Heat Transfer (3)  
 MEE 656 - Convection Heat Transfer (3)  
 MEE 658 - Computational Heat Transfer and Fluid Mechanics (3)

### Vibration, Robots, and Control Systems (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.

Complete four courses from the following (12)  
 MEE 521 - Dynamic Systems and Control II (3)  
 MEE 524 - Machinery Vibration (3)  
 MEE 620 - Advanced Dynamics (3)  
 MEE 621 - Advanced Vibrations (3)  
 MEE 622 - Experimental Methods in Mechanical Vibrations (3)  
 MEE 623 - Robot Vision Control (3)  
 MEE 624 - Robot Dynamics and Control (3)  
 MEE 625 - Robot Programming and Control (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 322 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.

527. PLC-BASED ROBOTICS IN AUTOMATED SYSTEMS (3). Fundamental concepts and architecture of Programmable Logic Controllers (PLCs), ladder logic programming, and interfacing/integration of sensors, switches, actuators, and other automation components such as a vision system. Case studies of automated systems controlled by PLCs in industry and robotics. Control of a robot system using commercial PLCs. PRQ: CSCI 240, and MEE 322 or ELE 380, or consent of department.

528. MODELING COMPLEX SYSTEMS (3). Graph theory, network models, mean field approximation, phase portraits, bifurcation diagrams, information theory, and game theory. Modeling of disease/rumor spread, self-propelled particle systems, socio/economic networks, power grids, multi-agent robotic systems, coupled-oscillator dynamics, and self-repeating patterns such as those found in ant nests, disease tumors, and vehicular traffic. PRQ: 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.

532. LASER MATERIALS PROCESSING (3). Basic operation of lasers and their applications in various industrial settings. Subjects include laser welding, heat treating, cladding, assisted machining of ceramics, additive manufacturing. Lecture and laboratory sessions. PRQ: MEE 331 or consent of department.

533. ADVANCED MANUFACTURING PROCESSES (3). Advanced manufacturing processes including advanced materials, advanced material removal processes, advanced metal forming processes, hybrid processes, rapid prototyping and advanced polymer processing, joining, manufacturing of microelectronics devices, and computer aided manufacturing. PRQ: MEE 331 or consent of department.

534. ADDITIVE MANUFACTURING AND APPLICATIONS (3). Materials and their properties, additive manufacturing processes vs. conventional methods, different additive manufacturing techniques, the significance and limitation of each method. Hands-on lab experience to familiarize students with processes. PRQ: Consent of department.

536. BIOMATERIALS (3). Properties of materials, protein/cell/tissue biology, metals/ceramics/ polymers and composites as biomaterials, material selection and structure-function relationship pertinent to biomedical applications, tissue-biomaterial interaction, FDA regulation, processing of biomaterials through conventional and additive manufacturing methods. PRQ: 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.

554. ALTERNATIVE AND RENEWABLE ENERGY (3). Introduction to the physics, systems, and methods of non-fossil fuel energy generation. Types of generation methods covered include nuclear, hydroelectric, solar, wind, fuel cells, biomass, and other new technologies. Engineering design projects analyze performance, scalability, and sustainability of alternative and renewable energy. CRQ: MEE 352.

555. ENERGY CONSERVATION AND ENVIRONMENTAL SUSTAINABILITY (3). Concepts of energy efficiency and conservation, and the impact on the environment and sustainability, in the context of the structures, machines and devices that provide services and comfort for people and society, including electro-mechanical power, thermal comfort, illumination, and other energy conversion processes. Selected engineering design projects will exemplify and detail the energy conservation and environmental sustainability practices including socioeconomic aspects. PRQ: MEE 340 and MEE 350; or ELE 340 or ISYE 440 or TECH 379 or TECH 423.

556. ELECTROCHEMICAL ENERGY CONVERSION AND STORAGE SYSTEMS (3). Working principles, characteristic behaviors of operation, and key issues in development of various electrochemical energy systems including fuel cells and batteries, understanding key design factors improving the system performance, analyzing the performance and efficiencies of those systems with theories based on electrochemistry, thermodynamics, and transport phenomena. PRQ: Consent of department.

579. DIGITAL HUMAN MODELING AND SIMULATION (3). Fundamentals of using computational methods to simulate the human musculoskeletal system as articulated kinematic chains. Use of methods adapted from robot kinematics and dynamics, coupled with joint biomechanics and joint strength profiles. Prediction of serial link motion of the human body and associated physical demands and limitations. PRQ: MEE 320, and MEE 380 or MEE 381, or consent of the 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.

617. THEORY OF PLASTICITY AND APPLICATIONS (3). Stress-strain relations beyond elastic limit, yield criteria, hardening models, the theory of plastic flow, general behavior of metals, effects of hardening, temperature, and strain rate. Applications to metal forming include, but not limited to, stamping, deep drawing and bending. PRQ: MEE 611 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.

627. STOCHASTIC ESTIMATION AND CONTROL (3). State-space descriptions of linear systems; design of variance minimizing state feedback controllers, LQG controllers, and discrete and continuous time Kalman filter. Nonlinear estimation methods such as the extended Kalman filter and particle filter. Theory will be motivated through applications in radar tracking, mobile robot control, and computer vision. PRQ: MEE 521 or consent of department.

628. ADVANCED MECHANISM SYNTHESIS METHODS (3). Techniques for mechanism synthesis, including finite displacement and synthesis through optimization methods. Techniques for path, function, and motion generation problems. Application of Graphical User Interface (GUI) to the synthesis of planar and spatial mechanisms. PRQ: MEE 430, 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.

635X. DATA ANALYTICS FOR ENGINEERS (3). Crosslisted as ISYE 670. Applying analytical tools and techniques to effectively extract and interpret complex patterns found in large amounts of engineering data. Develop predictive modeling skills to make informed decisions on problems that occur in engineering practice. Major topics include: data visualization, modeling, classification methods, clustering, and learning algorithms. PRQ: ISYE 335 or STAT 350, or consent of the department.

636. ADVANCED BIOMATERIALS AND MANUFACTURING (3). Biomaterials (metallic, bioceramics, biopolymers and biocomposites), characterization of biomaterials, processing and manufacturing, design and application, interaction between the host tissue and biomaterial, physical, mechanical, and biological properties of biomaterials, drug delivery, in vitro and in vivo examination, FDA regulation. PRQ: MEE 536 or consent of department.

637. ADVANCED ADDITIVE MANUFACTURING (3). In-depth analysis of additive manufacturing process theory that will look into key characteristics such as thermal management and in-situ process control that is used for materials qualification/certification and applications of materials development. PRQ: MEE 534 or 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.

652. TRANSPORT PHENOMENA IN POROUS MEDIA (3) Characteristic behavior of fluid transport in porous media, fundamental theories and governing equations of fluid, heat, and mass transfer in porous media. Analysis of transport phenomena of multi-phase fluid, convective heat and mass. PRQ: Consent of the 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 to a maximum of 9 semester hours, with no more than 3 semester hours in the same topic. 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.

701. INDUSTRY RESIDENCY (3-6). Professional practice in industry that relates to mechanical engineering under the guidance of a faculty member. Open to doctoral students. May be repeated. PRQ: Consent of department.

795. DOCTORAL SEMINAR (1). Analysis of selected problems and issues in mechanical engineering. May be repeated. PRQ: Consent of department.

799. DOCTORAL RESEARCH AND DISSERTATION (1-12). Open only to Ph.D. students. May be repeated without limit. PRQ: Candidacy for the doctoral degree, and consent of department.

# Department of Technology (TECH)

Chair: Clifford R. Mirman

## Graduate Faculty

Abul Azad, professor, Ph.D., University of Sheffield (United Kingdom)  
 Liping Guo, associate professor, Ph.D., Auburn University  
 Theodore J. Hogan, associate professor, Ph.D., C.I.H., University of Illinois, Chicago  
 S. Rao Kilaparti, associate professor, Ph.D., Northwestern University  
 Kevin Martin, associate professor, Ph.D., University of Missouri  
 William J. Mills, assistant professor, Ph.D., University of Illinois, Chicago  
 Shanthi Muthuswamy, associate professor, Ph.D., University of New York  
 Andrew W. Otieno, Presidential Engagement Professor, Ph.D., University of Leeds (United Kingdom)  
 Said Oucheriah, professor, Ph.D., P.E., Cleveland State University  
 David J. Schroeder, associate professor, Ph.D., University of Illinois  
 Shun Takai, associate professor, Ph.D., Stanford University  
 Robert Tataara, professor, Ph.D., Northwestern University  
 Mahdi Vaezi, assistant professor, Ph.D., University of Alberta

## 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. The department requires competencies in trigonometry/pre-calculus and statistics completed during undergraduate studies; deficiencies in these requirements must be satisfied prior to admission. Students should review the admission and graduate degree requirements in this catalog.

A student pursuing the M.S. in industrial management must complete a minimum of 30 semester hours in 500-level and above courses, with TECH 694 – Industrial Project Management being the capstone course of the academic program. Students are not allowed to repeat the graduate level course of any 400 level course previously taken.

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.

## Educational Objectives

The Department of Technology graduate program in industrial management seeks to educate our graduates with advanced management skills that will allow them to provide leadership and advanced applications skills in an industrial setting. Graduates of the program will have the:

- Ability to research technology concepts and obtain data sources
- Ability to use advanced statistics and data analysis in developing research and industrial reports
- Ability to manage, work in teams, and develop goals for a given industrial process
- Ability to develop advanced industrial application skills

## Program Outcomes

The department's graduate program is designed to provide our graduates with the ability to function on multidisciplinary teams; the ability to identify, research, formulate, and solve technical problems; an understanding of professional and ethical responsibilities needed in industry; the ability to communicate effectively in both written and oral formats; a broad education necessary to understand the impact of technology in a global and social context; ability to research topics of need and provide unique solutions to issues. Knowledge of contemporary issues.

## Requirements (30)

All of the following (12)  
 TECH 500 - Research in Industry and Technology (3)  
 TECH 562 - Industrial Systems Management (3)  
 TECH 638 - Risk Management (3)  
 TECH 694 - Industrial Project 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>.

## Facilities Management (15)

This certificate is designed for the professional who is interested in gaining advanced knowledge in the management of industrial/manufacturing facilities, thus giving students needed background in obtaining the Facilities Management Professional (FMP) credentials. Through this certificate, students will obtain advanced knowledge in managing projects and industrial facilities, as well as reducing energy needs and advanced skills in planning for the unlikely event of catastrophic events and business continuity.

TECH 506 - Facilities Management (3)  
 TECH 532 - Disaster Preparedness (3)  
 TECH 584 - Energy Management (3)  
 TECH 592 - Manufacturing Distribution Applications (3)  
 TECH 694 - Industrial Project Management (3)

## 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.

507. MAINTENANCE MANAGEMENT TECHNOLOGY (3). Concepts and theories of preventive, predictive, and total productive maintenance (TPM). Statistical concepts relevant to maintenance. Operation improvement through TPM. PRQ: Consent of department.

511. ENVIRONMENTAL SUSTAINABILITY PRACTICES FOR INDUSTRIAL OPERATIONS (3). Analysis of the production processes of selected industrial sectors, their specific environmental and human health/safety impacts, multiple approaches to mitigate the impacts, and the financial benefits of resource and waste reduction. Addresses potential hazards of emerging materials and technologies. Integrated environmental, health and safety auditing of applicable EPA, OSHA, and international environmental regulations. PRQ: TECH 245 or TECH 305 or consent of department.

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 150, PHYS 151, 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.

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 425 or TECH 444, 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 325, TECH 326, or consent of department.

525. ADVANCED PROGRAMMABLE ELECTRONIC CONTROLLERS (3). PLC applications in automation including analog process control, and advanced PLC functions, communications and networking, HMI, computer based controls and remote I/O systems. Interfacing with sensors and instrumentation. Emphasis on laboratory experiences with communications, networking, remote I/O applications, PC based controls and interfacing. PRQ : TECH 325 or consent of department.

527. TESTING METHODS, PROCEDURES, AND SELECTION OF SUSTAINABLE PLASTICS (3). Study of plastics (polymers) with emphasis on energy-efficient, renewable, and recycled thermoplastics, thermosets, and composite materials in addition to the study of specific properties of plastics material, standard testing methods/procedures, and product application.

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). *Crosslisted as UNIV 510X*. Introduction to the field of homeland security, emergency management, business continuity planning, and disaster preparedness. Discussion of the risks and hazards associated with planned events, emergencies, natural, human-made, and technological disasters. Emphasis on hazard recognition, planning, mitigation, response, and recovery from these types of events. Two graduate level projects demonstrate hazard analysis and emergency planning concepts. Enrollment not open to students with credit in UNIV 310X, TECH 432, and UNIV 510X.

533. CHEMICAL HAZARDS IN INDUSTRY (3). Basic concepts of chemical hazards toxicity as related to materials used in businesses in industrial work places. Assessment of the hazards of chemicals and how to manage 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 and application of current safety management systems. Development of topic-specific safety programs and procedures. Preparation of a business case for implementing changes in safety practices. PRQ: TECH 231, TECH 534 or consent of department.

537. FUNDAMENTALS OF INDUSTRIAL HYGIENE (3). Application of principles of industrial (or occupational) hygiene for the safety specialist, whose role has been greatly expanded by legislation and current industry practices. Emphasis on recognition and evaluation of stress-producing conditions in the workplace including chemical exposure, noise, ventilation, temperature, radiation, lighting, and their effect on human performance and productivity. PRQ: 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, pipeline, highway, water, and air transportation). Each student investigates one system in depth. PRQ: 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 150, PHYS 151, 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.

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: 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.

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.

568 CONSTRUCTION SAFETY MANAGEMENT (3). Identification, assessment, and control of construction-specific safety hazards. Management of safety on multiemployer construction worksites. 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 150 and PHYS 151, 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 150 and PHYS 151, or PHYS 210; TECH 231; TECH 245; TECH 534; and TECH 541; 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 either STAT 208 or STAT 301; 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.

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.

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 risk identification, risk assessment, and risk handling techniques to manage various loss-producing incidents and insurance functions. PRQ: TECH 485, TECH 536, and TECH 582 or 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: Derryl E. Block, Ph.D.**

**Associate Dean: James R. Ciesla, Ph.D.**

**Associate Dean: Beverly Henry, Ph.D.**

School of Allied Health and Communicative Disorders

School of Family and Consumer Sciences

School of Health Studies

Department of Military Science

School of Nursing

## 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 Clinical/Practicum Requirements

Students who select majors in the College of Health and Human Sciences may need to meet specific clinical/practicum requirements for their academic programs and/or entry into their chosen professions, such as a criminal background check, drug testing, immunizations and flu shots, proof of immunity, TB test, cardiopulmonary resuscitation (CPR) certification, uniforms, and equipment. The student is generally responsible for the costs of meeting these requirements. Professional liability and general liability insurance are generally included as part of course fees when required. Students may be unable to progress in programs if there is a positive drug screen, prior criminal record, or they do not fulfill other special clinical requirements such as immunizations. Refer to the specific program for additional information on these and other requirements.

## Doctor of Philosophy in Health Sciences

The college-wide Ph.D. program emphasizes an interprofessional orientation to research and practice, as students work with graduate faculty members from across the college. The Ph.D. prepares students from a wide range of health and human sciences fields to function effectively as scholars and researchers within academic and practice settings. Doctoral students participate in shared learning across online seminars and research tools courses by making connections to health topics from the perspectives of multiple disciplines. Students complete an individualized program of study that is tailored to individual needs before taking the candidacy examination and conducting a dissertation under the supervision of a dissertation director(s). The residency requirement is fulfilled through limited face-to-face meetings for core program courses. Admission and course requirements are detailed under the School of Interdisciplinary Health Professions.

## Interdisciplinary Courses Offered by the College of Health and Human Sciences (UHHS)

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, and related topics. May be repeated to a maximum of 6 semester hours. PRQ: Consent of college.

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.

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.

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.

# School of Allied Health and Communicative Disorders (AHCD, AHPT, AUD, COMD)

Chair: Sherrill R. Morris

## Graduate Faculty

Hamid Bateni, associate professor, Ph.D., McGill University  
 Danica Billingsly, clinical assistant professor, Au.D., Salus University,  
 Mary Jo Blaschak, associate professor, Ph.D., Northwestern University  
 Mariah Cheyney, clinical assistant professor, Au.D., University of  
 Pittsburgh  
 King Chung, professor, Ph.D., Northwestern University  
 Allison Gladfelter, assistant professor, Ph.D., Purdue University  
 In-Sop Kim, associate professor, Ph.D., Florida State University  
 Blythe Kitner, clinical assistant professor, Au.D., Rush University  
 Robert LeBeau, assistant professor, D. Sc., Texas Tech University  
 Jamie F. Mayer, associate professor, Ph.D., Indiana University  
 Sherrill R. Morris, associate professor, Ph.D., University of Kansas, chair  
 Christina Odeh, assistant professor, D.H.Sc., University of Indianapolis  
 Janet L. Olson, associate professor, Ph.D., Northern Illinois University  
 Charles Pudrith, assistant professor, Ph.D., Au.D., University of North  
 Carolina, at Greensboro  
 Matthew J. Wilson, associate professor, Ph.D., University of Tennessee  
 Health Science Center

The School of Allied Health and Communicative Disorders offers graduate programs leading to the Master of Arts (M.A.), 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. 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 licensure.

The DPT program is 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 (M.A.) in Communicative Disorders

Specialization in Audiology  
 Specialization on Speech-Language Pathology

## Doctor of Audiology (Au.D.)

## Doctor of Physical Therapy (D.P.T.)

## Master of Arts in Communicative Disorders

The student learning outcomes for this degree are located at <http://www.niu.edu/assessment/clearinghouse/outcomes/index.shtml>.

## Specialization in Audiology

### Admission

The M.A. in Communicative Disorders with a specialization in audiology is available to Doctor of Audiology students in good standing who require a master's degree prior to their fourth year external placement. After a student has successfully completed 60 semester hours in the Au.D. program, he or she may apply for admission to the master's program. An applicant for admission to the program must meet or exceed the following requirements:

- A minimum cumulative GPA of 3.20 in Au.D. course work taken at NIU
- Academic adviser recommendation
- A typed statement describing the need for the master's degree

Program faculty will review the student's transcript, adviser recommendation, and student's justification of need for degree. Once accepted to the master's program, a degree will be conferred allowing the student to continue to their fourth year placement.

## Specialization in Speech-Language Pathology

### Admission

Admission to the specialization in speech-language pathology is limited to the summer term with an application deadline of January 1. To be assured consideration for admission, prospective students must submit all required application materials through the Communication Sciences and Disorders Centralized Application Service (CSDCAS) and the Graduate School portals. NIU university honors students admitted via the freshman guaranteed admission program should check with the SLP program regarding entry requirements.

Admission to the master's degree program is typically for full-time study. An applicant for admission to the 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 statement describing the applicant's qualifications, goals, and career aspirations as they relate to the speech-language pathology program at NIU.

Documentation of 25 hours of supervised observation of speech-language pathology services. Final decisions regarding admissions are made by the program's admission 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 student-at-large hours plus transfer credit may not exceed 12 semester hours.

## Requirements

The master's degree requires a minimum of 58 semester hours, at least 39 of which must be earned in nonpracticum courses. Additional semester hours may be required in course work and/or clinical practicum to fulfill the requirements of the appropriate clinical or educator licensures.

Students are required to take the following:

- COMD 603 - Communication Disorders in Early Childhood (3)
- COMD 607 - Language Disorders in School-age Populations (3)
- COMD 610 - Multicultural Aspects of Speech-language Pathology (3)
- COMD 671 - Speech Sound Disorders (3)
- COMD 674 - Cognitive-Linguistic Disorders of Neurologically Impaired Adults (3)
- COMD 676 - Organization and Planning of Speech, Language, and Hearing Services (3)
- COMD 684 - Swallowing Disorders (3)
- COMD 773 - Advanced Professional Issues in Speech-Language Pathology (1)

Students are required to take one of the following:

- AHCD 600 - Introduction to Research in Communicative Disorders (3)
- ETR 519 - Applied Educational Research (3)
- ETR 520 - Introduction to Research Methods in Education (3)
- ETR 521 - Educational Statistics I (3)

Students are required to complete 15 semester hours in the following:

- COMD 601 - Principles of Assessment in Communicative Disorders (3)
- COMD 602 - Motor Speech Disorders: Assessment and Treatment (3)
- COMD 604 - Child Language Disorders: Special Populations (3)
- COMD 605 - Fundamentals of Augmentative and Alternative Communication in Speech-Language Pathology (3)
- COMD 624 - Supervisory Techniques in Speech and Hearing Services (3)
- COMD 635 - Family Based Treatment in Communicative Disorders (3)
- COMD 644 - Stuttering Management and Remediation (3)
- COMD 670 - Voice Disorders: Research and Therapy (3)
- COMD 672 - Craniofacial Anomalies (3)
- COMD 673 - Instrumentation for Voice Analysis (3)
- COMD 680 - Medical Aspects of Speech-Language Pathology (3)
- COMD 688 - Treatment of Cognitive-Communication Disorders Associated with Acquired Brain Injury (3)
- COMD 772 - Seminar in Language (3)
- COMD 775 - Seminar: Speech-Language Pathology (3)
- COMD 784 - Pediatric Swallowing Disorders (3)
- AHCD 698 - Directed Individual Study (maximum of 3 semester hours by consent of adviser) (1-3)
- COMD 699 - Master's Thesis (maximum of 3 semester hours) (1-3)

Students are required to complete the following practicum courses:

- COMD 687 - Speech-Language Practicum: Speech and Hearing Clinic (8)
- COMD 691 - Advanced Practicum: Educational Speech-Language Pathology (5)
- COMD 692 - Advanced Practicum: Medical Speech-Language Pathology (5)

After the first semester in the program, students are required to enroll in 2 semester hours of COMD 687 for four consecutive terms.

Other courses can be used to fulfill elective course requirements with consent of academic adviser.

## Special Clinical/Practicum Requirements

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, an influenza vaccination shot, and absence of a prior criminal record verified by a criminal background check are required. Drug screen testing may be required. Graduate students must demonstrate compliance with all of the above requirements prior to initiating each clinical assignment. 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 prior to graduation.

Special clinical/practicum requirements are available in the *Speech-Language Pathology Graduate Student Handbook*.

## Grading Policies

Students must make satisfactory progress in communicative disorders graduate courses and meet Professional Dispositions and Essential Functions necessary for clinical practice. Students who earn two grades of C or lower in communicative disorders courses or fail to meet the Professional Dispositions and Essential Functions specified in the *Speech-Language Pathology Graduate Student Handbook* will be dismissed from the communicative disorders graduate program.

## Thesis Option

The student must earn a minimum of 58 semester hours of graduate credit at least 39 of which must be earned in nonpracticum courses. A thesis must be submitted and approved. A maximum of 3 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 58 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.

## 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.

The student learning outcomes for this degree are located at <http://www.niu.edu/assessment/clearinghouse/outcomes/index.shtml>.

## Admission

To be considered for admission to the Doctorate of Audiology (Au.D.) degree program, prospective students must submit completed application materials to the Graduate School no later than January 15 for fall admission. To be assured consideration for admission, prospective students must submit all required application materials through the Communication Sciences and Disorders Centralized Application Service (CSDCAS) and the Graduate School portals. Admission to the Au.D. program is typically limited to the fall term, but exceptions may be considered in light of a review of deficiency course work.

Admission to the Doctor of Audiology degree program is for full-time, on-campus study. An applicant for admission is generally expected to meet or exceed the following requirements.

- A minimum 3.40 GPA (on a 4.00 scale) in all undergraduate course work.

- Competitive scores on the GRE General Test.

- The Statement of Purpose is an integral part of the application. Students should address their personal and professional goals.

Three (3) letters of recommendation from professors, clinical supervisors, or employers providing evidence of an applicant's professional qualifications and ability to successfully complete doctoral work. 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 practice in audiology.

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. Note that applicants with degrees in disciplines other than communicative disorders are welcome to apply for admission to the Au.D. program. Applicants who lack key undergraduate course work may need to enroll in courses that will provide the fundamental knowledge needed to succeed in the program prior to admission, which will be determined on an individual basis.

## Requirements

Students must complete a minimum of 109 semester hours from the following.

CAHC 525/REHB 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 (3)  
 AUD 625 - Acoustics and Instrumentation (3)  
 AUD 627 - Anatomy and Physiology of the Ear (3)  
 AUD 629 - Amplification I (4)  
 AUD 630 - Auditory and Tinnitus Rehabilitation (4)  
 AUD 675 - Pediatric Audiology Treatment and Case Management (3)  
 AUD 677 - Adult Audiological Assessment (4)  
 AUD 678 - Pediatric Audiological Assessment (3)  
 AUD 679 - Electrophysiological Assessment of the Auditory System (4)  
 AUD 680 - Introduction to the Evaluation of Balance Disorders (3)  
 AUD 681 - Advanced Evaluation and Treatment of Balance Disorders (3)  
 AUD 683 - Clinical Observation in Audiology (1)  
 AUD 684 - Introduction to Clerkship in Audiology I (1)  
 AUD 685 - Clinical Clerkship in Audiology II (3)  
 AUD 686 - Clinical Internship in Audiology (3)  
 AUD 692 - External Rotation in Audiology (1)  
 AUD 693 - Externship in Audiology (21)  
 AUD 700 - Research Seminar (3),  
 OR ETR 520 - Introduction to Educational Research (3)  
 AUD 727 - Auditory and Vestibular Pathology (3)  
 AUD 729 - Amplification II (3)  
 AUD 730 - Advanced Topics in Audiology (3)  
 AUD 775 - Cochlear Implants (3)  
 AUD 779 - Advanced Electrophysiologic Assessment of the Auditory System (4)  
 AUD 780 - Medical Audiology (3)  
 AUD 798 - Au.D. Research (6) Students are required to complete 6 semester hours of AUD 798 culminating in the completion of a research project.  
 Statistics (3-4)  
 Graduate-level elective subject to approval by program (3)

Students are required to complete 6 semester hours of AUD 798 culminating in the completion of a research project.

## Special Clinical/Practicum Requirements

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, annual flu shot, and a negative criminal background check are required.

## Grading Policies

Students must make satisfactory progress in audiology graduate courses. Retention in the program requires adherence to Graduate School and audiology program requirements and regulations. Please refer to the Graduate School "General Regulations" and the NIU Audiology Student Handbook and Clinical Education Manual.

## 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 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 Student Handbook.

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 flu shot and 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 at least the CAPTE minimum number of weeks of clinical education experiences. Specific clinical sites may require background checks and/or drug testing.

The student learning outcomes for this degree are located at <http://www.niu.edu/assessment/clearinghouse/outcomes/index.shtml>.

## 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 all required documentation to Physical Therapy Centralized Application System (PTCAS) and Graduate School application portals no later than October 1 for the following fall session. Interested students should view the PTCAS and D.P.T. admission websites.

Admission to the professional physical therapy program is based on the following criteria:

- Completion of a Bachelor's degree from an accredited institution prior to matriculation
- Completion of all prerequisite course work with a minimum 3.00 GPA prior to matriculation
- Completion of a minimum of 50 hours of observation/volunteer/paid work in a physical therapy setting. These hours must be obtained in at least two different settings within four years of the time of application

Competitive scores on the GRE General Test  
 Professional essay  
 Letters of reference  
 An on-campus interview

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 107 semester hours from the following:

AHPT 601 - Introduction to Physical Therapy Practice (2)  
 AHPT 602 - Communication and Educational Skills for Physical Therapists (3)  
 AHPT 603 - Psychosocial Aspects of Physical Therapy (3)  
 AHPT 604 - Movement Systems in Physical Therapy (2)  
 AHPT 608 - Physical Therapy: Evidence-Based Practice (2)  
 AHPT 609 - Research Methods in Physical Therapy (3)  
 AHPT 610 - Foundations of Physical Therapy I (2)  
 AHPT 611 - Foundations of Physical Therapy II (2)  
 AHPT 612 - Foundations of Physical Therapy III (2)  
 AHPT 613 - Foundations of Physical Therapy IV (2)  
 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 619 - Internal Clinical Experience I (1)  
 AHPT 620 - Topics in Clinical Education (1)  
 AHPT 621 - Internal Clinical Experience II (1)  
 AHPT 622 - External Clinical Experience I(3)  
 AHPT 623 - Internal Clinical Experience III (1)  
 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 (3)  
 AHPT 641 - Physical Therapy Management of Complex Musculoskeletal Disorders (4)  
 AHPT 642 - Differential Diagnosis in Physical Therapy (3)  
 AHPT 651 - Medical Issues in Neurological Physical Therapy (2)  
 AHPT 652 - Neurological Rehabilitation (5)  
 AHPT 657 - Pediatric Physical Therapy (3)  
 AHPT 660 - External Clinical Experience II (4)  
 AHPT 701 - Internal Clinical Experience IV (1)  
 AHPT 702 - Physical Therapy Management of Aging and Complex Patients (3)  
 AHPT 703 - Orthotics and Prosthetics in Physical Therapy (3)  
 AHPT 709 - Applied Research Methods in Physical Therapy I (3)  
 AHPT 730 - Diagnostic Imaging for Physical Therapists (3)  
 AHPT 760 - External Clinical Experience III (5)  
 AHPT 761 - External Clinical Experience IV(5)  
 AHPT 798 - Comprehensive Examination in Physical Therapy (1)  
 AHPT 799 - Applied Research Methods in Physical Therapy II (3)  
 BIOS 546 - Gross Human Anatomy (6)

### Grading Policies

Students must make satisfactory progress in physical therapy graduate courses and meet all defined benchmarks for clinical practice. Retention in the program requires adherence to Graduate School and DPT Program Requirements and Regulations. Please refer to the Graduate School "General Regulations" and the NIU DPT Student Handbook and Clinical Education Manual.

## 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.

620. MINDFULNESS: MEDITATION SKILLS AND PRACTICE (1/2). Designed for Allied Health Professionals who may utilize mindfulness techniques in their clinical work, academic interactions, and personal activities/relationships. Benefits of this practice include decreased perceived stress levels, increased compassion toward self and others, increased attention and listening skills, and clear focused thinking. PRQ: Consent of school.

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. S/U grading may be used. PRQ: Consent of school.

### 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: AUD 625 with a grade of B- or better, 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 (3). 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: AUD 612A with a grade of B- or better, or consent of school.

625. ACOUSTICS AND INSTRUMENTATION (3). Principles, methods and application of acoustics as it relates to normal and abnormal auditory processes. Study of clinical measures and procedures as it relates to the calibration of audiometric equipment. 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 AND TINNITUS REHABILITATION (4). Assessment and management of tinnitus and hyperacusis, the receptive aspects of communication, determination and rehabilitation of communicative function needs, and the psychosocial impact of auditory conditions on adults. PRQ: Admission to the Au.D. program and both AUD 629 and CAHC 525 OR REHB 605X with a grade of B- or better, 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. CRQ: AUD 678, 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: AUD 677 with a grade of B- or better, 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. INTRODUCTION TO THE EVALUATION AND TREATMENT OF BALANCE DISORDERS (3). Anatomy, physiology, and neurology of balance; introduction to instrumentation and procedures involved in the evaluation of balance function. PRQ: AUD 627 with a grade of B- or better, or consent of the school.

681. ADVANCED EVALUATION AND TREATMENT OF BALANCE DISORDERS (3). A concentrated study in advanced balance assessment techniques, in addition to the pathologies that affect the peripheral and central vestibular system and available rehabilitative options. PRQ: AUD 680 with a grade of B- or better, or consent of school.

683. CLINICAL OBSERVATION IN AUDIOLOGY (1). Observation and discussion of diagnostic and rehabilitative audiological procedures. May be repeated to a maximum of 2 semester hours. S/U grading. PRQ: Admission to the Au.D. program or consent of the school.

684. INTRODUCTION TO CLERKSHIP IN AUDIOLOGY (1). Observation, practice and discussion of diagnostic and rehabilitative audiological procedures for adults. May be repeated to a maximum of 2 semester hours. PRQ: AUD 683 with a grade of S, AUD 629 and AUD 677 with a grade of B- or better; or consent of school.

685. CLINICAL CLERKSHIP IN AUDIOLOGY (1). Observation, practice, and discussion of diagnostic and rehabilitative audiological procedures for adults and children. May be repeated over three terms; may be repeated to a maximum of 4 semester hours. PRQ: AUD 678 and AUD 684 with a grade of B- or better; or consent of school.

686. CLINICAL INTERNSHIP IN AUDIOLOGY (1). Advanced audiological practice including electrophysiological, balance, and auditory processing assessments, interdisciplinary staffings, group rehabilitation, and supervision. Must be repeated over three terms; may be repeated to a maximum of 4 semester hours. PRQ: AUD 679, AUD 681, and three terms of AUD 685 with a grade of B- or better; or consent of the school.

692. EXTERNAL ROTATION IN AUDIOLOGY (1). Advanced practicum in audiologic assessment and management in an external setting. May be repeated to a maximum of 4 semester hours. PRQ: Consent of school.

693. EXTERNSHIP IN AUDIOLOGY (3-9). Advanced practicum in audiologic assessment and management in an external setting. Must be repeated over three consecutive terms for a total of 21 semester hours. Good academic standing and fulfillment of clinical/practicum requirements are required for enrollment in this course. PRQ: 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: AUD 627 with B- or higher, 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: Both AUD 625 and AUD 629 with a grade of B- or higher, or consent of school.

730. ADVANCED TOPICS IN AUDIOLOGY (3). Discussion of advanced topics in audiology, such as application of evidence-based amplification strategies for special populations, critical evaluation and appropriate implementation of new technologies to improve patient care, and maintenance and establishment of relationships with external programs. PRQ: AUD 729 with a grade of B- or better, or consent of school.

773. SEMINAR IN AUDIOLOGY (1-3). 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.

775. COCHLEAR IMPLANTS (3). Assessment of cochlear implant candidacy, surgical procedures, programming of processors, management, and validation of patient benefit. Educational options, as well as patient advocacy, will be discussed. PRQ: A grade of B- or better in all of the following courses: AUD 627, AUD 629, AUD 679, and AUD 729; or consent of school.

779. ADVANCED ELECTROPHYSIOLOGIC ASSESSMENT OF THE AUDITORY SYSTEM (4). 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: AUD 679 with a grade of B- or better, or consent of school.

780. MEDICAL AUDIOLOGY (3). Study of audiological assessment and habilitation/rehabilitation of hearing loss arising from medical and environmental etiologies. Focus on the most common causes and medical treatments across the lifespan. PRQ: Both AUD 680 and AUD 727 with a grade of B- or better, or consent of school.

798. Au.D. RESEARCH (1-3). May be repeated to a maximum of 9 semester hours. PRQ: Admission to the Au.D. program, and consent of school.

### Communicative Disorders (COMD)

601. PRINCIPLES OF ASSESSMENT IN COMMUNICATIVE DISORDERS (3). Application of measurement concepts and problem solving skills within various models of assessment in the field of communicative disorders. General principles and specific procedures for the evaluation of diverse populations within the field of communicative disorders will be targeted through clinical case studies. PRQ: Admission to speech-language pathology graduate program or consent of school.

602. MOTOR SPEECH DISORDERS: ASSESSMENT AND TREATMENT (3). Identification of and intervention for disorders of the oral-motor system affecting feeding and speech. Topics include motor development identification of problems within the motor system, treatment strategies, transdisciplinary roles of the speech-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 intellectual disabilities. Topics include models of intervention for individuals with autism, intellectual disabilities, developmental delay, and infants and toddlers at risk for developmental disorders. Additional topics may include communication programming for children with syndromes, traumatic brain injury, multiple disabilities, and selective mutism. PRQ: Admission to speech-language pathology graduate program or consent of school.

605. FUNDAMENTALS OF AUGMENTATIVE AND ALTERNATIVE COMMUNICATION IN SPEECH-LANGUAGE PATHOLOGY (3). Foundations of Augmentative and Alternative Communication (AAC) systems for individuals with complex communication needs and the role of the speech-language pathologist in assessment, design, and implementation of AAC systems across practice settings. PRQ: Admission to the 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.
608. SPEECH-LANGUAGE PATHOLOGIST'S ROLE IN DEVELOPING READING AND WRITING SKILLS IN EXCEPTIONAL CHILDREN (3). Evidence-based practices used to remediate language based reading/writing disorders in speech-language pathology. Including theoretical principles underlying reading methods and reading content for exceptional children. Focus on methods of differentiated instruction, diversity of individualized patterns of development across exceptional children, foundational skills and environmental supports necessary for language based reading/writing competency. PRQ: Consent of school.
610. MULTICULTURAL ASPECTS OF SPEECH-LANGUAGE PATHOLOGY (3). Exploration and discussion of the impact of cultural and linguistic diversity on the assessment and treatment of communication disorders through ethnographic interviews and the design of culturally and linguistically appropriate assessment and intervention strategies.
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. SPEECH SOUND DISORDERS (3). Selected topics in the acquisition, assessment, and treatment of speech sound 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.
673. INSTRUMENTATION FOR VOICE ANALYSIS (3). Familiarization with the armamentarium of voice measures in relation to voice physiology and other measures. Lecture and experiential format explores theory, purpose, advantages and disadvantages of selected measures and develops solid technique in the extraction of voice measures and interpretation of results. PRQ: Admission to speech-language pathology graduate program or consent of school and COMD 670 and COMD 684.
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.
680. MEDICAL ASPECTS OF SPEECH-LANGUAGE PATHOLOGY (3). Roles, responsibilities, and background knowledge for speech-language pathologists in the medical arena with patients spanning a range of diagnoses and settings. Topics include assessment and intervention models in the continuum of medical settings, medical bioethics, pharmacology, terminology, documentation, and current professional issues. PRQ: Admission to speech-language pathology graduate program or consent of school and COMD 674.
684. SWALLOWING DISORDERS (3). Study of the anatomic and physiologic systems involved in normal swallowing and swallowing disorders (dysphagia) in adults and children. Emphasis on the role of the speech-language pathologist in the areas of assessment and treatment of dysphagia, and as a team member in the areas of dysphagia related counseling, ethical and quality of life issues. 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 8 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.
690. INTERMEDIATE SPEECH-LANGUAGE PRACTICUM: EXTERNAL (1-3). Assessment and intervention field experience. May be repeated to a maximum of 6 semester hours. PRQ: COMD 687 or consent of school.
691. ADVANCED PRACTICUM: EDUCATIONAL SPEECH LANGUAGE PATHOLOGY (1-12). Assessment and intervention experience in speech-language services with students 3-21 years of age in the school setting. May be repeated to a maximum of 12 semester hours with a grading system of A through F. 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 with a grading system of A through F. Good academic standing required for enrollment in this course. PRQ: Admission to speech-language pathology graduate program, COMD 687, and consent of school.
699. MASTER'S THESIS (1-6). May be repeated to a maximum of 6 semester hours. S/U and IP grading may be used. PRQ: Consent of the student's adviser.
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.
773. ADVANCED PROFESSIONAL ISSUES IN SPEECH-LANGUAGE PATHOLOGY (1). Principles of advanced practice including ethics, confidentiality, patient/consumer rights, universal precautions, clinical decision making, report writing, and record keeping. May be repeated up to 3 hours. PRQ: Admission to the 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. S/U grading may be used. 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)

601. INTRODUCTION TO PHYSICAL THERAPY PRACTICE (2). Expected roles and diverse skill sets of a physical therapist as a life-long learner, evidence-based clinician, and member of an interdisciplinary health care team. Emphasis on system-based clinical reasoning and decision-making, patient-focused care across the life-span, learning strategies, professional communication, and cultural competence. PRQ: Consent of school.

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 ASPECTS OF PHYSICAL THERAPY (3). Impact of chronic illness and 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. Strategies for delivering care in a culturally competent manner are discussed. PRQ: Consent of school.

604. MOVEMENT SYSTEMS IN PHYSICAL THERAPY (2). Integration of movement systems including cardiovascular, pulmonary, endocrine, integumentary, nervous, and musculoskeletal. Topics include human kinetics, human kinematics, and human biomechanics as it relates to human movement concepts in physical therapy. CRQ: AHPT 610. PRQ: Consent of school.

608. PHYSICAL THERAPY: 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. RESEARCH METHODS IN PHYSICAL THERAPY (3). Application of research concepts in the design of a clinical research study. PRQ: Consent of school.

610. FOUNDATIONS OF PHYSICAL THERAPY I (2). Development of skill in physical therapy evaluation procedures, including palpation techniques and examination techniques for the assessment of strength, range of motion, and flexibility. CRQ: AHPT 604. PRQ: Consent of school.

611. FOUNDATIONS OF PHYSICAL THERAPY II (2). 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 (2). Physical therapy management approaches and examination techniques. Topics include screening examinations, standardized assessments, transfer training, basic wheelchair fitting, and gait training using assistive devices. PRQ: Consent of school.

613. FOUNDATIONS OF PHYSICAL THERAPY IV (2). 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 using decision-making models to evaluate and create evidence-based prescriptive plans in the treatment of individuals with and without movement disorders. 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.

619. INTERNAL CLINICAL EXPERIENCE I (1). Practical experiences in a supervised clinical setting in the on campus Physical Therapy Clinic. Examination, evaluation, treatment, and discharge of patients under the supervision of a faculty member. Exposure to case management, evidence-based practice, and the delivery of physical therapy services.

620. TOPICS IN CLINICAL EDUCATION (1). Introduction to the roles and responsibilities of healthcare professionals in various settings across the continuum of clinical education. Course will include experiential engagement in professional and interdisciplinary collaboration in physical therapy. Students may repeat up to 2 credits. PRQ: Consent of school.

621. INTERNAL 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. Students may repeat up to 2 credits. PRQ: Consent of school.

622. EXTERNAL EXPERIENCE I (3). 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.

623. INTERNAL CLINICAL EXPERIENCE III (1). Practical experience in the on-campus Physical Therapy Clinic. Examination, evaluation, treatment, and discharge of patients with increasing independence. Case management, evidence-based practice and delivery of physical therapy services. PRQ: AHPT 619 and AHPT 621, or consent of department.

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 (3). Physical therapy examination, evaluation, and treatment of individuals with musculoskeletal dysfunction of the extremities. Emphasis on clinical decision making using evidence-based practice. PRQ: Consent of school.

641. PHYSICAL THERAPY MANAGEMENT OF COMPLEX MUSCULOSKELETAL DISORDERS (4). Physical therapy examination, evaluation, and treatment of individuals with dysfunction of the spine. Emphasis on clinical decision making using evidence-based practice. PRQ: Consent of school.

642. DIFFERENTIAL DIAGNOSIS IN PHYSICAL THERAPY (3). Exploration into screening, physical therapy diagnosis and medical management of patients throughout the life span. Basic issues and concepts in human physiology, anatomy, pathology, and pharmacology will be applied to evidence-based practice. 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 (5). 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

657 PEDIATRIC PHYSICAL THERAPY (3). 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. EXTERNAL EXPERIENCE II (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.

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. INTERNAL CLINICAL EXPERIENCE IV (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. PRQ: Consent of school.

702. PHYSICAL THERAPY MANAGEMENT OF AGING AND COMPLEX PATIENTS (3). Examination, evaluation and treatment of individuals with movement dysfunction secondary to aging and more complex medical problems. Topics include differential diagnosis, clinical decision-making, and evidence-based practice. PRQ: Consent of school.

703 ORTHOTICS AND PROSTHETICS IN PHYSICAL THERAPY (3). 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. APPLIED RESEARCH METHODS IN PHYSICAL THERAPY I (1-2). Application of research concepts in the design of a clinical research study. May be repeated up to 4 semester hours. 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.

730. DIAGNOSTIC IMAGING FOR PHYSICAL THERAPISTS (3). Application of diagnostic imaging skills in physical therapy evaluation procedures. PRQ: Consent of department.

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. S/U grading may be used. PRQ: Consent of school.

760. EXTERNAL EXPERIENCE III (5).

- 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. EXTERNAL EXPERIENCE IV (5).

- 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.

799. APPLIED RESEARCH METHODS IN PHYSICAL THERAPY II (1-3). Continued implementation of a clinical research project under faculty guidance. Opportunities for exploration into specific areas of interest and integration of evidence-based practice concepts. Integration of research principles culminating in the completion of a scholarly paper and oral presentation under faculty guidance. May be repeated up to 4 semester hours. PRQ: AHPT 709 and consent of school.

# School of Family and Consumer Sciences (GERO, HDFS)

Chair: Thomas Pavkov

## Graduate Faculty

Susan P. Bowers, associate professor, Ph.D., Ohio State University  
 Sarah L. Cosbey, associate professor, Ph.D., Iowa State University  
 Shi-Ruei Sherry Fang, professor, Ph.D., Michigan State University  
 Nicholas Hryhorczuk, assistant professor, Ph.D., University of Illinois at Urbana-Champaign  
 Hyun-Mee Joung, associate professor, Ph.D., Iowa State University  
 J. Mark Killmer, clinical assistant professor, Psy. D., Graduate Theological Foundation  
 Lan Li, professor, Ph.D., Virginia Polytechnic Institute and State University  
 Xiaohui (Sophie) Li, assistant professor, Ph.D., University of Minnesota, Twin Cities  
 Amy Lofthouse, supportive professional staff M.S., Northern Illinois University  
 Bette Montgomery, associate professor, Ph.D., University of Wisconsin  
 Eunha Myung, professor, Ph.D., University of Nevada-Las Vegas  
 Jane Rose Njue, associate professor, Ph.D., Iowa State University  
 Thomas Pavkov, professor, Ph.D., Northwestern University  
 Lin Shi, professor, Ph.D., Texas Tech University  
 D. Scott Sibley, assistant professor, Ph.D., Kansas State University  
 Florensia Flora Surjadi, assistant professor, Ph.D., Iowa State University  
 Charline Xie, professor, Ph.D., University of Nebraska at Lincoln

The School of Family and Consumer Sciences offers a graduate program leading to the M.S. degree in applied human development and family sciences (with the option of a specializations in marriage and family therapy or leadership in aging studies). 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 and Consumer 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 human development and family sciences 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 and consumer sciences should confer with the graduate adviser.

## 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. The Graduate Student Handbook contains additional policies related to dismissal from the program.

## Comprehensive Examination

Students in choosing a non-thesis option will fulfill the comprehensive examination requirement by successfully completing a proctored essay examination or an oral examination, depending upon the academic program. Students either choosing the thesis option or who are in a program with a required thesis 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 Human Development and Family Sciences  
 with or without specialization in  
 Leadership in Aging Studies  
 Marriage and Family Therapy

## Certificates of Graduate Study

Family and Child Development  
 Gerontology  
 Leadership in Aging Studies

## Post Master's Certificates

Medical Family Therapy and Counseling

## Master of Science in Applied Human Development and Family Sciences

This major provides professional career enhancement for advanced graduate work and research, 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 and leadership in aging studies.

The student learning outcomes for this degree are located at <http://www.niu.edu/assessment/clearinghouse/outcomes/index.shtml>.

## 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 human development and family sciences, 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 applied human development and family sciences 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 human development and family sciences 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 human development and family sciences 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.

### Thesis Option Requirements

Students choosing the thesis option must take a total of 6 semester hours of HDFS 699A, and must be continually enrolled for at least one (1) credit hour for every semester once they begin their thesis study. Students choosing the thesis option complete the requirement through the successful oral thesis defense and acceptance of the thesis by the Graduate School. Students must be enrolled for thesis hours during the semester(s) during which they defend and submit their thesis to the Graduate School.

### Non-Thesis Option Requirements: Comprehensive Examination

Students choosing a non-thesis option will fulfill the comprehensive examination requirement by successfully completing a proctored essay examination. Students must be enrolled in the term in which the comprehensive examination is taken.

### 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)
- HDFS 601 - Seminar in Human Development and Family Studies (3)
- HDFS 604 - Research Methods (3)
- Course work from the following (3-12)
  - HDFS 631 - Internship in Community Programs: Child Development (3)  
See "Special Requirements for HDFS 631" below.
  - HDFS 632 - Internship in Community Programs: Family Social Services (3)  
See "Special Requirements for HDFS 632" below.
  - HDFS 638 - Internship in Community Programs: Parent Education (3)  
See "Special Requirements for HDFS 638" below.
  - HDFS 639 - Practicum: Family Therapy (12)  
(Enrollment limited to students admitted to the specialization in marriage and family therapy)
  - HDFS 699A - Thesis (6)
  - HDFS 710 - Teaching College-Level Applied Human Development and Family 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)
  - HDFS 532 - Theories of Child Development (3)
  - HDFS 533 - Introduction to Child Life Theory and Practice (3)
  - HDFS 534 - Administration and Supervision of Quality Programs for Young Children from Diverse Backgrounds (3)
  - HDFS 537 - Parent-Child Interaction From Birth to Eight Years (3)
  - HDFS 538 - Parent Education (3)
  - HDFS 539 - Infant Development in the Family: Typical and Atypical (3)
  - HDFS 540 - Therapeutic Play (3)
  - HDFS 545 - Management of Human and Family Resources (3)
  - HDFS 577 - Domestic Violence and Trauma in the Family (3)
  - HDFS 582 - Child Abuse and Neglect (3)
  - HDFS 583 - Social Policy, Children and Families (3)
  - HDFS 584 - Family Theories (3)
  - HDFS 585 - Methodology in Family Life Education
  - HDFS 586 - Aging and the Family (3)
  - HDFS 588 - Working with Ethnically Diverse Children and Families in the United States (3)
  - HDFS 589 - Topical Issues in Human Development and Family Sciences (3)
  - HDFS 635 - Behavior Assessment of the Infant and Young Child (3)
  - HDFS 637 - The Child in the Family (3)
  - HDFS 684 - The Family with Adolescents (3)
  - HDFS 685 - Family Stress and Structural Diversity (3)
  - HDFS 689 - Readings in Human Development and Family Sciences (3)
  - HDFS 784 - Theoretical Foundations of Family Therapy (3)
  - PHHE 510 - Coping with Death, Dying, and Loss (3)
- Additional courses with approval of the adviser (6)

### Special Requirements for HDFS 631

Prerequisites for enrollment in the child development internship in community programs (HDFS 631) are (1) completion of a minimum of 9 graduate semester hours in applied human development and family sciences; (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 (HDFS 590), both guidance and planning courses (HDFS 330 and HDFS 331/HDFS 331A), a parent-child interaction course (HDFS 537), and an early childhood professional programs course (HDFS 534); (3) HDFS 637; (4) provide written proof of a fingerprint-based criminal background check in compliance with DCFS' policies; (5) proof of Illinois Network of Childcare Resource and Referral Agencies' Gateway Registry; and (6) consent of school.

### Special Requirements for HDFS 632

Prerequisites for enrollment in the family services internship in community programs (HDFS 632) are (1) completion of a minimum of 9 graduate semester hours in applied human development and family sciences; (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 (HDFS 382 or CAHC 540), and (c) a professional issues class (HDFS 581 or HDFS 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 HDFS 638

Prerequisites for enrollment in the parent education internship (HDFS 638) are (1) undergraduate course work in child or adolescent development, including principles of guidance (HDFS 330 or equivalent) and course content in ethics (HDFS 534, HDFS 581, HDFS 692, or equivalent); (2) completion of a minimum of 9 graduate semester hours in applied human development and family sciences, including HDFS 538 and one other content course related to the focus of the practicum; (3) completion of or co-enrollment in HDFS 637 or HDFS 684; and (4) consent of school.

### Specialization in Leadership in Aging Studies (33)

The specialization in leadership in aging studies is intended for those interested in pursuing leadership positions in aging, including, but not limited to, long-term care, social services, service management, and research and evaluation. The program is designed to meet competencies outlined by the Association for Gerontology in Higher Education as well as the needs of those intending to sit for the Illinois Nursing Home Administrator's License. The foundation for the program is the systemic study of the development of individuals and families within an ecological and global framework. Note: The Illinois Nursing Home Administrators License also has specific experience requirements. See state of Illinois codes for further details.

#### Application Process

Students are admitted for the fall and spring semester each academic year. Preferred deadlines for application are March 1st (for summer/fall admission) or September 1st (for spring admission). The following documents are to be submitted:

- Completed application for admission to the NIU Graduate School (select Master of Science Applied Human Development and Family Sciences)

- Official transcripts from all undergraduate and graduate institutions to the NIU Graduate School

- GRE scores to the NIU Graduate School

- A personal/goals statement to the NIU Graduate School

- Two letters of recommendation to the NIU Graduate School

#### 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 6 semester hours of undergraduate courses in family relations and lifespan development or an equivalent course. A student may be required to remove deficiencies in the area of family relations and lifespan development by successfully completing designated courses. These deficiency courses should be completed during the first semester after admission to the specialization. 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.

A baccalaureate degree from an accredited institution is required prior to formal admission to the AHDFS program. All applicants must first be admitted to the Graduate School at NIU. Applicants must provide evidence of academic competence by a combination of GRE scores, undergraduate GPA, or the equivalent. Students applying for and admitted to the specialization in leadership in aging studies must also meet the requirements for admission and retention in the master of science in applied human development and family sciences.

#### Special Requirements for Field Work in Gerontology

Prior to supervised field work, a criminal background check is required and other items may be requested by the external site. The leadership in aging studies program may not be able to place students in supervised field work if they have a criminal record or positive drug screen results.

#### Thesis Option Requirements

Students choosing the thesis option must take a total of 6 semester hours of HDFS 699A, and must be continually enrolled for at least one (1) semester hour for every semester once they begin their thesis study. Students choosing the thesis option complete the requirement through the successful oral thesis defense and acceptance of the

thesis by the Graduate School. Students must be enrolled for thesis hours during the semester(s) during which they defend and submit their thesis to the Graduate School.

#### Non-Thesis Option Requirements: Comprehensive Examination

Students choosing a non-thesis option will fulfill the comprehensive examination requirement by successfully completing a proctored essay examination. Students choosing the thesis option 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 semester in which the comprehensive examination is taken.

#### Students must complete the following required courses:

##### Required (33)

- ETR 521 - Educational Statistics I (3)

- OR ETR 522 - Educational Statistics II (3)

- OR BIOS 670 - Biostatistical Analysis (3)

- OR PYSC 604 - Analysis of Variance and Hypothesis Testing in Psychological Research (3)

- GERO 568<sup>2</sup> - Leadership in Aging Services (3)

- HDFS 565<sup>1,2</sup> - Theories and Issues in Aging Studies (3)

- HDFS 600 - Seminar: Contemporary Issues in Human Development and Family Sciences (3)

- HDFS 601<sup>1</sup> - Seminar in Human Development and Family Studies (3)

- HDFS 604 - Research Methods (3)

- PHHE 533<sup>2</sup> - Principles of Long-Term Care Administration (3)

- PHHE 653<sup>2</sup> - Financial Decision Making for Health Services Managers (3)

- Three of the following (9)

- GERO 567 - Fieldwork in Gerontology (3)

- HDFS 586 - Aging and the Family (3)

- HDFS 685 - Family Stress and Structural Diversity (3)

- PHHE 510 - Coping with Death, Dying, and Loss (3)

- Additional course work may be taken from the following:

- HDFS 632 - Internship in Community Programs-Family Social Services (3)

- HDFS 710 - Teaching College-Level Human Development and Family Sciences (1-3)

### 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 and clinical experience working with couples, families, and individuals under the supervision by Approved Supervisors of the American Association for Marriage and Family Therapy (AAMFT), students 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 social service settings.

Upon graduation, students have completed all requirements for a state associate marriage and family therapy license and for association membership in AAMFT. SMFT students graduate with a Master of Science in Applied Human Development and Family Sciences with a Specialization in Marriage and Family Therapy. Additional information about the specialization may be found on the FACS website.

#### Application Process

The specialization in marriage and family therapy admits a limited number of students once a year in the spring semester. Accepted applicants begin the program in the following fall semester. The priority deadline for applications is January 15. Late applications will be considered if space is available. Applications for the specialization in marriage and family therapy are completed on-line through the Graduate School. The following documents are submitted to the Graduate School:

<sup>1</sup>HDFS 601 and HDFS 565 should be completed in the first year of enrollment in the specialization.

<sup>2</sup>Course work required to sit for the examination to be licensed as a Nursing Home Administration in Illinois and includes satisfactory completion of an undergraduate course work in accounting

Completed application

Unofficial transcripts from all undergraduate and graduate institutions

GRE Scores

Statement of Purpose

Three letters of recommendation

Current resume/curriculum vita

Guidelines for the Statement of Purpose are provided on the website for applicants.

### Admission

After a review of the applications, qualified candidates are invited to an interview day in February. Under extraordinary circumstances, faculty may conduct a long-distance interview with a candidate. Admission decisions are made following the interview process. Students are accepted into the graduate major in Applied Human Development and Family Sciences. Graduates of the program receive a Master of Science in Applied Human Development and Family Science with a Specialization in Marriage and Family Therapy.

Students admitted to this graduate major are required to have 9 undergraduate semester hours in human development and family sciences including a course in:

Child or Lifespan Development

Family Relations

Family Theories or Child Development Theories (Upper Division)

Upon acceptance, the coordinator of Human Development and Family Sciences will notify candidates if there is a deficiency with the three required courses. Students are required to complete deficiency courses with a B or better by the end of their first semester in the SMFT Program. Failure to do so may result in removal from the program. Deficient courses may be taken at NIU or another institution.

### Special Requirements for Practicum

A fingerprint-based criminal background check, as defined by the Specialization in Marriage and Family Therapy, is required prior to starting practicum. The Specialization in Marriage & Family Therapy faculty may be unable to allow a student to begin practicum if he or she has a criminal record. Therefore, the student may not be able to complete the Specialization in Marriage and Family Therapy.

### Thesis Option Requirements

Students choosing the thesis option must take a total of 6 semester hours of HDFS 699A, and must be continually enrolled for at least one (1) credit hour for every semester once they begin their thesis study. Students choosing the thesis option complete the requirement through the successful oral thesis defense and acceptance of the thesis by the Graduate School. Students must be enrolled for thesis hours during the semester(s) during which they defend and submit their thesis to the Graduate School.

### Non-Thesis Option Requirements: Comprehensive Examination

Students choosing a non-thesis option will fulfill the comprehensive examination requirement by successfully completing a proctored essay examination. Students must be enrolled in the term in which the comprehensive examination is taken.

### 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)
- HDFS 601 - Seminar in Human Development and Family Studies (3)
- HDFS 604X - Research Methods (3)
- HDFS 633 - Internship in Community Agencies: Marriage and Family Therapy (3)
- HDFS 639 - Practicum: Family Therapy (12)
- HDFS 691 - Assessment in Marriage and Family Therapy (3)
- HDFS 692 - Professional Issues in Family Therapy (3)
- HDFS 693 - Addiction and Substance Abuse in Marriage and Family Therapy (3)
- HDFS 694 - Marriage and Family Therapy Strategies: Treatment of Children and Adolescents (3)
- HDFS 695 - Approaches to Marriage and Family Therapy (3)
- HDFS 697 - Marriage and Family Therapy Strategies: Treatment of Couples (3)
- HDFS 784 - Theoretical Foundations of Family Therapy (3)
- HDFS 785 - Sex Therapy (3)
- Two of the following (6)
  - HDFS 538 - Parent Education (3)
  - HDFS 582 - Child Abuse and Neglect (3)
  - HDFS 583 - Social Policy, Children and Families (3)
  - HDFS 584 - Family Theories (3)
  - HDFS 586 - Aging and the Family (3)
  - HDFS 588 - Working with Ethnically Diverse Children and Families in the United States (3)
  - HDFS 589 - Topical Issues in Human Development and Family Sciences (3)
  - HDFS 637 - The Child in the Family (3)
  - HDFS 684 - The Family with Adolescents (3)
  - HDFS 685 - Family Stress and Structural Diversity (3)
  - HDFS 689 - Readings in Topical Issues in Human Development and Family Sciences (3)
  - HDFS 705 - Introduction to Medical Family Therapy and Counseling (3)
  - PHHE 506 - Dimensions of Human Sexuality (3)

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.

### Certificates of Graduate Study

#### Family and Child Development (15)

The Certificate in Family and Child Development is intended for individuals who are working in the field, but who lack specific knowledge about family dynamics and human development, such as professionals employed by social-service agencies, juvenile justice facilities, child welfare programs, educational institutions, or medical fields. It is also intended for students enrolled in graduate degree programs and those in related fields who need to meet continuing education requirements or desire additional academic preparation. This certificate program may be completed online.

Admission to the Graduate School is a prerequisite to admission to the Certificate in Family and Child Development. Students wishing to apply to the Family and Child Development Certificate must possess a baccalaureate degree from an accredited institution.

A minimum of 15 credits are required for the completion of the Graduate Certificate in Family and Child Studies. The curriculum is comprised of 9 credit hours of required course work and 6 additional credits of elective courses. Students must maintain a cumulative minimum 3.00 GPA in all course work to continue in the certificate program.

A student pursuing the certificate program is expected to have a minimum of 6 semester hours of undergraduate course work in human development and family sciences, or the equivalent, including a course in marriage and family relations (3 semester hours) and one course in child or lifespan development (3 semester hours). If deficient, the deficiency courses should be completed during the first semester after admission to the certificate program. The deficiency courses must be met with a grade of B or better.

Admission to the certificate program requires approval of the Family and Child Development Certificate Admissions Committee. Procedures for admission to this certificate and other detailed information are available from the School of Family and Consumer Sciences office. Application deadlines coincide with Graduate School deadlines.

### Required Core (9)

- HDFS 532 - Theories of Child Development (3)  
OR HDFS 584<sup>1</sup> - Family Theories (3)
- HDFS 637 - The Child in the Family (3)  
OR HDFS 684<sup>1</sup> - The Family with Adolescents (3)
- HDFS 685 - Family Stress and Structural Diversity (3)

### Additional Requirements (6)

- Two of the following content courses (6)
  - HDFS 545 - Management of Human and Family Resources (3)
  - HDFS 582 - Child Abuse and Neglect (3)
  - HDFS 583 - Social Policy, Children and Families (3)
  - HDFS 588 - Working with Ethnically Diverse Children and Families in the United States (3)
  - HDFS 784 - Theoretical Foundations of Family Therapy (3)

### 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. This certificate is open to any NIU graduate student or graduate student-at-large in good academic standing in the university. A student wishing to pursue this certificate should consult with their program advisor or School of Family and Consumer Sciences program faculty.

### Core Requirements (9)

- GERO 567 - Fieldwork in Gerontology (3)
- HDFS 565 - Theories and Issues in Aging Studies (3)
- HSCI 560 - Research Methods 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)
- HESA 590<sup>2</sup> - Workshop in Higher Education and Student Affairs (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)
- GERO 566 - Topics in Gerontology (3)
- GERO 567 - Fieldwork in Gerontology (3)
- HDFS 586 - Aging and the Family (3)
- KNPE 554 - Exercise Gerontology (3)
- KNPE 555 - Clinical Experience in Exercise Gerontology (3)

- NUTR 612 - Geriatric Nutrition (3)
- PHHE 510 - Coping with Death, Dying, and Loss (3)
- PHHE 533 - Principles of Long-Term Care Administration (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)
- UHHS 501 - Independent Study in Health and Human Sciences (3-6)

### Leadership in Aging Services (18)

This interdisciplinary certificate prepares students for leadership positions within the senior housing and healthcare industry, including long-term care administration. With satisfactory completion of undergraduate course work in accounting and these courses related to laws and regulations concerning long term care, the aging process, and administrative and financial aspects of operation, students meet course work requirements for the examination required to be licensed as a Nursing Home Administration in Illinois. This certificate is open to any NIU graduate student or graduate student-at-large in good academic standing in the university. A student wishing to pursue this certificate should consult with their program advisor or School of Family and Consumer Sciences program faculty.

### Primary Content Area (12)

- GERO 568 - Leadership in Aging Services (3)
- HDFS 565 - Theories and Issues in Aging Studies (3)
- PHHE 533 - Principles of Long-Term Care Administration (3)
- PHHE 653 - Financial Decision Making for Health Services Managers (3)

### Choose two of the following: (6)

- GERO 567 - Fieldwork in Gerontology (3)
- HDFS 586 - Aging and the Family (3)
- PHHE 510 - Coping with Death, Dying, and Loss (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.

### Course List

#### Human Development and Family Sciences (HDFS)

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.

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: 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.

<sup>1</sup>Or additional courses with approval of the adviser.

<sup>2</sup>When topic is appropriate, and with the approval of the director.

533. INTRODUCTION TO CHILD LIFE THEORY AND PRACTICE (3). Educate and prepare students for working with pediatric patients and families in the healthcare setting. Through reviewing the theoretical framework and exploring the clinical role of the Child Life practice, students will gain knowledge of the importance of play and preparation for the child and family in the healthcare setting. PRQ: 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 human development and family sciences or consent of school.

540. THERAPEUTIC PLAY (3). The meaning of play will be explored across cultures and contexts. Exploration of play theories, principles of play therapy, and various play modalities for the clinical setting. The functions of play therapy will be covered including: developmentally supportive play, normalization of atypical experiences, and supporting parent-child relationships. PRQ: 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.

565. THEORIES AND ISSUES IN AGING STUDIES (3). An Advanced interdisciplinary examination of aging and the older adult population. Biological, psychological, social, health and educational aspects of aging; theoretical and programmatic perspectives. PRQ: Consent of program.

577. DOMESTIC VIOLENCE AND TRAUMA IN THE FAMILY (3). Overview of violence and maltreatment in intimate relationships across the lifespan including the impact on the family, and consequences for children and their future relationships. The history and societal response to violence and maltreatment in intimate relationships. PRQ: Six semester hours in HDF5 courses, or 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.

582. CHILD ABUSE AND NEGLECT (3). Overview of child maltreatment, neglect, and family violence. Consequences of child maltreatment for child development. Summary of laws regarding child maltreatment. The professional's role in prevention, intervention, and mandated reporting. PRQ: At least 6 semester hours in human development and family sciences or consent of school.

583. SOCIAL POLICY, CHILDREN AND FAMILIES (3). Impact of social policy on children and families with a focus on the U.S. Roles and responsibilities of family professionals regarding policy that affects families. Application to current issues. PRQ: At least 6 semester hours in human development and family sciences or consent of school.

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.

585. METHODOLOGY IN FAMILY LIFE EDUCATION (3). Methodology for aspiring family life educators. History of the profession and practice of Family Life Education to enable effective development, implementation, and evaluation of Family Life Education programs in a variety of community settings. PRQ: 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 human development and family sciences 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 human development and family sciences or consent of school.

589. TOPICAL ISSUES IN HUMAN DEVELOPMENT AND FAMILY SCIENCES (3). Selected topics affecting child development and family life. May be repeated to a maximum of 6 semester hours when topic changes. PRQ: At least 6 semester hours in human development and family sciences 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 HDF5 631 and/or HDF5 590.

600. SEMINAR: CONTEMPORARY ISSUES IN APPLIED HUMAN DEVELOPMENT AND FAMILY SCIENCES (1-12). Readings and reports in the applied human development and family sciences. May be repeated to a maximum of 12 semester hours when topic changes. PRQ: 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 human development and family sciences course work.

604. RESEARCH METHODS (3). *Crosslisted as NUTR 604X*. Study of the research process including the interplay of theory, research design, data collection, and analysis. Development of a research proposal required.

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 HDF5 631.

632. INTERNSHIP IN COMMUNITY PROGRAMS: FAMILY SOCIAL 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 HDF5 632.

633. INTERNSHIP IN COMMUNITY AGENCIES: MARRIAGE AND FAMILY THERAPY (1-6). May be repeated to a maximum of 6 semester hours. Restricted to students admitted to the Specialization in Marriage and Family Therapy. S/U grading. CRQ: HDF5 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 HDFS 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.
650. WORKSHOP IN APPLIED HUMAN DEVELOPMENT AND FAMILY 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.
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 Human Development and Family Sciences 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: HDFS 601 or consent of school.
689. READINGS IN HUMAN DEVELOPMENT AND FAMILY SCIENCES (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 human development and family sciences 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.
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: HDFS 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: HDFS 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: HDFS 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: HDFS 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: HDFS 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: HDFS 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 APPLIED HUMAN DEVELOPMENT AND FAMILY 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: HDFS 705 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: HDFS 705 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: HDFS 707X or consent of school. CRQ: HDFS 709X.

## 180 FAMILY AND CONSUMER SCIENCES

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: HDFS 707X and consent of school. CRQ: HDFS 708X.

710. TEACHING COLLEGE-LEVEL APPLIED HUMAN DEVELOPMENT AND FAMILY, 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: HDFS 709X 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.

785. SEX THERAPY (3). Basic knowledge, theory and interventions of sex therapy with diverse couples and individuals. Diagnosis, assessment, conceptualization and treatment of sexual issues and dysfunctions. PRQ: Consent of school.

### **Gerontology (GERO)**

566. TOPICS IN GERONTOLOGY (3). Exploration of current topics in the study of health and aging. Possible areas of coverage include: Bio-psychosocial 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: HDFS 565 or consent of program.

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: HDFS 565 or consent of program.

568. LEADERSHIP IN AGING SERVICES (3). Study of the administration of aging services emphasizing non-clinical leadership roles and personnel management. Focus on provision and oversight of quality services along the delivery continuum. Management and leadership topics, including personnel policy, pertinent to institutional and community needs. PRQ: HDFS 565 or consent of program.

# School of Health Studies (HLTH, NUTR, PHHE)

Interim Chair: James Ciesla

## Graduate Faculty

Sheila Barrett, associate professor, Ph.D., Florida International University  
 Carolinda Douglass, professor, Ph.D., RAND Graduate School of Policy Studies

Josephine Ebomoyi, assistant professor, Ph.D., University of Northern Colorado

Sarah Geiger, assistant professor, Ph.D., West Virginia University  
 Priyanka Ghosh Roy, assistant professor, Ph.D., The University of Georgia-Athens

Jennifer Gray, associate professor, Ph.D., University of Illinois, Chicago  
 Lynn Herrmann, associate professor, Ph.D., University of Illinois, Urbana-Champaign

Jeanne M. Isabel, associate professor, Ed.D., Northern Illinois University  
 Arlene Keddie, associate professor, Ph.D., University of Texas  
 Jinsook Kim, associate professor, Ph.D., University of California-Los Angeles

Judith Lukaszuk, professor, Ph.D., University of Pittsburgh  
 Kathryn Mazurek, assistant professor, Ph.D., University of Illinois  
 Henna Muzaffar, assistant professor, Ph.D., University of Illinois  
 Julie Patterson, assistant professor, Ph.D., University of Wisconsin, Madison

Tomoyuki Shibata, associate professor, Ph.D., University of Miami  
 Masih Shokrani, associate professor, Ph.D., Meharry Medical College  
 Josephine Umoren, associate professor, Ph.D., University of Nebraska,  
 Ping Yao, associate professor, Ph.D., University of Missouri, Columbia

The School of Health Studies offers programs of graduate study leading to the M.S. in nutrition and dietetics and a Master of Public Health (M.P.H.); and three certificates of graduate study eating disorders and obesity, health education, and public health.

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.

## Criminal Background Checks and Drug Screening

Students in the M.A.T. are required to undergo criminal background checks and drug screening. The M.A.T. specialization in health education may be unable to place students in a student teaching setting if they have a positive drug screen or criminal record; therefore, the student may not be able to complete the program of required courses.

## 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.

Applicants are required to have completed a Didactic Program in Dietetics (DPD). Post-baccalaureate students who do not have DPD verification may earn this credential by consulting with the NIU undergraduate DPD director to determine the required course work needed to fulfill DPD verification. To earn DPD verification through NIU, post-baccalaureate students must complete a minimum of 9 semester hours at NIU with a grade of B or better. Note that the post-baccalaureate students who complete DPD requirements at NIU may be eligible for a second bachelor of science degree. Consult with the College of Health and Human Sciences undergraduate academic adviser for degree requirements.

Students-at-large intending to take courses required by this program should meet with the nutrition and dietetics program coordinator.

The student learning outcomes for this degree are located at <http://www.niu.edu/assessment/clearinghouse/outcomes/index.shtml>.

## Admission

Applicants must have completed a Didactic Program in Dietetics (DPD) and have had courses in general chemistry, organic chemistry, biochemistry, microbiology or bacteriology, 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.

## 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 PHHE 605 - Biostatistics in Public Health (3),
  - OR BIOS 670 - Biostatistical Analysis (3)
- HLTH 600A - Seminar: Nutrition and Dietetics (3)
- NUTR 604X - Research Methods (3)
- NUTR 645 - Macronutrients (3)
- NUTR 646 - Micronutrients (3)
- One of the following (3)
  - NUTR 611 - Maternal and Child Nutrition (3)
  - NUTR 612 - Geriatric Nutrition (3)
  - NUTR 613 - Advanced Sports Nutrition (3)
  - NUTR 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)
  - NUTR 529 - Strategies for Modifying Nutrition Behaviors (3)
  - PHHE 603 - Behavioral and Social Aspects of Public Health (3)
  - PHHE 621 - Theories and Principles in Health Promotion (3)
  - PSYC 517 - Principles of Behavior Modification (3)

Two to three of the following (5-6)

- HDFS 526 - Strategic Management in the Hospitality Industry (3)
- NUTR 615 - Intensive Nutrition Support (3)
- NUTR 652 - Workshop in Dietetic Practice: Clinical Care Issues (1)
- NUTR 653 - Workshop in Dietetic Practice: Management Issues (1)
- PHHE 535 - Ethical Decision Making for Health Professionals (3)
- PHHE 601 - Introduction to Health Systems (3)
- PHHE 607 - Public Health and 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:

HLTH 699 - Master's 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 HLTH 698, 3 additional semester hours in HLTH 600A, and 3 additional semester hours in consultation with the assigned graduate program adviser. Students must also pass a comprehensive exam.

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 Accreditation Council for the Education of Nutrition and Dietetics (ACEND) 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 (CDR).

The combined M.S. and internship program involves six terms: two orientation terms comprised of course work only, and four terms comprised of both on-site supervised practice experience (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 ACEND. A grade point average of 3.00 or better in key DPD 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 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 through the online Dietetics Internship Centralized Application System (DICAS) of the Academy. Late applicants will be considered only if openings are available after computer matching.

### Requirements

In addition to the courses required for the M.S. in nutrition and dietetics, including NUTR 652 (1) and NUTR 653 (1), students electing the practicum must complete the following internship courses:

- NUTR 610 - Dietetic Internship: Life Cycle Nutrition (5)
- NUTR 617 - Internship: Food Systems Management (5)
- NUTR 618 - Internship: Introduction to Medical Nutrition Therapy (3)
- NUTR 619 - Internship: Community Nutrition (5)
- NUTR 624 - Internship: Medical Nutrition Therapy (8)
- NUTR 630 - Internship: Dietetic Internship: Professional Practice (3)

### Program Completion

When all requirements of both the M.S. degree and dietetic internship have been met, students will be issued the ACEND Verification Statement of dietetic internship completion.

### 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.

The student learning outcomes for this degree are located at <http://www.niu.edu/assessment/clearinghouse/outcomes/index.shtml>

### 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.

### Requirements for Accelerated B.S./M.P.H. Sequence

The accelerated sequence leads to both the B.S. in public health and M.P.H. degrees, and is available to all undergraduate public health majors who have:

- A declared major in Public Health
- Finished 92 credit hours of undergraduate designated coursework as approved by adviser
- Maintained a GPA of at least 3.00
- Completed all application requirements, including transcripts, letters of recommendation, statement of purpose, resume/ curriculum vitae.

Failure to meet requirements of the accelerated sequence may lead to a B.S. degree only, but only after all the requirements for that degree have been met.

Students must complete all the admission requirements for the Public Health B.S. accelerated degree as well as all general education requirements prior to the applicant's final undergraduate year and have earned at least 92 credit hours. Beginning with the first semester of their final undergraduate year, students will start taking classes in the M.P.H. program as well as completing final university requirements. Successful completion of year 4 courses will count towards the final 28 credits of the undergraduate degree.

Students are required to fulfill all requirements for the M.P.H. degree mentioned in the previous section in order to be awarded this degree.

### Grading Policy

M.P.H. students must earn a minimum grade of B- in each of the nine core courses (PHHE 601, PHHE 603, PHHE 605, PHHE 607, PHHE 609, PHHE 611, PHHE 613, PHHE 661, and PHHE 669) and in any required specialization courses (PHHE 621 and PHHE 631 for those specializing in Health Promotion, or PHHE 651, PHHE 653, and PHHE 655 for those specializing in Health Services Management).

### Non-Thesis Option

A total of 43-45 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 (3)  
 PHHE 603 - Behavioral and Social Aspects of Public Health (3)  
 PHHE 605 - Biostatistics in Public Health (3)  
 PHHE 607 - Public Health and 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 661 - Public Health Policy and Law (3)  
 PHHE 669 - Community Health Planning (3)  
 PHHE 695 - Internship in Public Health (3-5)  
 PHHE 698 - Master of Public Health Integrative Learning Experience (1-3)

### One of the following specializations with adviser's approval (12)

#### Specialization in Health Promotion

PHHE 621 - Theories and Principles in Health Promotion (3)  
 PHHE 631 - Community Health Promotion Programs (3)  
 Additional course work (6)

#### Specialization in Health Services Management

PHHE 651 - Health Economics for Health Services Managers (3)  
 PHHE 653<sup>1</sup> - Financial Decision Making for Health Services Managers (3)  
 PHHE 655 - Human Resource Management in the Health Care Setting (3)  
 Additional course work (3)

### Thesis Option

Same requirements as the non-thesis option except that 6 additional semester hours of HLTH 699, Master's Thesis, are required.

## Certificates of Graduate Study

### Master's Level Certificates

Three certificates of graduate study can be earned as a master's student.

#### Eating Disorders and Obesity (12)

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 Health Studies office. Application deadlines coincide with Graduate School application deadlines.

Participants must have a Bachelor of Science degree to be eligible to apply. In addition applicants must have introductory course work in nutrition, psychology, and family relationships with grades of C or better to be accepted into the program.

NUTR 602 - Issues in Eating Disorders and Obesity (3)

Course work from the following (9)

NUTR 529 - Strategies for Modifying Nutrition Behaviors (3)  
 NUTR 616 - Nutritional Factors in Obesity and Eating Disorders (3)  
 HDFS 637 - The Child in the Family (3)  
 HDFS 674 - Clothing and Human Behavior (3)  
 HDFS 684 - The Family with Adolescents (3),  
 OR EPS 508 - Theories and Research in Adolescent Behavior and Development (3)  
 HDFS 685 - Family Stress and Structural Diversity (3)  
 HLTH 673 - Special Topics in Health Studies (3)  
 HDFS 702 - Biopsychosocial Approaches for Eating Disorders and Obesity (3)  
 HDFS 705 - Introduction to Medical Family Therapy and Counseling (3)

### Health Education (15)

This certificate is designed for students who are seeking endorsement on a current educator license, for students who are also seeking initial educator licensure, 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 educator licensure. 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 - Current Issues in Health Theories and Concepts (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)

NUTR 600A - Seminar in Nutrition and Dietetics (3)  
 NUTR 602 - Issues in Eating Disorders and Obesity (3)  
 NUTR 611 - Maternal and Child Nutrition (3)  
 PHHE 504 - Drugs in Society (3)  
 PHHE 506 - Dimensions of Human Sexuality (3)  
 PHHE 508 - Mental and Emotional Health (3)  
 OR PHHE 510 - Coping with Death, Dying and Loss (3),  
 OR HDFS 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 Middle School and High School Health Education (3)  
 SOCI 552 - Women's Health Issues (3)

### Public Health (16)

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.

<sup>1</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.

**Requirements (13)**

- PHHE 601 - Introduction to Health Systems (3)  
 PHHE 603 - Behavioral and Social Aspects of Public Health (3)  
 PHHE 605 - Biostatistics in Public Health (3)  
 PHHE 613 - Principles and Methods of Epidemiology (3)  
 Course work from the following (3)  
   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 563 - Public Health Informatics (3)  
 PHHE 607 - Public Health and Health Services Management (3)  
 PHHE 609 - Problems and Issues in Environmental Health (3)  
 PHHE 611 - Applied Research Methods (3)  
 PHHE 621 - Theories and Principles in Health Promotion (3)  
 PHHE 651 - Health Economics for Health Services Managers (3)  
 PHHE 653 - Financial Decision Making for Health Services Managers (3)  
 PHHE 655 - Human Resource Management in the Health Care Setting (3)

**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 educator licensure 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 educator licensure 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.

**Course List****Health Sciences (HLTH)**

573. TOPICS IN HEALTH STUDIES (1-3). Examination of contemporary issues and problems in nutrition, public health, and health education. May be repeated to a maximum of 6 semester hours.
600. SEMINAR (1-12).  
 A. Nutrition and Dietetics  
 B. Public Health  
 Readings and reports in health studies. May be repeated to a maximum of 12 semester hours when topic changes. CRQ: NUTR 604X or PHHE 611 or consent of school.
673. SPECIAL TOPICS IN HEALTH STUDIES (1-3). Examination of issues and problems in nutrition, public health, and health education. Content varies to provide the opportunity to study nutrition, public health, and health education topics. May be repeated to a maximum of 12 semester hours. PRQ: Consent of school.
697. INDEPENDENT STUDY IN HEALTH STUDIES (1-3). Independent study of current topics in nutrition, 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. RESEARCH 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 the thesis option program. May be repeated to a maximum of 6 semester hours. PRQ: NUTR 604X or PHHE 611; and 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.

**Nutrition (NUTR)**

504. NUTRITION AND COMMUNITY FOOD SYSTEMS (2-6). Interdisciplinary examination of current trends in the food industry, agriculture, and community environment in relation to food sustainability, social and nutritional health and wellness. Organized service learning component requires participation in local community food systems. Can be repeated for up to 6 credit hours. PRQ: Graduate student within the College of Health and Human Sciences, or department approval.
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.
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.
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.
- 604X. RESEARCH METHODS (3). *Crosslisted as HDFS 604*. Study of the research process including the interplay of theory, research design, data collection, and analysis. Development of a research proposal required.
610. DIETETIC INTERNSHIP: LIFE CYCLE NUTRITION (5). Supervised practice in professional settings including nutrition care to pregnant and post-partum women, infants and young children; school-aged children; young adults; and residents of intermediate care and retirement living facilities. S/U grading. PRQ: Admission to the dietetic internship and consent of school.
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. ADVANCED SPORTS NUTRITION (3). Examines the metabolic and physiological basis for macronutrient and micronutrient recommendations for supporting and improving sports performance. PRQ: Nutrition and dietetics graduate student or consent of school.

615. INTENSIVE 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: FOODS 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 (5). 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.

624. INTERNSHIP: MEDICAL NUTRITION THERAPY (8). Supervised practice in nutrition care in a health care institution. S/U grading. PRQ: NUTR 618 and consent of school.

630. DIETETIC INTERNSHIP: PROFESSIONAL PRACTICE (3). Supervised practice which integrates previously acquired skills, knowledge, and values in an area of professional dietetic practice. S/U grading. PRQ: NUTR 619.

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, phosphorus, magnesium, and electrolytes) and trace minerals including nutrient interactions. PRQ: Nutrition and dietetics graduate student or 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.

702. BIOPSYCHOSOCIAL APPROACHES FOR EATING DISORDERS AND OBESITY (3). Understanding of the nature, etiology, developmental course, treatment, and prevention of eating disorders and obesity. Emphasis on the assessment, diagnosis, and treatment of individuals with eating disorders and/or obesity concerns within a multidisciplinary framework. PRQ: Consent of school.

### **Public Health and Health Education (PHHE)**

504. DRUGS IN SOCIETY (3). Exploration of the psychological, social, medical, legal, and economic aspects of use, misuse, and abuse of substances. Emphasis on issues, techniques, and resources necessary for implementing drug prevention programs within various settings.

506. DIMENSIONS OF HUMAN SEXUALITY (3). Exploration of psychological, social, and biological components of human sexuality, in the context of human development. A positive approach to exploring issues, techniques, and resources necessary for the creation and implementation of comprehensive sexuality programs in various 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. COPING WITH DEATH, DYING, AND LOSS (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.

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 (3). Overview of the structure, function, and evolution of the U.S. health system as compared to that of other countries. Systems approach to the organization, financing and delivery of health care and public health. Evaluation of health care controversies using critical thinking. Specific topics include the role of technology, health system structure and labor force, financing methods, mental health, primary care, inpatient services, insurance and managed care, long-term care, the public health infrastructure and essential public health services. 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 health promotion, including an overview of needs assessment, public health-related theories and models, and the design of culturally relevant solutions such as policies, programs or interventions 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. Includes an introduction to the use of a computer-based statistical software program. PRQ: Consent of school.

607. PUBLIC HEALTH AND HEALTH SERVICES MANAGEMENT (3). Analysis of techniques in leadership and management applicable to public health and health care fields. Topics include budgeting and resource management, problem solving and decision making, strategic planning, negotiation and mediation, marketing, and leadership and communication styles. Case studies demonstrate application of concepts. PRQ: Consent of school
609. PROBLEMS AND ISSUES IN ENVIRONMENTAL HEALTH (3). Analysis of contemporary national and international 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 qualitative and quantitative research methods applicable to the public health setting. PRQ: PHHE 605, or consent of school.
613. PRINCIPLES AND METHODS OF EPIDEMIOLOGY (3). Presentation, discussion, and practice of descriptive and analytic epidemiological methods, including the design, conduct, and interpretation of epidemiological studies. Examples from national and international vital statistics and published public health and epidemiological research used to illustrate. PRQ: PHHE 605 and consent of school.
621. THEORIES AND PRINCIPLES IN HEALTH PROMOTION (3). In-depth analysis of primary prevention and health education theories, principles, and data including cultural, social, and behavioral factors that influence health behaviors. Using an ecological perspective, students will develop plans for implementing and evaluating research-based health interventions. CRQ: PHHE 611 or consent of school. 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 MIDDLE SCHOOL AND HIGH 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 603 and consent of school.
641. HEALTH DISPARITIES IN THE UNITED STATES (3). Exploration of social and cultural determinants of health from a systems thinking perspective. Topics include structural bias, social inequities and racism that undermine health and create challenges to achieving health equity at organizational, community and societal levels. Includes the definition and measurement of health disparities. Concentration predominantly on disparities based on gender, race/ethnicity, sexual orientation, socioeconomic status, country of birth, and geography.
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.
661. PUBLIC HEALTH POLICY AND LAW (3). Introduction to the policymaking and legal processes that underpin the systems the use of policy to solve public health problems, including the roles of ethics, advocacy, and evidence. Topics include skills to effectively assess and influence the policy change process. Development of a framework for analyzing public health policies. Case studies of current public health policy issues. Key topics include covering the uninsured, expanding prescription drug coverage, addressing rising healthcare costs, improving quality of care, providing services for long-term care, and preparing for public health emergencies. PRQ: Consent of school.
665. PUBLIC HEALTH PROGRAM AND POLICY EVALUATION (3). Introduction to public health program and policy evaluation. Emphasis on practical application of knowledge learned, including the development of logic models, evaluation questions, and a comprehensive evaluation plan for a public health program or policy. Exploration of theoretical aspects of evaluation, including threats to validity, and a framework for developing public health evaluation plans. Involves an iterative preparation of an evaluation proposal for a public health program or policy selected by the student. PRQ: PHHE 605 or 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 601, PHHE 603, PHHE 607, PHHE 609, PHHE 611, and PHHE 613, and 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 licensure 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 "Educator Licensure Requirements." S/U grading. PRQ: Pass ILTS Subject Area Test of Content Knowledge in Health Education, complete all other licensure 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 educator licensure coordinator. See "Educator Licensure Requirements." S/U grading. PRQ: Pass ILTS Subject Area Test of Content Knowledge in Health Education, complete all other licensure requirements, and consent of school.
695. INTERNSHIP IN PUBLIC HEALTH (1-5). 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 5 semester hours. S/U grading. PRQ: Consent of school.
698. MASTER OF PUBLIC HEALTH INTEGRATIVE LEARNING EXPERIENCE (1-3). Independent culminating written project, that is a synthesis of public health core and specialization competencies, completed over a time period specified by the school. May be repeated only once. S/U grading. PRQ: Consent of school.

# School of Interdisciplinary Health Professions (HSCI, REHB, SIHP, UHHS)

Chair:

## Faculty

Daniel L. Boutin, associate professor, Ph.D., Pennsylvania State University

Bryan K. Dallas, associate professor, Ph.D., Southern Illinois University Carbondale

Melani Duffrin, professor, Ph.D., Ohio University, professor

Beverly Henry, professor, Ph.D., Loyola University Chicago, professor

Amanda K. McCarthy, associate professor, Ed.D., Northern Illinois University

Paul E. Priester, professor, Ph.D., Loyola University Chicago

Noel Ysasi, assistant professor, Ph.D., University of Texas Rio Grande Valley

NOTE: Faculty for the Ph.D. in Health Sciences include graduate faculty members from across the College of Health and Human Sciences.

The School of Interdisciplinary Health Professions offers majors in Health Sciences at both the master's and doctoral levels, and Rehabilitation Counselingmaster's program. The M.S. degree program in health sciences prepares students for leadership roles in health-related professions. Throughout this 30-semester-hour program, students learn about interdisciplinary communication skills, health-services quality measurement, culturally aware leadership and evidence-based analysis in order to effectively work in professional and academic environments. The Doctor of Philosophy in Health Sciences emphasizes an interprofessional orientation to research and practice. It seeks to educate students from a wide range of disciplines to teach, conduct research and practice in an ever more complex interprofessional world; it also seeks to respond to an increasing demand for faculty and practitioners who are prepared to function in fields grounded in information-driven, evidence-based practice. The rehabilitation counseling (M.S.) curriculum prepares students for careers as entry-level rehabilitation counselors. The course offerings support academic preparation for careers in both public and private settings of vocational rehabilitation programs. The M.S. in rehabilitation counseling is accredited by the Council for Accreditation of Counseling and Related Educational Programs (CACREP) and is designed to meet the academic and experiential requirements of the Certified Rehabilitation Counselor credential awarded by the Commission on Rehabilitation Counselor Certification (CRCC).

## Master of Science in Health Sciences

This 30-semester-hour program prepares students from a variety of health-related fields to become managers, educators, and leaders in health-related professions or to progress to doctoral studies. Students develop competencies in interdisciplinary communication skills, quality measurement of health services, culturally-aware leadership, and evidence-based analysis to function effectively in professional and academic environments. Courses include core content and a focused area to meet student learning goals developed in discussion with adviser. Core content includes foundational research methods, statistics, management, and systems- or theory-based courses. Requirements for electives can be fulfilled by courses to expand knowledge and skills such as the topics of evidence-based practice, cultural diversity, leadership, policy, and communication or a focused content area. Students can complete the program through online course work and additionally can participate in on-campus offerings as desired.

The student learning outcomes for this degree are located at: [www.niu.edu/assessment/clearinghouse/outcomes/index.shtml](http://www.niu.edu/assessment/clearinghouse/outcomes/index.shtml).

The objectives of the interdisciplinary M.S. in Health Sciences program will be to support student abilities to:

Critically appraise research to evaluate the level of evidence supporting best practices,

Demonstrate preparedness for continued development of research and advocacy skills,

Demonstrate the interdisciplinary communication skills necessary to function effectively in today's professional and academic environments

Apply in-depth knowledge of content areas to quality measurement of health and human services,

Become efficient in discerning, implementing, and evaluating new developments and advances in health sciences,

Evaluate legal and ethical considerations for professional practice, Develop strategies for a diverse, culturally-aware work or learning environment,

Create a professional development plan for enhancing professional competency that includes a personal vision statement, philosophy, mission, and goals.]

## Admissions

To be admitted to the M.S. in Health Sciences program students must be admitted to the Graduate School and must have obtained a baccalaureate or higher degree in a field of study related to Health Sciences prior to the start of the NIU term for which the student is admitted. Required application materials include: a minimum of two letters of recommendation, a statement of purpose to demonstrate communication skills and interest in the program, and an official GRE score. Scores on the GRE are waived for applicants who earned a bachelor's degree with a GPA of 3.25 or higher from an accredited institution. The program will assess preparedness and academic potential in the unique context of each student's personal experience and career goals. Admission assessment will consider all achievements, both academic and non-academic, to enroll students with a broad range of characteristics and perspectives. Prospective students may be admitted to begin in the fall or spring semesters.

## Requirements

The M.S. in Health Sciences requires a minimum of 30 semester hours of graduate course work, determined jointly by the student and adviser. The approved program of courses includes general requirements in health sciences and electives as follows.

### Core Course Work (15)

HSCI 560<sup>1</sup> - Research Methods in Health and Human Sciences (3),  
 OR ETR 520 - Introduction to Research Methods in Education (3),  
 OR HDF5 604/NUTR 604X - Research Methods (3)  
 PHHE 605 - Biostatistics in Public Health (3),  
 OR ETR 521 - Educational Statistics I (3),  
 OR BIOS 670 - Biostatistical Analysis (3)  
 PHHE 601 - Introduction to Health Systems in the United States (3),  
 OR HDF5 532 - Theories of Child Development (3),  
 OR HDF5 584 - Family Theories (3)  
 HSCI 600 - Seminar: Topics in Health Sciences (2)  
 HSCI 698 - Comprehensive Examination (1)

<sup>1</sup> Students with prior credit in the 400-level option for this course should select an alternative.

Select one of the following (3)

- AUD 612B - Professional Issues II: Practice Management (3)
  - HSCI 550<sup>1</sup> - Administration for Professionals in Health and Human Sciences (3)
  - MGMT 635 - Managing Individuals, Teams, and Organizations (3)
  - PHHE 624 - School Health Programs: Planning, Managing, and Evaluating (3)
  - PHHE 655 - Human Resource Management in the Health Care Setting (3)
  - GERO 568 - Leadership in Aging Services (3)
- Three semester hours selected in consultation with the student's program adviser (3)

### Elective Course Work<sup>2</sup>

Three of the following including at least one 600-/700-level course (8-9)

- AUD 612A - Professional Issues I: Foundations of Practice (2)
- COMS 672 - Seminar in Organizational Development and Communication (3)
- COMS 680 - Seminar in Conflict Management and Negotiation (3)
- GERO 567 - Fieldwork in Gerontology (3)
- HDFS 583<sup>1</sup> - Social Policy, Children and Families (3)
- HDFS 588<sup>1</sup> - Working with Ethnically Diverse Children and Families in the United States (3)
- HDFS 685 - Family Stress and Structural Diversity (3)
- HSCI 640 - Communication for Health Professionals (3)
- HSCI 567 - Internship in Health Sciences (3)
- MGMT 505 - Principles of Management (2)
- NURS 704 - Clinical Prevention in Advanced Nursing (3)
- PHHE 510<sup>1</sup> - Coping with Death, Dying, and Loss (3)
- PHHE 535<sup>1</sup> - Ethical Decision Making for Health Professionals (3)
- PHHE 613 - Principles and Methods of Epidemiology (3)
- UHHS 630 - Interdisciplinary Perspectives on Quality and Customer Satisfaction in Healthcare Settings (3)

Additional course work selected in consultation with the student's program adviser (6-7)

### Comprehensive Examination

The comprehensive examination requirement is fulfilled by successfully completing and presenting a portfolio of student work that demonstrates competency in the core course work of the program and includes a professional development plan. Students must have completed 21 semester hours toward the M.S. degree in order to participate in the portfolio process.

### Limitation of Time

The student must fulfill all requirements for a degree within the six consecutive years immediately preceding the date of graduation for all graduate course work used to satisfy degree requirements consistent with Graduate Degree requirements.

## Master of Science in Rehabilitation Counseling

The student learning outcomes for this degree are located at [www.niu.edu/assessment/clearinghouse/outcomes/index.shtml](http://www.niu.edu/assessment/clearinghouse/outcomes/index.shtml).

### Admission

Rehabilitation counseling admits students each term. For qualified applicants to the program, a pre-admission interview must be completed before a final admission decision is made. 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 the master's degree program in rehabilitation counseling, prospective students must submit completed application materials (application forms, official transcripts, and letters of recommendation) to the graduate school by the stated application deadline.

Prospective students who fail to meet the GPA requirement for admission may request special consideration for 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 student-at-large hours plus transfer credit may not exceed 12 semester hours.

An accelerated B.S. in Rehabilitation and Disability Services/M.S. in Rehabilitation Counseling program is available. See Undergraduate Catalog for requirements.

### Course Requirements

Students must complete a minimum of 56 semester hours to complete the degree. Because this program is fully accredited by CACREP, a student who successfully completes the required curriculum, including a 100-hour practicum and a 600-hour internship under the supervision of a Certified Rehabilitation Counselor, is eligible to sit for the Commission on Rehabilitation Counselor Certification Examination.

- CAHC 510 - Counseling Interventions across the Lifespan (3)
- CAHC 525 - Counseling Skills and Strategies (3),  
OR REHB 605X - Counseling Skills and Strategies (3)
- CAHC 540 - Group Counseling (3)
- CAHC 565 - Multicultural Counseling (3)
- ETR 520 - Introduction to Research Methods in Education (3)
- REHB 627 - Medical Aspects of Disability (3)
- REHB 628 - Psychosocial Aspects of Disability (3)
- REHB 660 - Vocational Rehabilitation (3)
- REHB 662 - Vocational Analysis and Job Placement (3)
- REHB 682 - Theories and Techniques with People with Disabilities (3)
- REHB 683 - Psychological and Vocational Assessment with Rehabilitation Populations (3)
- REHB 686 - Pre-Practicum: Rehabilitation Counseling (4)
- REHB 690 - Practicum: Rehabilitation Counseling (4)
- REHB 694 - Internship: Rehabilitation Counseling (12)
- REHB 777 - Seminar: Rehabilitation Counseling (3)

### Other Requirements

Students are required to complete a total of 200 approved professional development hours, including direct involvement with supervised counseling, professional meetings, and the disability community.

Clinical and other specific requirements are available in the Rehabilitation Counseling Student Handbook.

### 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 or lower in clinical practicum courses (i.e., REHB 686, REHB 690, or REHB 694) will be dismissed from the graduate program.

<sup>1</sup> Students with prior credit in the 400-level option for this course should select an alternative.

<sup>2</sup> Course work related to a content area or to complete a certificate of graduate study in the major college may apply with approval of the program adviser..

## Doctor of Philosophy in Health Sciences

The college-wide Ph.D. program emphasizes an interprofessional orientation to research and practice as students work with graduate faculty members from across the college. The Ph.D. prepares students from a wide range of health and human sciences fields to function effectively as scholars and researchers within academic and practice settings. Doctoral students participate in shared learning across online seminars and research tools courses by making connections to health topics from the perspectives of multiple disciplines. Students complete an individualized program of study that is tailored to individual needs before taking the candidacy examination and conducting a dissertation under the supervision of a dissertation director(s). The residency requirement is fulfilled through limited face-to-face meetings for core program courses.

### Admission

A student seeking admission to the Ph.D. program must be admitted to the Graduate School, submit three letters of recommendation and a personal statement. Scores on the GRE are waived for applicants who have earned a graduate degree with a GPA of 3.50 or higher from an accredited institution.

### Course Requirements

Completion of this degree requires a minimum of 45 semester hours of graduate course work at NIU beyond the graduate credits earned toward the student's master's degree.

#### Core Seminars (8)

UHHS 710 - Scientific Underpinnings and Seminal Readings in the Health Sciences (3)  
 UHHS 720 - Contemporary Health Science Topics (2)  
 UHHS 760 - Knowledge Integration in the Health Sciences (3)

#### Research Tools Requirements (12)

UHHS 730 - Research Design, Conduct, and Analysis in the Health Sciences I (3)  
 UHHS 731 - Research Design, Conduct, and Analysis in the Health Sciences II (3)  
 UHHS 740 - Data Analysis in the Health Sciences (3)  
 UHHS 750 - Research Positioning and Grantsmanship Skills (3)

#### Individualized Program of Study (12)

All students are required to complete an individualized program of study related to their professional areas of interest. Proposed course work must be pre-approved by the student's adviser. Additional course work may be required.

#### Additional Requirements

All students must complete a research ethics milestone prior to admission to the candidacy examination. Students fulfill the requirement by demonstrating competency with ethical decision-making in the context of designing and implementing research for scientific and clinical communities. The research ethics training and assessment are available online.

### Candidacy Examination (1)

UHHS 798 - Candidacy Examination (1)

A student must receive approval from his or her graduate committee to take the candidacy examination. The candidacy examination is a written examination based on the core courses and the student's individual program of study. Upon satisfactory completion of the candidacy examination the student is admitted to candidacy for the Ph.D. degree. The examining committee may allow a student who fails a candidacy exam to repeat it after a period of time determined by the committee. A student who fails the 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 the doctoral program is terminated.

### Doctoral Research and Dissertation (12)

UHHS 799 - Doctoral Research and Dissertation (12)

### Oral Defense of Dissertation

A final oral examination related to the dissertation is required and is conducted in accordance with the general requirements of the Graduate School.

## Course List

### Health Sciences (HSCI)

530. WORKING WITH DIVERSE POPULATIONS IN HEALTH AND HUMAN SCIENCES (3). Examination of relationships among culture, health, and well-being. Investigation of historical, cultural, social, economic, political, and environmental factors that impact health behavior and health status of diverse groups. Exploration of strategies for culturally and linguistically appropriate service delivery addressing the needs of diverse populations. Content and activities to include professional strategies and interpersonal skills for teaching and supervision in the classroom, workplace, and clinical settings with diverse populations.

550. ADMINISTRATION FOR PROFESSIONALS IN HEALTH AND HUMAN SCIENCES (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.

560. RESEARCH METHODS IN HEALTH AND HUMAN SCIENCES (3). Study of the research process in health and human sciences. General concepts of research and evidence-based practice. Understanding of basic statistics is expected for enrollment.

567. INTERNSHIP IN HEALTH SCIENCES (3-6). Hands-on learning experiences to develop the attributes to perform successfully in a health sciences career as manager, educator, or leader. Supervised participation in field-based professional development activities to supplement theoretical background. May be repeated to a maximum of 6 semester hours with a minimum of 30 clock hours per credit. PRQ: Admission to Health Sciences graduate program or consent of program.

600. SEMINAR: TOPICS IN HEALTH SCIENCES (1-3). In-depth exploration of topics within focus areas associated with the interdisciplinary study of practice and management in health-related professions. May be repeated for a maximum of 3 semester hours provided the focus of the seminar topic varies from semester to semester. PRQ: CHHS graduate student or consent of program.

640. COMMUNICATION FOR HEALTH PROFESSIONALS (3). Principles, guidelines, and skills for effective and ethical communication for future and practicing clinicians, educators, and administrators in health settings. Topics include strategies for interaction with peers, employees, patients, clients, and students, communicating as a leader, and the relationship between communication practices and quality outcomes. PRQ: Admission to CHHS graduate program or consent of program.

660. APPLIED HEALTH DISPARITIES RESEARCH METHODS (3). Study of health research and interventions to reduce health disparities. In-depth analysis of health disparities in student-selected topics and populations. Application of quantitative and qualitative methods in health disparities research. Exposure to community organizations serving diverse populations. Development of an evidence-based intervention proposal to promote health equity. PRQ: HSCI 560, ETR 520, or graduate-level research methods course or consent of school.

698. COMPREHENSIVE EXAMINATION (1). Fulfilled by completion, submission, and successful written defense of a portfolio of student work that demonstrates competency in the core courses of the program and includes a professional development plan. S/U grading may be used. PRQ: Completion of 21 semester hours toward the M.S. in Health Sciences and consent of program.

710. TEACHING IN THE HEALTH PROFESSIONS (1-3). Exploration of teaching philosophy, course design, teaching methods, and assessment practices applied to clinical or classroom settings. Topics include deliberate practice, accreditation standards, appreciative inquiry, or clinical skills assessment. Experiential learning through shadowing, coaching, or teaching tailored to student learning goals. Build upon prior education course work or experiences. May be repeated up to 3 semester hours. PRQ: Consent of school.

### Rehabilitation Counseling (REHB)

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. PRQ: Admission to rehabilitation counseling graduate program, or admission to master's program in counseling, or consent of school.

627. MEDICAL ASPECTS OF DISABILITY (3). Examination of medical classifications, medical terminology, etiology, functional capacity, prognosis, and effects of disabilities on individuals. Analysis of diagnostic systems and medical interventions to provide the rehabilitation counseling professional with skills to determine eligibility, interpret case-related medical reports, consult with medical professionals, and make case-related decisions.

628. PSYCHOSOCIAL ASPECTS OF DISABILITY (3). The impacts of illness and disability on the developmental, educational, personal, familial, social, and vocational aspects of life. Emphasis on identifying the functional limitations associated with medical conditions and environmental factors. Focus of study includes people who have disabilities.

660. FOUNDATIONS OF VOCATIONAL REHABILITATION (3). Introduction to vocational rehabilitation counseling, including philosophical foundations, historical development, organization, professional roles and responsibilities, and current issues.

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: Admission to M.S. in Rehabilitation Counseling program or consent of school.

682. THEORIES AND TECHNIQUES OF COUNSELING PEOPLE WITH DISABILITIES (3). Overview and application of the major counseling theories in rehabilitation counseling practice. Emphasis on personal, family, group, educational, and vocational rehabilitation counseling.

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. PRQ: Admission to M.S. in Rehabilitation Counseling program or consent of school.

686. PRE-PRACTICUM: REHABILITATION COUNSELING (1-4). Observation, discussion, and practice of clinical procedures employed in rehabilitation counseling with persons with disabilities. All students involved in an on-campus practicum must enroll in this course. May be repeated, with faculty adviser consent, to a maximum of 8 semester hours. PRQ: Admission to the rehabilitation counseling graduate program or consent of school.

690. PRACTICUM: REHABILITATION COUNSELING (1-4). Supervised practicum in rehabilitation counseling in external settings that include vocational rehabilitation programs and related agencies serving persons with disabilities. May be repeated to a maximum of 6 semester hours. PRQ: Admission to the rehabilitation counseling graduate program and REHB 686; or consent of school.

694. INTERNSHIP: REHABILITATION COUNSELING (1-12). 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. PRQ: Admission to rehabilitation counseling graduate program and REHB 690; or consent of school.

699. MASTER'S THESIS (1-6). May be repeated to a maximum of 6 semester hours. S/U grading may be used. PRQ: Consent of school.

777. SEMINAR: REHABILITATION COUNSELING (3). Selected topics on the provision of rehabilitative services to persons with disabilities. May be repeated to a maximum of 12 semester hours, but only 9 semester hours may be applied to the master's degree in rehabilitation counseling. PRQ: Consent of school.

### School of Interdisciplinary Health Professions (SIHP, UHHS)

SIHP 697. INDEPENDENT STUDY (1-6). Independent study under direction of a faculty member. May be repeated to a maximum of 6 semester hours. S/U grading may be used. PRQ: Consent of school.

UHHS 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.

UHHS 710. SCIENTIFIC UNDERPINNINGS AND SEMINAL READINGS IN THE HEALTH SCIENCES (3). Analysis of the origin, nature, methods, and limits of scientific knowledge as applied to the health and human sciences. Emphasis placed on reading and discussing seminal works of theory, policy and empirical research that shaped lines of investigation and practice. PRQ: Consent of program.

UHHS 720. CONTEMPORARY HEALTH SCIENCE TOPICS (2). Intensive examination of the literature for selected topics crucial to interdisciplinary health and human sciences research and practice. Emphasis placed on reading and discussing key works of theory, policy and empirical research that shape contemporary issues in research and practice. PRQ: UHHS 710 or consent of program.

UHHS 730. RESEARCH DESIGN, CONDUCT, AND ANALYSIS IN THE HEALTH SCIENCES I (3). Focus on advanced concepts and skills necessary to plan, conduct, evaluate, and analyze quantitative research from an interdisciplinary perspective within health and human sciences. Practical experience in formulating original research questions and conducting a comprehensive literature review are included. PRQ: A graduate course in statistics or consent of program.

UHHS 731. RESEARCH DESIGN, CONDUCT, AND ANALYSIS IN THE HEALTH SCIENCES II (3). Continuation of UHHS 730 with an emphasis on qualitative and mixed research designs and the proper dissemination of research findings. Also requires development of a formal research proposal with an appropriate quantitative, qualitative, or mixed methods research design and a detailed plan for data collection and analysis. PRQ: UHHS 730, or consent of program.

UHHS 740. DATA ANALYSIS IN THE HEALTH SCIENCES (3). Advanced quantitative methods in health sciences including statistical analysis of health indicators, vital statistics, population and demographic variables, and other data important to the practice of health sciences. Introduces and applies the biostatistics tools and analytical base for population-based and community health assessment and evaluation. Focus on providing a broad understanding of biostatistics, with more advanced methods included as appropriate. Combines data collection, design of data gathering instruments, data analysis, and report writing into a practical method of understanding the role of biostatistics in the field of health sciences. PRQ: UHHS 730 or consent of program.

UHHS 750. RESEARCH POSITIONING GRANTMANSHIP SKILLS (3). Identify the scientific community, related clinical fields, and funding agencies as consumers of the proposed project and subsequent line of research. Position the research within the identified community and develop milestones to progress in establishing a programmatic line of research. In-depth guided literature searches, on-line explorations of government, non-profit, and public funding sources, analysis of research problems and specific aims, critique of literature on funding issues, and facilitated discussions leading to development of a fundable research plan including budgetary and collaborative implications. PRQ: UHHS 730 and UHHS 731; or consent of program.

UHHS 760. KNOWLEDGE INTEGRATION IN THE HEALTH SCIENCES (3). Analyses of case studies focusing on the role of collaboration in research and practice in health and human sciences. Emphasis on inter-professional approaches to the development of empirically-based decision-making. PRQ: UHHS 720 or consent of program.

UHHS 770. INDEPENDENT STUDY (1-3). Independent course work focusing on student's Individual Program of Study. Multiple sections may be taken in same semester. A maximum of 12 hours may count toward the degree. PRQ: Consent of adviser and program director.

UHHS 798. CANDIDACY EXAMINATION (1). Written examination based on the core courses, research and statistics, and student's Individual Program of Study. S/U grading. PRQ: Consent of academic adviser and program.

UHHS 799. DOCTORAL RESEARCH AND DISSERTATION (1-12). Students must complete 12 hours prior to graduation. May be repeated with a maximum of 12 hours that can count toward the degree. PRQ: UHHS 798 and consent of adviser.

# Department of Military Science (MILS)

Chair: Lieutenant Colonel Jay Morrison

## Faculty

Colonel Karl M. Nilsen, professor of Military Science, M.A. in Management from Webster University  
 Master Sergeant Bernard E. Miles, senior military instructor  
 Major James B. Polk, assistant professor of Military Science, M.B.A from Saint Leo University  
 Sergeant First Class Frederick Duke, Military Science instructor  
 Sergeant First Class Justin Wolfe, adjunct instructor  
 Mr. Rick Maples, instructor, M.P.A., Troy University

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.

For a complete list of Military Science courses, please see the current undergraduate catalog.

301 - LEADERSHIP AND PROBLEM SOLVING

302 - LEADERSHIP AND ETHICS

325 - BASIC INTERNSHIP IN MILITARY SCIENCE

350 - ADVANCED INTERNSHIP IN MILITARY SCIENCE

401 - LEADERSHIP AND MANAGEMENT

402 - OFFICERSHIP

495 - INDEPENDENT STUDY

# School of Nursing (NURS)

Interim Chair: Nancy Valentine

## Graduate Faculty

Maryann Abendroth, associate professor, Ph.D., University of Florida  
 Laura Beamer, associate professor, Ph.D., DNP, University of Utah, Purdue University  
 Derryl Block, professor, Ph.D., University of Pennsylvania  
 Cathy Carlson, associate professor, Ph.D., Indiana University  
 Jie Chen, associate professor, Ph.D., University of Cincinnati  
 Katherine Coulter, assistant professor, DNP, Chamberlain College of Nursing  
 Marcia Cooke, assistant professor, DNP, Loyola University  
 Katherine Coulter, assistant professor, DNP, Chamberlain College of Nursing,  
 Manju Daniel, associate professor, Ph.D., Rush University  
 Kari Hickey, associate professor, Ph.D., Illinois State University  
 Elizabeth Moxley, assistant professor, Ph.D., University of Illinois  
 Kathleen Musker, associate professor, Ph.D., Loyola University  
 Jeanette Rossetti, Presidential Teaching Professor, Ed.D., Northern Illinois University  
 Linda Taylor, assistant professor, Ph.D., University of Wisconsin, Milwaukee  
 Nancy Valentine, professor, Ph.D., Brandeis University

The School of Nursing offers programs of graduate study leading to a Doctor of Nursing Practice (D.N.P.), Master of Science (M.S.) in nursing; and two post-master's certificates of graduate study.

The M.S. in advanced practice nursing specializations prepares students to qualify for certification as adult-gerontology primary care nurse practitioners, family nurse practitioners, or adult-gerontology clinical nurse specialists. Both nurse practitioner specializations are focused on primary care not acute care. M. S. students can also select the nursing education specialization to prepare for roles in academic and practice settings. The master's degree in nursing and post-master's certificates at Northern Illinois University are accredited by the Commission on Collegiate Nursing Education.

The D.N.P. degree prepares nurses a) to practice in an advanced nursing role in a particular specialization and b) to lead innovative, evidence-based practice initiatives that impact quality improvements and outcomes in healthcare systems. Both a post-bachelor's degree and post-master's degree D.N.P. program are offered.

## Criminal Background Checks and Drug Screening

Students in nursing are required to undergo criminal background checks and drug screening. The nursing program may be unable to place students in a clinical setting if they have a positive drug screen or criminal record; therefore, the student may not be able to complete the program of required courses.

## Clinical Requirements: Graduate Nursing Programs

All students are admitted to the nursing graduate programs provisionally until they have provided proof of meeting the clinical requirements outlined in the Graduate Nursing Student Handbook and then they will be fully admitted. Full admission to the nursing program is required to enroll in nursing courses. All graduate nursing students are required to submit proof of having met clinical requirements when requested and must maintain clinical requirements for continued enrollment in the graduate nursing

program. If requirements are not met, the student may not be able to complete the program. The Graduate Nursing Student Handbook contains additional policies related to admission and progression through the nursing program.

Clinical requirements include documentation of a Registered Nurse (RN) license in Illinois, immunizations/immunity, criminal background checks, drug screening, Standard Precautions/Universal Precautions training, CPR Healthcare Provider certification, Health Insurance Portability and Accountability Act (HIPAA) training, completion of the NIU Online Tutorial on Academic Integrity, and proof of health insurance. Professional Liability Insurance is provided as part of student fees.

Students are required to undergo criminal background checks and are evaluated for a disqualifying criminal offense under Illinois regulations for health care workers. A student with a disqualifying offense will be unable to complete the program. Students who commit a crime while enrolled in the nursing program may not be able to complete the program. To qualify for an Advanced Practice License in Illinois, a RN license is required.

Students with a positive drug screen for illegal or unauthorized drugs may be unable to complete the program.

All clinical requirements are to be maintained throughout the curriculum as outlined in the Graduate Nursing Student Handbook.

## Grading Policies for Doctor of Nursing Practice, Nursing Master's Degree, and Certificate Students

Nursing graduate students must earn a minimum grade of B in each required course in the plan of study.

Any required course in which a grade of B- or lower is earned must be repeated and a grade of B or higher earned prior to progressing in the required plan of study course work. Students who accumulate 6 or more hours of B-, C+, C, D, F, U or WF in the same course or in any combination of courses will be dismissed from the graduate and certificate nursing program.

The Graduate Nursing Student Handbook contains additional policies related to admission and progression through the nursing program.

## Master of Science in Nursing

**Specialization as an Adult-Gerontology Clinical Nurse Specialist**  
**Specialization as an Adult-Gerontology Primary Care Nurse Practitioner**

**Specialization as a Family Nurse Practitioner**  
**Specialization in Nursing Education**

The student learning outcomes for this degree are located at <http://www.niu.edu/assessment/clearinghouse/outcomes/index.shtml>.

A minimum of five semesters is required for completion of the M.S. in nursing program. Study in the M.S. program may be full or part time. 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 population-focused area. Students in the advanced practice specializations are qualified to take national examinations for certification as a family nurse practitioner, an adult-gerontology primary care nurse practitioner, or an adult-gerontology clinical nurse specialist, by completing the program for the specialization to which admitted.

Current licensure with no encumbrance as a registered nurse in Illinois is prerequisite to enrollment in all nursing courses unless otherwise specified. Enrollment in the internship courses (NURS 603, NURS 623, NURS 633, NURS 653, NURS 663, and NURS 673) 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. All internship courses are permit courses. To obtain a permit for the course, the internship procedures and course pre- and co-requisites must be followed.

All clinical requirements must be maintained as outlined in the Graduate Nursing Student Handbook.

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 finalize their plan of study in consultation with an assigned adviser. A maximum of 6 semester hours of credit may be transferred from another college or university.

### Admission

Admission to the M.S. program in nursing is limited and competitive. Application materials must be submitted to the Graduate School by the published deadline dates on the Graduate School website. Prospective students may be admitted to begin in the fall or spring semester. Admission decisions are usually made within two months of the application deadline.

### Eligibility to Apply

Current licensure with no encumbrances as a professional 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 an accrediting agency officially recognized by the U.S. Secretary of Education, such as the Commission on Collegiate Nursing Education (CCNE), 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 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.

**Transcript Evaluation:** Applicants who completed their nursing education at a non-U.S. school are required to submit non-U.S. transcripts to the Educational Credential Evaluators, Inc. (ECE; [www.ece.org](http://www.ece.org)) or the Commission on Graduates of Foreign Nursing Schools (CGFNS; <http://www.cgfns.org/>) or World Education Services (WES; [www.wes.org](http://www.wes.org)) for evaluation of credentials. The evaluation report must show that the non-U.S. education is equivalent to a U.S. bachelors' degree in nursing to be considered for admission.

Prefer one year experience as a professional Registered Nurse in clinical practice.

### Application Components

Online completion of the application to the NIU Graduate School. A two-page, double-spaced Goal Statement/Writing Sample to address: Professional goals, desired advanced practice or nursing education specialization in the M.S. degree program, and how a graduate degree in the desired specialization will promote goal achievement. This statement should also include a paragraph regarding clinical practice experience in the past three years and the area(s) of practice specialty.

Three professional letters of reference which provide evidence of the applicant's professional qualifications. At least one reference should be from a professor or graduate level-prepared nursing colleague who can address the applicant's potential for academic success. At least one reference must be from a current, professional nurse colleague (e.g., a supervisor or preceptor) who can address the applicant's professional qualifications as a licensed professional registered nurse. References should be provided on the Graduate School reference form and indicate the credentials and professional title of the person providing the reference. Ratings and comments should be included. Family members and personal friends are not considered professional references.

The approval of the nursing program Graduate Admissions Committee after review of the application.

The Graduate Record Exam (GRE) is not required for admission to the M. S. degree in nursing program.

All students are admitted to the nursing graduate programs provisionally until they have provided proof of meeting the clinical requirements outlined in the Graduate Nursing Student Handbook and then they will be fully admitted. Full admission to the nursing program is required to enroll in nursing courses.

### Requirements

#### Core Courses - Required for all Nursing M.S. and Post-Bachelor's D.N.P. Students (26)

NURS 601 - Transition to Graduate-Level Nursing (2)

ETR 521 - Educational Statistics I (3),

OR PHHE 605 - Biostatistics in Public Health (3),

OR BIOS 670 - Biostatistical Analysis (3)

NURS 602 - Advanced Pathophysiology across the Lifespan (3)

NURS 604 - Advanced Evidence-Based Practice in Nursing (3)

NURS 605 - Advanced Pharmacology across the Lifespan (3)

NURS 606 - Advanced Physical Assessment across the Lifespan (2)

NURS 607 - Lab: Advanced Physical Assessment across the Lifespan (1)

NURS 701 - Advanced Nursing Leadership (3)

NURS 704 - Clinical Prevention for Population Health (3)

NURS 706 - Informatics for Evidence-Based Nursing (3)

#### One of the following specializations (15-25)

##### Advanced Practice Nursing (APN)

#### Core Courses - Required for all APN Students (5)

NURS 608 - Diagnostic Reasoning (2)

NURS 650 - Primary Care: Women across the Lifespan (1)

NURS 698 - Capstone: Program Synthesis (1)

Two of the following courses (1)

NURS 681 - X-ray Interpretation (½)

NURS 682 - Suturing and Office Procedures (½)

NURS 684 - Electrocardiogram Interpretation (½)

NURS 685 - Orthopedic Skills (½)

NURS 686 - Billing and Coding Processes (½)

##### Specialization as an Adult-Gerontology Clinical Nurse Specialist (20)

NURS 661 - Adult Gerontology Primary Care I: Adults across the Lifespan (3)

NURS 662 - Adult-Gerontology Primary Care II: Adults across the Lifespan (3)

NURS 664 - Tertiary Care Practice of the Adult-Gerontology Clinical Nurse Specialist (2)

NURS 673 - Internship: Adults across the Lifespan (12)

### **Specialization as an Adult-Gerontology Primary Care Nurse Practitioner (18)**

- NURS 661 - Adult-Gerontology Primary Care I: Adults across the Lifespan (3)  
 NURS 662 - Adult-Gerontology Primary Care II: Adults across the Lifespan (3)  
 NURS 673 - Internship: Adults across the Lifespan (12)  
 OR NURS 663 - Internship: Adults Across the Lifespan with an Emphasis on Women (4) AND  
 NURS 673 Internship: Adults across the Lifespan (8)

### **Specialization as a Family Nurse Practitioner (19)**

- NURS 651 - Primary Care: Infant, Child, and Adolescent (3)  
 NURS 652 - Primary Care: Adults across the Lifespan (3)  
 NURS 654 - Primary Care: Women during Reproduction (1)  
 NURS 653 - Internship: Infant, Child, and Adolescent (4)  
 NURS 663 - Internship: Adults Across the Lifespan with an Emphasis on Women (4)  
 NURS 673 - Internship: Adults across the Lifespan (4)

### **Specialization in Nursing Education (15)**

- NURS 603 - Nursing Education Practicum: Direct Care (2)  
 NURS 621 - Foundations in Nursing Education I (3)  
 NURS 622 - Foundations in Nursing Education II (4)  
 NURS 623 - Nursing Education Practicum: Classroom Setting (3)  
 NURS 633 - Nursing Education Practicum: Clinical Setting (2)  
 NURS 698 - Capstone: Program Synthesis (1)

## **Doctor of Nursing Practice (D.N.P.)**

The Doctor of Nursing Practice (D.N.P.) is a doctoral degree that prepares nurses a) to practice in an advanced nursing role in a specialization and b) to lead innovative, evidence-based practice initiatives that positively impact quality improvements and outcomes in healthcare systems.

The program of study requires a minimum of 1,000 hours of supervised clinical practice in an advanced nursing role and in the leadership component of the D.N.P. program.

The student learning outcomes for this degree are located at <http://www.niu.edu/assessment/clearinghouse/outcomes/>.

### **Admission**

Admission to the D.N.P. is limited and competitive. To apply to the D.N.P. program, prospective students must submit completed application materials to the Graduate School no later than the application deadline as posted on the D.N.P. program website. Admission decisions will be made within two months from the application deadline.

Prospective students may apply to either the post-bachelor's D.N.P. degree or the post-master's D.N.P. degree program. Study in the post-bachelor's degree D.N.P. program may be full or part time and will focus on education to practice in an advanced nursing role in a particular specialization (i.e., the advanced role component) as well as to lead innovative practice initiatives. Study in the post-master's degree D.N.P. program will be part time for 6 semesters and will focus on education to lead innovative practice initiatives in healthcare systems (i.e., the D.N.P. leadership component).

Students are admitted to the nursing program provisionally until they have provided proof of meeting the clinical requirements outlined in the Nursing Student Handbook. Full admission to the nursing program is required to enroll in nursing courses.

### **Post-Bachelor's Degree D.N.P.:**

#### **Eligibility to Apply**

Current licensure with no encumbrances as a professional Registered Nurse (RN) in the U.S. Prior to beginning course work, students must hold or have applied for RN licensure in Illinois.

A baccalaureate degree from a school accredited by an accrediting agency officially recognized by the U.S. Secretary of Education, such as the Commission on Collegiate Nursing Education (CCNE), 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 non-graded baccalaureate program in nursing, CCNE accreditation is required. The applicant must provide documentation of course work which is essentially equivalent to that required in the baccalaureate 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 course work in nursing at NIU with a GPA of 3.20 or better.

### **Application Components**

A 2-page, double-spaced Goal Statement to address:

Professional goals, desired field of study (for the advanced nursing role component) and how the NIU D.N.P. program will promote goal achievement. This statement should also include a paragraph regarding clinical practice experience in the past three years and the area(s) of practice specialty.

Identification of an issue (i.e., topic or problem) that requires a system-wide change in healthcare services or policies and a general plan for remediating this issue. The topic will serve as the basis for the applicant's D.N.P. Scholarly Project. The statement must include a description of potential sponsors and location for Scholarly Project implementation.

Three professional letters of reference to provide evidence of the applicant's professional qualifications. At least one reference should be from a professor or nursing colleague who can address the applicant's potential for academic success. At least one reference must be from a current, professional nurse colleague (e.g., a supervisor or mentor) who can address the applicant's professional qualifications as a licensed professional registered nurse. One professional recommendation of the applicant's choosing (e.g., the sponsor from a potential clinical site for the D.N.P. Scholarly Project). References should be provided on the Graduate School reference form. Ratings and comments must be included. Family members and personal friends are not considered professional references.

Qualified applicants may be contacted by faculty to schedule a pre-admission interview. Not all applicants will be chosen to interview.

Approval will be determined by the nursing program Graduate Admissions Committee upon review of the aforementioned criteria.

The Graduate Record Exam (GRE) is not required for admission to NIU graduate nursing programs.

### **Post-Master's Degree D.N.P.:**

#### **Eligibility to Apply**

Master's degree in nursing from a program accredited by an accrediting agency officially recognized by the U.S. Secretary of Education, such as the Commission on Collegiate Nursing Education (CCNE).

Cumulative GPA of 3.20 or higher in a master's degree program in nursing.

Current licensure with no encumbrances as a professional Registered Nurse (RN) in the U. S. Prior to beginning course work, students must hold or have applied for RN licensure.

Preferred current national certification as an advanced practice nurse in one of 4 roles: Clinical Nurse Specialist, Nurse Practitioner, Registered Nurse Anesthetist, Nurse Midwife.

Preferred current licensure without encumbrances as an Advanced Practice Nurse (APN) in one of the four roles by the start of course work for the D.N.P.; APN licensure in Illinois preferred.

Preferred one year experience as an Advanced Practice Nurse (APN).

### Application Components

Submission of the applicant's curriculum vitae (CV) or resume

Three professional letters of reference to provide evidence of the applicant's professional qualifications. At least one reference should be from a graduate faculty member in the applicant's master's degree program who is able to address the applicant's academic potential in the D.N.P. program. At least one reference must be from a current, professional nurse colleague who can address the applicant's qualifications as a licensed professional RN and APN (if applicable) in a healthcare setting. One professional recommendation of the applicant's choosing (e.g., the sponsor from a potential clinical site for the DNP Scholarly Project). References should be provided on the Graduate School reference form. Ratings and comments must be included. Family members and personal friends are not considered professional references.

A two-page, double-spaced Goal Statement to address:

Professional goals and how the NIU post-master's degree D.N.P. program will promote goal achievement

Identification of an issue (i.e., topic or problem) that requires a system-wide change in healthcare services or policies and a general plan for remediating this issue. The topic will provide the basis for the applicant's D.N.P. Scholarly Project. The statement must include a description of potential sponsors and location for the Scholarly Project implementation.

Qualified applicants may be contacted by faculty to schedule a pre-admission interview. Not all applicants will be chosen to interview.

A graduate-level statistics course must be completed prior to taking statistics in the D.N.P. program.

Verification of 500 hours of supervised clinical practice in an advanced nursing role is required.

Approval will be determined by the nursing program Graduate Admissions Committee upon review of the aforementioned criteria.

The Graduate Record Examination (GRE) is not required for admission to NIU graduate nursing programs.

### Course Requirements

All students are required to complete the D.N.P. degree leadership component, which is a minimum of 35 semester hours of graduate course work at NIU, beyond the graduate credits earned toward a master's degree. The D.N.P. leadership component courses will be offered on a part-time basis for six semesters over three years.

Post-bachelor's degree D.N.P. students must complete the curriculum for an advanced role as an Adult-Gerontology Clinical Nurse Specialist, Adult-Gerontology Primary Care Nurse Practitioner, or Family Nurse Practitioner before beginning the 35 credits of D.N.P. courses.

### Advanced Role Component Courses (49-52)

See Requirements for Core Courses Required for all Nursing M.S. Students (26) AND

One of the following specializations (15-25)

Advanced Practice Nursing (APN) Core Courses Required for all APN Students (5) AND

Specialization as an Adult-Gerontology Clinical Nurse Specialist (20),  
OR Specialization as an Adult-Gerontology Primary Care Nurse Practitioner (18),  
OR Specialization as an Family Nurse Practitioner (19)

### D.N.P. Leadership Component Courses (35-38)

#### Core Courses (20)

NURS 701 - Advanced Nursing Leadership (3)  
NURS 702 - DNP Research: Evidence-Based Practice Methods (3)  
NURS 704 - Clinical Prevention for Population Health (3)  
NURS 705 - Advanced Nursing Ethics (2)  
NURS 706 - Informatics for Evidence-Based Practice (3)  
UHHS 740 - Data Analysis in the Health Sciences (3)  
Cognate/Elective (3)

### Scholarly Project Courses for DNP (15-18)

NURS 710 - DNP Project I: Seminar (3)  
NURS 713 - DNP Project I: Practicum (2-3)  
NURS 720 - DNP Project II: Seminar (3)  
NURS 723 - DNP Project II: Practicum (2-3)  
NURS 730 - DNP Project III: Seminar (3)  
NURS 733 - DNP Project III: Practicum (2-3)

## Certificates of Graduate Study

### Post Master's Certificates

Two post-master's certificates of graduate study in nursing are offered: Family Nurse Practitioner and Nursing Education. The curriculum for each certificate is configured for part-time students and takes a minimum of three 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. Graduate School policy mandates that all course work toward a graduate certificate program is completed at NIU.

### Prerequisite Courses for Admission

The following courses (or a course equivalent to these) must have been completed within the past three years with an earned grade of B or higher:

NURS 602 - Advanced Pathophysiology across the Lifespan (3)  
NURS 605 - Advanced Pharmacology across the Lifespan (3)  
NURS 606 - Advanced Physical Assessment across the Lifespan (2)  
NURS 607 - Lab: Advanced Physical Assessment across the Lifespan (1)

For admission into all post master's certificate programs, a gap analysis of each applicant's transcript will be done to evaluate the following advanced courses: physiology/pathophysiology, pharmacology, and health assessment. Contingency-based admission to the program could be granted allowing students to complete these classes, if needed, within a designated timeframe from the date of admission.

### Admission

#### Eligibility to Apply

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.)

Completion of a nursing master's degree program accredited by an accrediting agency officially recognized by the U.S. Secretary of Education, such as the Commission on Collegiate Nursing Education (CCNE).

### Application Components

Completion of a special application available from the nursing program.

A two-page, double-spaced Goal Statement to address: Professional goals, desired family nurse practitioner or nursing education specialization, and how a post-master's certificate in the desired area will promote goal achievement. This statement should also include a paragraph regarding clinical practice experience in the past three years and the area(s) of practice.

Three professional letters of reference from persons who are familiar with the individual's clinical expertise, ability to function in an independent role, and motivation to complete a post-master's certificate course of study. At least one reference should be from a professor or graduate level-prepared nursing colleague who can address the applicant's potential for academic success. At least one reference must be from a current, professional nurse colleague (e.g., a supervisor) who can address the applicant's professional qualifications as a licensed professional registered nurse. References should be provided on the Graduate School reference form and

indicate the credentials and professional title of the person providing the reference. Ratings and comments should be included. Family members and personal friends are not considered professional references.

The approval of the nursing program Graduate Admissions Committee after review of the application.

All students are admitted to the nursing graduate programs provisionally until they have provided proof of meeting the clinical requirements outlined in the Graduate Nursing Student Handbook and then they will be fully admitted. Full admission to the nursing program is required to enroll in nursing courses.

### Post-Master's Family Nurse Practitioner Certificate (23)

The Family Nurse Practitioner certificate requires 23 semester hours of post-master's study. Course work includes classes, simulated laboratory experiences, and three clinical internships with designated preceptors. The purpose of the course of study is to provide the course work and clinical experience to become qualified to take a nationally-administered Family Nurse Practitioner Certification Examination.

#### Required Courses

- NURS 608 - Diagnostic Reasoning (2)
- NURS 650 - Primary Care: Women across the Lifespan (1)
- NURS 651 - Primary Care: Infant, Child, and Adolescent (3)
- NURS 652 - Primary Care: Adults across the Lifespan (3)
- NURS 654 - Primary Care: Women during Reproduction (1)
- NURS 653 - Internship: Infant, Child, and Adolescent (4)
- NURS 663 - Internship: Adults Across the Lifespan with an Emphasis on Women (4)
- NURS 673 - Internship: Adults across the Lifespan (4)
- NURS 698 - Capstone: Program Synthesis (1)

### Post-Master's Nursing Education Certificate (11-13)

This Nursing Education certificate requires 11-13 semester hours of post-master's study. Course work includes classes, simulated laboratory experiences, and two internships focused on supervised teaching experiences. The purpose of the course of study is to provide the course work and the teaching experiences to function as a nurse educator in a variety of educational and clinical settings.

If not taken within the past three years, students are required to take an advanced direct care course equivalent to NURS 603 - Education Practicum: Direct Care (2).

#### Required Courses

- NURS 603 - Nursing Education Practicum: Direct Care (2) (if not completed within previous three years)
- NURS 621 - Foundations in Nursing Education I (3)
- NURS 622 - Foundations in Nursing Education II (4)
- NURS 623 - Nursing Education Practicum: Classroom Setting (3)
- NURS 698 - Capstone: Program Synthesis (1)

### Course List (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.

601. TRANSITION TO GRADUATE-LEVEL NURSING (2). Enhancement of knowledge and skills necessary for successful development of the advanced nursing practice roles. Focus on skilled communication, including written, verbal and non-verbal language; and development of advanced critical thinking skills. PRQ: Admission to M.S. or post-bachelor's D.N.P. nursing program or consent of school.

602. ADVANCED PATHOPHYSIOLOGY ACROSS THE LIFESPAN (3). Underlying physiologic and pathophysiologic principles common to disease processes across the lifespan. Integration of current evidence and technologies from nursing and other disciplines. CRQ: NURS 601 or consent of school.

603. NURSING EDUCATION PRACTICUM: DIRECT CARE (2). Experience in an identified area of nursing practice with opportunities to integrate advanced knowledge and skills through a guided, multi-disciplinary, scholarly project to address a clinically-based issue or question. Refinement of clinical expertise in selected area. Expansion of the role of educator in professional nursing practice. CRQ: NURS 621 and consent of school.

604. ADVANCED EVIDENCE-BASED PRACTICE IN NURSING (3). Evaluation and integration of evidence to guide improvements in nursing practice and health outcomes in diverse individuals and populations. Exploration of the collaborative role of the nurse in ethical, evidence-based nursing practice and scholarship. CRQ: ETR 521 or PHHE 605; or BIOS 670; or consent of school.

605. ADVANCED PHARMACOLOGY ACROSS THE LIFESPAN (3). Principles of pharmacology for diverse populations across the lifespan. Emphasis on using clinical reasoning to analyze the processes of medications in managing patient health. Guidelines and procedures for prescribing and monitoring pharmacologic regimens used to treat common conditions. Comprehensive patient education related to all pharmacologic agents. Selected clinical experiences. PRQ: NURS 602 or consent of school.

606. ADVANCED PHYSICAL ASSESSMENT ACROSS THE LIFESPAN (2). Expansion of undergraduate level knowledge of physical assessment and health history. Emphasis on comprehensive physical, psychosocial, and cultural assessments across the lifespan. PRQ: NURS 602 or consent of school. CRQ: NURS 607 or consent of school.

607. LAB: ADVANCED PHYSICAL ASSESSMENT ACROSS THE LIFESPAN (1). Simulated and practice experiences in physical assessment and obtaining health histories for the development of advanced skill in physical, psychosocial, and cultural assessment across the lifespan. CRQ: NURS 606 or consent of school.

608. DIAGNOSTIC REASONING (2). Builds on knowledge base of history taking and physical examination to develop a systematic approach to assessing common complaints in patients across the lifespan. Emphasis on cognitive principles and clinical reasoning strategies that are required to combine and synthesize patient data into differential diagnosis, identify the benefits and risks of tests and treatments, and formulate plans for patient management. CRQ: NURS 606 or consent of school.

621. FOUNDATIONS IN NURSING EDUCATION I (3). Exploration of the philosophical and theoretical foundations of nursing education emphasizing nurse educator role formation. Analysis of legal, ethical, cultural, and sociopolitical factors affecting nursing education. Course development and teaching strategies in various settings. PRQ: NURS 601 or consent of school.

622. FOUNDATIONS IN NURSING EDUCATION II (4). Design and development of nursing curricula in education settings. Principles of assessment, measurement, and evaluation of learners, curricula, and programs in academic and healthcare settings. Focus on the use of evidence-based approaches in nursing curricular design and evaluation. PRQ: NURS 621 or consent of school.

623. NURSING EDUCATION PRACTICUM: CLASSROOM SETTING (3). Plan, implement, and evaluate the delivery of nursing education in the classroom environment utilizing multiple delivery methods. CRQ: NURS 622 and 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.

633. NURSING EDUCATION PRACTICUM: CLINICAL SETTING (2). Plan, implement, and evaluate the delivery of nursing education content in the clinical academic setting utilizing multiple delivery methods. CRQ: NURS 623 and consent of school.

650. PRIMARY CARE: WOMEN ACROSS THE LIFESPAN (1). Principles underlying the primary care management of common health and illness issues in women across the lifespan. Emphasis on the impact of health and illness on the individual within the context of diverse families. PRQ: NURS 605 and NURS 606 and NURS 607 and NURS 608; or consent of school.

651. PRIMARY CARE: INFANT, CHILD, AND ADOLESCENT (3). Principles underlying the 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 diverse families. PRQ: NURS 605 and NURS 606 and NURS 607 and NURS 608; or consent of school.

652. PRIMARY CARE: ADULT (3). Principles underlying the primary care management of common health and illness issues in adults across the lifespan (including young adults, adults, and older adults). Emphasis on the impact of health and illness on the individual within the context of diverse families. PRQ: NURS 605 and NURS 606 and NURS 607 and NURS 608; or consent of school.

653. INTERNSHIP: INFANT, CHILD, AND ADOLESCENT (4). Clinical experiences in the management of common health and illness conditions of infants, children, and adolescents in the primary care setting. Emphasis on the impact of health and illness on the individual within the context of diverse families. CRQ: NURS 651 and consent of school.

654. PRIMARY CARE: WOMEN DURING REPRODUCTION (1). Principles underlying the primary care management of common health and illness issues in women during reproduction. Emphasis on the impact of health and illness on the individual within the context of diverse families. PRQ: NURS 605 and NURS 606 and NURS 607 and NURS 608; or consent of school.

661. ADULT-GERONTOLOGY PRIMARY CARE I: ADULTS ACROSS THE LIFESPAN (3). Principles underlying the primary care management of common health and illness issues across the adult lifespan (including young adults, adults, and older adults). Emphasis on the impact of health and illness on the individual within the context of culturally diverse families. PRQ: NURS 605 and NURS 606 and NURS 607 and NURS 608; or consent of school.

662. ADULT-GERONTOLOGY PRIMARY CARE II: ADULTS ACROSS THE LIFESPAN (3). Principles underlying the primary care management of common health and illness issues across the adult lifespan (including young adults, adults, and older adults). Emphasis on the impact of health and illness on the individual within the context of culturally diverse families. PRQ: NURS 605 and NURS 606 and NURS 607 and NURS 608; or consent or school.

663. INTERNSHIP: ADULTS ACROSS THE LIFESPAN WITH AN EMPHASIS ON WOMEN (4). Clinical experiences in the management of common health and illness conditions of adults across the lifespan. Emphasis on the impact of health and illness on the individual within the context of diverse families. CRQ: NURS 661 or NURS 662 for Adult-Gerontology Primary Care Nurse Practitioner students. CRQ: NURS 664; and NURS 661 or NURS 662 for Adult-Gerontology Clinical Nurse Specialist students, CRQ: NURS 652 and NURS 654 for Family Nurse Practitioner Students. CRQ: NURS 650 and consent of school for all specializations.

664. TERTIARY CARE PRACTICE OF THE ADULT-GERONTOLOGY CLINICAL NURSE SPECIALIST (2). Adult-Gerontology Clinical Nurse Specialist tertiary care practice in health promotion and management of human responses to health alterations across the adult lifespan (including young adults, adults, and older adults). Focus on epidemiology, symptomatology, interventions, and management. Emphasis on selected alterations that result in need for critical care interventions. PRQ: NURS 605 and NURS 606 and NURS 607 and NURS 608, or consent of school. CRQ: NURS 661 or NURS 662; or consent of school.

673. INTERNSHIP: ADULTS ACROSS THE LIFESPAN (4). Clinical experiences in the management of common health and illness conditions of adults across the lifespan (including young adults, adults, and older adults) in the primary care setting. Emphasis on the impact of health and illness on the individual within the context of diverse families. May be repeated to a maximum of 12 credit hours. CRQ: NURS 661 or NURS 662 for Adult-Gerontology Primary Care Nurse Practitioner students. CRQ: NURS 664; and NURS 661 or NURS 662 for Adult-Gerontology Clinical Nurse Specialist students. CRQ: NURS 652 for Family Nurse Practitioner students. CRQ: Consent of school for all specialist students.

681. X-RAY INTERPRETATION (½). Clinical skills related to the assessment and management of patients with presentation of conditions requiring radiologic imaging. Focus on the presentation and diagnosis of conditions that are high volume or high risk. PRQ: NURS 601 or consent of school.

682. SUTURING AND OFFICE PROCEDURES (½). Basic and advanced skills in the management of wounds and select dermatological conditions. Emphasis on conditions that are high volume. PRQ: NURS 601 or consent of school.

684. ELECTROCARDIOGRAM INTERPRETATION (½). Clinical skills related to the assessment and management of patients with presentation of conditions requiring electrocardiogram interpretation. Focus on the presentation and diagnosis of conditions that are high volume or high risk. PRQ: NURS 601 or consent of school.

685. ORTHOPEDIC SKILLS (½). Clinical skills related to the assessment and management of patients with presentation of orthopedic injuries. Focus on the presentation and diagnosis of conditions that are high volume. PRQ: NURS 601 or consent of school.

686. BILLING AND CODING PROCESSES (½). Business skills related to reimbursement by governmental and private third-party insurance payers of healthcare services. Includes documentation required for billing and coding. PRQ: NURS 601 or consent of school.

698. CAPSTONE: PROGRAM SYNTHESIS (1). Demonstrate achievement of all the Essentials of Master's Education in Nursing. CRQ: Final Internship/Practicum and consent of school.

701. ADVANCED NURSING LEADERSHIP (3). Leadership and organizational theories with an emphasis on advanced nursing practice within complex organizational systems. Development of advanced nursing practice leadership skills with the purpose of collaborating with multiple disciplines. Preparation to lead multiple constituencies for ongoing improvement of health outcomes among individuals, aggregates, and systems. Quality improvement strategies and resource utilization are addressed ensuring accountability for quality health care and patient safety. Exploration of health policy development. PRQ: Admission to the nursing graduate program or consent of school.

702. DNP RESEARCH: EVIDENCE-BASED PRACTICE METHODS (3). Application of evidence to guide improvements in practice and health outcomes. Methods for translating research and developing, implementing, and evaluating evidence-based practice guidelines and quality improvements in practice will be emphasized. Collaborative role in knowledge generation research and dissemination of evidence-based practices. PRQ: Admission to the D.N.P. program or consent of school. CRQ: UHHS 740.

704. CLINICAL PREVENTION FOR POPULATION HEALTH (3). In-depth analysis of population health and its dimensions. Exploration of models and strategies for clinical prevention to promote health, reduce risks, and prevent illnesses. Examination of the relationships between healthcare delivery models and health outcomes. Emphasis will be placed on leadership in advanced nursing practice and in other disciplines in designing, implementing, and evaluating clinical prevention services. PRQ: Admission to the nursing graduate program or consent of school.

705. ADVANCED NURSING ETHICS (2). Application of theories of ethics to evaluate evidence-based innovations designed for diverse populations in complex healthcare systems. Emphasis on comprehensive ethical analysis that considers multiple perspectives and integrates advocacy and collaboration to justify innovations intended to improve quality and outcomes. PRQ: Admission to the D.N.P. program or consent of school.

706. INFORMATICS FOR EVIDENCE-BASED NURSING (3). Advanced practice use of nursing informatics to promote and inform evidence-based practice in a healthcare setting. Emphasis on application and evaluation of informatics and technology to improve healthcare access, settings, efficiency, and cost. PRQ: Admission to the nursing graduate program or consent of school.

710. DNP PROJECT I: SEMINAR (3). Assessment and planning of the DNP Project to address an emerging or current healthcare practice problem or issue in a specific healthcare setting. Development of a proposal to implement a system-wide healthcare policy, service, or practice innovation that contributes to evidence-based practices or quality improvement at a local, regional, or national level. Activities focused on refinement of the issue statement, analysis of background, knowledge synthesis, and detailed planning for implementation and evaluation. Formal defense of a final written project proposal. PRQ: NURS 704 and NURS 705 and NURS 706; or consent of school. CRQ: NURS 713 or consent of school.

713. DNP PROJECT I: PRACTICUM (2-3). Practice experiences, practice hours and collaborative partnerships in a healthcare setting for purposes of assessing and planning the DNP Project and affording practice opportunities to apply, integrate and synthesize the DNP Essentials. DNP Project planning activities will focus on: changes that impact healthcare outcomes with a systems or population focus, demonstrate practice implementation, a plan for real sustainability and evaluation, and a foundation for future practice scholarship. CRQ: NURS 710 or consent of school.

720. DNP PROJECT II: SEMINAR (3). Implementation of the proposed DNP Project to address a specific healthcare issue through a system-wide intervention in a healthcare setting. Focused discussion, problem solving, and collaboration to facilitate project implementation and completion. PRQ: NURS 710 or consent of school. CRQ: NURS 723 or consent of school.

723. DNP PROJECT II: PRACTICUM (2-3). Practice experiences, practice hours and collaborative partnerships in a healthcare setting for purposes of implementing the DNP Project and affording practice opportunities to apply, integrate and synthesize the DNP Essentials. DNP project activities will focus on implementing the proposed plan while collaborating with stakeholders, and developing strategies to obviate unforeseen barriers to project implementation. PRQ: NURS 713 or consent of school. CRQ: NURS 720 or consent of school.

730. DNP PROJECT III: SEMINAR (3). Evaluation and reporting of the DNP Project to address a specific healthcare issue through a system-wide intervention in a healthcare setting. Focus of activities will be on discussion, collaboration to facilitate project evaluation, and final reporting. Oral defense of the project will be followed by dissemination to the target healthcare setting. PRQ: NURS 720 or consent of school. CRQ: NURS 733 or consent of school.

733. DNP PROJECT III: PRACTICUM (2-3). Practice experiences, practice hours and collaborative partnerships in a healthcare setting for purposes of evaluating the DNP Project and affording practice opportunities to apply, integrate and synthesize the DNP Essentials. DNP activities will focus on final analysis of outcome data, collaborating with stakeholders, and developing strategies to address unforeseen barriers during evaluation. PRQ: NURS 723 or consent of school. CRQ: NURS 730 or consent of school.

# College of Liberal Arts and Sciences

**Acting Dean: Judy Ledgerwood, Ph.D.**

**Associate Dean for Undergraduate Affairs: David S. Ballantine, Jr., Ph.D.**

**Associate Dean for Research and Graduate Affairs: Leslie Matuszewich, Ph.D.**

**Associate Dean for Academic Administration: Kirk Miller, Ph.D.**

School of Public and Global Affairs  
 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 Geographic and Atmospheric Sciences  
 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 Public Administration  
 Department of Sociology  
 Department of Statistics and Actuarial Science  
 Department of World Languages and Cultures

## 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

### Law and Women's and Gender Studies

**Coordinator: Kristen Myers (Center for the Study of Women, Gender and Sexuality)**

Course work leading to the certificate of graduate study in law and women's and gender studies permits study of the intersection of gender and the law through a systematic engagement with feminist theory, scholarship on women and gender, and legal scholarship. Completion of the certificate requirements results in recognition on the student's transcript. The certificate is available to students in good standing in the College of Law or 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 come from a variety of departments and colleges.

Students interested in pursuing this certificate are advised to consult with the director of the Center for the Study of Women, Gender, and Sexuality or the associate dean of the College of Law as early as possible in their graduate program to determine the program of courses to be used toward the certificate.

#### Requirements (12)

Students must complete one course from each of the following sections I through IV. With the approval of the associate dean of the College of Law and the director of the Center for the Study of Women, Gender, and Sexuality, topics courses in the College of Law may meet the certificate requirements under Section III when substantial treatment of law and women's and gender studies is included in the course.

With the approval of the director of the Center for the Study of Women, Gender, and Sexuality, independent study and topics courses in a variety of departments may meet the certificate requirements under Section IV when substantial treatment of law and women's and gender studies is included in the course. Non-law students may register for Law courses only with approval of the associate dean of the College of Law.

- I. WGSS 605 - Feminist and Queer Theories (3)
- II. One of the following (3-4)
  - LAW 800<sup>1,2</sup> - Externship (4)
  - LAW 805<sup>1</sup> - Domestic Abuse Clinic (4)
  - WGSS 602<sup>3</sup> - Internship in Women, Gender, and Sexuality Studies (3)
- III. One of the following (2-3)
  - LAW 610 - Family Law (3)
  - LAW 672 - Employment Discrimination (2)
  - LAW 685 - Gender and the Law (3)
  - LAW 693 - Gender and the Constitution (3)
  - LAW 696 - Sexuality and the Law (3)
  - LAW 795<sup>2</sup> - Directed Research (3)
  - LAW 900<sup>2</sup> - Seminar (3)
- IV. One of the following (2-4) or an additional course from Section II
  - ANTH 522 - Gender in Southeast Asia (3)
  - ANTH 568 - Anthropology of Gender (3)
  - HESA 759 - Critical Feminist Pedagogies in Higher Education (3)
  - CAHC 592<sup>4,5</sup> - Special Topics in Counseling (1-3)
  - CAHC 595 - Career Counseling and Development in a Multicultural Society (3)
  - COMS 640 - Seminar in Communication and Gender (3)
  - EPFE 590<sup>4,5</sup> - Workshop in Education (1-3)

<sup>1</sup>Available only to College of Law students.

<sup>2</sup>Topic and placement require advance approval by associate dean of the College of Law and director of the Center for the Study of Women, Gender, and Sexuality.

<sup>3</sup>Topic and placement require advance approval by director of Women's, Gender, and Sexuality Studies.

<sup>4</sup>May meet the certificate requirements when substantial treatment of women's and gender studies is included.

<sup>5</sup>Requires advance approval of the director of Women's, Gender, and Sexuality Studies.

EPFE 703 - Seminar: Gender Issues in Educational Thought (3)  
 HDFS 600<sup>4,5</sup> - Seminar: In Contemporary Issues in Applied Human Development and Family Sciences (3)  
 HIST 502 - Gender and Sexuality in History (3)  
 HIST 573 - Topics in Women's History (3)  
 HIST 610<sup>4,5</sup> - Reading Seminar in U.S. History (3)  
 LGBT 650 - Lesbian, Gay, Bisexual, and Transgender Studies (3)  
 MGMT 528 - Equal Opportunity and Employment (3)  
 PSYC 595<sup>4,5</sup> - Seminar in Special Topics (3)  
 SOCI 552 - Women's Health Issues (3)  
 SOCI 557 - Families in Global Perspective (3)  
 SOCI 587 - Gender and Crime (3)  
 WGSS 530 - Special Topics in Women, Gender, and Sexuality Studies (3)  
 (Requires advance approval of the director of Women, Gender, and Sexuality Studies.)  
 WGSS 534 - Language and Gender (3)  
 WGSS 610 - Research Methods in Women, Gender, and Sexuality Studies (3)  
 WGSS 620<sup>5</sup> - Topics in Women, Gender, and Sexuality Studies (3)  
 WGSS 625X/ART 625 - Museums: Gender, Race, and Class (3)  
 WGSS 639<sup>5</sup> - Independent Study in Women, Gender, and Sexuality Studies (1-3)

## Lesbian, Gay, Bisexual, and Transgender Studies (12)

### Coordinator: Kristen Myers (Center for the Study of Women's, Gender, and Sexuality)

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, transgender, and queer 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 interested in pursuing this certificate are advised to consult with the director of the Center for the Study of Women, Gender, and Sexuality or the program adviser as early as possible in their graduate studies to determine the program of courses to be used toward the certificate.

### Requirements (12)

WGSS 605 - Feminist and Queer Theories (3)

One of the following (3)

WGSS 602 - Internship in Women, Gender, and Sexuality Studies (3-6), or an equivalent internship course approved by the coordinator or adviser. The internship experience must include activities related to LGBTQ+ Studies.

WGSS 610 - Research Methods in Women, Gender and Sexuality Studies (3)

Two of the following<sup>3</sup> (6)

ANTH 522 - Gender in Southeast Asia (3)

ANTH 568 - Anthropology of Gender (3)

CAHC 594 - Counseling the Lesbian, Gay, Bisexual, Transgender and Queer Community (3)

CAHC 766 - Human Sexuality Counseling (3)

COMS 640 - Seminar in Communication and Gender (3)

COMS 760<sup>2</sup> - Seminar in Rhetoric (3)

ENGL 607<sup>2</sup> - Topics in Literature (3)

HIST 502 - Gender and Sexuality in History (3)

ILAS 602 - Internship (3)

PHHE 506 - Dimensions of Human Sexuality (3)

WGSS 620<sup>2</sup> - Topics in Women, Gender, and Sexuality Studies (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.

## Southeast Asian Studies (12-22)

### Director: Judy Ledgerwood (Center for Southeast Asian Studies)

The Center for Southeast Asian Studies offers a certificate program designed for graduate students completing master's or doctoral programs at NIU as well as for individuals for whom knowledge of the region would further their professional and intellectual development (school teachers, mid-career managers, government employees, and non-governmental/non-profit agency staff. The certificate can serve as an important professional credential for employment in an increasingly globalized world. The certificate is available to students in good academic standing in any NIU graduate program or in the graduate-level classification of student-at-large.

The certificate incorporates an interdisciplinary approach to the study of Southeast Asia offering students an opportunity to conceptualize Southeast Asia from diverse perspectives including: anthropology, linguistics and literature, history, political science, arts and music.

The certificate requires proficiency in a Southeast Asian language (equivalent to one year of language courses [10 hours]). Students may test out of the language requirement; native speakers from Southeast Asia may have the language requirement waived. In addition to the language, the certificate requires a series of four courses offered, on-campus or on-line, by the center's affiliated academic units including one core course and three elective courses selected from the three categories below—one from each category.

### Requirements (12-22)

SEAS 625 - Southeast Asia: Crossroads of the World (3)

One of the following (3) - Culture and Arts

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 in Southeast Asia (3)

ANTH 526 – Political Anthropology (3)

ANTH 528 – Ritual and Myth (3)

ANTH 590A-J<sup>1</sup> – Anthropological Research Training (3-6)

ANTH 593<sup>1</sup> – Anthropology Field Study (1-6)

ANTH 621 – Advanced Topics in Southeast Asian Ethnology (3)

ANTH 628 – Religion and Cosmology in Southeast Asia (3)

ANTH 690A-J<sup>1</sup> – Independent Study in Anthropology (1-3)

ANTH 790A-J<sup>1</sup> – Seminar in Anthropology (3)

ARTH 570<sup>1</sup> – Studies in Asian Art (3)

ARTH 657<sup>1</sup> – Topics in Asian Art (3)

ARTH 701<sup>1</sup> – Seminar in Art History (3)

ARTH 703<sup>1</sup> – Independent Study in the History of Art (3)

FLIN 521 – Introduction to Indonesian Literature (3)

FLIS 581<sup>1</sup> – Independent Study in a Foreign Language (1-6)

FLST 581<sup>1</sup> – Special Topics in Literature I (3)

FLST 582<sup>1</sup> – Special Topics in Literature II (3)

FLST 583<sup>1</sup> – Special Topics in Linguistics (3)

MUHL 531 – Music of Southeast Asia (3)

MUSE 670 – Gamelan (1)

<sup>1</sup> Courses may meet the certification requirements when they include substantial treatment of Southeast Asia.

<sup>2</sup> May be counted toward the certificate when topic is appropriate.

<sup>3</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.

<sup>4</sup> May meet the certificate requirements when substantial treatment of women's and gender studies is included.

<sup>5</sup> Requires advance approval of the director of Women's, Gender, and Sexuality Studies.

One of the following (3) - Geography and History

- GEOG 508<sup>2</sup> – Tropical Environmental Hazards (3)
- GEOG 758<sup>2</sup> – Readings in Geography (1-3)
- GEOG 771A-J<sup>2</sup> – Independent Research (1-3)
- HIST 542 – History of Buddhist Southeast Asia (3)
- HIST 543 – History of Islamic Southeast Asia (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>2</sup> – America and Asia (3)
- HIST 575 – The United States and Southeast Asia and the Indian Subcontinent (3)
- HIST 591J<sup>2</sup> – Special Topics in History: Asian (3)
- HIST 660<sup>2</sup> – Reading Seminar in Asian History (3)
- HIST 680<sup>2</sup> – Reading Seminar in Global History (3)
- HIST 736J<sup>2</sup> – Independent Study: Asian (1-3)
- HIST 756J<sup>2</sup> – Directed Research: Asian (3-6)
- HIST 760<sup>2</sup> – Research Seminar in Asian History (3)

One of the following (3) - Politics and Southeast Asian Studies

- POLS 595<sup>2</sup> – Seminar in Current Problems (3)
- POLS 662<sup>2</sup> – Seminar in Political Culture (3)
- POLS 667<sup>2</sup> – Seminar in Political Development (3)
- POLS 668<sup>2</sup> – Seminar in the Political Economy of Developing Areas (3)
- POLS 670 – Reading Seminar in Southeast Asian Politics (3)
- POLS 672<sup>2</sup> – Topics in Comparative 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 690<sup>2</sup> – Political Science Research (1-3)
- POLS 696<sup>2</sup> – Independent Study in Political Science (1-6)
- POLS 702<sup>2</sup> – Research Seminar in Comparative and International Politics (3)
- POLS 796<sup>2</sup> – Independent Study in Political Science (1-6)
- PSPA 672<sup>2</sup> – Administrative Problems of Less Developed Countries (3)
- SEAS 590 – Advanced Topics in Interdisciplinary Studies (3)
- SEAS 690 – Workshop in Teaching Southeast Asian Studies (1-3)
- SEAS 691 – Seminar in Southeast Asian Studies (1-3)

Other courses with significant Southeast Asian Studies content, to be approved by the Director of the Center for Southeast Asian Studies (3)

## Women's and Gender Studies (12)

**Coordinator: Kristen Myers (Center for the Study of Women, Gender and Sexuality)**

Women's and Gender 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 and gender 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 Center for the Study of Women, Gender and Sexuality is not a degree-offering unit, all graduate degrees are obtained through the student's major department, whose special requirements must be met. Faculty who regularly teach courses which contribute to the certificate or participate in the core courses come from a variety of departments.

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 and Gender Studies coordinator, or the program adviser. Students may earn transcript credit for the certificate by completing 12 hours in courses approved by the director of the Center for the Study of Women, Gender and Sexuality, 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 Center for the Study of Women, Gender and Sexuality. Students may enroll in internships combining their professional interests with their preparation in women's and gender studies.

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. Students interested in pursuing this certificate are advised to consult with the director of the Center for the Study of Women, Gender and Sexuality or the program adviser as early as possible in their graduate studies to determine the program of courses to be used toward the certificate.

### Requirements (12)

WGSS 605 - Feminist and Queer Theories (3)

WGSS 610 - Research Methods in Women's, Gender, and Sexuality Studies (3)

Two of the following (6)

- ANTH 522 - Gender in Southeast Asia (3)
- ANTH 541 - Sex and Gender in Primates (3)
- ANTH 568 - Anthropology of Gender (3)
- ARTH 785<sup>1</sup> - Topics in Art History (3)
- HESA 759 - Critical and Feminist Pedagogies in Higher Education (3)
- CAHC 592<sup>1</sup> - Special Topics in Counseling (1-3)
- CAHC 594 - Counseling the Lesbian, Gay, Bisexual, Transgender and Queer Community (3)
- CAHC 595 - Career Counseling and Development in a Multicultural Society (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: Feminist 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)
- FLFR 545 - French Women Writers (3)
- FLSP 539 - Women Authors in Hispanic Literature (3)
- FLSP 545 - Latin American Women Writers (3)
- HDFS 600<sup>1</sup> - Seminar: In Contemporary Issues in Applied Human Development and Family Sciences (1-12)
- HDFS 674 - Clothing and Human Behavior (3)
- HIST 502 - Gender and Sexuality in History (3)
- HIST 507 - Medieval Women (3)
- HIST 573 - Topics in Women's History (3)
- HIST 610<sup>1</sup> - Reading Seminar in U.S. History (3)
- MGMT 528 - Equal Opportunity and Employment (3)
- NUTR 602 - Issues in Eating Disorders and Obesity (3)
- NUTR 616 - Nutritional Factors in Obesity and Eating Disorders (3)
- PSYC 595<sup>1</sup> - Seminar in Special Topics (3)
- SOCI 550 - Social Inequality (3)
- SOCI 552 - Women's Health Issues (3)
- SOCI 557 - Families in Global Perspective (3)
- SOCI 587 - Gender and Crime (3)
- TLCI 540 - The Gender Sensitive Curriculum (3)
- WGSS 524 - Topics in Gender and STEM (3)
- WGSS 530 - Special Topics in Women, Gender, and Sexuality Studies (3)
- WGSS 534 - Language and Gender (3)
- WGSS 602 - Internship in Women, Gender, and Sexuality Studies (3-6)
- WGSS 620 - Topics in Women, Gender, and Sexuality Studies (3)
- WGSS 625X/ART 625 - Museums: Gender, Race, and Class (3)
- WGSS 639 - Independent Study in Women, Gender, and Sexuality 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 Center for the Study of Women, Gender and Sexuality or the program adviser when substantial treatment of women, gender, and sexuality studies is included in the course.

<sup>1</sup> May meet the certificate requirements when substantial treatment of women's and gender studies is included.

<sup>2</sup> Courses may meet the certification requirements when they include substantial treatment of Southeast Asia.

## Secondary Educator Licensure

Several departments in the College of Liberal Arts and Sciences administer programs leading to initial educator licensure. See "Educator Licensure Information" for a complete list of educator licensure 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 Educator Licensure Programs in Liberal Arts and Sciences

All of the educator licensure 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 licensure under ISBE entitlement. Students with a baccalaureate degree from an accredited institution interested in secondary educator licensure 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 licensure program in any department. (Students should seek transcript evaluation and advisement from the appropriate department licensure adviser concerning departmental requirements for admission to the educator licensure 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 licensure program (see above list) for information about courses which meet these requirements.

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 Licensure 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 licensure 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 licensure.

See department licensure adviser. Also see "Educator Licensure Information."

### 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 three 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 five 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 550 - Molecular Biology of Cancer (3)  
 BIOS 555 - Comparative Physiology (3)  
 BIOS 561 - Endocrinology (3)  
 BIOS 564 - Cell Signalling (3)  
 BIOS 565 - Cellular Physiology (3)  
 BIOS 567 - Advanced Molecular Biology of Eukaryotes (3)  
 BIOS 616 - Plant Metabolism (3)  
 BIOS 632 - Radiation Biology (3)  
 BIOS 636 - Experiments in Molecular Genetics of Prokaryotes (2)  
 BIOS 638 - Molecular Genetics of Prokaryotes (3)  
 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 700 - Special Topics in Biology (1-9)  
 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 622 - Analytical Separations (3)  
 CHEM 623 - Mass Spectrometry (3)  
 CHEM 624 - Optical Methods in Analytical Chemistry (3)  
 CHEM 631 - Organic Synthesis (3)  
 CHEM 632 - Physical Organic Chemistry (3)  
 CHEM 635 - Spectroscopic Identification of Organic Molecules (3)  
 CHEM 644 - Chemical Thermodynamics (3)  
 CHEM 645 - Kinetics (3)  
 CHEM 646 - Theoretical Chemistry (3)  
 CHEM 650 - Nanochemistry (3)  
 CHEM 674 - Enzymes (3)  
 CHEM 675 - Physical Chemistry of Macromolecules (3)  
 NUTR 611 - Maternal and Child Nutrition (3),  
     OR NUTR 612 - Geriatric Nutrition (3),  
     OR NUTR 613 - Advanced Sports Nutrition (3)  
 NUTR 645 - Macronutrients (3)  
 NUTR 646 - Micronutrients (3)  
 PHYS 531 - Medical Imaging (3)  
 PHYS 659 - Special Problems in Physics (1-10)

PSYC 581 - Drugs and Behavior (3)  
 PSYC 603 - Biopsychology (3)  
 PSYC 629 - Neurophysiological Bases of Behavior (3)  
 PSYC 630 - Neurochemical Bases of Behavior (3)

## Interdisciplinary Courses Offered by the College of Liberal Arts and Sciences (ENVS, ILAS, WGST)

### Environmental Studies (ENVS)

509. WATER QUALITY (4). *Crosslisted as BIOS 509X and GEOL 509X.* Survey of microbiological and chemical parameters affecting water quality and their associated public health aspects. Topics include microbial detection methods, waterborne disease, organic and inorganic parameters, drinking water, wastewater treatment plants, source water, and risk assessment. Lectures, laboratories, and a field trip.

681. FIELD RESEARCH IN POLITICAL ECOLOGY (6). In-depth expertise in theory and methods of the interdisciplinary field of political ecology. Includes intensive introduction to political ecology theory, followed by a mentored political ecology research project with a faculty member. Concurrent workshop gatherings for lessons and discussion of methodological issues confronted in research projects. Course work in ethnographic and/or quantitative research methodologies OR demonstration of equivalent research experience expected prior to enrollment. PRQ: ANTH 560 or SOCI 677 or WGST 630; or consent of department.

### Interdisciplinary Liberal Arts and Sciences (ILAS)

501. CLINICAL EXPERIENCE IN HIGH SCHOOLS (1-3). Discipline related clinical experiences for prospective secondary teachers. An overview of teaching as a profession and of contemporary problems in public schools with a focus on practical application of relevant educational theories. Includes a minimum of 30 clock hours of supervised and formally evaluated participation in a variety of high school instructional settings, and seminars on topics relevant education topics and current educational issues. S/U grading. Can be repeated for a total of 3 semester hours. PRQ: Consent of discipline department.

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.

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.

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.

### Southeast Asian Studies (SEAS)

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.

625. SOUTHEAST ASIA: A MULTIDISCIPLINARY PERSPECTIVE (3). Interdisciplinary introduction to the varied nations and cultures of Southeast Asia at the advanced level. Taking a "great books" approach, the course reviews classics in the field by setting them in contrast to recent important books that extend or challenge these classic approaches. Covers history, politics, anthropology, gender concepts, religion and art.

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, Gender, and Sexuality Studies (WGSS)

524. TOPICS IN GENDER AND STEM (3). Selected issues and topics pertaining to gender and science, technology, engineering, and mathematics; how gender and sexuality are defined by and define these fields; contributions of women to scientific developments.

530. SPECIAL TOPICS IN WOMEN, GENDER, AND SEXUALITY 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 and gender studies.

534. LANGUAGE AND GENDER (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, GENDER, AND SEXUALITY STUDIES (3-6). Work as an intern in activities related to women's and gender studies. Scholarship 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.<sup>1</sup>

605. FEMINIST AND QUEER THEORIES (3). Concepts, methods, and development of feminist and queer theories; systematic overview of schools of feminist theory and queer studies as they are grounded in different social identities and epistemological perspectives; implications of these theories for scholarly research and social change.

610. RESEARCH METHODS IN WOMEN, GENDER, AND SEXUALITY STUDIES (3). Interdisciplinary analysis of principles, methods, and bibliographic resources for the study of gender and sexuality, for evaluating the relevance of scholarship in women's studies and LGBT studies to traditional disciplines. Focus on theoretical perspectives and methodological issues central to research on social justice and action research, so as to prepare students to conduct feminist and queer inquiry. Fosters the development of skills in integrating gender and sexuality-related research and criticism in students' area of academic specialization.

620. TOPICS IN WOMEN, GENDER, AND SEXUALITY STUDIES (3). Topics announced. May be repeated to a maximum of 6 semester hours when topic varies. PRQ: Consent of director.

<sup>1</sup>Complete proposals must be submitted for the program director's approval a minimum of two weeks before classes begin. Proposal forms are available from the Women's, Gender, and Sexuality Studies office and web site.

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.

639. INDEPENDENT STUDY IN WOMEN, GENDER, AND SEXUALITY STUDIES (1-3). Student must present research prospectus approved by a faculty member before a permit is granted. PRQ: WGST 610 and WGST 605 or consent of the director of the Center for the Study of Women's, Gender, and Sexuality.<sup>1</sup>

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<sup>1</sup>Complete proposals must be submitted for the program director's approval a minimum of two weeks before classes begin. Proposal forms are available from the Women's, Gender, and Sexuality Studies office and web site.

# School of Public and Global Affairs

Director: TBA

The School of Public and Global Affairs spans academic boundaries within the university to foster interdisciplinary programs and collaborative relationships among students, staff, and faculty throughout Northern Illinois University. Membership in the school includes the Department of Economics, Department of Political Science (POLS), Department of Public Administration (PSPA), the Non-Governmental Leadership and Development Center (NGOLD), and individual memberships, especially faculty engaged with specific interdisciplinary degree programs.

The school is focused on the interdisciplinary nature of governance problems and issues with an emphasis on public, private, and nonprofit collaborative relationships that seek to improve communities and individuals in the United States and around the world. The school fosters and supports collaboration by member units and individuals to address public affairs challenges with interdisciplinary curricula, scholarship, training, and professional and public services with a local, national, and global perspective. The school supports the degrees, minors, and certificates offered by member units.

# Department of Anthropology (ANTH)

Chair: Kendall Thu

## Graduate Faculty

Giovanni Bennardo, Presidential Research Professor, Ph.D., University of Illinois  
 Kristen Borre, instructor, Ph.D., University of North Carolina  
 Mitchell Irwin, associate professor, Ph.D., Stony Brook University  
 Judy L. Ledgerwood, Presidential Engagement Professor, Ph.D., Cornell University  
 Emily McKee, associate professor, Ph.D., University of Michigan  
 Leila Porter, professor, Ph.D., Stony Brook University  
 Kerry Sagebiel, instructor, Ph.D., University of Arizona  
 Mark Schuller, associate professor, Ph.D., University of California  
 Kendall Thu, Presidential Engagement 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.

The student learning outcomes for this degree are located at <http://www.niu.edu/assessment/clearinghouse/outcomes/index.shtml>.

### 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  
 Linguistic anthropology  
 Physical anthropology

At least 18 additional semester hours, of which at least 12 must be in anthropology. For students electing to write a thesis, the additional 12 hours in anthropology may include six hours of ANTH 699.

Consequently, of the total 30 hour credit requirement for the thesis option, 6 hours may come from ANTH 699.

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)

504. PEOPLES AND CULTURES OF THE CARRIBEAN (3). A holistic view of the Caribbean region examining scholars and outsiders' representations. Topics include slavery and its impacts on racial/ethnic identities and categories, economies, food production, trade and the region's rich and diverse expressive culture. Contemporary sociopolitical and economic aspects are discussed.

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.

509. CULTURES AND SOCIETIES OF THE MIDDLE EAST (3). Studies the peoples and societies of the Middle East and North Africa from an anthropological perspective. Explores problems of cross-cultural examination and the role of anthropology in the formation of the idea of the "Middle East" as an area of study. Examines and problematizes key themes commonly linked with the region, such as tribe and state, family and kinship, gender and sexuality, honor and shame, tradition and modernity, and religion and secularism. Includes ethnographies based on field work in the region, contemporary news reports, and films.

510. ENVIRONMENTAL ARCHAEOLOGY (3). Introduction to methods and theories relevant to analysis and interpretation of past human-environment interactions, by examination of historical and current theoretical literature. Emphases on outlining the kind of environmental data that survives in the archeological record (geological, botanical, faunal, chemical), recovery and analytical methods, and inferences made from these data to understand human-environment dynamics. Topical themes include the use of archeological sites as paleoenvironmental archives, plant and animal domestication, human impacts on ancient environments, and cultural collapse/resilience.

511. SETTLEMENT OF THE AMERICAS (3). Introduction to initial human settlement of the western hemisphere. Major themes include: Chronology and migration routes of early settlement; important archeological sites in North, Central, and South America, environmental and landscape change, human impacts on environments, theories of human biogeography (migration and colonization), and current methods accelerating the pace of discoveries.

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.

516. HUMAN MIGRATION (3). Examines key events in human development and landscape evolution that led to successful migrations. Compares human migration episodes in different times and places, and discusses questions related to why humans move, environmental constraints and opportunities to human movement, hominid species similarities and differences with respect to inhabited ranges and migration patterns, and the role of evolution and technological development.

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 working environment of most of the archaeology that is done within the United States.

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.

523. ENVIRONMENTAL ANTHROPOLOGY OF THE MIDDLE EAST: CULTURAL AND POLITICAL ECOLOGIES (3). Anthropological approaches to humans in their environments, particularly cultural ecology and political ecology, to examine the Middle East and North Africa. Study of the particular political systems, livelihoods, landscapes, and belief systems that have developed there.

524. ANTHROPOLOGY OF PEACE AND CONFLICT RESOLUTION (3). A look at the anthropological and crosscultural literature on peace and conflict, including the debate over human nature and innate tendencies toward aggression and violence. Critical discussions on a wide range of theories drawing on political anthropology, the state, globalization, ethnicity and identity for analyzing conflict, looking especially at the role of culture, religion and indigenous forms of dispute management.

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). An examination of politics and dynamically interactive power relations between global, regional, national and local cultural contexts. Discussion of how power relations are an aspect of all institutions and social relationships within a society. Presentation of theories on politics and power.

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.

529. INTERNATIONAL NGOS AND GLOBALIZATION (3). Review of the history of international nongovernmental organizations (INGOs) particularly changes since the advent of neoliberal globalization beginning in the late 1980s that heralded an "NGO boom." An ethnographic examination of the political roles of INGOs and challenges negotiating multiple relationships with communities, governments, and social movements. PRQ: Junior standing or consent of instructor.

532. NATURE AND THE ENVIRONMENT ACROSS CULTURES (3). Investigation of the different ways people conceptualize nature and the environment across cultures. Focus on out-of-awareness cultural models, that is, intermediary mental organizations of meaning that stand between universal concepts and culturally bound realizations. Critical evaluation of a number of projects that attempt to use local and/or indigenous knowledge in managing the relationship between people, nature, and the environment is included.

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). A survey of 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.

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*. A survey of the primate fossil record with an emphasis on adaptation 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). Detailed study of the skeletal anatomy of living primates including primate dental and skeletal adaptations, phylogeny, speciation, and biogeography.
549. PRIMATES AND FOOD (3). Broad overview of primate nutritional ecology, examining both sides of an evolutionary process: how primate adaptations improve success in acquiring nutrients, and how plant adaptations discourage or encourage herbivory. Studies the chemical properties of food as well as primates' anatomical, physiological, and behavioral adaptations to their food. Includes critical examination of dietary reconstructions in our own human ancestors, considering whether these are useful in understanding contemporary human dietary choices and adaptations.
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.
554. USES AND ABUSES OF EVOLUTIONARY THEORY (3). Review of the history of evolutionary theory, challenges to evolutionary theory, and the concept of biological determinism as applied to the human species. Examination of how contemporary anthropological research in human behavioral ecology and gene-culture evolution contributes to understanding human behavior.
560. METHODS IN ETHNOGRAPHY (3). Theory and practice in methods of ethnographic research. Problems and techniques in participant observation, structured and unstructured 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.
564. DISASTERS WITHOUT BORDERS (3). Social construction of disasters with an emphasis on the disaster response and forces that contribute to the vulnerability of a community, nation, or region. Covers social policy, humanitarian aid, media coverage and a range of local, national, or global forces such as inequality, land tenure, social exclusion, and mass urbanization.
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. RESOURCE CONFLICTS AND ENVIRONMENTAL PEACEBUILDING (3). Interdisciplinary examination of resource conflict and environmental peacebuilding through case studies around the world. Investigates how different material, geographical, and sociopolitical factors exacerbate conflicts and provide opportunities for peacebuilding. Course materials include ethnographic books, scholarly articles, news reports, and films.
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 FOR SECONDARY AND MIDDLE GRADES EDUCATORS (3). *Crosslisted as ECON 596X, GEOG 596X, HIST 596, POLS 596X, PSYC 596X, and SOCI 596X*. Organization and presentation of materials for history and social science courses at the middle grades and secondary levels. PRQ: Admission to the history or social science secondary or middle grades educator licensure program and permission of the Department of History's office of secondary educator licensure.

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.

665. MUSEUM PRACTICUM (1). Work experience in an on-campus (NIU) museum, gallery, or collection. With permission it may be with another institution that contains related cultural or aesthetic objects and artifacts as long as the work is under the supervision of a member of a professional staff. Requires regular experience in day-to-day museum operations and completion of a major project arranged with the intern's museum supervisor/museum studies faculty member. Minimum practicum time is 120 clock hours. PRQ: Completion of ART 565 or equivalent and one museum studies core course.

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.

680. GRADUATE INTERNSHIP IN ANTHROPOLOGY (3). Supervised internship off-campus in anthropology-related field, with graduate-level tasks. Minimum of 120 work hours per semester plus final paper/project. Complete proposals must be submitted for departmental approval a minimum of two weeks before beginning of the semester. May be repeated to a maximum of 6 semester hours. S/U grading. PRQ: Admission to M.A. program in Anthropology or consent of the department.

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.

693. MUSEUM INTERNSHIP (1). Work experience at an off-campus museum or gallery under the supervision of a member of the professional museum staff. Requires regular experience in day-to-day museum operations and completion of a major project arranged with the intern's museum supervisor and the NIU Museum Studies representative. May be repeated to a maximum of 2 credit hours. PRQ: ART 565 or equivalent plus the museum studies core courses.

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

Heather Bergan-Roller, assistant professor, Ph.D., University of Nebraska at Lincoln

Neil W. Blackstone, professor, Ph.D., Yale University

Barrie P. Bode, professor, Ph.D., University of Florida

Jozef J. Bujarski, Distinguished Research Professor, Ph.D., Adam Mickiewicz University (Poznan, Poland)

Ana Calvo, Distinguished Research Professor, Ph.D., University of Alcalá (Madrid)

Melvin Duvall, professor, Ph.D., University of Minnesota, St. Paul

Holly P. Jones, associate professor, Ph.D., Yale University

Bethia H. King, professor, Ph.D., Purdue University

Richard B. King, Distinguished Research Professor, Ph.D., Purdue University

Jon S. Miller, Presidential Engagement Professor, Ph.D., University of Nebraska at Lincoln

Virginia L. Naples, professor, Ph.D., University of Massachusetts

Daniel Olson, assistant professor, Ed.D., Northern Illinois University

Karen Samonds, associate professor, Ph.D., Stony Brook University

Wesley Swingley, associate professor, Ph.D., Arizona State University

Linda S. Yasui, associate professor, Ph.D., Florida State University

Shengde Zhou, associate 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.

The student learning outcomes for this degree are located at <http://www.niu.edu/assessment/clearinghouse/outcomes/index.shtml>.

## Requirements for Degree without a Specialization

BIOS 570X - General Biological Chemistry (3),  
 OR BIOS 572X and BIOS 573X - Biological Chemistry I and II (6),  
 OR 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 638, 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 570X - General Biological Chemistry (3),  
 OR BIOS 572X and BIOS 573X - Biological Chemistry I and II (6),  
 OR BIOS 670 - Biostatistical Analysis (3),  
 OR ETR 521 and ETR 522 - Educational Statistics I and II (6)

BIOS 567 - Advanced Molecular Biology (3),  
 OR BIOS 638 - Molecular Genetics of Prokaryotes (3)

BIOS 643 - Bioinformatics (3)

BIOS 646 - Programming for Bioinformatics (3)

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 (4)

BIOS 539 - Molecular Evolution (3)

BIOS 565 - Cellular Physiology (3)

BIOS 567<sup>1</sup> - Advanced Molecular Biology (3)

BIOS 576 - Plant Genetics (3)

BIOS 579 - Biotechnology Applications and Techniques (3)

BIOS 616 - Plant Metabolism (3)

BIOS 638<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 602 - Design and Analysis of Algorithms (3)

MATH 560 - Modeling Dynamical Systems (3)

STAT 535 - Applied Regression Analytics (3)

### Specialization in Human Anatomical Sciences

A minimum of 30 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 a course in 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

Students pursuing the non-thesis degree must demonstrate teaching proficiency in Human Anatomical Sciences by either (a) completing a minimum of 4 hours of credit in BIOS 626 - Methods of Teaching Human Anatomy, or (b) by submitting an acceptable teaching portfolio to the students committee. The teaching portfolio will include a record of courses taken and grades, classes taught or assisted as a Graduate Teaching Assistant, a statement of teaching philosophy and practice, and other evidentiary materials demonstrating teaching experience and competency. The teaching portfolio must be submitted to and approved by the student's advisory committee no later than the date of the final comprehensive examination.

### Required Courses

BIOS 570X - General Biological Chemistry (3),  
 OR BIOS 572X and BIOS 573X - Biological Chemistry I and II (6),  
 OR BIOS 670 - Biostatistical Analysis (3),  
 OR ETR 521 and ETR 522 - Educational Statistics I and II (6)

BIOS 545 - Human Histology (4)

BIOS 546 - Gross Human Anatomy (6)

BIOS 570X - General Biological Chemistry (3)  
 OR BIOS 572X - Biological Chemistry I (3) AND BIOS 573X - Biological Chemistry II(3)

BIOS 626 - Methods of Teaching Human Anatomy (1-6)

BIOS 629 - Human Embryology (3)

BIOS 761 - Seminar (2)

BIOS 770 - Independent Study (4-9)

One or more of the following electives (to fulfill 30 credit-hour requirement)

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 - Advanced Molecular Biology (3)

BIOS 577 - Human Genetics (3)

BIOS 626 - Methods of Teaching Human Anatomy (1-6)

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.

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 exempt from the Teaching Proficiency requirement, 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.

<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.

## 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 educator licensure (Type 09 license or a B.S. degree with a Type 03 license 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 Biological Chemistry (3),  
OR ETR 521 - Educational Statistics I (3) AND ETR 522 - Educational Statistics II (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 - Master's Thesis (4-6)  
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.

The student learning outcomes for this degree are located at <http://www.niu.edu/assessment/clearinghouse/outcomes/index.shtml>.

## 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),  
OR 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 or either BIOS 570X or BIOS 572X and BIOS 573X, which are required for the doctoral program, plus one additional graduate-level course approved by the student's doctoral 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 - Advanced Molecular Biology (3),  
OR BIOS 638 - 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 (4)

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 638<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 602 - Design and Analysis of Algorithms (3)

MATH 560 - Modeling Dynamical Systems (3)

STAT 535 - Applied Regression Analytics (3)

If the student has completed the equivalent of BIOS 567, BIOS 638, 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.

509X. WATER QUALITY (4). *Crosslisted as ENVS 509 and GEOL 509X*. Survey of microbiological and chemical parameters affecting water quality and their associated public health aspects. Topics include microbial detection methods, waterborne disease, organic and inorganic parameters, drinking water, wastewater treatment plants, source water, and risk assessment. Lectures, laboratories, and a field trip.

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 (4). 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 behaviors evolve. Practice in critical analysis, decision-making, and reasoning skills, such as weighing costs, benefits, and tradeoffs. Many key ideas apply not only to biology, but also to anthropology, economics, and psychology.

535X. PRIMATE 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.

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.

<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.

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). Examines the developmental process that guide the transition of a fertilized embryo to an adult animal. Core topics include the basic patterns of embryonic development, establishment of the three germ layers, organogenesis, morphogenesis, tissue regeneration and mechanisms that control these processes at the cellular and molecular levels. Human developmental disorders will also be discussed in the context of these principles.
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). Investigation of endocrine systems through a comparative systems approach. Concepts include coordination of physiological processes, cellular and molecular mechanisms of hormonal action, and evolution of hormonal regulation. Competencies include creative problem solving, modeling and simulating systems, interdisciplinary communication, experimental design and critique, and teamwork.
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. ADVANCED MOLECULAR BIOLOGY (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). Topics in modern plant genetics, including genome organization and function, mechanisms of reproduction, barriers to inbreeding, transgenic plant methodology, genetically-modified crops, traditional and molecular methodologies in plant breeding, future of plant biotechnology.
577. HUMAN GENETICS (3). Study of human genes, genome organization, and genetic diseases, with emphasis on DNA-based techniques.
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.
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.
589. MADAGASCAR FIELD BIOLOGY (6). Field biology experience devoted to studying the paleontology, evolution, ecology and behavior of the fauna native to the island of Madagascar. Includes lectures, museum field trips, and hands-on experience at a rainforest field camp. Formulation of independent research projects, data collection, and presentation of results in a research talk and final report.
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.
610. FOOD AND INDUSTRIAL MICROBIOLOGY (3). Fundamental aspects of microorganisms (including viruses and prions) associated with foods and the food industry. Topics will include isolation and enumeration of microorganisms in food, microbial species that are important to the food industry, techniques for preventing and controlling microbial contamination of foods, and procedures for reducing health hazards associated with food contamination.

616. PLANT METABOLISM (3). Biochemical and physiological aspects of metabolism in plants, including interpretation of current scientific literature.
619. MICROBIAL SYSTEMATICS AND DIVERSITY (3). Understanding the metabolic diversity of bacteria and archaea through selective culturing, isolation, and determinative testing. Cultivate and characterize microbial species of importance to the environment, human health, and the food and biofuel/bioenergy industries. Weekly lecture and two three-hour laboratory sessions.
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.
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 638 or consent of department.
638. 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.
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.
641. PRACTICAL BIOINFORMATICS FOR BIOLOGISTS (3). Hands-on experience using bioinformatics software for applications that include database searches, sequence alignment, phylogeny building, protein structure analysis, protein function annotation, regulatory motif prediction, and next generation sequence analysis.
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.
683. ANIMAL RESEARCH AND COMPARATIVE MEDICINE (3). Fundamental concepts in animal research and comparative medicine, including genetically modified animals, infectious disease monitoring, ethics, biocontainment, and regulatory oversight of common laboratory animals.
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. Designed specifically for those students accepted into the secondary science teacher licensure program in biology, chemistry, earth and space science, environmental science, or physics. PRQ: ILAS 201.
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.
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. 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: Ralph Wheeler

## Graduate Faculty

Marc J. Adler, adjunct assistant professor, Ph.D., Duke University  
 Gary M. Baker, associate professor, Ph.D., Purdue University  
 David S. Ballantine, Jr., associate professor, Ph.D., University of Maryland  
 Yingwen Cheng, assistant professor, Ph.D., Duke University  
 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, Distinguished Research Professor, Ph.D., University of Texas  
 Thomas M. Gilbert, associate professor, Ph.D., University of California, Berkeley  
 Timothy J. Hagen, associate professor, Ph.D., University of Wisconsin, Milwaukee  
 Oliver Hofstetter, associate professor, Ph.D., University of Tübingen (Germany)  
 James R. Horn, associate professor, Ph.D., University of Iowa  
 Narayan S. Hosmane, Distinguished Research Professor, Board of Trustees Professor, Ph.D., Edinburgh University  
 Dennis N. Kevill, Distinguished Research Professor, emeritus, Ph.D., University of London  
 Douglas Klumpp, Presidential Research, Scholarship and Artistry Professor, Ph.D., Iowa State University  
 Tao Li, assistant professor, Ph.D., University of South Carolina  
 Evgueni Nesterov, professor, Ph.D., Moscow State University  
 Irina Nesterova, assistant professor, Ph.D., Moscow State University  
 Chhiu-Tsu Lin, Distinguished Teaching Professor, Distinguished Research Professor, Board of Trustees Professor, emeritus, 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 Vanýšek, professor emeritus, Ph.D., Czechoslovak Academy of Sciences  
 Ralph Wheeler, professor, Ph.D., Cornell University  
 Tao Xu, professor, Ph.D., University of Alabama  
 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. University Honors students who graduate from Northern Illinois University with a baccalaureate degree in chemistry or a related area are guaranteed admission into the M.S. or Ph.D. program (with acceptable scores on entry tests for the latter) as space permits.

The background examination in general chemistry is required at the time of entering the program during the orientation weeks in January and August. All students must pass this exam with a normative score of 50% in order to hold a TA appointment in the department. Students failing to pass the exam must attend general chemistry lectures (CHEM 210 or CHEM 211) during their first semester, then retake the general chemistry examination at its next offering. Failure to pass the exam the second time will result in termination of the student's TA appointment.

The student must fulfill all requirements for the M.S. degree within five consecutive years from entry into the program.

The student learning outcomes for this degree are located at <http://www.niu.edu/assessment/clearinghouse/outcomes/index.shtml>.

## Thesis Option

A minimum of 30 semester hours of graduate work is required. The student must successfully complete a minimum of 14 semester hours, of which at least 12 must be from courses worth 3 or more semester hours (acceptable courses include: CHEM 570 to 573; CHEM 600; CHEM 620 to CHEM 689). However, a student's research adviser may require additional course work inside or outside the department course offerings. Other courses can be taken if approved by the Graduate Program Committee. The remaining course hours may be fulfilled from the departmental (CHEM 616, CHEM 691) and university (e.g., UNIV 600) "skills" courses. The Graduate Program Committee will have a final say if a particular university course will qualify as a "skills" course for the program.

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, or CHEM 616, Special Topics Chemistry Seminar, must be taken each semester unless a written waiver is given by the Director of Graduate Studies. CHEM 690, Graduate Seminar, must be taken the first two semesters of enrollment.

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 15 semester hours, of which at least 12 hours must be from courses worth 3 or more credit hours. Acceptable courses include: CHEM 570 to 573; CHEM 600; CHEM 620 to CHEM 689. However, a student's research adviser may require additional course work inside or outside the department course offerings. Other courses can be taken if approved by the Graduate Program Committee. The remaining course hours may be fulfilled from the departmental (CHEM 616, CHEM 691) and university (e.g., UNIV 600) "skills" courses. The Graduate Program

Committee will have a final say if a particular university course will qualify as a "skills" course for the program.

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, or CHEM 616, Special Topics Chemistry Seminar, must be taken each semester unless a written waiver is given by the Director of Graduate Studies. CHEM 690, Graduate Seminar, must be taken the first two semesters of enrollment.

Students earning an M.S. degree through the Essay Option must have passed the qualifying examination and the 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.

### **Educator Licensure Option**

Students in this option must meet the requirements for educator licensure, in consultation with the discipline coordinator. Retention in the program requires adherence to Graduate School and educator licensure requirements and regulations.

A minimum of 30 semester hours of graduate course work to be determined by the department is required. In most cases, the number of semester hours will exceed 30. The student must successfully complete a minimum of four courses worth a total of 12 semester hours of graduate credit. Acceptable courses include: CHEM 505 to CHEM 700, excluding CHEM 590-599, CHEM 615, CHEM 616, CHEM 690, CHEM 691, CHEM 698, and CHEM 699.

CHEM 690, Graduate Seminar, must be taken the first two semesters of enrollment.

The student must pass a comprehensive examination in chemistry and chemistry education. 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.

### **Industrial Chemistry Option**

A minimum of 30 semester hours of graduate work is required. The course list must be approved by the faculty adviser. The student must successfully complete a minimum of five courses worth a total of 15 semester hours of graduate credit, of which at least 9 semester hours must be in chemistry. Acceptable courses include: CHEM 570-573; CHEM 600; CHEM 620 – 689). Many of these courses will be available online during the semesters when they are taught. The remaining course work may be done outside the department.

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.

A thesis incorporating the results of this research problem and successfully defended as part of a comprehensive oral examination is required. Research towards this thesis may be carried out at the place of industrial employment. In that case, a faculty co-adviser will be appointed. The co-adviser must approve a research problem and ensure a published product (peer-reviewed publication, patent application, or presentation as part of a national conference proceedings).

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.

## **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. University Honors students who graduate from Northern Illinois University with a baccalaureate degree in chemistry or a related area are guaranteed admission into the M.S. or Ph.D. program (with acceptable scores on entry tests for the latter) as space permits.

The student learning outcomes for this degree are located at <http://www.niu.edu/assessment/clearinghouse/outcomes/index.shtml>.

### **Course Requirements**

Graduate students working for a doctoral degree must complete the number of semester hours of graduate work required by the NIU Graduate School (currently 72) with a minimum GPA of 3.00. This includes formal course work, independent study, research, and the dissertation, as specified on the student's program of courses.

A minimum of 19 semester hours of graduate credit must be earned by successfully passing graduate-level courses. At least 15 of the 19 must be from courses worth 3 or more semester hours. At least 12 of the 19 must be from the core courses listed at the department's website. Suitable courses include the following: CHEM 570–573; CHEM 600; courses in the range CHEM 620–689, and CHEM 700. The remaining course hour requirement may be fulfilled from the departmental (CHEM 616, CHEM 691) and university (e.g., UNIV 600) "skills" courses, or by courses inside or outside the department course offerings as required by a student's research adviser. Approval from the Graduate Program Committee is required for a student to earn credit for any such course work. Further requirements for the nanoscience specialization are given in the catalog under "Specialization in Nanoscience."

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, or CHEM 616, Special Topics Chemistry Seminar, must be taken each semester unless a written waiver is given by the director of graduate studies. As part of CHEM 615 or CHEM 616, students must give an oral presentation of their research once a year. CHEM 690, Graduate Seminar, must be taken during the first two semesters of enrollment.

Within one year after successful completion of their candidacy exam, a student must give a seminar based on a comprehensive literature review of a topic different from their primary research area. This seminar will be the primary activity of CHEM 618 (1 semester hour). The seminar will be observed and evaluated by the members of the student's candidacy examination committee. The candidacy examination committee chair will enter the student's grade for CHEM 618.

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 and Associated Committees

The background examinations in general chemistry is required at the time of entering the program during the orientation weeks in January and August. All students must pass this exam with a normative score of 50% in order to hold a TA appointment in the department. Students failing to pass the exam must attend general chemistry lectures (CHEM 210 or CHEM 211) during their first semester, then retake the general chemistry examination at its next offering. Failure to pass the exam the second time will result in termination of the student's TA appointment.

A written qualifying examination must be satisfactorily completed in the primary area. This examination will test comprehensive knowledge of the area at the graduate level. The examination will be based on three "core" graduate courses (the list is available in the department) that will contribute towards the examination material. If a student desires to substitute a single different graduate course for a core course for the examination, he or she must petition the Graduate Program Committee in writing. The qualifying examination must be taken no later than the first offering after completion of 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 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 M.S. degree.

Within one year of passing the qualifying examination in the primary field, the student must complete a candidacy research examination on the student's 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 candidacy examination committee, in consultation with the student and research adviser, will be formed from at least two faculty in addition to the student's adviser(s) representing the primary area and a secondary area and will be included as part of the student's examining committee for all future examinations. From the committee members, the Graduate Program Committee, in consultation with the research adviser(s), will select the examination committee chair, for which position the student's adviser(s) are ineligible. The candidacy examination will consist of two parts. The written part will include a detailed survey of the background literature in the area, the current state of the student's research, and the proposed direction of the research. This document must be at least 30 pages in graduate school dissertation format and will serve as the foundation for the future thesis/dissertation. It must be given to the committee at least two weeks prior to the examination date. The oral part will include a 45-minute presentation by the student based on their current and future research followed by questions from the committee. The combined written/oral candidacy examination will have a designed course number, CHEM 617 (1 semester hour). The grade will be entered by the examination committee chair. A student who fails to pass this examination with a grade of B- or above 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 doctoral degree.

Within one year after successful completion of their candidacy exam, a student must give a seminar based on a comprehensive literature review of a topic different from their primary research area. This seminar will be the primary activity of CHEM 618 (1 semester hour). The seminar will be observed and evaluated by the members of the student's candidacy examination committee. The candidacy examination committee chair will enter the student's grade for CHEM 618.

Following completion of the literature review, the student must form a Ph. D. examining committee incorporating the candidacy examination committee and additional members as may be required by department or Graduate School policy. The research director(s) shall act as the chair (co-chairs) of the Ph.D. examining committee. Each post-candidacy doctoral candidate must give an oral presentation of her or his research once a year. The student's Ph.D. 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.

### 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.

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.

### 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 19 semester hours of graduate credit must be earned by successfully passing graduate-level courses.

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 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 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 790A - Special Topics in Physics: Solid State Physics (3)

The remaining 4 semester-hour-requirement may be fulfilled from the departmental (CHEM 616, CHEM 691) and university (e.g., UNIV 600) "skills" courses, or by courses inside or outside the department course offerings as required by a student's research adviser. Approval from the Graduate Program Committee is required for a student to earn credit for any such course work.

**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 211, 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 Educator Licensure 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 licensure 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 licensure 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 educator licensure after approval by the Department of Chemistry and Biochemistry. PRQ: CHEM 495X or CHEM 595X, and consent of department.

600. SELECTED TOPICS IN CHEMISTRY (3).

- A. Inorganic
- B. Analytical
- C. Organic
- D. Physical
- E. Biological
- G. Nanochemistry

Lecture and discussions of special topics for beginning graduate students. Course may be repeated up to a maximum of 9 semester hours.

615. CHEMISTRY SEMINAR (1). Required of thesis option master's and doctoral students each semester in residence except summer session. May be repeated to a maximum of 10 semester hours. PRQ: Consent of department.

616. SPECIAL TOPICS CHEMISTRY SEMINAR (1). Both CHEM 615 and CHEM 616 are required of thesis option master's and doctoral students each semester in residence except for summer session; they cannot be taken in the same semester. PRQ: Consent of department.

617. CANDIDACY (1). Preparation and defense of written and oral sections of the doctoral candidacy. Class taken only during terms when student is doing a doctoral candidacy examination. PRQ: Consent of department.

618. LITERATURE REVIEW (1). Preparation and presentation of comprehensive literature review on topic different from primary research area. Class must be taken within one year of successful completion of CHEM 617 examination. PRQ: CHEM 617 with a grade of B- or better.

622. ANALYTICAL SEPARATIONS (3). Fundamental principles of chemical separations and measurements with emphasis on instrumental methods. Survey of both traditional and emerging techniques.

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.

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.

631. ORGANIC SYNTHESIS (3). Systematic presentation of methods of assembling carbon skeletons, functional group interconversions, and analysis of synthetic pathways.

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.

635. SPECTROSCOPIC IDENTIFICATION OF ORGANIC MOLECULES (3). Application of spectroscopic techniques to the determination of organic structures.

644. CHEMICAL THERMODYNAMICS (3). Fundamental laws of thermodynamics and applications to chemical problems. Calculation of thermodynamic quantities.

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.

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.

650. NANOCHEMISTRY (3). Fundamental theory and experimental techniques underlying fabrication methods and applications of nanoscale materials and devices.

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.

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.

675. PHYSICAL CHEMISTRY OF MACROMOLECULES (3). Comprehensive introduction to the use of physical chemistry in the study of macromolecules. Three lectures a week.

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.

691. SELECTED SKILLS IN CHEMISTRY AND BIOCHEMISTRY (1). Training in selected techniques in chemistry and biochemistry such as nuclear magnetic resonance, mass spectrometry, x-ray crystallography, and computational chemistry. Course may be repeated up 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)

Chair: Mehdi Semati

## Graduate Faculty

Ferald J. Bryan, associate professor, Ph.D., University of Missouri  
 Gary Burns, professor emeritus, Ph.D., Northwestern University  
 Kathryn Cady, associate professor, Ph.D., University of Iowa  
 Randy Caspersen, associate professor, M.F.A., Columbia College  
 William Cassidy, professor, Ph.D., University of Oregon  
 Jeffrey Chown, Distinguished Teaching Professor, Board of Trustees Professor, emeritus, Ph.D., University of Michigan  
 David Gunkel, Distinguished Teaching Professor, Ph.D., DePaul University  
 Andrea Guzman, assistant professor, Ph.D., University of Illinois at Chicago  
 Janice D. Hamlet, associate professor, Ph.D., Ohio State University  
 David Henningsen, professor, Ph.D., University of Wisconsin  
 Mary Lynn Henningsen, professor, Ph.D., University of Wisconsin  
 Richard Holt, professor, Ph.D., University of Illinois  
 Betty La France, professor, Ph.D., Michigan State University  
 Robert Miller, associate professor emeritus, Ph.D., Northwestern University  
 Joseph Scudder, Distinguished Teaching Professor, Ph.D., Indiana University  
 Mehdi Semati, professor, Ph.D., University of Missouri-Columbia  
 Kathleen S. Valde, associate professor, Ph.D., University of Iowa  
 Laura Vazquez, Board of Trustees Professor, Ph.D., Northwestern University  
 Karen Whedbee, associate professor, Ph.D., University of Wisconsin  
 Kerith Woodyard, associate professor, Ph.D., University of Utah  
 Shupeí Yuan, assistant professor, Ph.D., Michigan State University

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. If approved by the student's supervisory committee, a maximum of 6 hours of credit may be transferred from another institution for inclusion in the student's program of study. A maximum of 9 hours earned at Northern Illinois University as a Student-at-Large may be approved for inclusion in a student's program.

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 interpersonal, organizational, and persuasive communication, rhetorical studies, journalism, or media studies.

The student learning outcomes for this degree are located at <http://www.niu.edu/assessment/clearinghouse/outcomes/index.shtml>.

## Requirements

The student must earn a minimum of 36 semester hours of graduate credit and must take at least one 600- or 700-level course in each 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. Up to 12 semester hours taken at the 500-level may be included in a student's program of study.

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.

Prior to the semester in which degree requirements are completed, the student must have a proposal accepted by the members of the student's committee. During the semester in which degree requirements are completed, the student must pass an oral examination on the thesis and course work. The student must submit a copy of the thesis to the members of his or her committee at least two weeks prior to the oral examination.

### 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.

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.

## Course List

### Communication Studies (COMS)

#### Interpersonal, Organization and Persuasive Communication

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 DOCUMENTARY FIELD PRODUCTION (3). Video production based on application of appropriate theories and aesthetics for documentary production. Projects utilize digital editing, audio track mixing, digital video camera(s), and locations as needed. PRQ: Consent of department.

527. ADVANCED NARRATIVE FIELD PRODUCTION (3). Video production based on application of appropriate theories and aesthetics for narrative production. Projects utilize digital editing, audio track mixing, digital video camera(s), and locations as needed. PRQ: Consent of department.

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: 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). Survey of the development of cinema. Topics vary. May be repeated to a maximum of 6 semester hours provided that no repetition of subject matter occurs.

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: Consent of department.

566. NARRATIVE SCRIPTWRITING (3). Focus on structure, development, and execution of a narrative fiction script for media. Emphasis on creativity, critical ability, and discipline in writing. PRQ: 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: Consent of department.

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.

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.

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 MEDIA THEORY (3). Historical and methodological development of the feminist perspective in film and media analysis. Use and influence of sociological, psychoanalytical, Marxist, cultural studies, and semiological tools in a feminist approach to understanding film and how it works in a patriarchal society. Topics vary. May be repeated to a maximum of 6 semester hours provided that no repetition of subject matter occurs.

657. DOCUMENTARY THEORY AND PRACTICE (3). Survey of major documentary theories. Students put theory into practice while producing their own documentaries.

658. SEMINAR IN MEDIA CRITICISM (3). Examination of media 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 (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). Philosophy and theory of the intersection of media and technology in relation to the production, distribution, and consumption of content Examination of the evolution of media in conjunction with the progression of technology and the individual, organizational, and societal implications.

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)

Chair: Nicholas T. Karonis

## Graduate Faculty

Hamed Alhoori, assistant professor, Ph.D., Texas A&M University  
 Kirk Duffin, associate professor, Ph.D., Brigham Young University  
 Raimund K. Ege, associate professor, Ph.D., Oregon Graduate Institute of  
 Science and Technology  
 Reva Freedman, associate professor, Ph.D., Northwestern University  
 Minmei Hou, associate professor, Ph.D., Pennsylvania State University  
 Nicholas T. Karonis, professor, Ph.D., Syracuse University  
 Michael E. Papka, professor, Ph.D., University of Chicago  
 Jie Zhou, 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

For admission to the master's 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 deficiency courses and earn a grade of B or higher in each. Deficiencies should be resolved in the first year and do not normally carry graduate credit toward the degree.

Students pursuing the M.S. in computer science must complete at least 31 semester hours. Students have the option of completing the M.S. degree in computer science by taking only courses or by combining course work with a master's thesis.

Students who are planning to continue their studies through the department's doctoral program must choose the thesis option. Students who write a master's thesis, may receive credit for up to 6 semester hours of CSCI 699.

A program of study designed by the student and the adviser must be approved by 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. No more than 8 credit hours may be taken outside the Department of Computer Science.

The student learning outcomes for this degree are located at <http://www.niu.edu/assessment/clearinghouse/outcomes/index.shtml>.

## Requirements (31)

CSCI Students must complete the required number of hours in each of the following areas:

- I. Survey (1)
- II. Programming (3)
- III. Systems (3)
- IV. Theory (3)
- V. Specializations (6)
- VI. Electives (15)

Total (31)

Graduate-level courses for which there exists an undergraduate equivalent (typically courses that are offered as 400/500 courses) shall not constitute more than 50% of the hours applied toward a master's degree.

Details for each category are listed below.

### I. Survey

Students must complete the following course:

CSCI 600 - Big Ideas in Computer Science (1)

### II. Programming

Students must complete one course from the following or substitute another course with departmental approval.

CSCI 501 - Programming Principles in C++ (3)  
 CSCI 502 - Programming Principles in Java (3)  
 CSCI 503 - Programming Principles in Python (3)

### III. Systems

Students must complete one course from the following:

CSCI 511 - Database Concepts (3)  
 CSCI 512 - Computer Networks (3)  
 CSCI 513 - Software Engineering (3)  
 CSCI 514 - Operating Systems (3)  
 CSCI 515 - Principles of Compilers (3)

### IV. Theory

Students must complete one course from the following:

CSCI 601 - Theory of Computation (3)  
 CSCI 602 - Design and Analysis of Algorithms (3)

### V. Specializations

Students must complete two courses from the following:

Data Analytics:

CSCI 636 - Pattern Recognition and Data Mining I (3)  
 CSCI 639 - Network Theory (3)  
 CSCI 641 - Big Data Analytics (3)  
 CSCI 642 - Information Storage and Retrieval (3)  
 CSCI 646 - Modeling and Simulation (3)  
 CSCI 656 - Artificial Intelligence (3)  
 CSCI 657 - Natural Language Processing I (3)

Graphics and Visualization:

CSCI 626 - Human Computer Interaction (3)  
 CSCI 627 - Data Visualization (3)  
 CSCI 630 - Computer Graphics Modeling (3)  
 CSCI 631 - Computer Graphics Rendering (3)  
 CSCI 633 - Digital Image Processing and Analysis (3)

High Performance Computing:

CSCI 661 - Parallel and Distributed Programming Models (3)  
 CSCI 662 - Programming Non-Traditional Architectures (3)

Bioinformatics:

CSCI 651 - Graph Theory and Applications (3)  
 CSCI 652 - Algorithmic Bioinformatics I (3)

**VI. Electives**

Students must complete sufficient semester hours of electives to fill out their program. Elective course work includes CSCI courses in the range 500-798 that have not been used to satisfy another requirement. Students may take up to 8 semester hours from other departments in courses relevant to the student's program, subject to department approval.

Students who are planning to continue through the department's doctoral program must take CSCI 701 - Research Methods in Computer Science, as one of their electives of the M.S. in Computer Science, preferably as early as possible.

**Doctor of Philosophy in Computer Science**

Students seeking admission to the Ph.D. program in computer science must meet all the requirements for admission to the Graduate School; must have a baccalaureate or master's degree in computer science or a related field; and should have a background equal to that required for the B.S. degree at Northern Illinois University.

**Requirements**

A program of study designed by the student and the adviser to meet the course requirements specified below must be approved by the Department of Computer Science. Each student must complete at least 90 semester hours of graduate course work.

Students must obtain prior departmental approval to apply courses not offered by the Department of Computer Science to their programs of study. No more than 12 credit hours may be outside the Department of Computer Science.

The student learning outcomes for this degree are located at <http://www.niu.edu/assessment/clearinghouse/outcomes/index.shtml>.

The requirements for the Ph.D. degree are as follows:

- I. Requirements for the M.S. in Computer Science with thesis option (31)
- II. Research methods course (3)
- III. Advanced course work (12)
- IV. Dissertation (24-44)
- V. Electives (0-20)
- Total (90)

Graduate-level courses for which there exists an undergraduate equivalent (typically courses that are offered as 400/500 classes) shall not constitute more than 50% of hours, exclusive of dissertation hours, applied toward a doctoral degree.

Details for each category are listed below.

**I. Requirements for the M.S. in Computer Science with thesis option (31)**

Students must complete the M.S. program in Computer Science with the thesis option at NIU, or its equivalent elsewhere.

A student who has already taken this course as part of the M.S. degree in Computer Science must take 3 additional semester hours of electives instead. If a student has taken an equivalent course elsewhere, the student's adviser may recommend to the department that this requirement be waived, in which case the student must take 3 additional semester hours of electives instead.

**II. Research methods (3)**

Students must complete the following course.

CSCI 701 - Research Methods in Computer Science (3)

A student who has already taken this course as part of the M.S. degree in Computer Science must take 3 additional semesters of electives instead. If a student has taken an equivalent course elsewhere, the student's adviser may recommend to the department that this requirement be waived, in which case the student must take 3 additional semester hours of electives instead.

**III. Advanced course work (12)**

Students must take four courses chosen from the following.

Data Analytics:

- CSCI 637 - Pattern Recognition and Data Mining II (3)
- CSCI 647 - Advanced Discrete Simulation (3)
- CSCI 658 - Natural Language Processing II (3)
- CSCI 659 - Intelligent Interactive Systems (3)

Graphics and Visualization:

- CSCI 628 - Information Visualization (3)
- CSCI 629 - Scientific Visualization (3)
- CSCI 632 - Advanced Computer Graphics (3)
- CSCI 634 - Computer Vision (3)
- CSCI 635 - Virtual Reality (3)

Bioinformatics:

- CSCI 653 - Algorithmic Bioinformatics II (3)

**IV. Dissertation (24-44)**

Students must complete a minimum of 24 semester hours of the following course:

- CSCI 799 - Doctoral Research and Dissertation.

**V. Elective course work (0-20)**

Students must complete sufficient semester hours of electives to fill out their program. Elective course work includes CSCI courses in the range 500-798, excepting 699, that have not been used to satisfy another requirement. Students may take up to 12 semester hours from other departments in courses relevant to the student's dissertation and subject to department approval.

**Language/Research Tool Requirements**

Students fulfill this requirement by passing the two courses listed below.

Since computer programming is a required tool for a Ph.D. in Computer Science, successful completion of CSCI 501, CSCI 502, or CSCI 503, or departmental approval, as required by the M.S. in Computer Science, counts as one of the research tool courses.

CSCI 701 - Research Methods in Computer Science, counts as the other research tool course.

**Qualifying Examination**

The qualifying examination for the Ph.D. consists of writing and successfully defending a master's thesis in Computer Science in the department. If a student has written and defended a master's thesis before entering the program, the student's Ph.D. adviser will advise the department on whether the student has satisfied this requirement. Students are generally expected to pass the qualifying examination by the end of their second year in the program. Students who fail the examination may, with permission of the department, repeat it once.

**Candidacy Examination**

The candidacy examination for the Ph.D. consists of writing a dissertation proposal and successfully passing an oral examination based on that proposal. Students are generally expected to pass the candidacy examination within two years of the completion of the qualifying examination. Students who fail the examination may, with permission of the department, repeat it once.

**Dissertation Committee**

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 three to five members. 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 Computer Science.

### Oral Dissertation Defense

An oral examination on the dissertation will be conducted by the dissertation committee according to Graduate School regulations. Students must be enrolled for at least 2 semester hours of credit in the semester in which the examination is taken. Students who fail the examination may, with permission of the department, repeat it once.

## Certificate of Graduate Study

### Mobile Programming

This certificate is designed to provide study in programming mobile devices such as the iPhone, iPad, Droid phones, and Microsoft phones. The certificate is open to all graduate students. Students must maintain good academic standing in the university, achieve a minimum grade of B in each certificate course, and complete all certificate course work within six calendar years. All course requirements for the certificate must be completed at NIU. Depending upon a student's prior programming background, successful completion of deficiency courses may be required before the student is allowed to enroll in any certificate courses. With department approval, some or all of the certificate courses may be applied toward graduate degree requirements in the department. The Department of Computer Science reserves the right to limit enrollment in any of the certificate courses.

### Requirements

Course work from the following (14)

- CSCI 523 - Advanced iOS Mobile Devices Programming (3)
- CSCI 524 - Advanced Android Mobile Device Programming (3)
- Two of the following (8)
  - CSCI 521 - iOS Mobile Device Programming (4)
  - CSCI 522 - Android Mobile Device Programming (4)

### Course List (CSCI)

501. PROGRAMMING PRINCIPLES IN C++ (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 the object-oriented programming language C++. PRQ: Admission to the graduate program in computer science or consent of department.

502. PROGRAMMING PRINCIPLES IN JAVA (3). Object-oriented programming in Java, including class definitions, collections, streams, I/O, multi-threading, graphical applets, and Internet-based distributed client-server database applications. Implementation using an editor (on Linux) and an IDE (e.g., NetBeans on Windows). Extensive laboratory work. May not be taken by students with undergraduate credit for CSCI 470. PRQ: Admission to the graduate program in computer science or consent of department.

503. PROGRAMMING PRINCIPLES IN PYTHON (3). Application of programming principles using the Python language. Covers fundamental elements of the object-oriented model, briefly introduces the functional programming paradigm, and illustrates concepts with a Python workflow including IPython Notebooks. Extensive laboratory work. PRQ: Admission to the graduate program in computer science or consent of department.

504. PROGRAMMING PRINCIPLES IN .NET (3). Comprehensive introduction to windows programming and server-side web programming using the Microsoft .NET development platform. Topics include programming in the C# language, the .NET Common Language Runtime, .NET Framework classes, ADO.NET, ASP.NET, Web Service, and cryptographic techniques. By the end of this course, students are expected to be able to build interactive Windows and Web applications with database storage. Extensive laboratory work. May not be taken by students with undergraduate credit for CSCI 473. PRQ: Admission to the graduate program in computer science or consent of department.

505. PROGRAMMING PRINCIPLES IN PERL (3). Perl is a high-level, general-purpose, interpreted, and dynamic programming language. Topics include text processing and file manipulation. Extensive laboratory work. May not be taken by students with undergraduate credit in CSCI 490K. PRQ: Admission to the graduate program in computer science or consent of department.

511. 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: Admission to the graduate program in computer science or consent of department.

512. COMPUTER NETWORKS (3). Basic principles and topics of fundamental importance in the technology and architecture of data and computer communications. Focus on key topics in principles, design approaches, and standards. Compares and contrasts the applications of these topics in specific areas of current technology. PRQ: Admission to the graduate program in computer science or consent of department.

513. SOFTWARE ENGINEERING (3). Software development and engineering methods, including requirements gathering, specification, design, implementation, and testing. Software life cycle models and process such as team development and agile methods. Use of development tools and automated support environments. PRQ: Admission to the graduate program in computer science or consent of department.

514. OPERATING SYSTEMS (3). Basic operating system abstractions, mechanisms, and their implementations. Operating system support for concurrent processes and threads and their synchronization. Resource management for CPU, memory, and I/O. Distributed services, including communications across a network; and the client-server model and distributed operating systems. CRQ: CSCI 501 or consent of department.

515. PRINCIPLES OF COMPILERS (3). Introduction to parser and compiler construction. Topics include formal languages and grammars, lexical analyzers, and parsers, including stack-based, bottom-up, top-down, recursive descent, and table driven approaches. Code generation for arithmetic expressions, basic variables, decisions, loops, functions, symbol tables, error checking, register allocation techniques, arrays and records, recursion, scope, object-oriented issues, I/O, exception handling, and optimization techniques. Extensive laboratory work with a focus on compiler development. CRQ: CSCI 501 or CSCI 502 or consent of department.

521. iOS MOBILE DEVICE PROGRAMMING (4). Comprehensive introduction to building applications for mobile devices that use Apple's iOS operating system. Topics include application of Model-View-Controller design architecture, graphics, rich media content, multithreading, networking and interaction with hardware sensors. Extensive laboratory work. May not be taken by students with undergraduate credit for CSCI 321. PRQ: Admission to the graduate program in computer science or consent of department.

522. ANDROID MOBILE DEVICE PROGRAMMING (4). Android application programming including use of a standard integrated development environment, debugging, user interface creation, and multithreading and network applications. Instruction in coding, running, and debugging a variety of applications using software emulators as well as tethered hardware devices. Extensive laboratory work. May not be taken by students with undergraduate credit for CSCI 322. PRQ: Admission to the graduate program in computer science or consent of department.

523. ADVANCED iOS MOBILE DEVICE PROGRAMMING (3). In-depth coverage of advanced programming for mobile devices that use Apple's iOS operating system. Topics include exception handling, memory and thread management, databases, and web services. Extensive laboratory work. May not be taken by students with undergraduate credit for CSCI 427. PRQ: CSCI 521 with a C or better; or consent of department.

524. ADVANCED ANDROID MOBILE DEVICE PROGRAMMING (3). In-depth coverage of Android application programming topics that build on the foundations taught in CSCI 522. Topics may include accessing JSON from a web service, creating and accessing an on board database, using location and map services as well as exploring new hardware and software options. Extensive laboratory work. May not be taken by students with undergraduate credit for CSCI 428. PRQ: CSCI 522 with a C or better; or consent of department.

526. 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. This course may not be taken by students with undergraduate credit for CSCI 467. PRQ: Admission to the graduate program in computer science or consent of department.

528. WEB DEVELOPMENT (3). Introduction to design and programming of web applications. HTML, (including HTML5) and CSS. Basic server-side programming, (e.g., HTTP requests, responses and state); client-side programming, (e.g., document object model updating using Javascript or equivalent); client-server integration, (e.g., Ajax). Extensive laboratory work. One major programming project for each of the four sections in the course. May not be taken by students with undergraduate credit in CSCI 475. PRQ: Admission to the graduate program in computer science or consent of department.

600. BIG IDEAS IN COMPUTER SCIENCE (1). Lectures and discussions of current research and technical developments in computer science for beginning graduate research students. Topics will emphasize open problems and recent scientific advances. Content may vary to reflect research advances in areas such as data analytics, scientific computing, graphics and visualization. S/U grading. PRQ: Admission to the graduate program in computer science or consent of department.

601. THEORY OF COMPUTATION (3). Introduction to automata theory, formal languages, and computability theory with an emphasis on how these topics relate to computer and computer programs. May not be taken by students with undergraduate credit for CSCI 401.

602. DESIGN AND ANALYSIS OF ALGORITHMS (3). Advanced techniques for the design and analysis of algorithms with emphasis on computational problems that are central to both theory and practice. Techniques include divide-and-conquer recurrences, dynamic programming, greedy algorithms and other computational strategies. Concepts will be illustrated in pseudocode or a higher-level programming language. PRQ: Admission to the graduate program in computer science or consent of department.

607. 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.

608. ALGORITHMIC BIOINFORMATICS I (3). Comprehensive introduction to methodologies and applications of computational problems in bioinformatics, especially in comparative genomics. Topics include sequence alignment at genome-wide, genome comparison without alignment, genome rearrangements, detection of genomic signals, repeat analysis, and other computational problems. Introduction to molecular biology and algorithm design and analysis will be included. Course projects involve high-level programming languages. Extensive laboratory work. CRQ: CSCI 501 or CSCI 502 or CSCI 503 or CSCI 504 or CSCI 505 or consent of department.

609. 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.

610. CISSP REVIEW (3). Preparation for the Certified Information Systems Security Professional certification exam. Topics include the 10 domain areas of the CISSP exam.

612. 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: CSCI 501 or consent of department.

614. VIDEO GAME DESIGN AND DEVELOPMENT (3). Introduction to the theory and practice of video game design and programming. Integration of a number of components from the discipline of computer science, in particular; computer graphics, human computer interaction, networking, artificial intelligence, computer aided instruction, computer architecture, software engineering and databases. Work on both individual and group projects in the design and development of video games. Extensive laboratory work. PRQ: CSCI 630 or consent of department.

626. HUMAN COMPUTER INTERACTION (3). Introduction to the study of human-computer interaction, presenting historical information and abstract knowledge and how to apply it in the everyday world. Understanding of the term user and how to construct an incredible user experience. Exposure to the cognitive components that influence the experience, how to design for these components given a desired outcome, and how to evaluate the final product. PRQ: Admission to the graduate program in computer science or consent of department.

627. DATA VISUALIZATION (3). Introduction to data visualization with a focus on computer-based design approaches and techniques for manipulating and visualizing data. A variety of data sources and corresponding visualization techniques will be examined as an introduction to data analytics with topics including but not limited to scientific, social sciences, and medical data. Tools at all levels will be used, ranging from off-the-shelf desktop software to homegrown solutions. Extensive laboratory work. CRQ: CSCI 501 or CSCI 502 or CSCI 503 or CSCI 504 or CSCI 505 or consent of department.

628. INFORMATION VISUALIZATION (3). Focus on advanced theory and methods for manipulating and visualizing the data of non-physical systems. Concentrates on the transformation of multiple data sources and how the data can be integrated into a single source of information. Emphasis on the advanced study of the latest information visualization techniques developed by the research community. A computer programming background is required. Extensive laboratory work. PRQ: CSCI 627 or consent of department.

629. SCIENTIFIC VISUALIZATION (3). Computer-based design approaches and techniques for manipulating and visualizing data as it relates to scientific visualization. A variety of data sources and corresponding visualization techniques will be examined covering scientific and medical data. Tools at all levels will be used, ranging from off-the-shelf desktop software to homegrown solutions. Basic familiarity with computers is necessary. Extensive laboratory work. PRQ: CSCI 627 or consent of department.

630. COMPUTER GRAPHICS: MODELING (3). Introduction to algorithms for creating high level computer graphics models from low level primitives. Topics include hierarchical primitive composition, linear and non-linear transformations, superquadrics, particle systems, fractal modeling, L-systems and graftals. Curves and surfaces including Bezier, rational Bezier, B-splines, NURBS, subdivision surfaces. Implicit surface generation, constructive solid geometry, volume modeling, image-based modeling. Strong programming component with a focus on algorithm implementation. Extensive laboratory work. CRQ: CSCI 501 or CSCI 502 or consent of department.

631. COMPUTER GRAPHICS: RENDERING (3). Introduction to fundamental algorithms of rendering computer graphical images. Emphasis on scan conversion approaches. Topics include color systems, basic primitive rendering techniques, 2D and 3D projective transformations, the graphics pipeline, clipping, scan conversion techniques, depth effects, lighting models, material properties, attribute mapping, image-based rendering. Strong programming component with a focus on algorithm implementation. Extensive laboratory work. CRQ: CSCI 501 or CSCI 502 or consent of department.

632. **ADVANCED COMPUTER GRAPHICS (3).** Advanced algorithms and techniques in computer graphics. Topics include acceleration structures, radiometry, high dynamic range (HDR) rendering, camera models, adaptive sampling, reflection models, noise generation, light transport models, global illumination, procedural model generation, procedural animation. Topics will also be taken from current research literature. Strong programming component with a focus on algorithm implementation. Extensive laboratory work. PRQ: CSCI 501 and CSCI 630 or CSCI 631; or consent department.
633. **DIGITAL IMAGE PROCESSING AND ANALYSIS (3).** Introduction to general principles and algorithms on digital image processing. Topics include concepts and algorithms of image enhancement, image segmentation, morphological image processing, image transforms, image registration and image feature extraction, algorithms on 3D and higher dimension image processing and analysis. Application of materials by implementing and investigating image processing algorithms. Extensive programming and team-based research projects. Extensive laboratory work. CRQ: CSCI 501 or CSCI 502 or consent of department.
634. **COMPUTER VISION (3).** Algorithms in computer vision. Topics include feature detection of points and lines, 2D to 3D geometric inference, solution of camera parameters, shape from motion and optical flow, shape from shading, depth from stereo, and object tracking. Strong programming component with a focus on algorithm implementation. Extensive laboratory work. PRQ: MATH 232 and MATH 240 and CSCI 633; or consent of department.
635. **VIRTUAL REALITY (3).** Introduction to the area of virtual and augmented reality. Topics include: review of the history; introduction of relevant issues (related to perception and believability), introduction to both software and hardware; overview of the application space. Development of both virtual and augmented reality applications, and a final group project, is expected. Extensive laboratory work. PRQ: CSCI 630 or consent of department.
636. **PATTERN RECOGNITION AND DATA MINING I (3).** Concepts and algorithms in pattern recognition, and machine learning. Topics include pattern clustering and classification, feature extraction, and selection. Data mining applications in various domains will be considered. PRQ: Admission to the graduate program in computer science or consent of department. CRQ: CSCI 501 or CSCI 502 or CSCI 503 or consent of department.
637. **PATTERN RECOGNITION AND DATA MINING II (3).** An in-depth exploration of recent research in the area of pattern recognition and data mining, building on the introductory course to pattern recognition and data mining. Topics include the advanced variants of neural networks, deep learning, ensemble learning, reinforcement learning and online learning, advanced unsupervised learning methods as well as cluster validation. Extensive reading on latest research in the area and programming projects. Extensive laboratory work. PRQ: CSCI 636 or consent of department.
639. **NETWORK THEORY (3).** Covers recent research on the structure and analysis of networks, and on models and algorithms that abstract their key properties. Three main topics are network analysis and mining (e.g., community detection, degree distribution), design of networks (e.g., small-world and scale-free models), and networks as computational models (e.g., disease spread, fuzzy cognitive maps). Application of research tools in network theory to work on open problems (e.g. in social networks, biological networks or telecommunication networks), and extensive programming through research experience. Extensive laboratory work. CRQ: CSCI 503 or consent of department.
641. **BIG DATA ANALYTICS (3).** Surveys the foundations of big data analytics, reviews relevant research, and introduces the algorithms and methods used to derive valuable predictions and insights from data. Merging theory with practice, it covers foundational topics while providing hands-on practical experience with useful languages, toolkits, and frameworks. Topics include, but are not limited to: big data management and processing techniques, algorithms for big data analytics, social media mining, recommendation systems, statistical methods, and models. Extensive laboratory work. CRQ: CSCI 503 or consent of department.
642. **INFORMATION STORAGE AND RETRIEVAL (3).** Theory, design, implementation and evaluation of information retrieval systems and techniques. Covers web crawlers, link-based ranking algorithms, retrieval models, relevance feedback, text indexing, text categorization, digital libraries, search engines, and web search. Extensive laboratory work. CRQ: CSCI 503 or consent of department.
646. **MODELING AND SIMULATION (3).** Introduction to computational techniques for the design and analysis of computer simulations. Modeling paradigms (continuous models such as system dynamics and discrete models such as agent-based models), their implementation in a general purpose modeling environment, and the design and analysis of computer experiments (e.g., factorial design, Latin hypercube sampling). Extensive programming and team-based research projects. CRQ: CSCI 503 or consent of department.
647. **ADVANCED DISCRETE SIMULATION (3).** An in-depth exploration of recent research in the area of discrete simulation, building on the introductory course to modeling and simulation. Focuses on discrete paradigms including cellular automata, agent based models, and network models. May cover aspects such as hybrid models, spatial simulations, large-scale simulations, or in the interplay of simulations with areas such as interactive visualizations. Extensive reading of research articles and team-based project. Extensive laboratory work. PRQ: CSCI 646 or consent of department.
651. **APPLICATIONS OF GRAPH THEORY (3).** Graph theory is introduced with emphasis on its applications in sciences. Topics include basic graph concepts, algorithms, complexity analysis, and modeling real-life problems using graphs. PRQ: Admission to the graduate program in computer science or consent of department.
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.
653. **ALGORITHMIC BIOINFORMATICS II (3).** In-depth exploration of computational problems in bioinformatics, building on top of the introductory course to algorithmic bioinformatics. Topics may change each time the course is offered based on recent research development. Focus on computational and comparative genomics, including large-scale alignment, repeat analysis, detection of genomic signals, and other computational problems. Requires extensive reading of research papers and programming projects. Extensive laboratory work. PRQ: CSCI 652 or consent of department.
656. **ARTIFICIAL INTELLIGENCE (3).** Heuristic algorithms for solving real-world problems and approximating human intelligence. Basic concepts and methods for knowledge representation, heuristic problem solving and automated learning. Exposure to a variety of domains in which artificial intelligence is used. Extensive laboratory work. CRQ: CSCI 503 or consent of department.
657. **NATURAL LANGUAGE PROCESSING I (3).** Methods for computer processing of human language at the character, word and sentence level. Basic algorithms for spell checking, part of speech tagging and parsing. Approaches to research in NLP, including selection of machine learning algorithms and statistics. Extensive laboratory work. CRQ: CSCI 503 or consent of department.
658. **NATURAL LANGUAGE PROCESSING II (3).** Advanced topics in computer processing of human language. Topics may vary by semester and may include spoken language understanding and generation, statistical machine translation, and language processing of large-scale files, including reference resolution and question answering. Extensive laboratory work. PRQ: CSCI 657 or consent of department.
659. **INTELLIGENT INTERACTIVE SYSTEMS (3).** Concepts, system design and tools to build systems that interact with users using free text and retrieve information from a database using a logic engine. Design and implementation of the database and logic engine, the computational semantics and pragmatics necessary to conduct a state-of-the-art dialogue, and sentence and turn generation in context. Extensive laboratory work. PRQ: CSCI 657 or consent of department.

661. PARALLEL AND DISTRIBUTED PROGRAMMING MODELS (3). Topics will include message passing on distributed memory architectures and multithreading. Includes extensive programming and laboratory work. May not be taken by students with undergraduate credit for CSCI 490K. CRQ: CSCI 501 or consent of department.

662. PROGRAMMING NON-TRADITIONAL ARCHITECTURES (3). Topics include programming hardware accelerators like general purpose graphic processing units and field programmable gate arrays with an emphasis on applying these architectures to computer applications in modeling, simulation, and computational sciences. Includes extensive programming and laboratory work. May not be taken by students with undergraduate credit for CSCI 490E. CRQ: CSCI 501 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 9 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.

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.

701. RESEARCH METHODS IN COMPUTER SCIENCE (3). Writing-intensive course work covering the main aspects related to performing research in computer science: performing literature reviews in computer science, designing ethical and technically sound research projects for both experimental and theoretical computer science research, identifying and pursuing funding opportunities, and reporting scientific results to professional and lay audiences in forms ranging from presentations to (open source) software and articles. Topics related to being a member of the scientific community will also be introduced, such as the editorial process, seen both from the author's and editor's viewpoints. PRQ: Admission to the graduate program in computer science or consent of department.

799. DOCTORAL RESEARCH AND DISSERTATION (1-15). May be repeated to a maximum of 60 semester hours. Student must accumulate 24 semester hours prior to graduation. S/U grading. PRQ: Candidacy for the doctoral degree and consent of chair of doctoral committee or consent of department.

# Department of Economics (ECON)

Chair: Carl M. Campbell III

## Graduate Faculty

Evan Anderson, associate professor, Ph.D., University of Chicago  
 Carl M. Campbell III, professor, Ph.D., Princeton University  
 Ai-ru Cheng, associate professor, Ph.D., University of North Carolina  
 Alexander Garivaltis, assistant professor, Ph.D., University of Minnesota  
 Jeremy Groves, associate professor, director of graduate studies, Ph.D., Washington University  
 Anna Klis, assistant professor, Ph.D., University of Texas  
 Khan A. Mohabbat, professor emeritus, Ph.D., State University of New York, Buffalo  
 Maria Ponomareva, associate professor, Ph.D., Northwestern University  
 George Slotsve, professor, Ph.D., University of Wisconsin  
 Norman Walzer, Faculty Affiliate, Ph.D., University of Illinois  
 Virginia L. Wilcox-Gök, professor, Ph.D., Washington University  
 Wei Zhang, associate 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. For those seeking a career dealing with financial markets, the department offers a concentration in Financial Economics as part of its M.A. program.

The M.A. program in economics requires a minimum of 30 semester hours of graduate credit. The core courses have the prerequisites of ECON 590 - Economic Statistics and Econometrics (3) and ECON 591 - Mathematical Methods for Economics (3). Students are highly encouraged to take those courses as part of their graduate studies regardless of their background.

The student learning outcomes for this degree are located at <http://www.niu.edu/assessment/clearinghouse/outcomes/index.shtml>.

## Course Requirements

ECON 660 - Microeconomic Analysis I (3)  
 ECON 661 - Macroeconomic Analysis I (3)  
 ECON 690 - Econometrics I (3)  
 ECON 691 - Research Tools for Economists (3)  
 ECON 692A - Methods in Economics: Econometrics (1)  
 ECON 699A - Master's Research Component: 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 must choose at least 17 elective semester hours from courses numbered 500 or greater and only 6 of those 17 semester hours may be from outside the department with the approval of the Director of Graduate Studies.

Credits from ECON 590, ECON 591, and ECON 798 cannot be counted toward the 17 semester hours of electives.

## Students with an Interest in the Concentration in Financial Economics

Students may earn a Concentration in Financial Economics by taking the following courses as part of their 17 hours of electives.

ECON 584 - Financial Derivatives (3)  
 ECON 740 - Financial Economics I (3)  
 ECON 743 - Financial Economics II (3)  
 ECON 791 - Computational Economics (2)  
 STAT 601 - Stochastic Processes II (3)

## Comprehensive Examinations

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. 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.

## 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 four applied fields of labor economics, public finance, financial economics, and econometrics. Other fields may be approved by the department's director of graduate studies, subject to student demand and faculty availability.

The doctoral program in economics also offers a concentration in econometrics and statistics in which a student specializing in econometrics may earn an M.S. in Applied Probability and Statistics while enrolled in the Ph.D. in Economics program.

The student learning outcomes for this degree are located at <http://www.niu.edu/assessment/clearinghouse/outcomes/index.shtml>.

## Course Requirements

All doctoral students must satisfactorily complete a minimum of 60 semester hours of graduate course work, and no more than 12 semester hours may be from 500-level courses.

**Prerequisites:**

ECON 590 - Economic Statistics and Econometrics (3)  
 ECON 591 - Mathematical Methods for Economics (3)  
 ECON 660 - Microeconomic Analysis I (3)  
 ECON 661 - Macroeconomic Analysis I (3)

**Core Courses:**

ECON 648 - Introduction to Game Theory (3)  
 ECON 690 - Econometrics I (3)  
 ECON 691 - Research Tools for Economics (3)  
 ECON 692A - Methods in Economics: Econometrics (1)  
 ECON 760 - Microeconomic Analysis II (3)  
 ECON 761 - Macroeconomic Analysis II (3)  
 ECON 796 - Research Seminar in Economics (3)  
 ECON 798 - Current Research Colloquium (8)  
 ECON 799 - Doctoral Research and Dissertation (12)

**Field Requirements****Student must complete two of the following fields:**

## Labor Economics

ECON 700 - Labor Market Analysis I (3)  
 ECON 701 - Labor Market Analysis II (3)

## Financial Economics

ECON 740 - Financial Economics I (3)  
 ECON 743 - Financial Economics II (3)

## Public Sector Economics

ECON 750 - Public Sector Economics I (3)  
 ECON 751 - Public Sector Economics II (3)

## Econometrics

ECON 790 - Econometrics II (3)  
 ECON 793 - Financial and Time-Series Econometrics (3)

Course work in other applied fields may be obtained by consulting the department's Director of Graduate Studies.

**Research-Tool Requirement**

The Department of Economics research-tool requirement is fulfilled by successfully completing ECON 590, ECON 591, ECON 690, ECON 691, and ECON 692A, which are required in the doctoral program.

**Joint M.S. in Applied Probability and Statistics**

Students in good standing in the Ph.D. in Economics program may request approval by the Division of Statistics to also earn an M.S. in Applied Probability Statistics while they work toward their Ph.D. in Economics. These students must fulfill the requirements for the Econometrics field above in addition to the course work listed below and any thesis or comprehensive exam requirement within the Division of Statistics.

STAT 515 - Statistical Computing (3)  
 STAT 610 - Theory of Statistics I (3)  
 STAT 611 - Theory of Statistics II (3)  
 Two STAT courses 500 level or above (6)  
 Two STAT courses 600 level or above (6)

**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 and ECON 760 and must take the candidacy examination in macroeconomics the first time it is offered after satisfactory completion of ECON 661 and 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 and two courses in an applied field, a Ph.D. student is required to enroll in the Ph.D. Research Seminar in Economics (ECON 796) to write a professional and original research paper in one of their fields of study under the guidance of a research adviser chosen by the student. The paper will be evaluated by the research adviser and two additional faculty members approved by the research adviser. Upon receiving a satisfactory evaluation, the student will be admitted to candidacy. The Ph.D. research paper must be successfully evaluated within one year of the initial enrollment in ECON 796 and must be presented in the weekly research seminar (ECON 798). Failure to complete the Ph.D. Research Paper within one year after the initial enrollment in ECON 796, will result in dismissal from the doctoral program. Under exceptional circumstances, the student and their research adviser may submit a written request to the department's Graduate Committee requesting an extension of this time limit.

**Certificate of Graduate Study****Financial Engineering (15)**

Coordinator: Jeremy Groves, Director of Graduate Studies, Department of Economics

The Certificate in Graduate Study in Financial Economics is a non-degree interdisciplinary program with courses in economics, statistics, and computer science for a student seeking a practical program of study to prepare for technical or administrative positions in the financial industry.

The certificate in Financial Engineering is open to all students admitted to degree and non-degree study at Northern Illinois University. All courses for the certificate in Financial Engineering must be completed at NIU. Course work leading to the certificate in Financial Engineering must be completed within six years immediately preceding awarding of the certificate. Students must earn a grade point average of at least 3.00 in courses used toward the certificate in Financial Engineering. Courses completed for the certificate in Financial Engineering may also be used to satisfy requirements for graduate degree programs.

**Program prerequisites:**

Familiarity with undergraduate financial economics  
 Computer programming in a language such as C, C++, Fortran, or Java

Students not satisfying the above prerequisites may be required to take the following courses:

ECON 661 - Macroeconomic Analysis I (3)  
 CSCI 501 - Programming Principles in C++ (3)

**Requirements (9)**

ECON 584 - Financial Derivatives (3)  
 ECON 791 - Computational Economics (2)  
 STAT 601 - Stochastic Processes (3)  
 (MATH 535 - Numerical Analysis may be substituted for ECON 791 with consent of department.)

**Electives (6)**

Two courses, including at least one CSCI course, must be chosen from the courses listed below:

CSCI 661 - Parallel and Distributed Programming Models (3)  
 CSCI 662 - Programming Non-Traditional Architectures (3)  
 ECON 642 - Financial Engineering (3)  
 ECON 649 - Algorithmic Trading (3)  
 ECON 740 - Financial Economics I (3)  
 ECON 743 - Financial Economics II (3)  
 ECON 795 - Internship in Economics (1-6)

## Course List (ECON)

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. Not open to students with credit in ECON 700 or ECON 701. PRQ: ECON 360 or consent of department.

515. SPORTS ECONOMICS (3). The application of microeconomic analysis to the understanding of the market for professional and amateur sports. Topics include the industrial organization of sports markets, competitive balance in sports, public finance of sports facilities, labor markets and discrimination in sports, and amateur and college sports. Not open to students who are economics majors or students who have taken ECON 315 or its equivalent. PRQ: ECON 260 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. Not open to students with credit in ECON 750 or ECON 751. 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.

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.

584. FINANCIAL DERIVATIVES (3). Review of financial derivatives including futures, European and American options, and exotic options. Greeks, trading and hedging strategies. Pricing derivative securities with appropriate boundary conditions, including Black-Scholes formula, binomial trees, lattice models and finite difference methods. Simulation and variance reduction techniques. Interest rate models. Covers the learning outcomes regarding financial models in the exam MFE of the Society of Actuaries (SOA), which is also the Exam 3F of the Casualty Actuarial Society (CAS). PRQ: 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.

592. RESEARCH METHODS IN ECONOMICS (3). Analysis of societal issues in an economic framework; use of library, Internet, and computer resources to conduct research; and organizing and writing an effective research paper. Students write a substantial research paper on a topic of their choice and present their findings to the class. PRQ: Admission to accelerated BS-MA program in Economics and 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 FOR SECONDARY AND MIDDLE GRADES EDUCATORS (3). *Crosslisted as ANTH 596X, GEOG 596X, HIST 596, POLS 596X, PSYC 596X, and SOCI 596X.* Organization and presentation of materials for history and social science courses at the middle grades and secondary levels. PRQ: Admission to the history or social science secondary or middle grades educator licensure program and permission of the Department of History's office of secondary educator licensure.

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.

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.

642. FINANCIAL ENGINEERING (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.

647. OPTIMAL PORTFOLIO CHOICE (3). A survey in discrete and continuous time using analytical and numerical techniques. Topics include dynamic programming, martingale methods, robustness, and the Malliavin calculus. PRQ: CSCI 501 and ECON 591; 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.

649. ALGORITHMIC TRADING (3). High-performance computational methods for high frequency and algorithmic trading. Topics include a review of available high-performance optimization hardware and software, machine learning, high-frequency market microstructure and models of financial markets, real time dynamic optimization, robotic trading algorithms, agent-based models, arbitrage strategies, and automated textual analysis. PRQ: ECON 647 and CSCI 501; 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 692A.

691. RESEARCH TOOLS FOR ECONOMISTS (3). Introduction for graduate students in economics to the software applications, programming, and basic computational techniques needed to be productive researchers in economics.

692. METHODS IN ECONOMICS (1-2). Theory and practice in research methods used in applied fields of economics. Problems and techniques in data methods, econometrics, programming, and other advanced methods. Must be taken at the same time as a designated 600- or 700-level field course. May be repeated to a maximum of 10 semester hours with a limit of two enrollments (in connection with two separate courses) in a single semester and two enrollments overall in each of the following topic areas. PRQ: Consent of department.

- A. Econometrics
- B. Financial Economics
- C. Labor Economics
- D. Public Economics
- E. Other Special Topics

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. 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.

701. 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.

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.

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. PUBLIC SECTOR ECONOMICS I (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.

751. PUBLIC SECTOR ECONOMICS II (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.

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: ECON 661 or consent of department.

790. ECONOMETRICS II (3). Advanced topics in estimation and inference with linear and nonlinear models. PRQ: ECON 690 or consent of department.

791. COMPUTATIONAL ECONOMICS (3). Covers environments for scientific computing, numerical methods, and computational economics. Students will be expected to write their own computer programs to solve and estimate economic models. PRQ: Consent of department.

793. FINANCIAL AND TIME-SERIES ECONOMETRICS (3). Application of mathematical and statistical techniques to the analysis of economic and financial problems. May be repeated once for credit in a subsequent semester. PRQ: Consent of department.

795. INTERNSHIP IN ECONOMICS (1-6). May be repeated to a maximum of 6 semester hours. PRQ: Written consent of department Graduate Committee.

796. RESEARCH SEMINAR IN ECONOMICS (3). Selected topics in theoretical and empirical aspects of economics. Emphasis on individual research. May be repeated for credit in subsequent semesters to a maximum of 9 semester hours. PRQ: Must have completed at least one field or consent of department.

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)

Interim Chair: Bradley Peters

## Graduate Faculty

Melissa M. Adams-Campbell, associate professor, Ph.D., Indiana University  
 Gülsat Aygen, Presidential Teaching Professor, Ph.D., Harvard University  
 William Baker, Distinguished Research Professor, Board of Trustees Professor, professor emeritus, Ph.D., University of London  
 Scott Balcerzak, associate professor, Ph.D., University of Florida  
 Alexandra G. Bennett, associate professor, Ph.D., Brandeis University  
 Betty J. Birner, professor, Ph.D., Northwestern University  
 Joseph W. Bonomo, associate professor, Ph.D., Ohio University  
 Nicole Clifton, associate professor, Ph.D., Cornell University  
 Lara Crowley, associate professor, Ph.D., University of Maryland  
 Timothy Crowley, associate professor, Ph.D., University of Maryland  
 Michael J. Day, professor, Ph.D., University of California, Berkeley  
 Deborah C. De Rosa, associate professor, Ph.D., University of North Carolina, Chapel Hill  
 Susan E. Deskis, professor, Ph.D., Harvard University  
 Jeffrey Einboden, professor, Ph.D., University of Cambridge  
 Ibis Gómez-Vega, associate professor, Ph.D., University of Houston  
 David J. Gorman, associate professor, Ph.D., Columbia University  
 Ryan Hibbett, assistant professor, Ph.D., Southern Illinois University  
 John V. Knapp, professor emeritus, Ph.D., University of Illinois, Ph.D., University of Wisconsin  
 Amy K. Levin, professor emeritus, Ph.D., City University of New York  
 Doris M. Macdonald, associate professor, Ph.D., Louisiana State University  
 Brian T. May, professor, Ph.D., University of Virginia  
 Thomas McCann, professor, Ph.D., University of Chicago  
 Amy Newman, Distinguished Research Professor, Board of Trustees Professor, Ph.D., Ohio University  
 Bradley T. Peters, professor, Ph.D., University of Iowa, interim chair  
 Kathleen Renk, professor emeritus, Ph.D., University of Iowa  
 Jessica Reyman, associate professor, Ph.D., University of Minnesota  
 Timothy Ryan, associate professor, Ph.D., University of Nevada, Reno  
 Diana L. Swanson, professor, Ph.D., University of Minnesota  
 Mark W. Van Wiene, 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 may be applied toward a graduate degree in English. No more than 15 semester hours of combined transfer course work and credit earned as a student-at-large may be applied toward a graduate degree in English without the consent of the director of Graduate Studies and the chair of the department.

## 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. Students pursuing the M.A. in English have the option of taking a final comprehensive examination or writing a thesis 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 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.

The student learning outcomes for this degree are located at <http://www.niu.edu/assessment/clearinghouse/outcomes/index.shtml>.

### 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)

At least one course from each of the following groups (9)

Literary Criticism and Theory or History of the Language (3)

ENGL 602A - Literary Theory and Criticism: History of Literary Theory (3)

ENGL 602B - Literary Theory and Criticism: Contemporary Literary Theory (3)

ENGL 602C - Literary Theory and Criticism: Interpretation of Literary Texts (3)

ENGL 602D - Literary Theory and Criticism: Feminist Literary Theory and Criticism (3) ENGL 611 - History of the English Language (3)

ENGL 612 - Old English (3)

ENGL 613 - Middle English (3)

British Literature 1660-1900 (3)

ENGL 656 - Restoration and Early 18th Century Literature (3)

ENGL 657 - Later 18th Century English Literature (3)

ENGL 658 - English Drama: 1660-1800 (3)

ENGL 659 - 18th Century English Novel (3)

ENGL 660 - British Romantic Period (3)

ENGL 661 - Victorian Poetry: 1830-1880 (3)

ENGL 662 - 19th Century British Prose (3)

ENGL 663 - 19th Century British Novel (3)

ENGL 664 - British Literature: 1880-1920 (3)

ENGL 756 - Seminar: Restoration and 18th Century English Literature (3)

ENGL 762 - Seminar: 19th Century British Literature (3)

ENGL 764 - Seminar: British Literature: 1880-1920 (3)

American Literature to 1900 (3)

ENGL 676 - American Literature to 1830 (3)

ENGL 677 - American Literature: 1830-1865 (3)

ENGL 678 - American Literature: 1865-1910 (3)

ENGL 679 - 19th Century American Novel (3)

ENGL 776 - Seminar: American Literature to 1830 (3)

ENGL 777 - Seminar: 19th Century American Literature (3)

At least two courses from each of the following groups (12)

British Literature to 1660 (6)

ENGL 635 - Middle English Literature (3)

ENGL 636 - Beowulf (3)

ENGL 637 - Chaucer (3)

ENGL 638 - 16th Century Prose and Poetry (3)

ENGL 639 - English Drama to 1600 (3)

ENGL 640 - English Drama: 1600-1660 (3)

ENGL 641 - Shakespeare (3)

ENGL 642 - 17th Century Prose and Poetry (3)

ENGL 643 - Spenser (3)

ENGL 644 - Milton (3)

ENGL 736 - Seminar: Medieval Literature (3)

ENGL 737 - Seminar: Chaucer (3)

ENGL 738 - Seminar: 16th Century English Literature (3)

ENGL 741 - Seminar: Shakespeare (3)

ENGL 742 - Seminar: 17th Century English Literature (3)

ENGL 744 - Seminar: Milton (3)

Literature in English since 1900: British, American, and/or Postcolonial (6)

ENGL 665 - British Literature Since 1600 (3)

ENGL 666 - 20th Century British Poetry (3)

ENGL 667 - 20th Century British Drama (3)

ENGL 668 - 20th Century British Fiction (3)

ENGL 671 - Postcolonial Literatures in English (3)

ENGL 681 - American Literature: 1910-1960 (3)

ENGL 682 - American Literature Since 1960 (3)

ENGL 684 - 20th Century American Poetry (3)

ENGL 685 - 20th Century American Fiction (3)

ENGL 687 - 20th Century American Drama (3)

ENGL 693A - Ethnic American Literature: African American Literature (3)

ENGL 693B - Ethnic American Literature: Native American Literature (3)

ENGL 693C - Ethnic American Literature: Latina/Latino American Literature (3)

ENGL 693D - Ethnic American Literature: Special Topics (3)

ENGL 765 - 20th Century British Literature (3)

ENGL 783 - Seminar: 20th Century American Literature (3)

Course work in literature, with consent of adviser (3)

Course work in nonliterature, with consent of adviser (3)

Electives chosen in consultation with adviser (0-6)

### Education in English Language Arts

This area of study is primarily designed for English language arts professionals who are currently teaching in the schools and students interested in educator licensure in secondary English Language Arts. Those seeking licensure 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 Language Arts Classroom (3)

ENGL 622 - Theories and Methods of Teaching English to Speakers of Other Languages (3)

ENGL 623 - Second Language Acquisition (3)

ENGL 646 - Theory and Research in Literature for English Language Arts (3)

ENGL 647 - Theory and Research in Written Composition for English Language Arts (3)

ENGL 648 - Materials and Methods of Teaching English Language Arts (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

ENGL 601 - Bibliography and Methods of Research (3)

ENGL 690 - Film and Literature (3)

ENGL 691 - Topics in Film and Literature (6)

At least one course from the following:

Literary Criticism and Theory, History of the Language, or Traditions of Rhetoric (3):

ENGL 602A - Literary Theory and Criticism: History of Literary Theory (3)

ENGL 602B - Literary Theory and Criticism: Contemporary Literary Theory (3)

ENGL 602C - Literary Theory and Criticism: Interpretation of Literary Texts (3)

ENGL 602D - Literary Theory and Criticism: Feminist Literary Theory and Criticism (3)

ENGL 603 - Traditions in Written Rhetoric (3)

ENGL 611 - History of the English Language (3)

ENGL 612 - Old English (3)

ENGL 613 - Middle English (3)

At least one course from the following

British or American Literature to 1900 (3):

ENGL 635 - Middle English Literature (3)

ENGL 636 - Beowulf (3)

ENGL 637 - Chaucer (3)

ENGL 638 - 16th Century Prose and Poetry (3)

ENGL 639 - English Drama to 1600 (3)

ENGL 640 - English Drama: 1600-1660 (3)

ENGL 641 - Shakespeare (3)

ENGL 642 - 17th Century Prose and Poetry (3)

ENGL 643 - Spenser (3)

ENGL 644 - Milton (3)

ENGL 656 - Restoration and Early 18th Century Literature (3)

ENGL 657 - Later 18th Century English Literature (3)

ENGL 658 - English Drama: 1660-1800 (3)

ENGL 659 - 18th Century English Novel (3)

ENGL 660 - British Romantic Period (3)

ENGL 661 - Victorian Poetry: 1830-1880 (3)  
 ENGL 662 - 19th Century British Prose (3)  
 ENGL 663 - 19th Century British Novel (3)  
 ENGL 664 - British Literature: 1880-1920 (3)  
 ENGL 676 - American Literature to 1830 (3)  
 ENGL 677 - American Literature: 1830-1865 (3)  
 ENGL 678 - American Literature: 1865-1910 (3)  
 ENGL 679 - 19th Century American Novel (3)  
 ENGL 736 - Seminar: Medieval Literature (3)  
 ENGL 737 - Seminar: Chaucer (3)  
 ENGL 738 - Seminar: 16th Century English Literature (3)  
 ENGL 741 - Seminar: Shakespeare (3)  
 ENGL 742 - Seminar: 17th Century English Literature (3)  
 ENGL 744 - Seminar: Milton (3)  
 ENGL 756 - Seminar: Restoration and 18th Century English Literature (3)  
 ENGL 762 - Seminar: 19th Century British Literature (3)  
 ENGL 764 - Seminar: British Literature, 1880-1920 (3)  
 ENGL 776 - Seminar: American Literature to 1830 (3)  
 ENGL 777 - Seminar: 19th Century American Literature (3)

At least two courses from the following

British, American, and/or Postcolonial Literature since 1900 (6):

ENGL 665 - British Literature Since 1900 (3)  
 ENGL 666 - 20th Century British Poetry (3)  
 ENGL 667 - 20th Century British Drama (3)  
 ENGL 668 - 20th Century British Fiction (3)  
 ENGL 671 - Postcolonial Literatures in English (3)  
 ENGL 681 - American Literature: 1910-1960 (3)  
 ENGL 682 - American Literature Since 1960 (3)  
 ENGL 684 - 20th Century American Poetry (3)  
 ENGL 685 - 20th Century American Fiction (3)  
 ENGL 687 - 20th Century American Drama (3)  
 ENGL 693A - Ethnic American Literature: African American Literature (3)  
 ENGL 693B - Ethnic American Literature: Native American Literature (3)  
 ENGL 693C - Ethnic American Literature: Latina/Latino American Literature (3)  
 ENGL 693D - Ethnic American Literature: Special Topics (3)  
 ENGL 765 - Seminar: 20th Century British Literature (3)  
 ENGL 783 - Seminar: 20th Century American Literature (3)

Electives in literature (6)

Non-literature electives. These can include courses in rhetoric, English education, or theory and criticism within the English Department. If taken outside the English Department, courses can include COMS 556, COMS 562, COMS 656, or other film-related electives with consent of adviser (0-9)

### 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 606 - Morphology (3)  
 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 Language Arts Classroom (3)  
 ENGL 626 - Technical Writing (3)  
 ENGL 627 - Technical Editing (3)  
 ENGL 629 - Topics in Rhetoric (3)  
 ENGL 630 - Theory and Research in Professional Writing (3)  
 ENGL 632 - Writing for Digital 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)  
 Course work in literature with at least one course from each of the following groups (12-15) (If ENGL 625 is chosen, 15 semester hours are required in literature.)  
 British Literature to 1660  
 ENGL 635 - Middle English Literature (3)  
 ENGL 636 - Beowulf (3)  
 ENGL 637 - Chaucer (3)  
 ENGL 638 - 16th Century Prose and Poetry (3)  
 ENGL 639 - English Drama to 1600 (3)  
 ENGL 640 - English Drama: 1600-1660 (3)  
 ENGL 641 - Shakespeare (3)  
 ENGL 642 - 17th Century Prose and Poetry (3)  
 ENGL 643 - Spenser (3)  
 ENGL 644 - Milton (3)  
 ENGL 736 - Seminar: Medieval Literature (3)  
 ENGL 737 - Seminar: Chaucer (3)  
 ENGL 738 - Seminar: 16th Century English Literature (3)  
 ENGL 741 - Seminar: Shakespeare (3)  
 ENGL 742 - Seminar: 17th Century English Literature (3)  
 ENGL 744 - Seminar: Milton (3)  
 British Literature 1660-1900 or American Literature to 1900  
 ENGL 656 - Restoration and Early 18th Century Literature (3)  
 ENGL 657 - Later 18th Century English Literature (3)  
 ENGL 658 - English Drama: 1660-1800 (3)  
 ENGL 659 - 18th Century English Novel (3)  
 ENGL 660 - British Romantic Period (3)  
 ENGL 661 - Victorian Poetry: 1830-1880 (3)  
 ENGL 662 - 19th Century British Prose (3)  
 ENGL 663 - 19th Century British Novel (3)  
 ENGL 664 - British Literature: 1880-1920 (3)  
 ENGL 676 - American Literature to 1830 (3)  
 ENGL 677 - American Literature: 1830-1865 (3)  
 ENGL 678 - American Literature: 1865-1910 (3)  
 ENGL 679 - 19th Century American Novel (3)  
 ENGL 756 - Seminar: Restoration and 18th Century English Literature (3)  
 ENGL 762 - Seminar: 19th Century British Literature (3)  
 ENGL 764 - Seminar: British Literature, 1880-1920 (3)  
 ENGL 776 - Seminar: American Literature to 1830 (3)  
 ENGL 777 - Seminar: 19th Century American Literature (3)

Literature in English since 1900: British, American, and/or Postcolonial

- ENGL 665 - British Literature Since 1900 (3)
- ENGL 666 - 20th Century British Poetry (3)
- ENGL 667 - 20th Century British Drama (3)
- ENGL 668 - 20th Century British Fiction (3)
- ENGL 671 - Postcolonial Literatures in English (3)
- ENGL 681 - American Literature: 1910-1960 (3)
- ENGL 682 - American Literature Since 1960 (3)
- ENGL 684 - 20th Century American Poetry (3)
- ENGL 685 - 20th Century American Fiction (3)
- ENGL 687 - 20th Century American Drama (3)
- ENGL 693A - Ethnic American Literature: African American Literature (3)
- ENGL 693B - Ethnic American Literature: Native American Literature (3)
- ENGL 693C - Ethnic American Literature: Latina/Latino American Literature (3)
- ENGL 693D - Ethnic American Literature: Special Topics (3)
- ENGL 765 - Seminar: 20th Century British Literature (3)
- ENGL 783 - Seminar: 20th Century American Literature (3)

Literature elective: 3 hours (if ENGL 601 is taken) or 6 hours (if ENGL 625 is taken)

Electives (0-6)

### Rhetoric and Writing

- ENGL 610 - Rhetoric of Prose Composition (3)
  - ENGL 625 - Methods of Research in Professional Writing (3)
- Course work from the following (9)
- ENGL 609 - Creative Writing (3)
  - ENGL 626 - Technical Writing (3)
  - ENGL 627 - Technical Editing (3)
  - ENGL 628 - Internship in Technical Writing or Editing (1-12)
  - ENGL 632 - Writing for Digital 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 Professional Writing (3)
- ENGL 631 - Topics in Professional Writing (3)
- ENGL 700 - Topics in the Teaching of College English (3)
- ENGL 703 - Seminar: Rhetorical Studies (3)

Two of the following (6)

- ENGL 606 - Morphology (3)
- 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 (3-9)

### 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 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.

The student learning outcomes for this degree are located at <http://www.niu.edu/assessment/clearinghouse/outcomes/index.shtml>.

### 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 72 semester hours. These include 60 hours of course work (30 of which may be approved M.A. course work) and 12 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 (15)

- 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
  - History of the Language (3): ENGL 611, ENGL 612, ENGL 613
  - Rhetoric (3): ENGL 603, ENGL 610, ENGL 630
  - Linguistics (3): ENGL 615, ENGL 617, ENGL 68, ENGL 620, ENGL 622, ENGL 623, ENGL 633

### Area of Specialization (12)

Courses to be determined by student in consultation with adviser.

### Electives (3)

Electives could constitute a secondary area of specialization depending on the individual student's interests.

### Foreign Language Requirement

All Ph.D. students must fulfill a Language/Research Tool Requirement before taking the candidacy examinations. Students may fulfill the requirement by demonstrating high proficiency in one foreign language, by demonstrating average proficiency in two foreign

languages, or by demonstrating average proficiency in one foreign language and average proficiency in a research tool. The choice of languages is subject to departmental approval. (For means of demonstrating language proficiency, refer to “Language and Research-Tool Requirement” in the Requirements for Graduate Degrees section of this catalog.) Average proficiency in a research tool is shown by completing with a grade of B or higher two courses designated by the English Department to show expertise in one of three fields: Language, Research Methods, or Literary Theory and Criticism. The two courses must be taken in addition to courses taken to fulfill core requirements in the three fields.

### 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
  - Writing Studies
- 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 knowledge of literature, linguistics, rhetoric, or English education, 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.

### Education in English Language Arts (18)

This certificate recognizes the successful completion of a set of courses intended to enhance the professional qualifications of teachers of English Language Arts in the secondary schools.

- At least 9 semester hours from the following
- ENGL 604 - Topics in Materials for the English Language Arts 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<sup>1</sup> - Theory and Research in Literature for English Language Arts (3)
  - ENGL 647 - Theory and Research in Written Composition for English Language Arts (3)
  - ENGL 648<sup>1</sup> - Materials and Methods of Teaching English Language Arts 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)
  - ENGL 625 - Methods of Research in Professional Writing (3)
  - ENGL 628 - Internship in Technical Writing, or Editing (1-12). No more than 6 semester hours of credit in ENGL 628 may be applied to the Certificate of Graduate Study in Technical Writing.
  - ENGL 630 - Theory and Research in Professional Writing (3)
  - ENGL 631 - Topics in Professional Writing (3)
  - ENGL 632 - Writing for Digital Media (3)

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.

### Educator Licensure in Secondary English Language Arts

The educator licensure program in secondary English Language Arts qualifies students for licensure in grades 9 - 12. Students interested in middle-school licensure, grades 5-8, must also complete content courses in English and the required licensure courses in English Language Arts (ENGL 646, ENGL 647, and ENGL 648). The state issues educator licenses 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 educator licensure and formal approval by the department’s Committee on Educator Licensure in English Language Arts.

<sup>1</sup> Strongly recommended.

**Admission Requirements**

Application in writing to the coordinator.

A passing score on the Illinois examination for licensure for teaching in English Language Arts and any additional state of Illinois requirements.

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 licensure 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 licensure.

A satisfactory review of progress toward the license with the coordinator each semester.

**Courses Required for Educator Licensure in English Language Arts (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 646 - Theory and Research in Literature for English Language Arts (3)

ENGL 647 - Theory and Research in Written Composition for English Language Arts (3)

ENGL 648 - Materials and Methods of Teaching English Language Arts (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 educator licensure in English Language Arts should be careful to consult regularly with the director of graduate studies in English and with the coordinator of educator licensure about using courses to satisfy requirements in both programs.

Students are admitted to ENGL 649, Student Teaching in Secondary English Language Arts, only after completing all other work required for the license 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 645.

Credit for clinical experiences may not be included in the program of studies for a graduate degree in English. Candidates should consult with the coordinator of educator licensure in English Language Arts about satisfying this requirement as soon as they have been admitted to the licensure program.

**Other State Licensure Requirements**

Other state requirements include course work in human growth and development, teaching of English Language Learners, and psychology of exceptional children. Students normally satisfy the requirement in human growth and development with EPS 406, Issues in Human Development and Learning (3). Students should consult with the coordinator of educator licensure in English Language Arts to determine which courses are approved for satisfying the additional requirements. Students must also pass the state of Illinois examination for licensure in teaching English Language Arts and fulfill any additional state of Illinois requirements.

**Foreign Language**

Students interested in educator licensure in secondary English Language Arts 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 LANGUAGE ARTS 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.

645. CLINICAL EXPERIENCE IN SECONDARY ENGLISH LANGUAGE ARTS (1-2). Discipline-based clinical experience for students seeking initial secondary educator licensure in English Language Arts. Includes observations, evaluation, methods, and practicum on problems in teaching. Includes a minimum of 50 clock hours of supervised and formally evaluated experiences in the setting likely for the student teaching experience. Participants meet on campus for seminars aligned to the clinical experience in host school. A modest research component prompts investigation into a critical issue related to contemporary English Language Arts. PRQ: Consent of department. CRQ: ENGL 648.

646. THEORY AND RESEARCH IN LITERATURE FOR ENGLISH LANGUAGE ARTS (3). Theory and research applied to principled practices in teaching the reading of complex texts, including canonical, multicultural, young adult, and informational literature in English Language Arts. Aligned with the Common Core Standards, the Illinois Professional Teaching Standards, and the National Council of Teachers of English standards for teaching English Language Arts. A modest research component prompts investigation into a critical issue related to contemporary English Language Arts. PRQ: ENGL 647 or consent of department. CRQ: ILAS 301 or consent of department.

647. THEORY AND RESEARCH IN WRITTEN COMPOSITION FOR ENGLISH LANGUAGE ARTS (3). Theory and research applied to principled practices in teaching and evaluating composition in English Language Arts with emphasis on meeting Common Core Standards for writing in the multicultural classroom. Aligned with the Illinois Professional Teaching Standards and the National Council of Teachers of English standards for teaching English Language Arts. A modest research component prompts investigation into a critical issue related to contemporary English Language Arts. PRQ: Admission to educator licensure in secondary English Language Arts or consent of department. CRQ: ILAS 201 or consent of department.

648. MATERIALS AND METHODS OF TEACHING ENGLISH LANGUAGE ARTS (3). Methods, curriculum materials, and technologies essential to the teacher of English Language Arts. Emphasis on designing coherent and integrated units of instruction, including the strategic use of assessments to foster learning. Developing a variety of activities and multiple representations of concepts to accommodate diverse students' characteristics and abilities. Aligned with the Common Core Standards, the Illinois Professional Teaching Standards, and the National Council of Teachers of English standards for teaching English Language Arts. A modest research component prompts investigation into a critical issue related to contemporary English Language Arts. 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 645 or consent of department.

649. STUDENT TEACHING IN SECONDARY ENGLISH LANGUAGE ARTS (7-12). Student teaching for one semester. Assignments arranged through the office of clinical experiences in the College of Liberal Arts and Sciences, in consultation with the coordinator of teacher licensure in English Language Arts. Ongoing assessment of candidate's development. Candidates must satisfactorily complete a formal teacher performance assessment. Monthly on-campus seminars. S/U grading. PRQ: ENGL 648, ENGL 645, 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. PRQ: Permission of director of graduate studies in English.

699. MASTER'S THESIS (1-3). May be taken upon the appointment of a thesis director and the approval of a prospectus. Completion of a minimum of 3 hours is required for students writing a thesis in satisfaction of the comprehensive exam requirement.

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.

704. PUBLICATION AND PROFESSIONALIZATION IN ENGLISH STUDIES (3). Experience in producing professional written work for submission to professional journals in the field of English. Professional development in English studies including presentation and networking skills, reviewing academic books, producing vitas, and negotiating the academic job market. PRQ: Must be currently enrolled in the Ph.D. program in English.

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 60 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 from antiquity through present day. Focuses on defining rhetoric, tracing its changes throughout history, and considering its connections to writing studies and literary theory.

610. RHETORIC OF PROSE COMPOSITION (3). Introduction to contemporary rhetoric and composition theory and research. Focuses on reading words of leading theorists and researchers and exploring implications for writing, teaching, and research.

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 PROFESSIONAL WRITING (3). Historical and theoretical introduction to technical communication as a scholarly discipline. Objectives include understanding how theory and research can enhance the field of technical communication, becoming better readers of theory and research, and considering possibilities for new research.

631. TOPICS IN PROFESSIONAL WRITING (3). Study of specific topics in technical communication, such as document design, technical communication in a digital age, and usability testing. May be repeated to a maximum of 6 semester hours when topic varies.

632. WRITING FOR DIGITAL MEDIA (3). Theories, principles, and strategies for effective digital composition. Special emphasis on the rhetorical conventions for online writing and the design of online information. 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 rhetoric and composition theory and research. 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 for analyzing 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 language above the level of the sentence. Emphasis on pragmatic theories and their application to natural-language discourse.

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, 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 writers such as More, Elizabeth I, Sidney, Spenser, Marlowe, and Shakespeare.

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 1660-1740, including such writers as Dryden, Swift, and Pope.

657. LATER 18TH CENTURY ENGLISH LITERATURE (3). Study of English literature 1740-1800, including such writers as Gray and Sheridan. Study of English literature 1740-1800, including such writers as Gray and Sheridan.

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 British poetry in the 20th century, including works by poets such as Eliot, Auden, Yeats, Hughes, 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 BRITISH LITERATURE (3). May be repeated to a maximum of 9 semester hours when topic varies.

764. SEMINAR: BRITISH LITERATURE, 1880-1920 (3). May be repeated to a maximum of 9 semester hours when topic varies.

765. SEMINAR: 20TH CENTURY BRITISH 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: 1865-1910 (3). Studies in the fiction, poetry, and prose of the United States, from the Civil War until 1910, 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: 1910-1960 (3). Study of drama, fiction, and poetry, including such writers such as Cather, O'Neill, Faulkner, Stevens, Hurston, Ginsberg, and Williams.

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 modernists and Harlem Renaissance to the beats and the postmodernists, including such writers as Williams, Millay, Stevens, Pound, Hughes, Brown, Ginsberg, Lowell, Rich, Brooks, and Alexie.

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. FILM AND LITERATURE (3). Examination of the relationship between literature and film, covering foundational theories in the field as well as literature-to-film adaptations. 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 FILM AND LITERATURE (3). Topics in film theory, history, and criticism, such as authorship, narrativity, adaptation, genre, period, or cultural studies. May be repeated to a maximum of 6 semester hours when topic varies.

# Department of Geographic and Atmospheric Sciences (GEOG, MET)

Chair: David Changnon

## Graduate Faculty

Walker S. Ashley, Presidential Teaching Professor, Ph.D., University of Georgia  
 David Changnon, Distinguished Teaching Professor, Board of Trustees Professor, Ph.D., Colorado State University, chair  
 Xuwei Chen, associate professor, Ph.D., Texas State University  
 Courtney M. Gallaher, associate professor, Ph.D., Michigan State University  
 Vittorio (Victor) Gensini, assistant professor, Ph.D., University of Georgia  
 Ryan D. James, associate professor, Ph.D., University of North Carolina, Charlotte  
 Michael E. Konen, associate professor, Ph.D., Iowa State University  
 Wei Luo, Distinguished Research Professor, Ph.D., Washington University  
 Jie Song, professor, Ph.D., University of Delaware  
 James L. Wilson, associate professor, Ph.D., University of North

The Department of Geographic and Atmospheric Sciences offers graduate programs leading to the M.S. and Ph.D. degrees.

## 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.

Each M.S. graduate student in geography must accumulate 2 semester hours of credit in GEOG 601 prior to graduation. No more than 4 hours may be applied toward semester hour requirements.

The core courses, GEOG 661 and GEOG 663, must each be completed with a grade of B- or better. Students failing to achieve the minimum grade in these courses, or maintain an overall graduate GPA of 3.00, will be dismissed from the program.

The student learning outcomes for this degree are located at <http://www.niu.edu/assessment/clearinghouse/outcomes/index.shtml>.

## Requirements

GEOG 600 - Geography Seminar (½) (to be taken each semester in residence; must accumulate at least 2 semester hours prior to graduation; hours do not count toward required hours for the degree)  
 GEOG 601 - Practice of Geography (½) (to be taken each semester in residence; must accumulate at least 2 semester hours prior to graduation)  
 GEOG 661 - Advanced Quantitative Methods for Geographic Research (3)  
 GEOG 663 - Geographic Research Procedures (3)

At least 3 semester hours of topical advanced courses chosen from the following:

GEOG 622 - Advanced Vegetation Geography (3)  
 GEOG 660 - Advanced Spatial Analysis  
 GEOG 662 - Advanced Urban Geography (3)  
 GEOG 664 - Advanced Economic Geography (3)  
 GEOG 665 - Advanced Field Methods (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)  
 GEOG 790 - Advanced Seminar (3), may be repeated up to 6 semester hours

Satisfactory performance on a comprehensive 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. A thesis proposal must be successfully defended to the committee in a public defense prior to the commencement of thesis work.

## 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 for a total of six semester hours.

## Additional Requirements

Students are required to present findings of the thesis or non-thesis research at the Geography Seminar (GEOG 600) and to present one paper or poster at a state, regional, or national professional meeting. Departmental requirements for the M.S. degree are detailed in the departmental handbook, "Graduate Studies in Geography" available at [http://www.niu.edu/geog/gradstudies/Current\\_Students.shtml](http://www.niu.edu/geog/gradstudies/Current_Students.shtml).

## 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.

The student learning outcomes for this degree are located at <http://www.niu.edu/assessment/clearinghouse/outcomes/index.shtml>.

## 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,

and GEOG 601, Practice of Geography, each semester in residence; complete 6 semester hours in core courses (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.

Each Ph.D. graduate student in geography must accumulate 2 semester hours of credit in GEOG 601 prior to graduation. No more than 4 semester hours may be applied toward semester hour requirements

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.

### Core Courses

GEOG 600 - Geography Seminar (½)

(Registration in GEOG 600 is required to be taken each semester in residence; must accumulate at least 2 semester hours prior to graduation; hours do not count toward required hours for the degree.)

GEOG 601 - Practice of Geography (½) (to be taken each semester in residence; must accumulate at least 2 semester hours prior to graduation)

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 660 - Advanced Spatial Analysis (3)

GEOG 662 - Advanced Urban Geography (3)

GEOG 664 - Advanced Economic Geography (3)

GEOG 665 - Advanced Field Methods (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)

GEOG 790 A-K - Advanced Seminar (3). May be repeated up to 6 semester hours

### 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. Departmental requirements for the Ph.D. degree are detailed in the departmental handbook, "Graduate Studies in Geography" available at [http://www.niu.edu/geog/gradstudies/Current\\_Students.shtml](http://www.niu.edu/geog/gradstudies/Current_Students.shtml).

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 - Soils and Environmental Land Use Planning (3)

GEOG 532 - Geography of Health (3)

GEOG 554 - Fundamentals of Remote Sensing (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 560 - Remote Sensing of the Environment (3)

GEOG 564 - Location Analysis (3)

GEOG 568 - Workshop in GIS (3)

GEOG 570 - Web Mapping (3)

GEOG 593 - Computer Programming for the Geospatial and

Atmospheric Sciences (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 665 - Advanced Field Methods (3-6)

GEOG 690 - Community Geography (3)

GEOG 761 - Advanced Spatial Modeling and Regression Techniques (3)

GEOG 771J - Independent Research: Methods and Techniques (1-3)

GEOG 771K - Independent Research: Mapping/Geovisualization (1-3)

GEOG 790J - Advanced Seminar: Methods and Techniques (1-3)

GEOG 790K - Advanced Seminar: Mapping/Geovisualization (1-3)

<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.

## 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. SOILS AND ENVIRONMENTAL LAND USE PLANNING (3). Application of soil science to environmental issues; use of geospatial data in mapping and utilizing the soil resource in agricultural, urban, and natural systems; use of soils information in wetland delineations, waste disposal, nutrient and contaminant cycling, erosion-sedimentation, ecological restoration, and environmental quality. Professional ethics, certification, and licensing of soil scientists.
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. TECHNOLOGICAL HAZARDS (3). Study of the spatial problems associated with technological (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 technological hazards and regulatory issues in risk management. Emphasis on risk perception, risk analysis, hazard assessment and hazard management from geospatial and cultural perspectives. Lecture and laboratory. 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.
525. GEOGRAPHY OF FOOD AND AGRICULTURE (3). Geographic patterns, food production, and distribution systems. Examination of major environmental challenges inherent in our global food system. Includes global agricultural systems, global food security, industrial and alternative agricultural systems, and the impacts of agriculture on the environment.
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. Lecture and laboratory.
- 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. Not open for credit to students with previous credit in GEOG 556 or its equivalent.
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.
554. FUNDAMENTALS OF REMOTE SENSING (3). Principles of acquiring and interpreting data from remote sensing systems. Use of aerial photography and satellite imagery to study the environment. Physical processes involved in remote sensing including electromagnetic radiation and its interaction with atmosphere and land surface; common remote sensing systems; basic principles of photogrammetry. Lecture and laboratory.
555. LAND-USE PLANNING (3). Study of processes and policies in land use 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. An introduction to mapping, with an emphasis on application in the geographic sciences. Concepts of maps as models, tools of visualization, and forms of graphic communication are introduced.
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 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). Computer-based methods for extracting useful information from remotely sensed data for geoscience/environmental applications; principles of digital image processing techniques including radiometric and geometric correction, image enhancement, image classification, and change detection; principles of the latest remote sensing technologies and their applications: LIDAR and GRACE. Lecture and laboratory. PRQ: GEOG 554 or 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 557 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.

570. WEB MAPPING (3) Design and implementation of interactive, web-based geovisualizations. Theory of map-based, human-computer interaction and supporting data structures and communication techniques. Two hours of lecture and two hours of laboratory. CRQ: GEOG 559 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 PROGRAMMING FOR THE GEOSPATIAL AND ATMOSPHERIC SCIENCES (3). Introductory programming techniques used to process and visualize geospatial data. Programming in Python, basic program logic and control structures in that language, development of programmatic extensions for GIS software (e.g. ArcGIS), integration of Python with open source scientific programming packages. No prior programming experience is required. Lecture and laboratory. PRQ: GEOG 459 or consent of department.

595X. TEACHING OF PHYSICAL SCIENCES (3). *Crosslisted as PHYS 495*. Preparation for licensure 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 FOR SECONDARY AND MIDDLE GRADES EDUCATORS (3). *Crosslisted as ANTH 596X, ECON 596X, HIST 596, POLS 596X, PSYC 596X, and SOCI 596X*. Organization and presentation of materials for history and social science courses at the middle grades and secondary levels. PRQ: Admission to the history or social science secondary or middle grades educator licensure program and permission of the Department of History's office of secondary educator licensure.

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. or Ph.D. degree. May be repeated to a maximum of 12 semester hours. S/U grading.

601. PRACTICE OF GEOGRAPHY (½). Development and evolution of Geography as a spatial science. Discussion of key debates, body of knowledge, and disciplinary questions that influence the current academic and professional practice of geography. May be repeated up to 4 semester hours for the M.S. or Ph.D. degrees.

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.

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.

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. Lecture and laboratory.

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.

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.

758. 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.

760. ADVANCED GEOSPATIAL SCIENCE (3). Developments in the measurement, sensing, computation, visualization, and analysis of spatial data in human and environmental geography.

761. ADVANCED SPATIAL MODELING AND REGRESSION TECHNIQUES (3). Expansion of geographic research techniques, including approaching spatial effects in research design. Areas of focus include approaching spatial effects in research design, exploratory spatial data analysis, global, regime, and local spatial regression, logistic regression in spatial environments, and two-stage spatial models. Focus on application of techniques in geographic research, their underlying mathematics, diagnostic contextualization, and the special case of the spatial environment.

771. 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, but only 6 semester hours may be applied toward the M.S. degree and only 15 semester hours may be applied toward the Ph.D. degree.

790. ADVANCED SEMINAR (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 quasi-geostrophic theory. Two hours of lecture and two hours of laboratory. PRQ: Consent of department.

530. MICROMETEOROLOGY (3). Study of atmospheric and biophysical processes near the surface of the earth, procedures and methods in measuring interactions of soil-plant-air-water. Topics including radiation fluxes, turbulent transfer in momentum, heat, water vapor, carbon dioxide, and pollutant dispersal, biometeorology, agrometeorology, and local wind circulation. 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 three-dimensional 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: Mark P. Fischer

## Graduate Faculty

Jonathan H. Berg, Distinguished Research Professor, professor emeritus, Ph.D., University of Massachusetts  
 Philip J. Carpenter, professor, Ph.D., New Mexico Institute of Mining and Technology  
 Justin P. Dodd, associate professor, Ph.D., University of New Mexico  
 Mark P. Fischer, professor, Ph.D., Pennsylvania State University  
 Mark R. Frank, professor, Ph.D., University of Maryland  
 Nicole D. LaDue, associate professor, Ph.D., Michigan State University  
 Melissa E. Lenczewski, associate professor, Ph.D., University of Tennessee  
 Carla W. Montgomery, professor emeritus, Ph.D., Massachusetts Institute of Technology  
 Eugene C. Perry, Jr., professor emeritus, Ph.D., Massachusetts Institute of Technology  
 Ross D. Powell, Distinguished Research Professor, Board of Trustees Professor, Ph.D., The Ohio State University  
 Reed P. Scherer, Distinguished Research Professor, Board of Trustees Professor, Ph.D., The Ohio State University  
 Nathan D. Stansell, associate professor, Ph.D., University of Pittsburgh

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 licensed, will be expected to obtain the necessary requisites for licensure 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.

The student learning outcomes for this degree are located at <http://www.niu.edu/assessment/clearinghouse/outcomes/index.shtml>.

## Requirements

A minimum of 34 semester hours of graduate credit taken under either the thesis or non-thesis option is required. At least 25 of the 34 semester hours must be 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 three faculty chosen by the departmental graduate program director. These interviews are to aid the adviser and student in the preparation of an appropriate course of study.

## Thesis Option

At least 25 semester hours of graduate course work, excluding GEOL 699, plus a thesis, which must be successfully defended as part of a comprehensive oral examination. No more than 3 semester hours of independent study courses (GEOL 670 and/or GEOL 770) may be used to meet the requirement of a minimum of 25 non-thesis semester hours of graduate course work. 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 and the graduate program director.

## Non-Thesis Option

At least 34 semester hours of graduate course work. 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 licensed 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.

The student learning outcomes for this degree are located at <http://www.niu.edu/assessment/clearinghouse/outcomes/index.shtml>.

## 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 licensed to teach secondary school Science, Technology, Engineering, and Mathematics (STEM) (6-12) or licensed 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.

The student learning outcomes for this degree are located at <http://www.niu.edu/assessment/clearinghouse/outcomes/index.shtml>.

### 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 geological 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.

## Educator Licensure

Students wishing to receive initial licensure in general science (geology area) or physical science (geology area) to teach in grades 6-12 (Standard High School License) must schedule an interview with the departmental licensure 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 licensure or endorsement requirements must be approved by the departmental licensure 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 licensure coordinator before registering for their first term at NIU. Students seeking educator licensure or endorsement without enrollment in the degree program should, prior to their first registration, consult the departmental licensure coordinator.

Also see "Educator Licensure Information."

### Admission Requirements<sup>1</sup>

Application in writing to the departmental licensure 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 ILTS Test of Academic Proficiency.

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 licensure 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 educator licensure.

Passing score on the ILTS 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)

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 licensure. Approved licensure 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 licensure 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 a test of academic proficiency and secondary license subject matter examination of the Illinois Licensure Testing System, and demonstration that the candidate has met science teaching standards.

Contact the licensure coordinator for information on the necessary criteria that experiences must meet to demonstrate fulfillment of licensure requirements.

### Other Requirements

Students should consult with the departmental licensure coordinator.

## Course List (GEOL)

Students-at-large may enroll in graduate courses in geology and environmental geosciences only by consent of department.

501. FOUNDATIONS OF GRADUATE RESEARCH (1). Introduction to the process of professional scientific research in geology and environmental geosciences. Instruction in how to devise and execute original research projects, how to successfully compete for research funding, how to organize and write scientific papers and proposals, and how to successfully compete for jobs after graduation. Includes visits and lectures from resident research faculty, classroom discussion, writing workshops, and visits to campus research facilities. Required for all newly admitted graduate students.

<sup>1</sup> Requirements listed in these sections are minimum requirements. Meeting these requirements will not guarantee students admission to the geology educator licensure program or courses.

<sup>2</sup> Some or all of these requirements may be met by prior course work.

502. SEDIMENTOLOGY (4). 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.

505. SEDIMENTOLOGY AND STRATIGRAPHY (4). Introduction to the study of sedimentary rocks (texture, structure, composition, and interpretation) and methods of stratigraphic data gathering and analysis. Emphasis on depositional processes, sedimentary facies, and analysis of different environments and depositional systems. 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.

507. GLOBAL CLIMATE CHANGE THROUGH TIME (3). Exploration of past climate and how this is relevant to modern and future climate change. Sedimentary rocks, ice, and a variety of organic remains are our libraries housing a diverse number of proxies that paleoclimatologists can use for their detective work in deciphering how Earth's climate has changed in the past and to attribute causes that have driven those changes.

508. HAZWOPER CERTIFICATION (1). Hazardous waste operations and emergency response (HAZWOPER) certification is specifically designed for workers who are involved in clean-up operations, voluntary clean-up operations, emergency response operations, and storage, disposal, or treatment of hazardous substances or uncontrolled hazardous waste sites. This course covers topics included in 29 CFR 1910.120. S/U grading.

509X. WATER QUALITY (4). Crosslisted as ENVS 509 and BIOS 509X. Survey of microbiological and chemical parameters affecting water quality and their associated public health aspects. Topics include microbial detection methods, waterborne disease, organic and inorganic parameters, drinking water, wastewater treatment plants, source water, and risk assessment. Lectures, laboratories, and a field trip.

510. STRUCTURAL AND DETERMINATIVE MINERALOGY (3). Crystal structures and the chemical and physical factors that govern them. Mineralogical techniques including X-ray, thermal, infra-red, 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.

515. IGNEOUS AND METAMORPHIC PETROLOGY (4). Introduction to origin and properties of magma, magmatic differentiation, geochemistry of igneous rocks, igneous textures and their origins, agents and types of metamorphism, metamorphic textures and their origins, metamorphic facies, metamorphic reactions and phase equilibria.

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 licensed teachers and students pursuing educator licensure. 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 magnetics 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). Immersive training 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, environmental surface geophysics, site evaluation and techniques, and regional landscape history and environmental change. Multiple field trips and frequent, outdoor physical activity are required. Students should be competent in hydrogeology prior to enrollment. PRQ: Consent of department.

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 licensure 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 "Educator Licensure 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 licensure 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. Students should be competent in mineralogy.

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 multi- and 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.

603. TEACHING ASSISTANT TRAINING (1). Development of laboratory and classroom teaching skills to prepare for a teaching assistant position. Preparing to handle a variety of instructional issues will be addressed, including: teaching students with disabilities, developing fair grading rubrics, aligning expectations with instruction, handling conflict with students, and engaging students in active learning. May be taken concurrently with a student's first TA position.

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.

605. TEACHING AND LEARNING UNDERGRADUATE SCIENCE (3). Survey of learning theory, review of research-tested classroom pedagogy for undergraduate science education, practices for developing and running large lecture and laboratory courses, and practice developing a science education research proposal to fund classroom intervention research. Intended for graduate students at the master's and doctoral level who are interested in undergraduate teaching careers.

606. PETROLEUM GEOLOGY (3). Principles and techniques employed in the discovery and exploitation of hydrocarbon resources. Topics include integrative petroleum system analysis, formation and migration of hydrocarbons, geophysical methods of exploration, sedimentary basin analysis, subsurface mapping, and drilling. Students should be competent in stratigraphy, structural geology, geophysics, 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.

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. Students should be competent in geomorphology.

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. Students should be competent in geomorphology, stratigraphy, or glacial geology.

648. STRATIGRAPHY (3). Systematic study of selected aspects of the North American stratigraphic record with emphasis on broad sedimentary patterns and their relationship to tectonic development.

649. ADVANCED STRUCTURAL GEOLOGY (3). Quantitative analysis of the formation, geometry, distribution and interpretation of geological structures. Topics range from strain analysis to seismic interpretation, fault and fracture mechanics, cross section balancing and physical modeling. 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 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 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. **ADVANCED IGNEOUS PETROLOGY (3).** Study of igneous rocks in the Earth's crust and mantle, emphasizing phase equilibria, kinetics, and geochemistry. Students should be competent in mineralogy and petrology.

680. **ADVANCED 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. Students should be competent in mineralogy and petrology.

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 faculty, staff, and guests. Required each semester of all full-time graduate students. Enrollment may be waived by the graduate program director when student's circumstances preclude attendance. Master's students may apply up to 4 semester hours of credit earned in GEOL 720 toward the 34 semester-hour requirements for the M.S. degree in the department. May be repeated to a maximum of 12 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.

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. Students should be competent in geochemistry.

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 faculty 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 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: James Schmidt

## Graduate Faculty

Christina D. Abreu, associate professor, Ph.D., Purdue University  
 Anita M. Andrew, associate professor, Ph.D., University of Minnesota  
 Stanley Arnold, associate professor, Ph.D., Temple University  
 E. Taylor Atkins, Distinguished Teaching Professor, Ph.D., University of Illinois  
 Bradley Bond, associate professor, Ph.D., Louisiana State University  
 Andy Bruno, associate professor, Ph.D., University of Illinois  
 Kenton Clymer, Distinguished Research Professor, Ph.D., University of Michigan  
 Sundiata Djata, professor, Ph.D., University of Illinois  
 Sean Farrell, professor, Ph.D., University of Wisconsin  
 Heide Fehrenbach, Distinguished Research Professor, Board of Trustees Professor, Ph.D., Rutgers University  
 Damián Fernández, associate professor, Ph.D., Princeton University  
 Rosemary Feurer, associate professor, Ph.D., Washington University  
 Aaron S. Fogleman, Presidential Research Professor, Ph.D., University of Michigan  
 Valerie L. Garver, professor, chair, Ph.D., University of Virginia  
 Eric Hall, associate professor, Ph.D., Purdue University  
 Anne G. Hanley, associate professor, Ph.D., Stanford University  
 Beatrix Hoffman, professor, Ph.D., Rutgers University  
 Kristin Huffine, associate professor, Ph.D., University of California, Berkeley  
 Trude Jacobsen, professor, Ph.D., University of Queensland  
 Eric Jones, associate professor, Ph.D., University of California, Berkeley  
 Natalie Joy, associate professor, Ph.D., University of California, Los Angeles  
 Emma Kuby, associate professor, Ph.D., Cornell University  
 Vera Lind, associate professor, D.Phil., Christian-Albrechts-Universität, Kiel  
 Amanda Littauer, associate, Ph.D., University of California, Berkeley  
 Eric W. Mogren, associate professor, Ph.D., University of Michigan  
 Ismael Montana, associate professor, Ph.D., York University  
 Brian Sandberg, professor, Ph.D., University of Illinois  
 James D. Schmidt, Presidential Teaching Professor, Ph.D., Rice University  
 Andrea Smalley, associate professor, Ph.D., Northern Illinois University

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*, available at [www.niu.edu/history/graduate](http://www.niu.edu/history/graduate).

## 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, African, 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 World Languages and Cultures. 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.

The student learning outcomes for this degree are located at <http://www.niu.edu/assessment/clearinghouse/outcomes/index.shtml>.

### **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 - Museum Exhibitions and Interpretation (3)  
ART 656 - Advanced Curatorial Practice (3)  
ART 657 - Museum Education (3)  
HIST 594 - Oral History (3)

#### *Other Available Elective*

COMS 557 - The Documentary Tradition (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, Africa, 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.

The student learning outcomes for this degree are located at <http://www.niu.edu/assessment/clearinghouse/outcomes/index.shtml>.

### **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 72 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 18 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 and an upper-division course. 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

500. STUDENT TEACHING IN HISTORY/SOCIAL SCIENCES FOR SECONDARY EDUCATORS (12). Student teaching for one semester. Assignments arranged with the department's office of secondary teacher education. PRQ: HIST 596 or ANTH 596X or ECON 596X or GEOG 596X or POLS 596X or PSYC 596X or SOCI 596X, and permission of the department's office of secondary teacher education, or consent of department.

## 591. 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 591 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.

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.

594. 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.

596. HISTORY AND SOCIAL SCIENCE INSTRUCTION FOR SECONDARY AND MIDDLE GRADES EDUCATORS (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 grades and secondary levels. PRQ: Admission to the history or social science secondary or middle grades educator licensure program and permission of the Department of History's office of secondary educator licensure.

600. INTERNSHIP IN PUBLIC HISTORY (1-6). 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. DIGITAL HISTORY (3). Introduction to digital history methods, tools, and practices such as text mining, data mining, data curation, document digitization, database construction, data visualization, digital mapping, and related digital approaches used to analyze historical societies and cultures.

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.

790. RESEARCH SEMINAR IN GENERAL/COMPARATIVE HISTORY (3). Selected problems 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 15 semester hours when topic varies. PRQ: Consent of the department.

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 during the Middle Ages. Attention given to family life, demographic change, urbanization, and social movements.

556. ANCIENT MEDITERRANEAN (3). History of the ancient Mediterranean world to c. 700 CE. Topics include rise of agriculture, cities, and navigation; palace and temple societies, city-states, tribal groups; the formation of maritime empires and kingdoms; and unification under the Roman Empire until its "fall."

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. 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. Any one area may be repeated to a maximum of 15 semester hours. PRQ: Consent of department.

**European History**

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. Subjects include the visual arts, literature, popular and mass culture, intellectual responses to violence, cultural representations of race and gender identity, 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. BRITISH EMPIRE (3). History of the British Empire, with a particular focus on developments from 1750 to the present. Topics include the relationship between economic change and imperial expansion and decline, gender, race, the role of violence, nationalism and decolonization.

553. HISTORY OF NORTHERN IRELAND (3). History of Northern Ireland from 1920 to the present, with particular attention to the origins, nature, and legacies of the so-called Irish Troubles.

554. VICTORIAN BRITAIN (3). Cultural, political and social developments in nineteenth-century Britain. Topics include class formation, gender, religion and social norms, shifting notions of politics and the state and imperial expansion.

## 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. 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. Any one area may be repeated to a maximum of 15 semester hours. PRQ: Consent of department.

**Russian and Eastern European History**

534. THE RUSSIAN REVOLUTION (3). History of Russia's revolutionary upheavals in the early 20th century. Emphasis on the multiple and conflicting ways that participants and scholars have sought to make sense of the revolution.

535. STALINISM (3). History of the Soviet Union under the dictatorship of Joseph Stalin, 1928-1953. Topics include rapid industrialization, collectivization, state terror, communist culture, the gulag, World War II, and the early Cold War.

## 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. 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**

542. HISTORY OF BUDDHIST SOUTHEAST ASIA (3). History of Southeast Asian countries whose rulers adopted Buddhism (Burma, Thailand, Laos, Cambodia, and Vietnam), as well as parts of island Southeast Asia. Colonialism, modernity, and conflict are discussed, with special attention to relationship between Buddhism and the nationalist and popular movements of the twentieth century.

543. HISTORY OF ISLAMIC SOUTHEAST ASIA (3). Historical development of Islam in Southeast Asia (Indonesia, Malaysia, Brunei) and ongoing conflicts between the state and Muslim minorities in Burma, Thailand, and the Philippines.

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. 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. 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.

650. READING SEMINAR IN AFRICAN HISTORY (3). Intensive reading and discussion over a selected field in African history, designed to acquaint the student with the literature and problems of the field. May be repeated to a maximum of 12 semester hours when topic varies. PRQ: Consent of the department.

750. RESEARCH SEMINAR IN AFRICAN HISTORY (3). Selected problems in African history. May be repeated to a maximum of 15 semester hours when topic varies. PRQ: Consent of the department.

## 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 ERA (3). Examines the causes and consequences of the American Civil War. Topics include race and slavery in the early republic, the development of antislavery and proslavery ideologies, territorial expansion, and the history and legacy of war and Reconstruction.

565. GILDED AGE AND PROGRESSIVE ERA (3). Examines the impact of industrialization and urbanization on vital aspects of American life and society. Topics include racial conflict, imperialism and war, the rise of organized labor, immigration, westward expansion, and social and political reform.

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. THE U.S. IN DEPRESSION and WAR, 1929-1960 (3). The U.S. during the Great Depression, World War II, and the Cold War. Topics include the New Deal, social and political change in mid-century America, and the origins and meaning of the WWII and Cold War conflicts.

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. IMMIGRATION IN THE UNITED STATES (3). Survey of immigration in United States history from the colonial era to the present. Comparative analysis of European, Latino, and Asian immigration; law and policy; labor and economics; nativism and xenophobia; refugees and migrants; class, ethnicity, gender, and race; and immigrant communities and identities.

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.

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. 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. **INEQUALITY 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 the challenges faced by Latin American countries in addressing poverty and inequality, 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.

587. **THE LATIN AMERICAN CITY (3).** Urbanization and urban life in Latin America from colonial times to the present, with an emphasis on rapid rural-to-urban migration in the 20th century and the rise of mega-cities.

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. 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.

528. **GENDER AND WAR (3).** History and historiography of gender and war in comparative context. Emphasis on close reading of selected secondary sources.

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.

580. **SPIES, LIES AND SECRET WARS: CIA IN THE WORLD (3).** Involvement of the Central Intelligence Agency (CIA) with various peoples, governments and events around the globe.

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. May be repeated to a maximum of 15 hours when subject varies.

# Department of Mathematical Sciences (MATH, STAT)

Chair: Jeffrey Thunder

## Graduate Faculty

Sanjib Douglas Bowman, professor, Ph.D., University of California, Los Angeles  
 Jose Yunier Bello Cruz, assistant professor, Ph.D., Institute of Pure and Applied Mathematics - Brazil  
 Biswa N. Datta, Distinguished Research Professor, Ph.D., University of Ottawa  
 Paul Dawkins, associate professor, Ph.D., University of Texas, Arlington  
 Sien Deng, professor, Ph.D., University of Washington  
 Nader Ebrahimi, Distinguished Research Professor, Ph.D., Iowa State University  
 Alastair Fletcher, associate professor, Ph.D., University of Warwick  
 Michael Geline, associate professor, Ph.D., University of Chicago  
 Barbara Gonzalez, director, Division of Statistics,  
 Daniel Grubb, associate professor, Ph.D., Kansas State University  
 Lei Hua, assistant professor, Ph.D., University of British Columbia  
 Qingkai Kong, professor, Ph.D., University of Alberta  
 Ilya Krishtal, professor, Ph.D., Varonezh State University  
 Nathan Krislock, assistant professor, University of Waterloo, Canada  
 Ying C. Kwong, associate professor, Ph.D., University of Wisconsin  
 Anders Linnér, associate professor, Ph.D., Case Western Reserve University  
 Maya Mincheva, associate professor, University Waterloo, Canada  
 Deepak Naidu, associate professor, Ph.D., University of New Hampshire  
 Alan Polansky, associate professor, Ph.D., Southern Methodist University  
 Duchwan Ryu, assistant professor, Ph.D., Texas A&M  
 Mary Shafer, associate professor, Ph.D., University of Wisconsin  
 Gleb Sirotkin, associate professor, Ph.D., Indiana University/Purdue University Indianapolis  
 Joseph B. Stephen, associate professor, Ph.D., University of Nebraska  
 Jeffrey L. Thunder, professor, Ph.D., University of Colorado, chair  
 John Wolfskill, assistant chair, associate professor, Ph.D., California Institute of Technology  
 Haiming Zhou, assistant professor, Ph.D., University of South Carolina, Columbia University

The Department of Mathematical Sciences offers graduate programs leading to 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 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.

The student learning outcomes for this degree are located at <http://www.niu.edu/assessment/clearinghouse/outcomes/index.shtml>.

## Requirements

The student must complete at least 30 semester hours of graduate work. At least 24 of these hours must be in mathematical sciences with at least 15 semester hours in mathematical sciences courses numbered 600 or above. 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 621 - Algebraic Structures II (3)  
 MATH 630 - Real Analysis I (3)  
 MATH 631 - Real Analysis II (3)  
 MATH 632 - Complex Analysis (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 636 - Ordinary Differential Equations I (3)  
 MATH 642 - Partial Differential Equations I (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 - Abstract 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 licensed 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.

The student learning outcomes for this degree are located at <http://www.niu.edu/assessment/clearinghouse/outcomes/index.shtml>.

#### 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 licensed to teach secondary school mathematics (6-12) or licensed 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)  
 TICI 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.

The student learning outcomes for this degree are located at <http://www.niu.edu/assessment/clearinghouse/outcomes/index.shtml>.

#### 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. In addition, each student should have passed MATH 520, MATH 521, MATH 530, MATH 531, STAT 500, STAT 510, or

their equivalents, with a grade B or above before completing the core-course requirement. 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 (15)

Five of the following (15)

MATH 620 - Algebraic Structures I (3)

MATH 630 - Real Analysis I (3)

MATH 632 - Complex Analysis (3)

MATH 662 - Numerical Analysis (3)

STAT 600 - Probability Theory (3)

STAT 610 - Theory of Statistics

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 643 - Linear Models (3)

STAT 625 - Bayesian Statistics (3)

STAT 695 - Statistical Consulting (3)

Group D<sup>1</sup>—four of the following

MATH 636 - Ordinary Differential Equations I (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.

At least 24 semester hours in MATH 799 - Doctoral Research and Dissertation.

An additional 9-15 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.

#### Applications-Involvement Component

The AIC includes MATH 792, an internship and a final report. Continuous enrollment in MATH 792 is required until completion of the AIC. The completion is determined by the Graduate Studies Committee in consultation with the AIC director.

#### Research Tool Requirement

The Department of Mathematical Sciences requires students in the Ph.D. program to demonstrate proficiency with a research tool appropriate to their area of research.

The arrangement for meeting the research tool requirement is to be approved by the Graduate Director. Satisfactory completion is determined by the Graduate Studies Committee.

Examples of research tools include the following:

Facility with a natural language such as French, German or Russian to the extent necessary to translate a technical article. Students with no prior experience of the language are strongly advised to take the appropriate Summer course from the Department of World Languages and Cultures.

Satisfactory completion of two semesters of MATH 795: Writing in the Mathematical Sciences.

Completion of a coherent sequence of two courses at the 700 level in another unit of the University which contribute significantly to an interdisciplinary aspect of the dissertation.

In no case will defense of a dissertation be permitted until the research tool requirement has been met.

#### 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. The oral dissertation defense can only be conducted after the completion of the AIC and the Research Tool requirements. This defense will be open to the university community.

<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.

## Certificate of Graduate Study

### 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)

### Educator Licensure in Grades 6-12

A graduate student or a student-at-large may pursue educator licensure in mathematics for grades 6-12. Completing the educator licensure requirements and pursuing a graduate degree may be done simultaneously but are independent. Educator licensure 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 licensure 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 "Educator Licensure Information" in this catalog as well as "Secondary Educator Licensure" 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 licensure should consult a educator licensure adviser in the Department of Mathematical Sciences as soon as possible. Students completing the licensure 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 licensure purposes. Not used in major GPA calculations. CRQ: MATH 410, MATH 502, or MATH 512, or consent of department.

520. ABSTRACT 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. ABSTRACT 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, MATH 420, or 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, either MATH 239 or MATH 240, and either CSCI 230 or 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, either MATH 239 or MATH 240, and either CSCI 230 or 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.
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). Theory of partial differential equations emphasizing the basic nature of solutions of hyperbolic, parabolic, and elliptic equations as represented, respectively, by the wave, heat, and Laplace equations. Solution techniques covered include the method of characteristics, separation of variables, generalized eigenfunction expansions, and the Fourier integral and transform. Theoretical approaches are presented for the following topics: convergence and uniform convergence of Fourier series, Bessel's inequality, Green's identities, Sturm-Liouville theory, uniqueness of solutions, existence of fundamental solutions, and the maximum principle. PRQ: MATH 232, MATH 240, 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. Experience programming computers in a high-level scientific language such as FORTRAN, C, or C++ is expected. PRQ: MATH 431 or MATH 531, 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 423 or MATH 523 or MATH 662, 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 662, or both 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 until the completion of the Application-Involvement Component, but with no more than 9 semester hours counting toward the Ph.D. degree. S/U grading. PRQ: Consent of department.

795. WRITTEN AND ORAL COMMUNICATION IN THE MATHEMATICAL SCIENCES (1). Writing mathematics and oral presentation of mathematics for a general mathematical audience. Students will write comprehensive summaries and /or give presentations for department colloquia in order to enhance and refine communication skills necessary for mathematicians to participate in the dissemination of mathematical knowledge. Summaries will be produced in an appropriate professional format. May be repeated to a maximum of 2 semester hours. S/U grading. PRQ: Admission to Ph.D. program in Mathematical Sciences.

799. DOCTORAL RESEARCH AND DISSERTATION (1-15). May be repeated to a maximum of 36 semester hours.

# Department of Philosophy (PHIL)

Chair: David J. Buller

## Graduate Faculty

Valia Allori, associate professor, Ph.D., Rutgers University  
 David J. Buller, Distinguished Research Professor, Ph.D., Northwestern University  
 Lenny Clapp, professor, Ph.D., Massachusetts Institute of Technology  
 Steven Daskal, associate professor, Ph.D., University of Michigan  
 Mylan Engel, Jr., Presidential Teaching Professor, Ph.D., University of Arizona  
 Alicia Finch, associate professor, Ph.D., University of Notre Dame  
 Carl Gillett, professor, Ph.D., Rutgers University  
 Jason Hanna, associate professor, Ph.D., University of Colorado at Boulder  
 Geoff Pynn, associate professor, Ph.D., Yale University  
 Craig Warmke, assistant professor, Ph.D., University of North Carolina at Chapel Hill

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

The student learning outcomes for this degree are located at <http://www.niu.edu/assessment/clearinghouse/outcomes/index.shtml>.

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. For students electing to write a thesis, the course work in philosophy will include 6 semester hours of PHIL 699, Thesis. All courses taken toward the completion of the degree are subject to the approval of the graduate adviser, and they must include the following, each of which must be complete with a grade of B or better:

PHIL 505 - Intermediate Logic (3)

Two courses in each of the following areas (18)

Metaphysics and Epistemology (6)  
 PHIL 510 - Topics in Metaphysics or Epistemology (3)  
 PHIL 570 - Topics in Philosophy of Religion (3)  
 PHIL 611 - Epistemology (3)  
 PHIL 612 - Metaphysics (3)

Ethics and Value Theory (6)  
 PHIL 530 - Topics in Ethics (3)  
 PHIL 550 - Topics in Social and Political Philosophy (3)  
 PHIL 631 - Ethical Theory (3)  
 PHIL 642 - Aesthetics (3)  
 PHIL 651 - Social and Political Philosophy (3)

Philosophy of Science, Language, and Mind (6)  
 PHIL 502 - Philosophy of Logic (3)  
 PHIL 504 - Philosophy of Language (3)  
 PHIL 561 - Metaphysics of Science (3)  
 PHIL 564 - Philosophy of Physics (3)  
 PHIL 602 - Topics in Philosophy of Logic (3)  
 PHIL 604 - Topics in Philosophy of Language (3)  
 PHIL 660 - Philosophy of Science (3)  
 PHIL 663 - Philosophy of Mind (3)

## 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 505 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: PHIL 505 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. PRQ: Consent of department.

506. ADVANCED LOGIC (3). Topics selected from major results of metalogic, including basic proof theory and model theory, soundness, completeness, the Löwenheim-Skolem theorem, computability, Gödel's incompleteness theorem, and Church's theorem. PRQ: PHIL 505 and consent of department.

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.

520. TOPICS IN THE HISTORY OF PHILOSOPHY (3). 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. MAJOR PHILOSOPHERS (3). Intensive study of a single figure in the history of philosophy such as Plato, Aristotle, Hume, or Kant. May be repeated to a maximum of 6 semester hours provided no repetition of subject matter occurs. PRQ: Consent of department.

523. MEDIEVAL PHILOSOPHY (3). PRQ: Consent of department.

526. AMERICAN PHILOSOPHY (3). 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.

527. 19TH CENTURY PHILOSOPHY (3). 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). 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). 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 ethics. May be repeated to a maximum of 6 semester hours provided no repetition of subject matter occurs. PRQ: Consent of department.

550. TOPICS IN SOCIAL AND POLITICAL PHILOSOPHY (3). Intensive study of a major theory, issue, or movement in social and political philosophy. May be repeated to a maximum of 6 semester hours provided no repetition of subject matter occurs. PRQ: Consent of department.

561. METAPHYSICS OF SCIENCE (3). Examination of ontological issues within the sciences. Topics may include properties and other ontological categories, reduction and emergence, laws of nature, essentialism, and realism. PRQ: Consent of department.

564. PHILOSOPHY OF PHYSICS (3). Survey of philosophical problems specific to physics. Topics may include the nature of space and time in relativity theories; probability and irreversibility in thermodynamics and statistical mechanics; locality, causality, and objectivity in quantum theory; ontology, and attitudes toward infinities in quantum field theory. Presupposes neither technical knowledge of physical theories nor advanced competence in mathematics. PRQ: Consent of department.

570. TOPICS IN 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. May be repeated to a maximum of 6 semester hours provided no repetition of subject matter occurs. PRQ: Consent of department.

590. TOPICS IN PHILOSOPHY (3). Intensive study of one major philosophical problem or position. May be repeated to a maximum of 9 semester hours 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. S/U grading may be used. PRQ: Consent of department.

601. GRADUATE WRITING SEMINAR (1). Writing workshop in which students further research and polish a previously written paper for submission to a professional conference or for use as a writing sample in applying to doctoral programs. Students will present drafts of their papers to one another and provide one another with feedback on those drafts. S/U grading. PRQ: Consent of department.

602. TOPICS IN PHILOSOPHY OF LOGIC (3). May be repeated to a maximum of 6 semester hours provided no repetition of subject matter occurs. PRQ: Consent of department.

604. TOPICS IN PHILOSOPHY OF LANGUAGE (3). May be repeated to a maximum of 6 semester hours provided no repetition of subject matter occurs. PRQ: Consent of department.

611. EPISTEMOLOGY (3).

A. Survey of Contemporary Problems

B. Special Topics

PHIL 611B may be repeated to a maximum of 6 semester hours provided no repetition of subject matter occurs. PRQ: Graduate standing in philosophy or consent of department.

612. METAPHYSICS (3).

A. Survey of Contemporary Problems

B. Special Topics

PHIL 612B may be repeated to a maximum of 6 semester hours provided no repetition of subject matter occurs. PRQ: Graduate standing in philosophy or consent of department.

620. TOPICS IN THE HISTORY OF PHILOSOPHY (3). May be repeated to a maximum of 6 semester hours provided no repetition of subject matter occurs. PRQ: Consent of department.

631. ETHICAL THEORY (3).

A. Survey of Contemporary Problems

B. Special Topics

PHIL 631B may be repeated to a maximum of 6 semester hours provided no repetition of subject matter occurs. PRQ: Graduate standing in philosophy or consent of department.

642. AESTHETICS (3).

A. Survey of Contemporary Problems

B. Special Topics

PHIL 642B may be repeated to a maximum of 6 semester hours provided no repetition of subject matter occurs. PRQ: Graduate standing in philosophy or consent of department.

651. POLITICAL AND SOCIAL PHILOSOPHY (3).

A. Survey of Contemporary Problems

B. Special Topics

PHIL 651B may be repeated to a maximum of 6 semester hours provided no repetition of subject matter occurs. PRQ: Graduate standing in philosophy or consent of department.

660. PHILOSOPHY OF SCIENCE (3).

A. Survey of Contemporary Problems

B. Special Topics

PHIL 660B may be repeated to a maximum of 6 semester hours provided no repetition of subject matter occurs. PRQ: Graduate standing in philosophy or consent of department.

663. PHILOSOPHY OF MIND (3).

A. Survey of Contemporary Problems

B. Special Topics

PHIL 663B may be repeated to a maximum of 6 semester hours provided no repetition of subject matter occurs. 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. S/U grading may be used. PRQ: Graduate standing in philosophy or consent of department.

698. MASTER'S COMPREHENSIVE EXAMINATION (0). Written examination demonstrating comprehensive mastery of one field of philosophy. May be repeated once. S/U/IP grading. PRQ: 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

Jahred Adelman, assistant professor, Ph.D., University of Chicago  
 Gerald Blazey, Distinguished Research Professor, Ph.D., University of Minnesota  
 Dennis Brown, associate professor, Ph.D., Stanford University  
 Dhiman Chakraborty, Distinguished Research Professor, Ph.D., State University of New York, Stony Brook  
 Swapan Chattopadhyay, Presidential Research, Scholarship, and Artistry Professor, Ph.D., University of California, Berkeley  
 Omar Chmaissem, Presidential Research, Scholarship, and Artistry Professor, Ph.D., Université Joseph Fourier, Grenoble (France)  
 George Coutrakon, professor, Ph.D., State University of New York, Stony Brook  
 Michael Eads, associate professor, Ph.D., Northern Illinois University  
 Bela Erdelyi, professor, Ph.D., Michigan State University  
 Andreas Glatz, associate professor, Ph.D., Cologne University (Germany)  
 David Hedin, Distinguished Research Professor, Board of Trustees Professor, Ph.D., University of Wisconsin  
 Yasuo Ito, associate professor, Ph.D., Cambridge University  
 Laurence Lurio, professor, chair, Ph.D., Harvard University  
 Stephen P. Martin, Distinguished Research Professor, Distinguished Teaching Professor, Ph.D., University of California at Santa Barbara  
 Susan M. Mini, professor, Ph.D., Southern Illinois University  
 Philippe Piot, Presidential Research Professor, Ph.D., University of Grenoble (France)  
 Carol Thompson, professor, Ph.D., University of Houston  
 Michel van Veenendaal, Distinguished Research Professor, Ph.D., Rijksuniversiteit Groningen (Netherlands)  
 Roland Winkler, professor, Ph.D., University of Regensburg (Germany)  
 Zhili Xiao, Distinguished Research Professor, Board of Trustees Professor, Ph.D., University of Konstanz (Germany)  
 Vishnu Zutshi, professor, Ph.D., University of Delhi (India)

## 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.

The student learning outcomes for this degree are located at <http://www.niu.edu/assessment/clearinghouse/outcomes/index.shtml>.

## Specialization in Basic Physics

Completion of 24 semester hours in physics, including:

PHYS 600 - Classical Mechanics (3)  
 PHYS 660 - Quantum Mechanics I (3)  
 PHYS 670 - Electromagnetic Theory I (3)  
 PHYS 699 - Master's Thesis (6)

One of the following:

PHYS 661 - Quantum Mechanics II (3)  
 PHYS 663 - Statistical Physics I (3)  
 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.

PHYS 699 - Master's Thesis (6)

## 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 670 - Electromagnetic Theory 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.

PHYS 699 - Master's Thesis (6)

## 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 "Educator Licensure Information."

## Doctor of Philosophy in Physics

The student learning outcomes for this degree are located at <http://www.niu.edu/assessment/clearinghouse/outcomes/index.shtml>.

### 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.

#### 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.

### 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 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 790A - Special Topics in Physics: Solid State Physics (3)

### 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.

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.

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 licensure 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). Variational principles–Lagrangian and Hamiltonian formulations of mechanics and their equivalence; symmetries and Noether's theorem; applications of variational principles to physical systems such as central force, rigid body motion, and oscillation; canonical transformations–Hamilton-Jacobi equation, Poisson and Lagrange brackets; special relativity. 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.

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: 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.

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.

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.

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. Contingent upon supervisor providing the Department of Physics with a detailed syllabus, expected outcomes, and a grading scheme before the course is approved by the department. PRQ: PHYS 560 or 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. CRQ: PHYS 561, PHYS 563, PHYS 660, 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; electrodynamics 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 670 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.

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; and PHYS 580 or PHYS 666; or consent of 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 660 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.

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)

Chair: Scot Schraufnagel

## Graduate Faculty

April Clark, associate professor, Ph.D., University of California, Santa Barbara  
 Michael Clark, associate professor, Ph.D., University of California, Santa Barbara  
 Aarie Glas, assistant professor, Ph.D., University of Toronto  
 Kikue Hamayotsu, associate professor, Ph.D., Australian National University  
 Colin Kuehl, assistant professor, Ph.D., University of California, Santa Barbara  
 J. Mitchell Pickerill, professor, Ph.D., University of Wisconsin  
 Andrea Radasanu, associate professor, Ph.D., University of Toronto  
 Scot Schraufnagel, professor, Ph.D., Florida State University  
 Matthew J. Streb, professor, Ph.D., Indiana University  
 Brendon Swedlow, professor, Ph.D., University of California, Berkeley  
 Ches Thurber, assistant professor, Ph.D., Tufts University  
 Kheang Un, associate professor, Ph.D., Northern Illinois University  
 Artemus Ward, professor, Ph.D., Syracuse University

The Department of Political Science offers graduate programs leading to the M.A. and Ph.D. degrees. Five fields are available in political science: American government and politics, public administration, political theory, comparative politics, and international relations.

Graduate study may lead to careers in government service (federal, state, and local), international business, teaching, and professional writing and research. Foreign study and overseas internship opportunities also exist. Students' career objectives should be discussed with their departmental advisers.

In addition to the requirements below, students are expected to comply with the regulations contained in the appropriate graduate handbook.

## 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.

The student learning outcomes for this degree are located at <http://www.niu.edu/assessment/clearinghouse/outcomes/index.shtml>.

## Requirements

Of the minimum 36 semester hours of graduate credit required for the degree, at least 9 semester hours are to be taken in one of the subfields of political science and at least 6 semester hours have to be taken in a second subfield of political science. In addition, POLS 602 and POLS 603 are required and at least 3 semester hours of POLS 690. PSPA 661 is required for study in the field of public administration leading to the M.A. degree. A maximum of 9 semester hours of POLS 690 may be counted toward the 36 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 a minimum of 3 semester hours of 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.

## 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.

The student learning outcomes for this degree are located at <http://www.niu.edu/assessment/clearinghouse/outcomes/index.shtml>.

## 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 39 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 51 semester hours of course work, students must include POLS 602, Scope and History of Political Science (3); POLS 603, Research Design in Political Science (3); and POLS 692, Teaching and Professional Development (1). Full-time students are required to complete the scope and methods sequence

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 the graduate 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), and international relations (POLS 680 required). 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. No more than one course outside of political science may be counted toward the hours required in a field. A minimum of 15 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 cannot 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 faculty in a student's first field of study.

Students will be expected to consult initially with an interim adviser, and subsequently with members of faculty in their first field of study, 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 approval of faculty in a student's first field of study 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. The requirement will be met through a one-credit class (POLS 692). In addition, students will be involved in a mentoring relationship for at least one semester under the close supervision of a faculty member. Exceptions are authorized only upon approval of the department graduate committee. The student seeking an exception should submit their request in writing to the department's director of graduate studies.

### 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 a foreign language for the purpose of research and/or qualitative 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 faculty in a student's first field of study. Proficiency in any foreign language is determined by the faculty in a student's first field of study. In certain cases, the department's graduate 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 may take examinations in contiguous semesters or in one examination period based on the recommendation of faculty in his or her first and second field of study. Any student who fails a written examination may, with the permission of the relevant faculty, retake that particular examination in the next examination period. A student who fails two written examinations in the same field will not be permitted to continue.

### Course List

#### 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 for political science classes.

- 00 to -19, American government
- 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

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 FOR SECONDARY AND MIDDLE GRADES EDUCATORS (3). *Crosslisted as ANTH 596X, ECON 596X, GEOG 596X, HIST 596, PSYC 596X, and SOCI 596X.* Organization and presentation of materials for history and social science courses at the middle grades and secondary levels. PRQ: Admission to the history or social science secondary or middle grades educator licensure program and permission of the Department of History's office of secondary educator licensure.600. SEMINAR IN AMERICAN POLITICS (3). Reading seminar in the major literature and research approaches to the study of American politics and government.

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. SCOPE AND HISTORY OF POLITICAL SCIENCE (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. and M.A. programs.

603. RESEARCH DESIGN IN POLITICAL SCIENCE (3). Survey of research methods and design in political science. Required in the first year for all students in the Ph.D. and M.A. programs.

605. SEMINAR IN POLITICAL PARTIES (3). Survey of the literature and research pertaining to American political parties.

606. INTERGOVERNMENTAL RELATIONS (3). *Crosslisted as POLS 606X.* 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.
611. U.S. REGULATORY POLITICS IN COMPARATIVE PERSPECTIVE (3). How the U.S. and selected other countries assess and regulate environmental, health, and safety risks, with a particular emphasis on understanding the politics of regulatory science and the role of political culture in risk assessment and regulation. Seminar may allow opportunity to participate in faculty research. Enrollment open to students in the natural and social sciences, as well as law, business, technology, engineering, public health, environmental studies, and other graduate programs.
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.
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.
655. DEMOCRATIC THEORY (3). Examines both the abstract ideal of democracy and issues relating to its practical application within political societies. Contemporary democratic theory is studied in relation to the history of political thought with a view to assessing the desirability, fairness, and practicability of democracy as a form of government. Readings include Plato, Jean-Jacques Rousseau, and Alexis de Tocqueville, along with prominent contemporary scholars.
660. SEMINAR IN COMPARATIVE POLITICAL ANALYSIS (3). Reading seminar in the major theoretical and methodological concerns of the field of comparative government.
661. COMPARATIVE HISTORICAL ANALYSIS OF POLITICS (3). Comparative historical analysis (CHA) and its influence within the subfield of comparative politics and related disciplines. Draws on readings from history, sociology, and political science, giving attention to methodological issues that social scientists face in qualitative comparative-historical studies.
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.
664. POLITICS OF IDENTITY: ETHNICITY, RELIGION AND CONFLICT (3). Analysis of the various sources and forms of identity politics across the world with special reference to Asia, Africa, the Middle East, Europe as well as the U.S.; focus on issues such as nationalism, ethnic and sectarian violence, culture and democracy, political Islam, ethnic/religious minorities, and religious movements and parties.

665. ORIGINS OF POLITICAL ORDER (3). Comparative examination of the process of state formation and the character of state-society relations across the world. Examination of different regions will draw upon and seek to contribute to theoretical understandings of how states are constructed and how they relate—across time and space—with various social forces. Case studies may focus on specific regions of the world.
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. INTERNATIONAL SECURITY (3). Seminar addresses major theoretical perspectives in security studies, surveys some of the most important substantive areas and debates in the field, and applies theories and arguments from the academic literature to contemporary policy problems. Topics to be covered include but are not limited to the use of force, weapons of mass destruction, intra-state conflict, and great power rivalry.
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.
689. CONFLICT MANAGEMENT AND PROCESSES (3). Familiarization with the international relations on conflict management, its conceptualizations, intricacies of different types of conflict management, and assessment of their usefulness in terms of effectiveness and what it means to have conflict management success.
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 use a maximum of 9 semester hours toward degree completion. Doctoral students may use a maximum of 39 semester hours toward degree completion. S/U grading. PRQ: Consent of department.
691. TEACHING OF POLITICAL SCIENCE (1-3). Orientation to and supervised teaching of political science. 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.
692. TEACHING AND PROFESSIONAL DEVELOPMENT (1). Supervised teacher training for political science Ph.D. students. Required of all doctoral students for 1 semester hour and may not be repeated. May be counted toward the 90 semester hours required for the Ph.D. degree. Subjects covered include, but are not limited to, faculty professional development, syllabus construction, classroom etiquette, alternative assessment strategies, and how to balance teaching and research demands.
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 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.

# Department of Psychology (PSYC)

Chair: Leslie Matuszewich

## Graduate Faculty

David J. Bridgett, associate professor, Ph.D., Washington State University  
 M. Anne Britt, Distinguished Teaching Professor, Presidential Research Professor, Ph.D., University of Pittsburgh  
 Michelle K. Demaray, Presidential Research, Scholarship and Artistry Professor, Ph.D., University of Wisconsin  
 Amanda M. Durik, professor, Ph.D., University of Wisconsin, Madison  
 Lisa M. Finkelstein, professor, Ph.D., Tulane University  
 Angela Grippo, associate professor, Ph.D., University of Iowa  
 Michelle M. Lilly, associate professor, Ph.D., University of Michigan  
 Christine K. Malecki, Presidential Engagement Professor, Ph.D., University of Wisconsin  
 Leslie Matuszewich, associate professor, Ph.D., University of Buffalo  
 Keith K. Millis, professor, Ph.D., Memphis State University  
 Nina S. Mounts, professor, Ph.D., University of Wisconsin  
 Julia A. Ogg, associate professor, Ph.D., Michigan State University  
 Holly K. Orcutt, professor, Ph.D., State University of New York, Buffalo  
 Bradford H. Pillow, 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  
 Rachel Saef, assistant professor, Ph.D., Purdue University  
 Brad J. Sagarin, professor, Ph.D., Arizona State University  
 Alecia M. Santuzzi, associate professor, Ph.D., Tulane University  
 Elizabeth C. Shelleby, assistant professor, Ph.D., University of Pittsburgh  
 Kara M. Styck, assistant professor, Ph.D., Arizona State University  
 David P. Valentiner, professor, Ph.D., University of Texas  
 Douglas Wallace, 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, associate 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.

The student learning outcomes for this degree are located at <http://www.niu.edu/assessment/clearinghouse/outcomes/index.shtml>.

### 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.

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.

The student learning outcomes for this degree are located at <http://www.niu.edu/assessment/clearinghouse/outcomes/index.shtml>.

### 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 upperdivision undergraduate credit in psychology, or consent of department.

596X. HISTORY AND SOCIAL SCIENCE INSTRUCTION FOR SECONDARY AND MIDDLE GRADES EDUCATORS (3). Crosslisted as ANTH 596X, ECON 596X, GEOG 596X, HIST 596, POLS 596X, and SOCI 596X. Organization and presentation of materials for history and social science courses at the middle grades and secondary levels. PRQ: Admission to the history or social science secondary or middle grades educator licensure program and permission of the Department of History's office of secondary educator licensure.

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.

605. RESEARCH ETHICS AND PROFESSIONAL ISSUES IN ORGANIZATIONS (3). Examination of research ethics and professional issues in organizations from the perspective of ethical theory and professional guidelines in psychology. Research topics include issues regarding design, data management and reporting, collaboration, publishing, and communicating results to the public. Professional topics include issues related to personnel selection, organizational development, organizational consulting, and academia. PRQ: Graduate standing in psychology or consent of 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.

608. CLINICAL RESEARCH METHODS (3). Systematic examination of research methodology in clinical psychology. Topics include cross-sectional, experimental, longitudinal research designs, special considerations in clinical outcome and process research, measurement, psychometrics, analytical approaches, and ethical and cultural considerations in human subjects research. PRQ: Graduate standing in psychology and consent of the 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.
623. OCCUPATIONAL HEALTH PSYCHOLOGY (3). Contributions of psychological theory, research, and practice in the promotion of employee wellness and prevention of negative health-related consequences in the workplace. Construct measurement and research methodology in the areas of occupational stress theory, organizational stressors, interpersonal stressors, the work-nonwork interface, psychological/physiological strain, strain and organizational behavior, recovery and sleep, individual differences and coping, and workplace stress interventions. PRQ: PSYC 616 and 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.
626. THE SELF FROM THE PERSPECTIVE OF SOCIAL PSYCHOLOGY (3). A contemporary view of social psychology's theory and research into "The Self." Possible topics may include, but are not limited to, projected and reflected appraisal; social comparison theory; the sociometer approach to self-esteem; the content and structure of self-knowledge; remembered selves, possible selves, and feared selves; information processing, autobiographical memory and semantic memory; the self-motives of enhancement, protection, and improvement; self-presentation and impression management; and the self as it might be influenced by group and culture. 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.
631. MOTIVATION FROM THE PERSPECTIVE OF SOCIAL PSYCHOLOGY (3). Social psychology theory and research offer insight into the mainsprings of human behavior. Key topics in this area include internal and external sources of motivation, approach and avoidance tendencies, goal setting, deliberate and automatic goal pursuit, self-regulation, and achievement strivings. PRQ: PSYC 620 and graduate standing in psychology; or consent of department.
632. FOUNDATION IN TRAUMATOLOGY (3). Examines the seminal and current literature on trauma prevalence, outcomes, and recovery. Traumatological theories that explain exposure rates and the onset of adverse psychological health are covered, as well as the inherent methodological difficulties associated with studying trauma. PRQ: Consent of department.
633. ASSESSMENT AND TREATMENT OF TRAUMA (3). Covers best methods in clinical interview and self-report assessments of trauma-related sequelae, primarily posttraumatic stress disorder. Evidence-based treatments from a cognitive-behavioral perspective for trauma-related sequelae will be reviewed with the intention of building skills in practice. PRQ: Consent of department.
639. ETHICS, LAW, AND PROFESSIONAL ISSUES IN SCHOOL PSYCHOLOGY (3). Review of the history and development of the practice of school psychology, with emphasis on legal, ethical, and professional issues. Roles of the school psychologist, service delivery models, and perspectives on psychological practice in the schools are discussed in the context of legal and ethical issues. 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: 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: 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: 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. INTERNSHIP 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, but only 15 semester hours may be applied towards a degree. IP/S/U grading. PRQ: Approval of 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 CLINICAL PSYCHOLOGY (1-3). Supervised experience in clinical assessment, psychotherapy, and supervision of less advanced trainees during the provision of clinical services with clients who have sought help for psychological problems. May be repeated, but only 15 semester hours may be applied toward a graduate degree in psychology. IP/S/U grading. PRQ: Approval of the clinical training area.

655. INTERNSHIP IN CLINICAL PSYCHOLOGY (1-3). A period of one year in a setting such as a hospital or clinic where the student performs the functions of a clinical psychologist under the direct supervision of qualified personnel. Internship must have approval of the clinical psychology faculty. Students should contact their area head to determine the number of hours for which they need to register during any given academic term. PRQ: Departmental approval for the doctoral program.

656. INTERNSHIP IN SCHOOL PSYCHOLOGY (1-12). 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 the direct supervision of qualified personnel. Internship must have approval of the school psychology faculty. Students should contact their area head to determine the number of hours for which they need to register during any given academic term. Recommended: At least 2 semester hours of PSYC 653. PRQ: Consent of department. Recommended: At least 2 semester hours of PSYC 553.

659. ADVANCED PROFESSIONAL ISSUES IN CLINICAL PSYCHOLOGY (3). Examination of theories of and empirical outcome research related to supervision and consultation in clinical psychology. Topics will include methods for applying this knowledge to work with clients from a wide range of clinical presentations and diverse backgrounds. PRQ: Graduate standing in psychology and consent of the department.

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.

799. PH.D. DISSERTATION (1-15). 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.

# Department of Public Administration (PSPA)

Chair: Kurt Thurmaier

## Graduate Faculty

Chris Goodman, assistant professor, Ph.D., University of Georgia  
 Albert Hyde, SUNY Albany, Visiting Professor  
 Jaehee Jong, assistant professor, Ph.D., University of Albany  
 Eunju Rho, assistant professor, Ph.D., University of Georgia  
 Alicia M. Schatteman, associate professor, Ph.D., Rutgers University  
 Kurt M. Thurmaier, chair, Presidential Engagement Professor, Ph.D.,  
 Syracuse University

## Master of Public Administration

The mission of the Department of Public Administration is to advance excellence in professional public management through scholarship in teaching, research, and service. The department is committed to strengthening the knowledge and skills that enhance the management and leadership capacity of individuals pursuing public service careers.

The student learning outcomes for this degree are located at <http://www.niu.edu/assessment/clearinghouse/outcomes/index.shtml>.

## 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, and transcripts from all undergraduate and graduate institutions attended.

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 Department of Public Administration.

## Requirements

The M.P.A. degree normally requires the completion of a minimum of 40 semester hours of approved graduate study in the public policy/management core and a selected specialization. The student must complete a minimum of 40 semester hours of course work exclusive of internship hours.

In addition to credit-hour requirements, students must also prepare and defend a capstone paper while registered for PSPA 699. Every

student must complete at least 1 semester hour of PSPA 698, normally in their second semester, and 3 semester hours of PSPA 699 prior to graduation.

## Public Policy/Management Core (28)

PSPA 600 - Scope and Dynamics of Public Administration (3)  
 PSPA 605 - Organization Theory and Behavior (3)  
 PSPA 607 - Public Service Performance I: Theory and Management (3)  
 PSPA 608 - Public Service Performance II: Management and Data Analysis (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 698 - Public Service Research Praxis (1)  
 PSPA 699 - Public Service Research Capstone Project (3)

Students with appropriate previous course work or professional experience may petition program faculty for permission to substitute elective courses for PSPA 609 or PSPA 610. In no case will any semester hours be waived.

## 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 must enroll in PSPA 695 for at least 4 semesters. The requirements for PSPA 695 may be waived if a student has had appropriate professional experience.

### Specialization in Comparative Public Service

Through a study of public administration and management in a global context, students will gain an advanced capacity to assume a leadership role and use management skills to enhance the mission of government agencies and nongovernmental organizations in the U.S. and another country. In addition to learning skills and strategies for leadership and management of U.S. agencies, students will demonstrate an advanced ability to:

Lead and manage in public governance in a country outside the U.S.,

Participate in and contribute to the policy process in a country outside the U.S.,

Analyze, synthesize, think critically, solve problems and make decisions in a country outside the U.S.,

Articulate and apply a public service perspective in a country outside the U.S.,

Communicate and interact productively with a diverse and changing workforce and citizenry in a country outside the U.S.

Students must demonstrate ability to advance in one or more of the specialization competencies with a set of four or more courses (equivalent to 12 semester hours) at a university outside the U.S., approved in advance by the department chair, and successful completion of the capstone project (PSPA 699B). Students may enroll in PSPA 693 to earn credit for study abroad courses.

### 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>1</sup> - Internship in Public Administration (1-3)

Approved graduate course work (6)

### Specialization in Nonprofit Management

A study of the unique challenges posed by the administration of nonprofit organizations in both the domestic and global contexts, including communication and promotion, fundraising and grant writing, and intersectoral collaboration with the public and private sectors.

PSPA 624 - Resources Development for Nonprofit Organizations (3)

PSPA 626 - Nongovernmental Organizations and Governance (3)

PSPA 695<sup>1</sup> - Internship in Public Administration (3)

Approved graduate course work (3)

One of the following:

PSPA 634 - New Governance (3)

PSPA 635 - Local Economic Development Policy (3)

PSPA 653 - Intermediate Public and Nonprofit Financial Management (3)

PSPA 656 - Management of Not-for-Profit Agencies (3)

PSPA 673 - Strategic Planning for Public Service Organizations (3)

### Specialization in Strategic Public Management and Leadership

Students will gain an advanced capacity to assume a leadership role and use strategic management and collaborative processes that facilitate the mission of government and nonprofit organizations.

PSPA 650 - Leadership in Public Sector Organizations (3)

PSPA 673 - Strategic Planning for Public Service Organizations (3)

PSPA 695<sup>1</sup> - Internship in Public Administration (1-3)

Approved graduate course work (3)

One of the following:

PSPA 634 - New Governance (3)

PSPA 655 - Organization Development in the Public Sector (3)

PSPA 660 - Ethics and Public Service in America (3)

PSPA 665 - Public Sector Innovation (3)

PSPA 671 - Public Management in a Globalized Environment (3)

### Specialization in Local Government Management

A thorough study of local government administration, focusing on the operations of local governments and the analysis of local government and metropolitan issues.

PSPA 630 - Local and Metropolitan Government (3)

PSPA 632 - Local Government Administration (3)

PSPA 695<sup>1</sup> - Internship in Public Administration (1-3)

Approved graduate course work (3)

One of the following:

PSPA 631 - Urban Planning and Zoning (3)

PSPA 633 - Citizen Participation (3)

PSPA 634 - New Governance (3)

PSPA 635 - Local Economic Development Policy (3)

PSPA 660 - Ethics and Public Service in America (3)

PSPA 665 - Public Sector Innovation (3)

### Specialization in Public Service Law and Management

Through a study of public administration and management in a legal context, students will gain an advanced capacity to assume a leadership role and use management skills to enhance the mission of government agencies and nongovernmental organizations as it relates to public law and management. In addition to learning skills and strategies for leadership and management, students will demonstrate an advanced ability to:

Lead and manage in public governance with legal insights;

Analyze, synthesize, think critically, solve problems, and make decisions related to the legal issues of a public organization;

Articulate and apply a public service perspective while serving in a public organization or a law firm that serves nonprofit, local, state, and federal government agencies ;

Communicate, interact, and provide a legal perspective within a diverse and changing citizenry.

Students must demonstrate the ability to advance in one or more of the specialization competencies with a set of four or more law school courses (equivalent to 12 semester hours) approved by the department chair, and successful completion of the capstone project (PSPA 699B). Students enrolled in the Public Service Law and Management specialization must be enrolled in the NIU Law School or have earned a law degree from an accredited law school.

## Simultaneous Enrollment in M.P.A. and J.D. Degree Programs

The Department of Public Administration and the College of Law at Northern Illinois University 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. Up to 12 semester hours of College of Law course work may be applied toward the 40 semester hours required for the M.P.A. degree, and up to 12 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.

## Certificate of Graduate Study

### Public Management (15)

Offered by the Department 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 department chair.

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 Department of Public Administration, a written statement describing the applicant's work experience in the public sector, a brief statement indicating how the applicant's career objectives can be enhanced by completing the certificate, a copy of undergraduate and graduate transcripts, and one professional reference from a recent supervisor stating the applicant's ability to perform graduate level work and potential for leadership.

A student's program of study must be reviewed and approved by the department chair or the assistant to the chair. A maximum of 3 semester hours earned in another department or program may be applied toward the certificate with the consent of the department chair or assistant to the chair.

At least three of the following (9-15)

PSPA 600 - Scope and Dynamics of Public Administration (3)

PSPA 605 - Organization Theory and Behavior (3)

PSPA 607 - Public Service Performance I: Theory and Management (3)

PSPA 608 - Public Service Performance II: Management and Data Analysis (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 698 and PSPA 699 (0-6)

<sup>1</sup> The requirement for PSPA 695 may be waived if a student has had appropriate professional experience.

## Course List

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. Recommended: PSPA 600 or consent of department.
- 606X. INTERGOVERNMENTAL RELATIONS (3). *Crosslisted as POLS 606.* 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. PUBLIC SERVICE PERFORMANCE I: THEORY AND MANAGEMENT (3). Overview of evidence-based decision making in public service organizations. Performance measurement theory and practices are introduced and explored through case studies and the creation of a research design. Exploration of public service values and how they influence performance management will also be provided, especially communication with stakeholders, support for a learning and performance organizational culture, and ethics.
608. PUBLIC SERVICE PERFORMANCE II: MANAGEMENT AND DATA ANALYSIS (3). Follows PSPA 607. Focus on public service performance and management, adding more skills-based practices of data analysis. Studies the basic theory, techniques, and practice of data collection and analysis so that information can be used to inform management decisions. Examination of generating research questions by identifying knowledge gaps in the organization. Data analysis methods include quantitative techniques (descriptive and inferential statistics, hypothesis testing) and qualitative techniques (focus groups, content analysis, observational data). Results are interpreted and presented.
609. HUMAN RESOURCES MANAGEMENT IN PUBLIC SERVICE ORGANIZATIONS (3). Examination of techniques, methods, and policies concerning the management of personnel in public and nonprofit 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 TECHNOLOGY AND MANAGEMENT IN PUBLIC SERVICE ORGANIZATIONS (3). Introduction to concepts and skills concerning the management of information technology in the public sector. Covers topics related to managing information and information technology to support public service delivery. Recommended: 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 non-profit organization in the public policy process, including the formation and evaluation of policies.
624. RESOURCES DEVELOPMENT FOR NONPROFIT ORGANIZATIONS (3). Discussion of resource strategies for nonprofit public service organizations; including fundraising, grant writing, volunteer management, and oversight roles.
625. 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.
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 nongovernmental 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. LOCAL GOVERNMENT 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.
634. NEW GOVERNANCE (3). Examines alternative modes of global, national, state, regional, and local service delivery through intergovernmental and intersectoral networks, joint agreements, and contracts.
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.
636. PUBLIC ADMINISTRATION AND LAW (3). Understanding of law, and the legal processes that shape the law, for public managers. Study of the courts as a decision making system and as a governmental entity making policy, and the intersection of the justice system and public administration. Uses decisions of the United States Supreme Court and decisions of the Supreme Court of Illinois.
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.
665. PUBLIC SECTOR INNOVATION (3). Exploration of the meaning and significance of innovations in the public sector, including who drives innovations; why innovations occur; and the community, organizational, political, and management conditions that increase the likelihood of innovation success.
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.
673. STRATEGIC PLANNING FOR PUBLIC SERVICE ORGANIZATIONS (3). Study of the development and application of strategic planning theory and practices in public service organizations, including designing and implementing strategic planning models in public service organizations.
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.
693. COMPARATIVE PUBLIC ADMINISTRATION STUDY ABROAD PROGRAM (1-12). Part of an approved department study abroad program, usually as part of the comparative public service specialization in an approved double degree Master of Public Administration program. May be taken for a maximum of 12 semester hours in each semester the student is abroad at a partner university.
695. INTERNSHIP IN PUBLIC ADMINISTRATION (1-3). Pre-professional experience composed of three elements: administrative or staff service in a public or non-profit 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 with permission of department. S/U grading. PRQ: Consent of department.
698. PUBLIC SERVICE PRAXIS (1). Guided discussion and mentorship in the integration of program competencies and public administration theory in the MPA program. May be repeated to a maximum of 2 semester hours. S/U grading. PRQ: Consent of department.
699. PUBLIC SERVICE CAPSTONE PROJECT (3). Research and writing to complete the capstone paper requirements for the M.P.A. degree, normally taken in the semester of graduation. The capstone paper must demonstrate the connection of theory and practice to a relevant public service issue or problem. The final group project will be a presentation for the oral comprehensive examination. May be repeated once. PRQ: Consent of department. Students enrolled in the Public Service Law and Management specialization may substitute 3 semester hours of NIU LAW 795 - Directed Research, or NIU LAW 900 - Seminar, for three semester hours of PSPA 699.
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 Sociology (SOCl)

Acting Chair: Michael Ezell

## Graduate Faculty

Abu B. Bah, professor, Ph.D., New School for Social Research  
 Keri B. Burchfield, professor, Ph.D., Pennsylvania State University  
 Cassandra S. Crawford, associate professor, Ph.D., University of California, San Francisco  
 Christopher Einolf, associate professor, Ph.D., University of Virginia  
 Michael E. Ezell, associate professor, Ph.D., Duke University  
 Kerry O. Ferris, associate professor, Ph.D., University of California, Los Angeles  
 Laura Heideman, assistant professor, Ph.D., University of Wisconsin  
 Jeffrey Kidder, associate professor, Ph.D., University of California, San Diego  
 Fred E. Markowitz, associate professor, Ph.D., State University of New York at Albany  
 Kirk Miller, associate professor, Ph.D., North Carolina State University  
 Kristen A. Myers, Presidential Teaching Professor, Ph.D., North Carolina State University  
 Kristopher K. Robison, associate professor, Ph.D., The Ohio State University  
 Diane M. Rodgers, associate professor, Ph.D., University of Missouri-Columbia  
 Shane Sharp, associate professor, Ph.D., University of Wisconsin  
 Carol Walther, associate professor, Ph.D., Texas A&M University  
 Simón E. Weffer, associate professor, Ph.D., Stanford 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

The student learning outcomes for this degree are located at <http://www.niu.edu/assessment/clearinghouse/outcomes/index.shtml>.

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 race, gender, and social inequality; and criminology.

Students must earn an overall GPA of 3.00 or higher and a minimum grade of B- in SOCl 670, SOCl 671, SOCl 674, SOCl 675, and SOCl 677.

The M.A. degree requires the successful completion of 33 credits, including 6 credits of a capstone experience, either SOCl 602 (Internship) or 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.

Students who intend to complete the internship capstone must pass a comprehensive examination in sociological theory and research methods.

## General Sociology (33)

SOCl 670 - Classical Sociological Theory (3)  
 SOCl 671 - Contemporary Sociological Theory (3)  
 SOCl 674 - The Research Process in Sociology (3)  
 SOCl 675 - Quantitative Analysis (3)  
 SOCl 677 - Qualitative Research Methods in Sociology (3)  
 SOCl 699 - Master's Thesis (1-6)  
 OR SOCl 602 - Internship (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 race, gender, and social inequality; 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 674 - The Research Process in Sociology (3)  
 SOCl 675 - Quantitative Analysis (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)  
 OR SOCl 602 - Internship (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: Graduate standing in Sociology 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: Graduate standing in Sociology 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: Graduate standing in Sociology or consent of department.

552. 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.

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: Graduate standing in Sociology or consent of department.
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: Graduate standing in Sociology 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: Graduate standing in Sociology 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: Graduate standing in Sociology 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. PRQ: Graduate standing in Sociology 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: Graduate standing in Sociology 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: Graduate standing in Sociology 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: Graduate standing in Sociology 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: Graduate standing in Sociology 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: Graduate standing in Sociology 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: Graduate standing in Sociology 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: Graduate standing in Sociology 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: Graduate standing in Sociology 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: Graduate standing in Sociology 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: Graduate standing in Sociology or consent of department.
595. PROSEMINAR IN SOCIOLOGY (3). Analysis and synthesis of current research, concepts, and issues in various areas. May be repeated to a maximum of 12 semester hours. PRQ: Consent of department.
- 596X. HISTORY AND SOCIAL SCIENCE INSTRUCTION FOR SECONDARY AND MIDDLE GRADES EDUCATORS (3). *Crosslisted as ANTH 596X, ECON 596X, GEOG 596X, HIST 596, POLS 596X, AND PSYC 596X.* Organization and presentation of materials for history and social science courses at the middle grades and secondary levels. PRQ: Admission to the history or social science secondary or middle grades educator licensure program and permission of Department of History's office of educator licensure.
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.
659. SOCIAL STRUCTURE AND DEVELOPMENT (3). Comparative analysis of social structural change resulting from industrialization and modernization in developing societies. PRQ: Consent of department.
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 classical theory paradigms. PRQ: Three hours credit earned in sociological theory or consent of department.

671. CONTEMPORARY SOCIOLOGICAL THEORY (3). Critique of contemporary theory paradigms. PRQ: SOCI 670 or consent of department.

672. ADVANCED TOPICS IN SOCIOLOGY (3). Advanced coverage of selected topics in sociology. May be repeated to a maximum of 12 semester hours as the topic changes. PRQ: Consent of department.

674. THE RESEARCH PROCESS IN SOCIOLOGY (3). Discussion of the social scientific method, creation and selection of research problems, research design, and methods of qualitative and quantitative analysis.

675. QUANTITATIVE ANALYSIS (3). Methods of sampling and testing hypotheses; statistical inference; correlation and other measures of association; and methods of analyzing quantitative variables. PRQ: 3 semester hours in statistics or consent of department.

676. ADVANCED QUANTITATIVE ANALYSIS (3). Extensions of the regression model in sociological research. 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 595 or SOCI 671, 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.

# Department of Statistics and Actuarial Science (ACSI, STAT)

Chair: Barbara Gonzalez

## Graduate Faculty

Nader Ebrahimi, emeritus distinguished research professor, Ph.D., Iowa State

Barbara Gonzalez, chair, associate professor, Ph.D., Cornell University

Lei Hua, associate professor, Ph.D., University of British Columbia

Alan Polansky, associate professor, Ph.D., Southern Methodist University

Duchwan Ryu, associate professor, Ph.D., Texas A&M

Michelle Xia, assistant professor, Ph.D., University of British Columbia

Haiming Zhou, assistant professor, Ph.D., University of South Carolina, Columbia University

The Department of Statistics and Actuarial Science offers graduate programs leading to the M.S. in statistics 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 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 400 and STAT 435, must also have been completed. Any deficiencies should be removed at the beginning of the student's program.

The student learning outcomes for this degree are located at <http://www.niu.edu/assessment/clearinghouse/outcomes/index.shtml>.

## Requirements

Complete at least 33 semester hours of graduate work, with at least 21 semester hours completed in STAT courses numbered 600 and above. At most, six semester hours can be courses offered outside of the Department of Statistics and Actuarial Science. These courses might only be taken with prior permission of the student's adviser.

Follow a program of study approved by the Department of Statistics and Actuarial Science.

Write a master's thesis or pass a comprehensive examination based upon student's plan of study. Usually, a student pursuing full-time graduate study will be required to write a master's thesis or 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.* The thesis option is usually recommended by the department. Each student pursuing this option must enroll in MATH 699, Master's Thesis, for at least two semesters, and submit a written thesis. Up to 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. With departmental consent, the student must complete a 33-semester hour program of courses approved by the department and pass a written comprehensive examination.

## Course Requirements

STAT 515 - Statistical Computing (3)

STAT 610 - Theory of Statistics I (3)

STAT 611 - Theory of Statistics II (3)

STAT 695 - Statistical Consulting (3)

Four STAT courses numbered 600 or above (12)

Four STAT courses numbered 500 or above (12). With consent of the department, up to two of these may be graduate level courses offered outside of the Department of Statistics and Actuarial Science.

With the consent of the department, a student may include STAT 699, Master's Thesis, for up to 3 semester hours of credit, in the 33 semester hours required for a master's degree.

## Doctor of Philosophy in Mathematical Sciences

Please refer to the Department of Mathematical Sciences catalog entry for this degree.

## Certificate 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)

## Course List

### Statistics (STAT)

500. 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 department.

510. MATHEMATICAL STATISTICS I (3). Distributions of functions of random variables, laws of large numbers, central limit theorem, interval estimation, sufficiency, completeness, point estimation, and principles of Bayesian estimation. PRQ: STAT 400 or ACSC 400X, or STAT 500; or consent of department.

511. MATHEMATICAL STATISTICS II (3). Principles of statistical hypothesis testing including the likelihood ratio test, uniformly most powerful tests and Bayesian testing techniques, theory of linear models including multiple linear regression and ANOVA. PRQ: STAT 510 or consent of department.

515. STATISTICAL COMPUTING (3). Theory and assessment of commonly used numerical methods in statistical research such as (a) numerical optimization: Newton-Raphson, quasi-Newton, and other methods; (b) numerical integration: adaptive methods, Gauss quadrature, Monte Carlo; (c) Monte Carlo simulation: algorithms and methods for non-standard probability distributions; (d) numerical linear algebra: solving linear and non-linear systems of equations, SVD, Cholesky and other decompositions; (e) numerical roundoff and computer representation of numbers; (f) possibly numerical inversions of probability generating functions and Laplace transforms. PRQ: STAT 510, and either CSCI 230 or CSCI 240, or consent of the department.

517. APPLIED STATISTICAL LEARNING (3). Modern statistical methods for supervised and unsupervised learning with an emphasis on model assessment, selection, and regularization. Practical problems are solved using statistical software packages. A particular emphasis is placed on high dimensional problems. PRQ: STAT 510 or consent of department.

535 APPLIED REGRESSION ANALYSIS (3). In-depth exploratory data analysis and graphical techniques, and statistical methods for regression analysis. Includes techniques for model selection, assessment of influential observations, and verification of model assumptions. PRQ: STAT 300, or consent of department.

536. DESIGN AND ANALYSIS OF EXPERIMENTS (3). Design and analysis of single, multifactor, factorial, nested, and randomized block designs. PRQ: STAT 535 or consent of department.

537. CATEGORICAL DATA ANALYSIS (3). Contingency tables. Poisson, binomial, and multinomial regression techniques. PRQ: STAT 535 or consent of department.

538. APPLIED ANALYSIS OF TIME SERIES (3). Removal and estimation of trend and seasonality; autoregressive, moving average, and mixed models; model identification and estimation; diagnostic checking; and the use of time series models in forecasting. PRQ: STAT 535 or consent of department.

600. 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 500, or consent of department.

601. STOCHASTIC PROCESSES II (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 600 or consent of department.

610. THEORY OF STATISTICS I (3). Axiomatic foundations of probability, random variables and vectors, expectation, families of distributions, and transformations of random variables and vectors, convergence of distributions, convergence of random variables, derived distributions, distribution of the sample mean and variance. PRQ: STAT 500 or consent of the department.

611. THEORY OF STATISTICS II (3). Principles of data reduction, sufficiency, point estimation including method of moments, Bayesian and likelihood methods, evaluation of point estimators, developing and evaluating statistical hypothesis tests including likelihood ratio and Bayesian tests, interval estimation, asymptotic considerations. PRQ: STAT 610 or consent of the department.

617. STATISTICAL LEARNING (3). Supervised learning algorithms such as classification, regression, splines, lasso and other shrinkage methods, bootstrap, boosting, tree based methods and support vector machines, and unsupervised learning algorithms such as clustering and principal components analysis. PRQ: STAT 510 or STAT 537 or consent of department.

625. BAYESIAN STATISTICS (3). Bayesian inference, loss function and risk, one parameter models and posterior inference, conjugate priors, non-informative priors, multi-parameter models, Bayesian computation, Gibbs sampling and Markov chain Monte Carlo methods and applications in different areas. Additional topics may include decision theory, theoretical and convergence properties of the Markov chain samplers, Bayesian model checking, selection and assessment criteria, hierarchical models, Bayesian survival analysis. PRQ: STAT 510 or consent of department.

635. REGRESSION ANALYSIS (3). Simple and multiple linear regression, estimation, confidence intervals and tests, and prediction. Theoretical analysis of the effect of departures from assumptions. Theoretical development of diagnostic methods using residuals, transformations, outliers, and influence analysis. Remedies for departures from assumptions. Theory of model selection. Regularization methods including ridge regression and lasso techniques. PRQ: STAT 611 or consent of department.

637. MODELS FOR DISCRETE DATA (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. In addition, multivariate version of Binomial and Poisson distribution will be reviewed. PRQ: STAT 510 and STAT 537, or consent of department.

638. 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 510 or consent of department.

639. SURVIVAL ANALYSIS (3). Censoring, Kaplan-Meier estimator, log-rank tests, Cox proportional hazards and accelerated failure time regression models, diagnostics, competing risks and frailty models. PRQ: STAT 510 or consent of department.

640. LONGITUDINAL DATA ANALYSIS (3). Repeated measure ANOVA and MANOVA, linear mixed models, generalized linear mixed models, generalized estimating equations. Possible additional topics include analysis of data from crossover designs, and statistical validation of questionnaires. PRQ: STAT 510 and STAT 535, or consent of department.

642. QUANTITATIVE RISK MANAGEMENT (3). Risk measures; statistical methods in extreme value theory; multivariate distributions and dependence; elliptical distributions and copulas; credit risk modeling; operational risk and insurance analytics. PRQ: STAT 500 or consent of department.

643. LINEAR MODELS (3). Theory of linear models with applications to the analysis of variance and regression and to the design of experiments. CRQ: STAT 611 or consent of department.

644. GENERALIZED LINEAR MODELS (3). Topics on generalized linear models, such as the exponential family of distributions, maximum likelihood estimation and inference, normal linear models, logistic regression for binary outcomes, nominal and ordinal logistic models, and Poisson regression and log-linear models. PRQ: STAT 611 or consent of department.

645. MULTIVARIATE 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 510, or consent of department.

646. NON-PARAMETRIC STATISTICS (3). Order statistics and ranks, distribution free statistics, linear rank statistics, and U-statistics. Asymptotic relative efficiency. Nonparametric density estimation and regression, kernel methods, bandwidth selection, roughness penalties. Nonparametric resampling methods, standard error estimation, bootstrap confidence intervals, bootstrap tests. Nonparametric observed confidence levels. PRQ: STAT 611 or consent of department.

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 510 or consent of department.

681. INTRODUCTION TO STATISTICAL LEARNING (3). Introduction to the interface between statistical theory and modern data analytic techniques beginning with an overview of supervised and unsupervised learning and continuing with an in depth look at model assessment, selection, and regularization, and the statistical theory underlying data analytic methods such as smoothing, penalized least squares, resampling plans, classification, tree methods, random forests, bagging, boosting, and support vector machines. Practical problems are solved using statistical software packages. A particular emphasis is placed on high dimensional problems. PRQ: STAT 572 and STAT 574 or consent of department.

695. STATISTICAL CONSULTING (3). Content varies and involves participation in actual consulting projects. Topics may include statistical techniques commonly used in solving real life problems, model formulation; given specific data and research questions, identification of parameters and solutions, client-consultant interaction techniques, ill-posed problems and their formulation. PRQ: Consent of department.

697. INDEPENDENT STUDY (1-9). May be repeated to a maximum of 9 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.

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 department.

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 department.

# Department of World Languages and Cultures (FL--)

Chair: John R. Bentley

## Graduate Faculty

John R. Bentley, professor, Ph.D., University of Hawaii, assistant chair  
 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  
 Jessamine Cooke-Plagwitz, associate professor, Ph.D., Queen's University, Kingston, Ontario  
 Mandy Faretta-Stutenberg, assistant professor, Ph.D., University of Illinois, Chicago  
 Frances Jaeger, associate professor, Ph.D., University of Illinois  
 Joanna Kot, associate professor, Ph.D., University of Chicago  
 Karen Lichtman, assistant professor, Ph.D., University of Illinois at Urbana-Champaign  
 Linda K. Saborio, associate professor, Ph.D., University of North Carolina, Chapel Hill  
 Francisco Solares-Larrave, associate professor, Ph.D., University of Illinois  
 Tharaphi Than, assistant professor, Ph.D., University of London  
 Stephen Vilaseca, associate professor, Ph.D., University of Minnesota, Twin Cities

The Department of World Languages and Cultures offers a graduate program leading to the M.A. degree in 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.

After admission to the program, in consultation with the graduate coordinator, each student will select three graduate faculty members who will serve as members of the defense committee. The defense committee will be chaired by a graduate faculty member chosen by the student. Responsibility for approving the student's program of courses rests with the graduate coordinator, who 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 world 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 Spanish 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 World Languages and Cultures -- Spanish and Hispanic Studies

The student learning outcomes for this degree are located at <http://www.niu.edu/assessment/clearinghouse/outcomes/index.shtml>.

## Requirements

Students are required to complete a minimum of 30 semester hours of graduate credit. A student's program of courses should be formally approved by the graduate coordinator early in the program of study.

Students fulfill the requirements of the M.A. by choosing one of two options:

Option 1. Successful completion of ten 10 regular courses and a two-part comprehensive examination based on course work and the graduate reading list. The examination consists of a written and an oral exam.

Option 2. Successful completion of nine regular courses, a written thesis (FLSP 699) and an oral defense that includes a comprehensive examination based on course work.

Choose among the following courses:

### 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)

### Translation and Business (6-9)

FLAL 515 - Internship in World Languages and Cultures (3)  
 FLAL 520 - Introduction to Translation Theory (3)  
 FLSP 514 - Spanish Business Communications (3)  
 FLSP 583 - Techniques of Spanish Translation (3)  
 FLSP 584 - Advanced Spanish Translation (3)  
 FLSP 589 - Consecutive Interpretation: Theory and Practice (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/*Fin de Siglo* (3)  
 FLSP 538 - Contemporary Spanish Literature (3)  
 FLSP 539 - Women Authors in Hispanic Literature (3)  
 FLSP 540 - Spanish American Poetry and Theater (3)  
 FLSP 541 - Spanish American Novel (3)  
 FLSP 545 - Latin American Women Writers (3)  
 FLSP 552 - Literature of the Caribbean (3)  
 FLSP 554 - Mexican Literature, Culture and Film (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 - Seminar on the Cultures of Spain (3)  
 FLSP 562 - Seminar on the Cultures Latin America (3)  
 FLSP 563 - Hispanic Culture through Film (3)

**Elective (0-3)**

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)

**Thesis (3)**

FLSP 699 - Master's Thesis in Spanish (1-3)

Students need to take 3 semester hours altogether in this course.

During the first semester of writing the thesis, students should sign up for 1 semester hour.

**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)

**World Languages and Cultures - French and Francophone Studies (18)**

This certificate is designed to enhance individuals' knowledge of French 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.

**Requirements (18)**

Six of the following:

- FLAL 520 - Introduction to Translation Theory (3)
- FLAL 583 - Applied Linguistics and the Romance Languages (3)
- FLFR 500 - Special Topics in French Language, Literature, Linguistics or Culture (3)
- FLFR 512 - French for Business (3)
- FLFR 530 - French and Francophone Film (3)
- FLFR 537 - Authors in Context (3)
- FLFR 540 - Postcolonial Studies and Francophone Culture (3)
- FLFR 545 - French Women Writers (3)
- FLFR 546 - Studies in French Genres (3)
- FLFR 563 - *La France Contemporaine* (3)
- FLFR 564 - Paris: City of Lights (3)
- FLFR 565 - Experiments in Autobiography (3)
- FLFR 580 - French Publishing Atelier (3)
- FLFR 581 - Advanced French Phonetics and Phonology (3)
- FLFR 582 - History of the French Language (3)
- FLFR 583 - Translation Theory and Practice (3)
- FLFR 584 - Advanced Translation (3)

**World Languages and Cultures - German Studies (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.

Six of the following (18)

- FLAL 520 - Introduction to Translation Theory (3)
- FLGE 511 - Communicating in Modern German (3)
- FLGE 512 - Practical Business German (3)
- FLGE 514 - German Business Communication (3)
- FLGE 532 - German Literary Genres (3)
- FLGE 533 - German Cinema (3)
- FLGE 534 - Popular Literature in German-Speaking Countries (3)
- FLGE 535 - Autobiographies (3)
- FLGE 537 - Authors in Context (3)
- FLGE 561 - German Cultural Studies: Reading Texts in Contexts (3)
- FLGE 563 - Deutschland Heute (3)
- FLGE 581 - Breaking it Down: The Structure of Modern German (3)
- FLGE 582 - Approaches to Translation (3)
- FLGE 584 - Translation Practice (3)
- FLIS 581<sup>2</sup> - Independent Study in a Foreign Language (1-6)

**World Languages and Cultures - Spanish and Hispanic Studies (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)

Four of the following (12)

- FLAL 520 - Introduction to Translation Theory (3)
- FLAL 583 - Applied Linguistics and the Romance Languages (3)
- 500-level FLSP courses

One 500-level Spanish or Spanish-American culture and/or literature courses (3)

**Course List****French (FLFR)**

500. SPECIAL TOPICS IN FRENCH LANGUAGE, LITERATURE, LINGUISTICS OR CULTURE (3). Topics announced. May be repeated to a maximum of 6 semester hours when topic varies. PRQ: Consent of department.

501. FRENCH FOR READING KNOWLEDGE I (3). Development of the reading skills necessary to conduct academic research using French sources. Grammar and vocabulary will be studied and incorporated into individual readings and translations in each student's core area of research. Open only to graduate students with no prior knowledge of French. S/U grading.

502. FRENCH FOR READING KNOWLEDGE II (3). A review and continuation of the concepts addressed in FLFR 501, with more in-depth work in the student's field of research. Continuation of FLFR 501. Open only to graduate students with credit for FLFR 501. S/U grading.

512. FRENCH FOR BUSINESS (3). Study of select business and administrative aspects of French, such as writing a resume and cover letter, answering interview questions, and composing professional communications.

530. FRENCH AND FRANCOPHONE FILM (3). Examination of the major trends and topics in French and Francophone cinema, from its inception to the present day.

537. AUTHORS IN CONTEXT (3). Interdisciplinary study of literary works within their historical and cultural contexts. Close readings of texts combined with a cross-section approach to their cultural landscape to map out the interplay between literature and other cultural agents (visual arts, music, architecture, science, philosophy, politics, etc.).

540. POSTCOLONIAL STUDIES AND FRANCOPHONE CULTURE (3). General treatment of the works of Francophone writers from one of the following regions: French Caribbean, the Maghreb, or French-speaking Americas.

545. FRENCH WOMEN WRITERS (3). Works of selected French women writers from the Middle Ages to the present. Course taught in English with readings in English or French according to the student's background.

546. STUDIES IN FRENCH GENRES (3). Focus on major genres in French literature and overview of important literary texts belonging to that genre across the centuries. Content varies each term but may include genres such as theatre, poetry, romance, epistolary texts, and short narratives.

563. *LA FRANCE CONTEMPORAINE* (3). Political, social, and cultural development of modern-day France.

564. PARIS: CITY OF LIGHTS (3). Study of urban changes in Paris from the Middle Ages to the present.

565. EXPERIMENTS IN AUTOBIOGRAPHY (3). Exploration of a diverse set of autobiographical forms from the Renaissance to the contemporary period. Taking inspiration from the course work, students create an autobiography in French.

580. FRENCH PUBLISHING ATELIER (3). Writing course focused on creating and publishing a collaborative web magazine in French. While all activities revolve around writing and speaking in French, student contributions involve a variety of forms: written text, video (including translation and overdubbing), sound files, visual art, etc., in any web-supported format. Students manage, edit, and select materials for publication.

581. ADVANCED FRENCH PHONETICS AND PHONOLOGY (3). A detailed exploration of the sound system of French, including what sounds make up the French language, how to transcribe French words using the International Phonetic Alphabet, and understanding the rules that govern pronunciation.

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. TRANSLATION THEORY AND PRACTICE (3). Analysis of translation as a linguistic practice and a metaphor for cultural exchange. Also addresses the practical steps of becoming a professional translator or interpreter while developing the appropriate skills for working in the field.

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.

590. PRACTICUM IN FRENCH (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.

699. MASTER'S THESIS IN FRENCH (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.

### Italian (FLIT)

501. ITALIAN FOR READING KNOWLEDGE I (3). Development of the reading skills necessary to conduct academic research using Italian sources. Grammar and vocabulary will be studied and incorporated into individual readings and translations in each student's core area of research. Open only to graduate students with no prior knowledge of Italian. S/U grading.

502. ITALIAN FOR READING KNOWLEDGE II (3). A review of the concepts addressed in FLIT 501, with more in-depth work in the student's field of research. Continuation of FLIT 501. Open only to graduate students with credit for FLIT 501. S/U grading.

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)

500. SPECIAL TOPICS IN SPANISH LANGUAGE, LITERATURE, LINGUISTICS OR CULTURE (3). Topics announced. May be repeated to a maximum of 6 semester hours when topic varies. PRQ: Consent of department.

501. SPANISH FOR READING KNOWLEDGE I (3). Development of the reading skills necessary to conduct academic research using Spanish sources. Grammar and vocabulary will be studied and incorporated into individual readings and translations in each student's core area of research. Open only to graduate students with no prior knowledge of Spanish. S/U grading.

502. SPANISH FOR READING KNOWLEDGE II (3). A review of the concepts addressed in FLSP 501, with more in-depth work in the student's field of research. Continuation of FLSP 501. Open only to graduate students with credit for FLSP 501. S/U grading.

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/*FIN DE SIGLO* (3).

538. CONTEMPORARY SPANISH LITERATURE (3).

539. WOMEN AUTHORS IN HISPANIC LITERATURE (3). Study of literary works written by women in Spanish-speaking worlds. Topics announced. Taught in English. Readings and assignments in Spanish or English depending upon student's field. May be repeated to a maximum of 6 semester hours when topic varies.

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.

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.

554. MEXICAN LITERATURE, CULTURE AND FILM (3). Explore Mexico's literary traditions and cultures through fiction, non-fiction, dramatic works, and film. Selected readings, 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. SEMINAR ON THE CULTURES OF SPAIN (3). Focus on the analysis of a series of documents (literary texts, film, advertisements, newspapers and magazines among others) in order to understand the basis of the construction of Spain's historical, political, and cultural identity.

562. SEMINAR ON THE CULTURES OF LATIN AMERICA (3). Focus on the analysis of scholarly texts, interpretive essays, other primary sources, and a variety of cultural artifacts (such as films, music, art objects, literary texts) in order to explore Latin America's cultural heritage.

563. HISPANIC CULTURE THROUGH FILM (3). Introduction to contemporary Hispanic culture through the study of film. Taught in Spanish.

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.

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.

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.

589. CONSECUTIVE INTERPRETATION: THEORY AND PRACTICE (3). Provides practical instruction in consecutive interpretation from English to Spanish and Spanish to English. Focus is on consecutive interpretation techniques such as enhancing listening performance and note taking skills.

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.

699. MASTER'S THESIS IN SPANISH (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.

### 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)

500. SPECIAL TOPICS IN GERMAN LANGUAGE, LITERATURE, LINGUISTICS OR CULTURE (3). Topics announced. May be repeated to a maximum of 6 semester hours when topic varies. PRQ: Consent of department.

501. GERMAN FOR READING KNOWLEDGE I (3). Development of the reading skills necessary to conduct academic research using German sources. Grammar and vocabulary will be studied and incorporated into individual readings and translations in each student's core area of research. Open only to graduate students with no prior knowledge of German. S/U grading.

502. GERMAN FOR READING KNOWLEDGE II (3). A review of the concepts addressed in FLGE 501, with more in-depth work in the student's field of research. Continuation of FLGE 501. Open only to graduate students with credit for FLGE 501. S/U grading.

511. COMMUNICATING IN MODERN GERMAN (3). Advanced conversation and composition course focusing on the understanding of modern German in day-to-day communication, including formal and informal language, dialects and slang.

512. PRACTICAL BUSINESS GERMAN (3). German language study oriented toward business practices. Techniques of spoken and written communication necessary in the business world. Extensive practice in the writing of business correspondence and formal presentations.

514. GERMAN BUSINESS COMMUNICATION (3). Advanced practice in business communication, with analysis of authentic contemporary materials. Extensive practice in the writing of business correspondence and formal presentations.

532. GERMAN LITERARY GENRES (3). An in-depth study of genres such as drama, novel, novella, lyric, and film. Taught in German.

533. GERMAN CINEMA (3). Overview of German cinema through the analysis of films. Films from a variety of periods of German cinematic history will be screened and discussed. Taught in German.

534. POPULAR LITERATURE IN GERMAN-SPEAKING COUNTRIES (3). Reading and analysis of popular German texts. Taught in German.

535. AUTOBIOGRAPHIES (3). Explorations of different sets of autobiographical forms. Taking inspiration from the readings, students will create their own autobiographies in German.

537. AUTHORS IN CONTEXT (3). Study of authors within their historical, political, and cultural contexts. Taught in German. May be repeated to a maximum of 6 semester hours.

561. GERMAN CULTURAL STUDIES: READING TEXTS IN CONTEXTS (3). Focus on the central role that culture plays in fostering and understanding German society through a variety of media such as fiction, film, magazines, blogs, and music.

563. *DEUTSCHLAND HEUTE* (3). Critical approach to postwar and contemporary German culture, society, and everyday life with emphasis on the developments since the reunification of 1990 using German media in print and screen.

581. **BREAKING IT DOWN: THE STRUCTURE OF MODERN GERMAN (3).** Examination of core areas of German linguistic concepts and the use of contemporary linguistic methods to analyze and contrast its major structures and their functions.

582. **APPROACHES TO TRANSLATION (3).** Theoretical approaches to translation, history of translation, as well as the development of skills and techniques of translation.

584. **TRANSLATION PRACTICE (3).** Intensive training in accurate and idiomatic translation from German to English and English to German with emphasis on a variety of different text types.

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)**

500. **SPECIAL TOPICS IN INDONESIAN LANGUAGE, LITERATURE, LINGUISTICS OR CULTURE (3).** Topics announced. May be repeated to a maximum of 6 semester hours when topic varies. PRQ: Consent of department.

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.

### **Burmese (FLBU)**

500. **SPECIAL TOPICS IN BURMESE LANGUAGE, LITERATURE, LINGUISTICS OR CULTURE (3).** Topics announced. May be repeated to a maximum of 6 semester hours when topic varies. PRQ: Consent of department.

### **Tagalog (FLTA)**

500. **SPECIAL TOPICS IN TAGALOG LANGUAGE, LITERATURE, LINGUISTICS OR CULTURE (3).** Topics announced. May be repeated to a maximum of 6 semester hours when topic varies. PRQ: Consent of department.

### **Thai (FLTH)**

500. **SPECIAL TOPICS IN THAI LANGUAGE, LITERATURE, LINGUISTICS OR CULTURE (3).** Topics announced. May be repeated to a maximum of 6 semester hours when topic varies. PRQ: Consent of department.

### **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, FLPT, FLST)**

FLAL 515. **INTERNSHIP IN WORLD LANGUAGES AND CULTURES (3).** Professional experience related to the work environment utilizing foreign language translation and/or communication skills. Credit awarded upon completion of an internship experience and writing assignments related to student's field of study. PRQ: Consent of department.

FLAL 520. **INTRODUCTION TO TRANSLATION THEORY (3).** Introduction to contemporary translation theory. Readings and training in different theoretical approaches in translation into English from other languages. Taught in English.

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 501. **CLINICAL MIDDLE OR SECONDARY SCHOOL EXPERIENCE IN FOREIGN LANGUAGES (1-2).** Discipline-based clinical experience for students seeking initial middle-school or secondary licensure in French, German, or Spanish. Includes observation, evaluation, methods, and problems practicum as a component of a minimum of 40 clock hours of supervised and formally evaluated experiences in the particular school setting in which student teaching will likely take place. S/U grading.

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. METHODS OF FOREIGN LANGUAGE TEACHING IN MIDDLE AND HIGH SCHOOLS (3). Theoretical bases of the teaching of modern foreign languages at the middle- and high-school level, including an introduction to the most prominent theories of second language acquisition. Introduction to instructional materials and classroom methods and techniques employed in language teaching at these levels. Attention to cultural diversity of students and the needs of the exceptional student. Extensive practice in classroom application of these methods and techniques.

FLMT 597. METHODOLOGIES FOR THE TEACHING OF FOREIGN LANGUAGES AT THE UNIVERSITY LEVEL (3). 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 World Languages and Cultures.

FLPT 585. STUDENT TEACHING (SECONDARY) IN FOREIGN LANGUAGES (12). Student teaching for one semester. Not available for credit in the major. See "Educator Licensure Requirements" for other regulations. 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 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. 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.

# College of Visual and Performing Arts

**Dean: Paul Kassel, M.F.A.**

**Acting Associate Dean: Janet Hathaway, Ph.D.**

School of Art and Design

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 and Design (ART, ART-)

Director: John Siblik

## Graduate Faculty

Michael Barnes, professor, M.F.A., University of Iowa  
 Sinclair Bell, associate professor, Ph.D., University of Edinburgh  
 Douglas G. Boughton, professor, Ph.D., University of Alberta, Canada  
 Todd Buck, professor, M.A.M.S., University of Illinois, Chicago  
 Sarah Evans, associate 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)  
 Cynthia Hellyer-Heinz, associate professor, M.F.A., Northern Illinois  
 University  
 Rebecca Houze, professor, Ph.D., University of Chicago  
 Joseph Insley, research associate professor, M.F.A., M.S., University of  
 Illinois, Chicago  
 Kathryn Kahn, associate professor, M.F.A., Yale University  
 Yih-Wen Kuo, professor, M.F.A., Southern Illinois University  
 Jessica Labatte, assistant professor, M.F.A., School of the Art Institute  
 of Chicago  
 Christine LoFaso, professor, M.F.A., School of the Art Institute of Chicago  
 Kimberly Martens, professor, M.A.M.S., University of Illinois, Chicago  
 Helen Nagata, associate professor, Ph.D., Stanford University  
 James Obermeier, associate professor, M.F.A., Indiana University  
 Mary Quinlan, professor, Ph.D., University of Chicago  
 Catherine Raymond, Presidential Engagement Professor, Ph.D.,  
 Sorbonne, Paris, France  
 Michael Rea, associate professor, M.F.A., University of Wisconsin,  
 Madison  
 Nina Rizzo, associate professor, M.F.A., University of Texas, Austin  
 John Siblik, associate professor, M.F.A., Southern Illinois University  
 Lee Sido, M.F.A., Northern Illinois University, associate professor  
 emeritus  
 Richard Siegesmund, professor and assistant director, Ph.D., Stanford  
 University  
 Kryssi Staikidis, professor, Ed.D., Columbia University, New York  
 Perrin Stamatis, assistant professor, M.F.A., University of Illinois, Chicago  
 Frank Trankina, professor, M.F.A., School of the Art Institute of Chicago  
 Ann van Dijk, associate professor, Ph.D., Johns Hopkins University  
 Amanda VanValkenburg, assistant professor, M.F.A., School of the Art  
 Institute of Chicago  
 Shei-Chau Wang, associate professor, Ed.D., Northern Illinois University  
 Bart Woodstrup, associate professor, M.F.A., Rensselaer Polytechnic  
 Institute

The School of Art and Design 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, preliminary study for the doctoral degree in art history (for those intending to become professional scholars and researchers in art history including teaching at the 4-year college or university level) or preparation for teaching art history at the two-year college level. 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 visual 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 and Design 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 Design 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 and Design 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 and Design 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 and Design.

## 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 and Design 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 and Design 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 and Design; other application materials are to be submitted to the Graduate School.

## Art and Design Education

### Master of Science in Art and Design

The M.S. in art and design requires a minimum of 30 semester hours of graduate work and successfully passing a comprehensive examination.

The student learning outcomes for this degree are located at <http://www.niu.edu/assessment/clearinghouse/outcomes/index.shtml>.

### Specialization in Art and Design Education (30)

Applicants for the M.S. degree with a specialization in art and design education should have an undergraduate degree in art, art education, or other related field approved by the School of Art and Design. Students must complete 30 semester hours in one of the following tracks.

#### Professional or Educator In-Service: Blended - Track 1

##### Requirements

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 and Design (12)

A maximum of 9 semester hours may be taken outside the School of Art. Any program requires the written approval of the major adviser.

#### Professional or Educator In-Service: Online – Track 2

##### Requirements

ARTE 543 - Art and Technology in the K-12 Classroom (3)  
 ARTE 682 - Curriculum Development in Art and Design Education (3)  
 ARTE 684 - History and Philosophy of Art Education (3)  
 ARTE 685 - Research Readings in Art Education (3)  
 ARTE 687 - Evaluation and Assessment in Art Education (3)  
 ARTE 780 - Research Development and Writing (9)  
 Seminar courses consisting of any combination of the following (6)  
 ART 680 - Seminar (3-6)  
 ARTE 683 - Seminar in Art Education (3-6)

### Educator Licensure<sup>1</sup>

Persons holding a baccalaureate degree may complete requirements for the State of Illinois Standard Special (K-12) License through the art education division of the School of Art and Design 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 licensure can be part of the 30 semester hours required for this specialization. Additional course work is required to complete the master's degree requirements.

Candidates who successfully complete the program and pass the state mandated Teacher Performance Assessment will have completed all required ISBE and CAEP standards for receiving university recommendation for licensure. Successful completion of the program without receipt of a passing score on the state mandated Teacher Performance Assessment may result in the candidate receiving a degree without licensure.

### Admission Requirements

Successful completion of the Illinois Test of Basic Skills, Test of Academic Proficiency, or ACT substitution.

Completion of ARTE 542 with a grade of at least C.

Admission to the School of Art and Design.

### 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 542, ARTE 544, ARTE 545, and ARTE 563).

### 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 "Educator Licensure 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 and Design or at other recognized institutions.

ARTE 500 - Studio Foundations for Art and Design Educators (3)  
 ARTE 542 - Introduction to Art Education (4)  
 ARTE 543 - Art and Technology in the K-12 Classroom (3)  
 ARTE 544 - Resources and Methods in Art Education: Content and Clinical Experience at the Middle Level (4)  
 ARTE 545 - Curriculum Development in Art and Design Education (4).  
 ARTE 563 - Reading and Writing in Art and Design Education: Critical Approaches (3)  
 ARTE 588A - Student Teaching in Elementary Art (6)  
 ARTE 588B - Student Teaching in Secondary Art (6)  
 ARTE 679 - Art Education for Special Needs Populations (3),  
     OR SESE 557 - Methods for Including Middle and Secondary Students with Exceptionalities in the General Education Classroom (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)  
 LTIC 520 - Methods and Materials for Teaching English Language Learners in the Content Areas (3)  
 Also see "Educator Licensure Information."

<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 licensure program.

## Master of Arts in Art

The M.A. in art requires a minimum of 30 semester hours of graduate work. Students applying for the specializations in art history research or art history teaching must submit a sample of academic writing (e.g., a research paper for an academic course).

The student learning outcomes for this degree are located at <http://www.niu.edu/assessment/clearinghouse/outcomes/index.shtml>.

### Specialization in Studio Art

Students who select the specialization in studio art must elect an area of study in studio (ARTS) and/or design (ARTD) courses and must pass a portfolio examination during the first academic year or prior to the completion of 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)  
OR ARTS 715 - Professional Studio Practices (3)

Art history electives (6)  
Studio art electives (18)

ART 699 - One-Person Exhibition or Presentation and Documentation for the M.A. Studio Degree (3)

Students must register for ART 699 during the term of the one person exhibition or presentation and documentation. Continuous enrollment in ART 699 is required until the work is completed.

Documentation of the one-person exhibition or presentation and documentation (the format of the show and one copy 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 Design; and the chair should be a graduate faculty member in the School of Art and Design and an appropriate specialist in the specific discipline.

### Specialization in Art History Research

The specialization in art history research offers preliminary study for the doctoral degree for students intending to be professional art historical researchers and educators. Applicants with little background in art history but who have done exceptionally well as undergraduates in other disciplines will also be considered. Students in the specialization in art history research must: complete a minimum of 30 semester-hours of graduate work; complete a thesis or master's research project; pass a comprehensive exam; and demonstrate a reading knowledge of one modern foreign language (traditionally, French, German, or Italian is the language chosen by students interested in pursuing doctoral study; however, another language may be substituted with the approval of the student's graduate advisory committee). Students who have not taken ARTH 486 as an undergraduate must take ARTH 586.

ARTH 701 - Seminar in Art History (6)  
Art history electives (minimum—18)  
ARTH 699A - Art History Master's Thesis (3)  
OR ARTH 699B - Art History Master's Research Project (3)

Continuous enrollment in ARTH 699A or ARTH 699B is required until the work is completed.

### Specialization in Art History Teaching at the Two-Year College Level

The specialization in art history teaching at the two-year college level provides preparation for teaching at the two-year college level where the doctoral degree is not required. Applicants with little background in art history but who have done exceptionally well as undergraduates in other disciplines will also be considered. Students in the specialization in art history teaching at the two-year college level must: complete a minimum of 30 semester-hours of graduate work; complete two qualifying essays; pass a comprehensive exam; and demonstrate a reading knowledge of one modern foreign language. Students who have not taken ARTH 486 as an undergraduate must take ARTH 586.

ARTH 701 - Seminar in Art History (6)  
Art history electives (21) Including two courses from each of the following areas:  
Ancient, Middle Eastern, Medieval, and Early Modern Europe  
American, Modern, Contemporary, and Design  
Asian, African, Oceanian, Native American, Pre-Columbian, and Latin American

ART 780 - Teaching Art at the College Level: Internship (3)

### Master of Fine Arts in Art and Design

The M.F.A. degree in the School of Art and Design is primarily designed for and directed toward students who desire to achieve a current, high-level professional mastery in an art or design discipline. The M.F.A. is a terminal degree in the fields of studio art and design.

The student learning outcomes for this degree are located at <http://www.niu.edu/assessment/clearinghouse/outcomes/index.shtml>.

#### 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 and Design should send slides or appropriate media to the graduate coordinator in the School of Art and Design. 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 Design 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 studio arts (ARTS) courses early in their work toward the degree. Students must pass a portfolio examination during their first academic year or prior to the completion of 24 graduate semester hours and a second one during their second year or prior to the completion of 48 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.

ARTS 615 - Introduction to Studio Practices (3)

ARTS 715 - Professional Studio Practices (3)

Art history electives (9)

Art and Design electives (ARTD, ARTS) (36)

Other university electives (6)

ART 799 - One-Person Exhibition or Presentation and Documentation for the M.F.A. in art and design degree (3)

Students must register for ART 799 during the term of the one-person exhibition or presentation.

Continuous enrollment in ART 799 is required until the work is completed.

Documentation of the one-person exhibition or presentation (the format of the show and one copy 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 and Design, 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 Design, and the chair must be a senior graduate faculty member in the School of Art and Design and an appropriate specialist in the specific discipline.

### Application for Graduation

During the term prior to the one 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 and Design Education

The Ph.D. program in art and design education 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.

The student learning outcomes for this degree are located at <http://www.niu.edu/assessment/clearinghouse/outcomes/index.shtml>.

### Admission

A student seeking admission to the Ph.D. program in Art Education in the School of Art and Design 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 780 - Research Development and Writing (3)

ARTE 783 - Doctoral Seminar in Art and Design Education (3)

ARTE 790 - Foundations of Art-Based Educational Programs: Research and Theory (3)

ARTE 791 - New Ideas in Art and Design Education (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 and Design 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 and Design 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 and Design for current information.

### Certificate of Graduate Study

#### Art History

This certificate is designed to enhance knowledge of the history and significance of art and design practices and should be of interest to artists, educators, and museum or gallery professionals working in arts-related fields who do not wish to commit to M.A. study in Art History. Course work leading to the Certificate of Graduate Study in Art History permits both focused and wide-ranging study and results in recognition of that study on the student's transcript. The certificate is available to students in good standing in any graduate program in the university, though successful completion of the M.A. Art Specialization in Art History program will supersede the certificate.

Students-at-large in good standing may also pursue the certificate.

### Requirements (18)

ARTH 586 - Art Historical Methodology (3)

Five of the following (15)

May be repeated with different subjects.

Multiple enrollments with different subjects are allowed in the same semester.

ARTH 510 - Studies in Ancient and Middle-Eastern Art (3)

ARTH 520 - Studies in Medieval Art (3)

ARTH 530 - Studies in Modern Art (3)

ARTH 540 - Studies in Modern and American Art (3)

ARTH 550 - Studies in Contemporary Art (3)

ARTH 560 - Studies in Design (3)

ARTH 570 - Studies in Asian Art (3)

ARTH 580 - Studies in African, Oceanian, Native American, Pre-Columbian Art, and Latin-American Art (3)

ARTH 651 - Topics in Ancient and Middle-Eastern Art (3)

ARTH 652 - Topics in Medieval Art (3)

ARTH 653 - Topics in Early Modern Art (3)

ARTH 654 - Topics in Modern and American Art (3)

ARTH 655 - Topics in Contemporary Art (3)

ARTH 656 - Topics in Design (3)

ARTH 657 - Topics in Asian Art (3)

ARTH 658 - Topics in African, Oceanian, Native American, Pre-Columbian Art, and Latin-American Art (3)

ARTH 701 - Seminar in Art History (3)

ARTH 703 - Independent Study in the History of Art (3)

ARTH 785 - Special Topics in Art History

### Additional Requirements

Successful completion of two Qualifying Papers (research papers supervised by a course instructor). There is no foreign language, thesis, or comprehensive exam requirement for the certificate.

### 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 of Design.

### 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 and Design 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 and Design Foundations program. May be repeated for a maximum of 3 semester hours.

625. MUSEUMS: GENDER, RACE, AND CLASS (3). *Crosslisted as WGSS 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. 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.

656. ADVANCED CURATORIAL PRACTICE (3). Advanced theories, practices, and current issues affecting museum curatorial practice. Lectures, case studies, museum visits, and museum practicum. 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.

665. MUSEUM PRACTICUM (1). Work experience in an NIU museum, gallery, or collection 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 intern's museum supervisor/museum studies faculty member. Minimum practicum time is 120 clock hours. PRQ: ART 565 or equivalent and one Museum Studies core course.

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. Multiple sections may be taken within the same semester. PRQ: Consent of school.

699. ONE-PERSON EXHIBITION OR PRESENTATION AND DOCUMENTATION FOR THE M.A. STUDIO DEGREE (1-3).

765. MUSEUM INTERNSHIP (3). 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. Minimum contact time is 120 clock hours. PRQ: Completion of ART 655 or ANTH 562; or 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.

799. ONE-PERSON EXHIBITION OR PRESENTATION AND DOCUMENTATION FOR THE M.F.A. IN ART AND DESIGN STUDIO DEGREE (1-3).

### Design and Media Arts (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 or 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. May be repeated. PRQ: Acceptance into M.A. or M.F.A. degree program, or consent of school.

675. TIME ARTS: SPECIAL TOPICS (3). Concentrated study in time arts and electronic media. Topics announced. May be repeated.

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. May be repeated. PRQ: Acceptance into M.F.A. degree program or consent of school.

## Art Education (ARTE)

500. STUDIO FOUNDATIONS FOR ART AND DESIGN EDUCATORS (3). Exploration of 2-D studio media appropriate for K-12 environment, studio pedagogy, and development of technical skills in the representation and interpretation of subjects. Portfolio preparation for art and design education pre-service teachers. Studio and lecture. PRQ for ARTE 200: ART 100, ART 103. PRQ for ARTE 500: Consent of school.

542. INTRODUCTION TO ART EDUCATION (4). Overview of the history of art and design education and its philosophical premises. Examination of opportunities and approaches to teaching art and design. Study of developmental characteristics of the learner. Practice in use of instructional materials and construction of lesson plans. Directed observation and supervised participation with a variety of populations and circumstances in elementary level school settings for a minimum of 25 hours of clinical experience.

543. ART AND TECHNOLOGY IN THE K-12 CLASSROOM(3). Focuses on the integration of emerging technologies into art and design education. The teaching of digital technologies appropriate for K-12 classroom settings will be highlighted. Hands-on experience with creating expressive art in a variety of digital media. Strategies for integrating art and technology practice into K-12 art curriculum will also be explored.

544. RESOURCES AND METHODS IN ART EDUCATION: CONTENT AND CLINICAL EXPERIENCE AT THE MIDDLE LEVEL (4). Foundation for using arts as an active process for learning at the middle school level, including experiential and theoretical tools for understanding creativity and critical thinking in the arts and education, beginning with development of skills and perspectives as creators of art. Pedagogical approaches to the teaching of art are explored as they pertain to critical theory, visual culture, and individual pre-service teachers' art studio practice.

545. CURRICULUM DEVELOPMENT IN ART AND DESIGN EDUCATION (4). Advanced sequential curriculum writing for teaching art and design with regards to student cognitive processes and curriculum goals, including culturally responsive, interdisciplinary and technological content. Analysis of the history and current trends in curriculum development. Emphasis on differentiated instructional and assessment methods; curriculum management, advocacy, and leadership. Arrangements for a clinical experience, with a minimum of 25 hours, will be provided to students not currently teaching in a classroom.

563. READING AND WRITING IN ART AND DESIGN EDUCATION: CRITICAL APPROACHES (3). Thematic, interdisciplinary, and culturally responsive approaches to the application of aesthetic, art historical, and critical theory and methods to instructional practice in communities and schools. Emphasis on communication theory and the role of visual and textual language in teaching and learning. Development and use of multiple methods of communication and digital instructional resources to measure and improve student performance. Types of evidence of professional growth. Lecture, discussion, and field experiences. PRQ: Admission to educator licensure 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 CLASSROOMS (3). Adapting visual arts concepts and skills as appropriate to the elementary child and the self-contained classroom. Emphasis on content knowledge and student growth and achievement connected to self-motivation, emotional well-being and active engagement. 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, and are subject to availability. See "Educator Licensure 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, and are subject to availability. (See "Educator Licensure 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. Emphasis on laws and learning related to gifted and special education, interventions and reporting. Designed for students in elementary, middle level, secondary, special education, and art education. Lecture, discussion, and field experience.

681. CREATIVITY AND LEARNING (3). Examination of research and educational practices specifically related to the creative experience. Creativity and learning theory applied to problems of curriculum and instruction; questions of methods to promote creativity, in arts and humanities programs.

682. CURRICULUM DEVELOPMENT IN ART AND DESIGN EDUCATION (3). Sequential curriculum writing for teaching art and design with regards to student cognitive processes and curriculum goals, including culturally responsive, interdisciplinary and technological content. Analysis of the history and current trends in curriculum development. Emphasis on differentiated instructional and assessment methods; curriculum management, advocacy, and leadership. 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. LEADERSHIP IN ART EDUCATION (3). Analysis of historical, sociopolitical, and economic influences on the formation and implementation of art education policy and leadership. Examination of advocacy strategies and administration of art programs.

687. EVALUATION AND ASSESSMENT IN ART AND DESIGN 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.

689. INTERNSHIP IN ART AND DESIGN EDUCATION (1-6). Internship to gain clinical experience working in educational institutions or organizations to promote the development of leadership and other extracurricular knowledge and skills. Portfolio of documentary evidence required to be submitted at conclusion of course. PRQ: Consent of school.

780. RESEARCH DEVELOPMENT AND WRITING (3). Research design and development leading to the writing of a dissertation or other large-scale research proposal. May be repeated to a maximum of 9 semester hours. PRQ: Ph.D. candidate or faculty approval; or consent of school.

781. RESEARCH TOPICS: INDEPENDENT STUDY (1-6).

- A. Administration and Supervision of Arts Programs
- B. Art and Education Writing
- 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 AND DESIGN EDUCATION (1). Analysis of selected problems and issues in art and design education. May be repeated to a maximum of 6 semester hours, but credit limited to 1 hour each semester. PRQ: Admission to the Ph.D. in art and design education; or consent of school.

784. RESEARCH METHODS IN ART EDUCATION (3). Survey methods used to conduct theoretical, historical, and empirical research in art education; qualitative and quantitative methods; research question development, ethics, data analysis, and reporting. May be repeated to a maximum of 6 semester hours. PRQ: ARTE 681 and ARTE 685, or consent of school.

790. CURRICULUM THEORY AND EVALUATION OF VISUAL ARTS PROGRAMS (3). Curriculum theory and evaluation in art education; historical and current trends of reform in art programming; development of expert knowledge about central concepts, structures, and debates in the professional field; critical analysis of curriculum as a foundation of research and leadership.

791. NEW IDEAS IN ART AND DESIGN EDUCATION (3). New ideas in the field as a basis for art and design education research and practice. Emphasis on the actual and potential impact of theory and research on art and design education in schools and communities. PRQ: Admission to the Ph.D. in art and design education, or consent of school.

792. PHILOSOPHIES OF ART AND AESTHETICS (3). History and contemporary discourse of art and visual culture 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)

510. STUDIES IN ANCIENT AND MIDDLE-EASTERN ART (3).

- A. Egypt
- B. Mesopotamia
- C. Aegean Art
- D. Archaic and Classical Art
- E. Hellenistic Art
- F. Etruscan and Early Roman Art
- G. Roman Imperial Art
- H. Islamic Art
- I. Thematic Subjects

History, theory, and criticism of various aspects of ancient and Middle Eastern art. May be repeated with different subjects. Multiple enrollments with different subjects are allowed in the same semester.

520. STUDIES IN MEDIEVAL ART (3).

- A. Early Christian and Early Byzantine Art: 330-843
- B. Middle and Late Byzantine Art: ca. 843-1543
- C. Early Medieval Art: ca. 500-1000
- D. Romanesque and Gothic Art: ca. 1000-1400
- E. Thematic Subjects

History, theory, and criticism of various aspects of medieval art. May be repeated with different subjects. Multiple enrollments with different subjects are allowed in the same semester.

530. STUDIES IN EARLY MODERN EUROPEAN ART (3).

- A. Early Italian Renaissance Art
- B. Early Northern Renaissance Art
- C. 16th Century Italian Art
- D. 16th Century Northern European Art
- E. 17th and 18th Century European Art
- F. Thematic Subjects

History, theory, and criticism of various aspects of early modern art. May be repeated with different subjects. Multiple enrollments with different subjects are allowed in the same semester.

540. STUDIES IN MODERN ART (3).

- A. 19th Century Art
- B. 20th Century Modernism
- C. Thematic Subjects

History, theory, and criticism of various aspects of modern art. May be repeated with different subjects. Multiple enrollments with different subjects are allowed in the same semester.

550. STUDIES IN CONTEMPORARY ART (3).

- A. Art Communities
- B. Art and Globalization
- C. The Concept of the Contemporary
- D. Thematic Subjects

History, theory, and criticism of various aspects of contemporary art. May be repeated with different subjects. Multiple enrollments with different subjects are allowed in the same semester.

560. STUDIES IN DESIGN (3).

- A. Modern and Postmodern Architecture
- B. From Print Culture to New Media
- C. From Craft to Industry
- D. Sustainability
- E. Thematic Subjects

History, theory, and criticism of various aspects of design from the 19th century to the present. May be repeated with different subjects. Multiple enrollments with different subjects are allowed in the same semester.

570. STUDIES IN ASIAN ART (3).

- A. Chinese Art
- B. Japanese Art
- C. South and Southeast Asian Art
- D. Southeast Asian Art
- E. Islamic Art
- F. Buddhist Art
- G. Thematic Subjects

History, theory, and criticism of various aspects of Asian art. May be repeated with different subjects. Multiple enrollments with different subjects are allowed in the same semester.

580. STUDIES IN AFRICAN, OCEANIAN, NATIVE AMERICAN, PRE-COLUMBIAN ART, AND LATIN-AMERICAN ART (3). Art of Africa, Oceania, and the Americas.

- A. African Art
- B. Pre-Columbian Art
- C. Latin American Art
- D. Thematic Subjects

History, theory, and criticism of various aspects of African, Oceanian, Native American, Pre-Columbian, and Latin-American art. May be repeated with different subjects. Multiple enrollments with different subjects are allowed in the same semester.

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.

651. TOPICS IN ANCIENT AND MIDDLE-EASTERN ART (3). In-depth research on specific artists, movements, periods, or problems in the history of art. Topics, such as Gender and Sexuality in Ancient Art, and Outsider Art, will be announced. May be repeated. Multiple enrollments are allowed in the same semester.

652. TOPICS IN MEDIEVAL ART (3). In-depth research on specific artists, movements, periods, or problems in the history of art. Topics, including The Holy Image, The Art of Narrative in the Middle Ages, Imperial to Papal Rome, and The Art of the Medieval Book, will be announced. May be repeated. Multiple enrollments are allowed in the same semester.

653. TOPICS IN EARLY MODERN EUROPEAN ART (3). In-depth research on specific artists, movements, periods, or problems in the history of art. Topics, such as Art and Science: Optics, Images, and Visual Propaganda, will be announced. May be repeated. Multiple enrollments are allowed in the same semester.

654. TOPICS IN MODERN ART (3). In-depth research on specific artists, movements, periods, or problems in the history of art. Topics, such as Global Moderns, will be announced. May be repeated. Multiple enrollments are allowed in the same semester.

655. TOPICS IN CONTEMPORARY ART (3). In-depth research on specific artists, movements, periods, or problems in the history of art. Topics, such as Photography as Art and Art as Photography, Globalization and Contemporary Art, Identity in Contemporary Art, will be announced. May be repeated. Multiple enrollments are allowed in the same semester.

656. TOPICS IN DESIGN (3). In-depth research on specific artists, movements, periods, or problems in the history of art. Topics, such as Vienna 1900: Art and Culture at the Fin-de-Siècle, and Fashion-Modernism-Modernity, will be announced. May be repeated. Multiple enrollments are allowed in the same semester.

657. TOPICS IN ASIAN ART (3). In-depth research on specific artists, media, imagery, artistic genres, or problems in the history of art. Topics will be announced. May be repeated. Multiple enrollments are allowed in the same semester.

658. TOPICS IN AFRICAN, OCEANIAN, NATIVE-AMERICAN, PRE-COLUMBIAN AND LATIN-AMERICAN ART (3). In-depth research on specific artists, movements, periods, or problems in the history of art. Topics, such as Art, Ideology, and Empire: The Visual Culture of the Culhua-Mexica (Aztec) State, and Art and Architecture of the Ancient Maya, will be announced. May be repeated. Multiple enrollments are allowed in the same semester.

699A. ART HISTORY MASTER'S THESIS (1-3). One of two possible capstone research experiences for the Master's of Art in Art with Specialization in Art History Degree. Sustained, written examination of one particular topic in the history of art or design which synthesizes current scholarship in the field, and which contributes new research or theoretical analysis. Must be submitted to and archived by the NIU Graduate School at the end of the student's graduating semester according to the published deadline of NIU's Graduate School. May be repeated. Once the master's research thesis work begins, students must enroll each semester through the graduating semester.

699B. ART HISTORY MASTER'S RESEARCH PROJECT (1-3). One of two possible capstone research experiences for the Master's of Art in Art with Specialization in Art History Degree. Examples include sustained research papers contributing new scholarship on a particular topic in the history of art or design, which may be accompanied by curated exhibitions or exhibition proposals, articles prepared for publication, or papers read at professional conferences. Drafts and completed work must be submitted according to the deadlines set by the Art History Division Graduate Coordinator. May be repeated. Once the master's research project work begins, students must enroll each semester through the graduating semester.

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.

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.

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. Multiple enrollment is allowed in the same semester, but credit is limited to 3 semester hours per topic.

### 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 8 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 8 semester hours. PRQ: Consent of school.

551. BEGINNING METALWORK JEWELRY DESIGN, AND DIGITAL FABRICATION (3). Introduction to jewelry with emphasis on basic fabrication techniques. Studio and lecture.

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 30 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 or 6). Development of individual style in painting. Extended independent study. May be repeated to a maximum of 30 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. May be repeated. 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 30 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.

650. DIGITAL FABRICATION WORKSHOP (3). Introduction to the use of two and three dimensional design software and industrial output methodologies as applied to advanced creative works in studio or design.

651. METALWORK, JEWELRY DESIGN, AND DIGITAL FABRICATION (3 or 6). Intensive studio work in selected techniques and processes. May be taken for 9 semester hours with consent of school. May be repeated to a maximum of 30 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 or 6). Advanced individual development through work in various media. May be repeated to a maximum of 30 semester hours. Students may enroll in two separate sections concurrently. PRQ: Acceptance into M.A. degree program or consent of school.

670. SPECIAL TOPICS IN FIBER (3). Emphasis on specific topics or processes within the fiber curriculum. Special topics classes may include: Artists Books, Japanese Papermaking, Upholstery as Metaphor, T-Shirt, Body Boundaries, Textiles as Social Engagement, Garment as Metaphor, and other themes. May be repeated.

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 33 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 or 6). Individual development of style. Extended independent study. May be repeated to a maximum of 33 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 9 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 33 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 33 semester hours. Students may enroll in two separate sections concurrently. PRQ: Acceptance into M.F.A. degree program or consent of school.

751. ADVANCED RESEARCH IN METALWORK, JEWELRY DESIGN, AND DIGITAL FABRICATION (3 or 6). Emphasis on expression and competence of execution in individualized studio work. May be taken for 9 semester hours with consent of school. May be repeated to a maximum of 33-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 or 6). Individual studies in selected media. May be repeated to a maximum of 33 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 (3 or 6). Advanced individual development through studio work in fiber and interdisciplinary art media emphasizing skills of execution, articulation and criticism. May be repeated. PRQ: Acceptance into M.A. or M.F.A. degree program, or consent of school.

# School of Music (MU--)

Director: Janet Hathaway

## Graduate Faculty

Omar al-Musfi, instructor, M.M., Northern Illinois University  
 Orna Arania, associate professor, D.M., Northwestern University  
 Elizabeth Barber, instructor, D.M., Northwestern University  
 Gregory Barrett, professor, D.Mus., Indiana University  
 Gregory Beyer, professor, D.M.A., Manhattan School of Music  
 Thomas Bough, professor, D.M.A., Arizona State University  
 Geof Bradfield, professor, M.F.A., California Institute of the Arts  
 James Russell Brown, instructor, M.M., New England Conservatory  
 Ricardo Castañeda, instructor, M.M., Northwestern University  
 Robert Chappell, Distinguished Teaching Professor, visiting professor, M.M., University of North Texas  
 Christine D'Alexander, assistant professor, D.M.A., University of Southern California  
 Arthur Davis, instructor, M.M., University of Illinois  
 Anthony Devroye, professor, Performance Diploma, Curtis Institute of Music  
 Mary Lynn Doherty, associate professor, Ph.D., University of Wisconsin  
 John Floeter, instructor, B.M., DePaul University  
 Tom Garling, instructor, M.M., University of Miami  
 John Gaudette, instructor, Diploma, Curtis Institute of Music  
 William Goldenberg, Distinguished Teaching Professor, D.Mus., Indiana University  
 Fareed Haque, professor emeritus, B.M., Northwestern University  
 Brian Hart, professor, Ph.D., Indiana University  
 Janet Hathaway, associate professor, Ph.D., New York University  
 Eric Johnson, professor, D.M.A., University of Illinois  
 I Gusti Ngurah Kertayuda, instructor, National Performing Arts Institute (Indonesia)  
 JeongSoo Kim, associate professor, D.M.A., Eastman School of Music  
 Edward Klonoski, associate professor, Ph.D., Ohio State University  
 Kelly Langenberg, instructor, M.M., DePaul University  
 Cheng-Hou Lee, associate professor, M.M., Rice University  
 Blaise Magnière, associate professor, M.M., Cleveland Institute of Music  
 David Maki, professor and assistant director, D.M.A., University of Michigan  
 Lucia Matos, associate professor, D.M.A., University of Iowa  
 Jeremy Moeller, instructor, M.M., Rice University  
 Ann Montzka-Smelsler, instructor, M.M., Northern Illinois University  
 Myron Myers, professor, M.M., University of Southern California  
 Dan Nichols, instructor, M.M., Northern Illinois University  
 John K. Novak, professor, Ph.D., University of Texas  
 Elinor Olin, instructor, Ph.D., Northwestern University  
 Brian Penkrot, instructor, Ph.D., University of Iowa  
 Mark Ponzo, professor, D.M.A., Eastman School of Music  
 Matthew Romriell, instructor, M.F.A., Northern Illinois University  
 Marlene Rosenberg, instructor, M.M., Northwestern University  
 Faye Seeman, instructor, M.M., Boston University  
 Robert L. Sims, associate professor, Artistic Diploma, Northwestern University  
 Phillip Sink, assistant professor, D.M., Indiana University  
 Linc Smelser, instructor, M.M., Northern Illinois University  
 Thomas Snyderdacker, instructor, M.M., Arizona State University  
 Mathias J. Tacke, professor, Diploma, Northwest German Music Academy  
 Liam Teague, Presidential Research, Scholarship and Artistry Professor, M.M., Northern Illinois University  
 Scott Tegge, instructor, Professional Diploma, Roosevelt University  
 Reggie Thomas, professor, M.M., Southern Illinois University  
 Rodrigo Villanueva, professor, M.M., University of North Texas  
 Ben Wahlund, instructor, M.M., Northern Illinois University

Jui-Ching Wang, associate professor, M.M., Northern Illinois University  
 Marie Wang, associate professor, M.M., Northern Illinois University  
 Ronnie Wooten, 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.

The student learning outcomes for this degree are located at <http://www.niu.edu/assessment/clearinghouse/outcomes/index.shtml>.

## 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 (MUTC 719, MUTC 739, MUTC 769, MUTC 789) as part of their program of courses. Students in the individualized specialization may take 12 semester hours of selected studies in music (MUTC 719, MUTC 739, MUTC 769, MUTC 789) as part of their program of courses.

All students pursuing the M.M. degree must fulfill the following core requirements.

### Core Requirements (13)

MUHL 633 - Seminar in Musical Research (3), or MUED 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)

MUED 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 "Educator Licensure" in this section and "Educator Licensure Information" in the Educator Licensure page.

### Specialization in Performance (19)

One of the following tracks

#### Band and Orchestral Instruments

Private instrumental study (8)

Ensembles (3)

One of the following (1)

MUSE 615 - String Ensemble (1)

MUSE 616 - Woodwind Ensemble (1)

MUSE 617 - Brass Ensemble (1)

MUSE 618 - Percussion Ensemble (1)

MUSE 619 - Guitar Ensemble (1)

MUSE 620 - Keyboard Ensemble (1)

MUSE 621 - Mixed Ensemble (1)

MUSE 622 - New Music Ensemble (1)

MUSE 623 - Early Music Ensemble (1)

MUSE 624 - Jazz Combo (1)

MUSE 625 - Latin Jazz Ensemble (1)

Additional ensemble courses (2)

Course work from the following (2)

MUED 670 - Pedagogy: Woodwinds (2)

MUED 671 - Pedagogy: Brasses (2)

MUED 672 - Pedagogy: Percussion (2)

MUED 674 - Pedagogy: Strings (2)

## Piano

MUSE 620 - Keyboard Ensemble (1)

MUSP 639 - Accompanying (1)

MUSP 710 - Piano: Primary (6)

One of the Following (11)

#### *Solo Performance*

Private keyboard study (2)

MUED 675 - Piano Methods and Materials (3)

MUSP 638 - Seminar in Piano Literature (2)

Electives (4)

#### *Keyboard collaborative arts*

Electives (6)

MUHL 637 - Chamber Music Studies (3)

MUSE 620 - Keyboard Ensemble (1)

MUSP 639 - Accompanying (1)

Electives (6)

## Voice

Private voice study (8)

MUED 681 - Pedagogy of Singing (3)

MUSE 641 - Chamber Choir (1),

OR MUSE 643 - Opera Workshop (1),

OR MUSE 645 - Concert Choir (1)

MUSE 643 - Opera Workshop (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.

The student learning outcomes for this degree are located at <http://www.niu.edu/assessment/clearinghouse/outcomes/index.shtml>.

## 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 an audio 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 790 - Internship in Music: Performance (0-4)  
MUSC 797 - 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.

### **Educator Licensure in Music**

Graduate students may complete NIU requirements for the State of Illinois Standard Special (K-12) License 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 licensure can be part of the 32 semester hours required for the degree.

Also see "Educator Licensure Information."

### **Admission to Educator Licensure**

To be admitted to the educator licensure program, the student must obtain program recommendations from the music education graduate licensure coordinator, successfully complete the State of Illinois Test of Academic Proficiency, complete MUED 175 and MUED 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 educator licensure 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 (MUED 275, MUED 371, MUED 372, MUED 484), and must have and maintain an overall minimum GPA of 2.50 in all undergraduate course work required for licensure. Students who fall below the required GPA in undergraduate licensure 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 educator licensure 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

### Music General (MUSC)

699A. FINAL RECITAL (1-99). Preparation and completion of a graduate recital. May be repeated to a maximum of 99 semester hours but a maximum of 4 semester hours can be used toward degree requirements. S/U/IP grading.

699B. THESIS (1-99). Preparation and completion of a thesis. May be repeated to a maximum of 99 semester hours but a maximum of 4 semester hours can be used toward degree requirements. S/U/IP grading.

699C. COMPOSITION (1-99). Preparation and completion of a composition. May be repeated to a maximum of 99 semester hours but a maximum of 4 semester hours can be used toward degree requirements. S/U/IP grading.

699D. FINAL PROJECT (1-99). Preparation and completion of a final project. May be repeated to a maximum of 99 semester hours but a maximum of 4 semester hours can be used toward degree requirements. S/U/IP 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.

797. 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 36 semester hours but a maximum of 8 hours can be used toward degree requirements. S/U/IP grading. PRQ: Admission to the performer's certificate program.

### Music History and Literature (MUHL)

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.

526. AMERICAN MUSIC (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.

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.

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.

623. MUSIC FROM 1900 TO 1945 (3). Musical developments from the end of the 19th century through World War II: 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. MUSIC SINCE 1945 (3). Historical and stylistic survey of Western concert and stage music from around the world from ca. 1945 to the present day.

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.

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.

721. HISTORY OF OPERA (3). History and development of the opera from the Florentine camerata to the present.

722. HISTORY OF SYMPHONIC MUSIC (3). Study of orchestral music, with emphasis on the symphony and solo concerto. Analytical techniques applied to selected works.

798. 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 (MUTC)

500. RECORDING TECHNIQUES (3). Introductory course with techniques of professional recording as applied directly to all phases of reproduction. Emphasis will be paid to mastering topics such as microphones, acoustics, multitrack recording, and professional mixing techniques. PRQ: Ability to read music and consent of school.

501. ADVANCED DIGITAL AUDIO WORKSTATIONS OPERATION (3). 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; study of current practices in digital recording and console automation (ProTools). May be repeated. PRQ: MUTC 500. or consent of school.

503. APPLIED RECORDING TECHNIQUES (2). In-depth exploration of digital audio workstations (DAW) and studio techniques for the purposes of recording, editing, mixing and mastering audio. PRQ: MUTC 500 and MUTC 501.

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. 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.

520. FUNDAMENTALS OF STUDIO DESIGN (2). Fundamental concepts including studio construction, room acoustics and best practices for construction and calibration.

600. COMPOSITION: SECONDARY (1). Individualized and/or group study in the techniques of composing for acoustic media. Not open to composition majors. May be repeated to a maximum of 4 semester hours. PRQ: Consent of school.

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. Open only to Master of Music students who have demonstrated proficiency on graduate music theory diagnostic examination or grade of C or above in MUTC 402. PRQ: Consent of school.

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 MUTC 609. Advanced scoring techniques for jazz and popular ensembles. PRQ: MUTC 609 or consent of school.

611. INTRODUCTION TO ELECTRONIC AND COMPUTER MUSIC I (2). Laboratory introduction to the techniques of electronic music composition within a digital audio workstation (DAW) environment. Topics include audio editing, digital processing of sound, MIDI sequencing, and digital synthesis. PRQ: Consent of school.

612. INTRODUCTION TO ELECTRONIC AND COMPUTER MUSIC II (2). Further study and experimentation with techniques introduced in MUTC 611. Emphasis on live digital signal processing (dsp) and interactive electronic music composition using MaxMSP. PRQ: MUTC 611 or consent of school.

614. AUDIO, VIDEO, AND NETWORKING FOR THE WORKING MUSICIAN (3). Introductory course designed to expose music majors to a practical application of audio, video and networking. Fundamental concepts include the histories of audio and video, human anatomy as it applies to perception of aural and visual media and typical applications of explored technologies.

615. APPLIED EDITING TECHNIQUES (2). Practicum with hands-on experience editing audio. Topics covered include quantization, sample accurate editing, tuning and noise removal and reduction.

616. AURAL SKILLS FOR THE AUDIO PROFESSIONAL (2). Development of isomorphic mapping through the study of both technical and theoretical aspects of sound.

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. Open only to Master of Music students who have demonstrated proficiency on graduate music theory diagnostic examination or grade of C or above in MUTC 402. PRQ: Consent of school.

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. Open only to Master of Music students who have demonstrated proficiency on graduate music theory diagnostic examination or grade of C or above in MUTC 402. PRQ: Consent of school.

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. Open only to Master of Music students who have demonstrated proficiency on graduate music theory diagnostic examination or grade of C or above in MUTC 402. PRQ: Consent of school.

623. APPLIED MIXING TECHNIQUES (2). Practicum with hands-on experience mixing different genres of music, learning about the mixing signal chain and finalizing media for various distribution mechanisms

624. LIVE SOUND THEORY, TECHNIQUES, AND PRACTICUM (2). Practicum hands-on experiential studio and location recording techniques course.

700. COMPOSITION: PRIMARY (2-4). Individualized in composing for acoustic media. Open only to Master of Music students in the individualized major with composition emphasis. 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: MUTC 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: MUTC 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.

798. 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 (MUSP)

### General

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.

606. 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.

607. 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: MUSP 606 or consent of school.

798. 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.

### Conducting

637. ADVANCED CHORAL TECHNIQUES AND CONDUCTING (3). Practical exposition of all facets of choral directing, effective rehearsal procedures, score study, and organization of choral ensembles.

735. ADVANCED CHORAL CONDUCTING (2 or 4). Individual study in choral conducting techniques, score study, and rehearsal pedagogy. 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.

736. ADVANCED WIND CONDUCTING (2). Individualized study in wind conducting techniques, score study, and rehearsal pedagogy. May be repeated to a maximum of 24 semester hours for the Performer's Certificate and each degree undertaken but a maximum of 8 hours can be used toward the Master of Music degree requirements and a maximum of 12 hours can be used toward the Performer's Certificate. Students who wish to take primary private study must pass an audition in the appropriate performance area.

737. ADVANCED ORCHESTRAL CONDUCTING (2). Individualized study in orchestral conducting techniques, score study, and rehearsal pedagogy. May be repeated to a maximum of 24 semester hours for the Performer's Certificate and each degree undertaken but a maximum of 8 hours can be used toward the Master of Music degree requirements and a maximum of 12 hours can be used toward the Performer's Certificate. Students who wish to take primary private study must pass an audition in the appropriate performance area.

### Keyboard Instruments

610. PIANO: SECONDARY (1)

611. ORGAN: SECONDARY (1)

612. 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.

639. 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.

710. PIANO: PRIMARY (2 or 4).

711. ORGAN: PRIMARY (2 or 4).

712. 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

614. 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.

714. 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

613. 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.

615. VIOLIN: SECONDARY (1).

616. VIOLA: SECONDARY (1).

617. VIOLONCELLO: SECONDARY (1).

618. CONTRABASS: SECONDARY (1).

619. GUITAR: SECONDARY (1).

620. FLUTE: SECONDARY (1).

621. OBOE: SECONDARY (1).

622. CLARINET: SECONDARY (1).

623. SAXOPHONE: SECONDARY (1).

624. BASSOON: SECONDARY (1).

625. TRUMPET: SECONDARY (1).

626. FRENCH HORN: SECONDARY (1).

627. TROMBONE: SECONDARY (1).

628. TUBA AND EUPHONIUM: SECONDARY (1).

629. 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.

630. 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.

640. AFRICAN INSTRUMENTS (1). 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.

641. CARIBBEAN INSTRUMENTS (1). 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.

642. STUDY OF RENAISSANCE AND BAROQUE INSTRUMENTS (1). 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.

643. STUDY OF INDIAN INSTRUMENTS (1). 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.

644. STUDY OF AFRO-CARIBBEAN PERCUSSION INSTRUMENTS (1). 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.

645. SURVEY OF ORCHESTRAL BRASS MUSIC (1). Highlights orchestral repertoire with a focus on the brass passages. Designed for performance students who have an interest in orchestral literature and how brass performance relates to the orchestra as a whole. Works will be played to a "reading standard." May be repeated to a maximum of 3 semester hours. PRQ: Consent of school.

713. 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.

715. VIOLIN: PRIMARY (2 or 4).

716. VIOLA: PRIMARY (2 or 4).

717. VIOLONCELLO: PRIMARY (2 or 4).

718. CONTRABASS: PRIMARY (2 or 4).

719. GUITAR: PRIMARY (2 or 4).

720. FLUTE: PRIMARY (2 or 4).

721. OBOE: PRIMARY (2 or 4).

722. CLARINET: PRIMARY (2 or 4).

723. SAXOPHONE: PRIMARY (2 or 4).

724. BASSOON: PRIMARY (2 or 4).

725. TRUMPET: PRIMARY (2 or 4).

726. FRENCH HORN: PRIMARY (2 or 4).

727. TROMBONE: PRIMARY (2 or 4).

728. TUBA AND EUPHONIUM: PRIMARY (2 or 4).

729. 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.

730. 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 Ensembles (MUSE)

615. STRING ENSEMBLE (1)

616. WOODWIND ENSEMBLE (1)

617. BRASS ENSEMBLE (1)

618. PERCUSSION ENSEMBLE (1)

619. GUITAR ENSEMBLE (1)

620. KEYBOARD ENSEMBLE (1)

621. MIXED ENSEMBLE (1)

622. NEW MUSIC ENSEMBLE (1)

623. EARLY MUSIC ENSEMBLE (1)

624. JAZZ COMBO (1)

625. LATIN JAZZ ENSEMBLE (1)

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.

630. WIND SYMPHONY (1)

631. WIND ENSEMBLE (1)

632. ALL-UNIVERSITY BAND (1)

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.

640. 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, especially commissioned new music, and music of women composers. This course is for non-voice majors. May be repeated.

641. CHAMBER CHOIR (1). 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.

642. 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.

643. OPERA THEATRE (1). 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.

644. JAZZVOX (1). 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.

645. 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.

650. 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: Consent of school.

660. NIU PHILHARMONIC (1)

665. CAMPUS STRING ORCHESTRA (1)

Open to all qualified students. May be repeated to a maximum of 12 semester hours. PRQ: Consent of school.

670. GAMELAN (1)

671. AFRICAN ENSEMBLE (1)\

672. STEEL BAND (1)

673. ALL UNIVERSITY STEEL BAND (1)

674. TABLA (1)

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.

675. CHINESE MUSIC ENSEMBLE (1). Introduction to Chinese music through various repertoires: the traditional Silk and Bamboo Ensemble of the South Bank of Yang Zi River (Jiang Nan Si Zhu), narrative singing genres, such as Peking opera, Nan-guan, and Mountain and Lyric songs, and the modern Chinese orchestral and instrumental compositions. Traditional philosophical perspectives of and Western influences on Chinese music through various performance opportunities. Open to non-majors by special consent of the School of Music. May be repeated to a maximum of 12 semester hours.

### Music Education (MUED)

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.

582. THE MUSIC EDUCATION APPROACHES OF DALCROZE, ORFF, AND KODÁLY (3). Exploration of the approaches of Emile Jaques-Dalcroze, Carl Orff, and Zoltan Kodály 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.
590. STUDENT TEACHING K-8 (5) Student teaching experience at the elementary or middle school level, including general music experience, for half of one semester. Placements are arranged through the School of Music, and are subject to availability. May not be applied to the Master's of Music (MM) or Performer's Certificate (PC) in the School of Music. PRQ: Consent of School.
595. STUDENT TEACHING 6-12 (5) Student teaching experience at the secondary level, including conducting instrumental or vocal music ensembles, for half of one semester. Placements are arranged through the School of Music. May not be applied to the Master's of Music (M.M.) or Performer's Certificate in the School of Music. PRQ: Consent of School.
670. PEDAGOGY: 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. Does not satisfy requirements for educator licensure.
671. PEDAGOGY: 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. Does not satisfy requirements for educator licensure.
672. PEDAGOGY: PERCUSSION (2). Techniques individual and class instruction in the percussion instruments, with emphasis on intermediate and advanced levels. Review and evaluation of solo and ensemble material at all levels. Does not satisfy requirements for educator licensure.
673. PEDAGOGY: SPECIAL TOPICS (2). Special projects and studies in pedagogy. Topics announced. May be repeated to a maximum of 4 semester hours. Does not satisfy requirements for educator licensure.
674. PEDAGOGY: 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. Does not satisfy requirements for educator licensure.
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.
676. WORLD MUSIC PEDAGOGY (3). Overview of teaching world musics in various settings: K-12 music classes and ensembles, and music appreciation classes and world music ensembles in higher education. Specific focus on the rationale (why) and approaches (how) of integrating world music into such settings. Designed primarily for (but not limited to) graduate students who have prior knowledge of world musics and seek to apply their knowledge in educational settings and/or performance majors (of western classical music) who wish to expand their musical horizon and improve their pedagogical skills.
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 (1-3). 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.
798. 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  
 Gibson A. Cima, assistant professor, Ph.D. University of Washington  
 Stanton Davis, associate professor, M.F.A., University of Delaware  
 Jeremy Floyd, assistant professor, M.F.A., Northwestern University  
 Paula Frasz, professor, M.F.A., University of Illinois  
 Kathryn Gately-Poole, professor emerita, M.F.A., Mason Gross School of the Arts  
 Alexander Gelman, Presidential Engagement professor, M.F.A., Boston University  
 Rich Grund, assistant professor, B.F.A., Northern Illinois University  
 Lori Hartenhoff, professor, M.F.A., University of Wisconsin  
 Kay Martinovich, assistant professor, Ph.D., University of Minnesota  
 Terrence McClellan, professor, M.F.A., University of Massachusetts  
 Tracy Nunnally, professor, M.F.A., The Florida State University  
 Melanie Parks, professor, M.F.A., University of Illinois  
 Patricia L. Ridge, professor emerita, Ph.D., University of Colorado, Boulder  
 Deborah Robertson, professor emerita, M.F.A., Smith College  
 Sahin Sahinoglu, professor, M.F.A., Northern Illinois University  
 Robert Schneider, associate professor, D.F.A., Yale University  
 Patricia Skarbinski, associate professor, M.F.A., Northern Illinois University  
 Brandon Wardell, associate professor, M.F.A., Northwestern 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).

The student learning outcomes for this degree are located at <http://www.niu.edu/assessment/clearinghouse/outcomes/index.shtml>.

## 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 (11)

- THEA 619 - Performance and Production (5)
- THEA 676 - Script Laboratory (3)
- 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 61 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 (6)
- 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 Design and Technology

Course work from one of the areas of study selected by advisement (61)

#### Costume Design

- THEA 535 - Pattern Development (3)
- THEA 536 - Millinery and Accessories (3)
- THEA 537 - Dyeing and Fabric Modification for the Theatre (3)
- THEA 552 - Drawing for the Theatre (6)
- THEA 553 - Rendering Techniques (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 676 - Script Laboratory (3)
- OR THEA 674 - Script Laboratory: Visual Interpretation (3)
- THEA 749 - Design Studio (30)

#### Lighting Design

- THEA 552 - Drawing for the Theatre (6)
- THEA 560 - Vectorworks Drafting (3)
- THEA 561 - Light Board Programming and Automated Fixture (3)
- THEA 562 - Portfolio Development (3)
- 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 676 - Script Laboratory (3)
- OR THEA 674 - Script Laboratory: Visual Interpretation (3)
- THEA 749 - Design Studio (30)
- THEA 550 - Advanced Drafting (3)
- THEA 551 - Electronic Visualization (3)
- THEA 553 - Rendering Techniques (3)
- THEA 556 - Rigging for the Performing Arts (3)
- Electives by advisement (6)

#### 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 676 - Script Laboratory (3)
- OR THEA 674 - Script Laboratory: Visual Interpretation (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 676 - Script Laboratory (3)
- OR THEA 674 - Script Laboratory: Visual Interpretation (3)
- 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. PATTERN DEVELOPMENT (3). An overview of patternmaking techniques for the theatre. Explores different patternmaking techniques including: flat patterning, drafting systems, draping and primitive ethnic patterning (based on geometry and simple shapes).

536. MILLINERY AND ACCESSORIES (3). Exploration of millinery techniques including blocked felt, constructed buckram, straw and soft hats. Projects will have emphasis on both historical and theatrical interpretations of the techniques.

537. DYEING AND FABRIC MODIFICATION FOR THE THEATRE (3). Introduces the student to a variety of dyeing, painting and surface design techniques applicable to use on the stage. Considers techniques as well as products and the implication of both for costume design and construction. 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 (6). 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. May be repeated to a maximum of 6 semester hours. PRQ: Consent of school.

557. AUTOMATION AND STAGE MACHINERY (3). Advanced study of mechanical devices used to create motion in theatrical productions. May be repeated to a maximum of 6 hours. 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. May be repeated to a maximum of 6 hours. PRQ: Consent of school.

560. VECTORWORKS DRAFTING (3). A thorough introduction to Vectorworks, including 2D drafting, the development of 3D models, and lighting design using Vectorworks Spotlight.

561. LIGHT BOARD PROGRAMMING AND AUTOMATED FIXTURES (3). An introduction to several theatrical lighting consoles, including those produced by Electronic Theatre Controls, Flying Pig Systems, and GrandMA. Emphasis will be placed on the online and offline use of these consoles, pre-visualization techniques, and the use of LED and Automated fixtures.

562. PORTFOLIO DEVELOPMENT (3). Skills needed to develop and present a professional portfolio, website, and resume for a career in professional theatre. Emphasis is placed on theatrical production photography, computer editing skills, and public presentation skills.

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 Egyptian through contemporary as it relates to theatrical production. Exploration of period clothing and manners.

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.

674. SCRIPT LABORATORY: VISUAL INTERPRETATION (3). Image-based study of theatre and drama in various periods and genres. PRQ: Consent of school.

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.

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 and Courses

## Center for Burma Studies

Director: Catherine Raymond

### Faculty Associates

Catherine Raymond, professor of art history, Ph.D.  
Therapi Than, associate professor of world languages and cultures, Ph.D.

The Center for Burma Studies was established in 1986 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.

A selection of the Burma Art Collection is exhibited 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 International Burma Studies Conference 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 certificate of graduate studies 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. Northern Illinois University also employs a Burmese historian assistant professor who teaches language and literature, and a Burmese cataloger at the Founders Memorial Library.

The work of the center and the significance of its bequests have brought international recognition to NIU.

## Center for Governmental Studies

Director: Diana L. Robinson

The Center for Governmental Studies (CGS) 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 region and 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 CGS is part of the university's Division of Outreach, Engagement, and Regional Development.

The CGS 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; building, managing, and mining large administrative databases; conducting applied research studies in a number of public policy areas; providing data and analytical studies, including the mapping of data; and conducting community surveys.

The CGS 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 to become involved with interdisciplinary research and technical assistance programs.

## Center for Latino and Latin American Studies

Director: TBA

### Faculty Associates

Gregory Beyer, Professor of Music and Director of Percussion Studies, D.M.A.  
James Cohen, Associate Professor of ESL/Bilingual Education, Ph.D.  
Christine D'Alexander, Assistant Professor of Music, D.M.A.  
Mayra C. Daniel, Professor of Literacy Education, Ed.D.  
Aaron Fogleman, Presidential Research Professor of History, Ph.D.  
Ibis Gómez-Vega, Associate Professor of English, Ph.D.  
Anne Hanley, Professor of History, Ph.D.  
Beatrix Hoffman, Professor of History, Ph.D.  
Kristin Huffine, Associate Professor of History, Ph.D.  
Jorge Jeria, Professor of Adult and Higher Education, Ph.D.  
Laura Ruth Johnson, Associate Professor of Educational Technology, Research and Assessment, Ph.D.  
Kathy Ladell, Outreach Librarian, Latin American Studies, M.A.; Library Science, MLIS.  
Melissa Lenczewski, Associate Professor of Geology and Director of the Institute for the Study of Environment, Sustainability, and Energy, Ph.D.  
Anita Maddali, Director of Clinics and Associate Professor of Law, J.D.  
Leila Porter, Associate Professor and Chair of Anthropology, Ph.D.  
Linda Saborio, Associate Professor of World Languages and Cultures, Ph.D.  
Kerry L. Sagebiel, Instructor of Anthropology, Ph.D.  
Mark Schuller, Associate Professor of Anthropology and Nonprofit and NGO Studies, Ph.D.

Francisco Solares-Larrave, Associate Professor of World Languages and Cultures, Ph.D.

Rodrigo Villanueva, Professor of Music, M.M.

Simón Weffer-Elizondo, Associate Professor of Sociology and Latino and Latin American Studies, Ph.D.

### 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 581 - Indigenous Mexico (3),

OR HIST 586 - Inequality 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 580 - Studies in African, Oceanian, Native American, Pre-Columbian, and Latin-American Art (3)

ARTH 658 -Topics in Art History: African, Oceanian, Native-American, Pre-Columbian and Latin-American Art (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 552 - Literature of the Caribbean (3)

FLSP 554 - Mexican Literature Culture and Film (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 - Seminar on the Cultures of Spain (3)

FLSP 562- Seminar on the Cultures of Latin America (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 - Advanced Seminar: Regional Geography (1-9)

HIST 581 - Indigenous Mexico (3)

HIST 582<sup>1</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 673K - Foreign Area Politics: Latin America (3)

### Center for Southeast Asian Studies

Director: Judy Ledgerwood

#### Faculty Associates

Kenton Clymer, Distinguished Presidential Research Professor of history, Ph.D.

Aarie Glas, assistant professor of political science, Ph.D.

Kikue Hamayotsu, associate professor of political science, Ph.D.

Trude Jacobsen, professor of history, Ph.D.

Eric Jones, associate professor of history, Ph.D.

Judy Ledgerwood, Presidential Engagement Professor, professor of anthropology, Ph.D.

Wei Luo, Presidential Research Professor, professor of geographic and atmospheric sciences, Ph.D.

Andrea Molnar, Presidential Engagement Professor, professor of anthropology, Ph.D.

Catherine Raymond, professor of art, Ph.D.

Tomoyuki Shibata, associate professor of public health, Ph.D.

Tharaphi Than, assistant professor of world languages and cultures, Ph.D.

Kanjana Thepboriruk, assistant professor of world languages and cultures, Ph.D.

Kurt Thurmaier, Presidential Engagement Professor, professor of public administration, Ph.D.

Kheang Un, associate professor of political science, Ph.D.

Jui-Ching Wang, associate professor of music, M.M.

James Wilson, associate professor of geographic and atmospheric sciences, Ph.D.

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 training in these countries. The center is an active member of SEASSI (Southeast Asian Studies Summer Institute), a national consortium of Southeast Asian studies centers, and works closely with the Center for Burma Studies at NIU.

### 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.

<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.

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 emeritus 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 593. AFRICAN-CENTERED RESEARCH METHODS (3). Focus on developing tools for research on African populations. PRQ: Consent of director.

IDSP 596. SEMINAR IN INTERDISCIPLINARY STUDIES OF LANGUAGE AND LITERACY (3). In-depth exploration of topics and issues associated with the interdisciplinary study of language and literacy. May be repeated for a maximum of 6 semester hours provided the focus of the seminar topic varies from semester to semester.

INTL 501. STUDY ABROAD PROGRAMS (1-12). A variable credit course structured around a theme within a discipline. Approval of topic and enrollment requires departmental approval when there is no NIU equivalent course available. May be repeated to a maximum of 12 semester hours.

INTL 502. STUDY ABROAD PROGRAMS (1-12). A variable credit course structured around a theme within a discipline. Approval of topic and enrollment requires departmental approval when there is no NIU equivalent course available. May be repeated to a maximum of 12 semester hours.

UNIV 510X. FOUNDATIONS IN HOMELAND SECURITY AND DISASTER PREPAREDNESS (3). *Crosslisted as TECH 532*. Introduction to the field of homeland security, emergency management, business continuity planning, and disaster preparedness. Discussion of the risks and hazards associated with planned events, emergencies, natural, human-made, and technological disasters. Emphasis on hazard recognition, planning, mitigation, response, and recovery from these types of events. Two graduate-level projects demonstrate hazard analysis and emergency planning concepts. Enrollment not open to students with credit in UNIV 310X, TECH 432, or TECH 532.

UNIV 590. INTERNSHIP (0-9). 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

UNIV 595. INTERDISCIPLINARY TEACHING STRATEGIES SEMINAR (1). Introduction to teaching at the college level. Discussion of professional preparation for entry into academic careers. S/U grading.

UNIV 600. HAZARD ANALYSIS IN ACADEMIC RESEARCH AND ARTISTRY (0-1). Laboratory safety training for students across disciplines engaged in laboratory research. Emphasis on discipline-appropriate content and personalized experiences aimed at mitigating risks and developing a culture of laboratory safety. Direct application to the student research experience is emphasized and is combined with field experiences and guest presentations from certified safety professionals in academic and non-academic settings. S/U grading. PRQ: Admission to Graduate School; consent of major department and Graduate School.

UNIV 601. CAREER DEVELOPMENT AND PLANNING (0-1). Labor market-driven career discovery and planning for early- to mid-phase graduate students. Students will (1) explore jobs of interest, top employers, regional demand and salary trends; (2) identify skills that confer a competitive edge or higher salary; and (3) discover employment trends of recent graduates from their academic programs. Significant course outcomes include identifying high-impact career skills, enhancing communication with advisors and mentors through an Individual Development Plan, optimizing a LinkedIn profile, and connecting with alumni. S/U grading. PRQ: Admission to Graduate School; consent of major department and Graduate School.

UNIV 602. CAREER PREPARATION FOR THE JOB MARKET (0-1). Career preparation to transition into the job market for mid- to late-phase graduate students. Students will (1) develop a well-structured resume, (2) acquire skills to tailor cover letters to job postings, (3) evaluate their interpersonal skills, and (4) engage in practice interviews. Significant course outcomes include creating a functionalized resume and cover letter targeting a job of interest, engaging in a mock interview, and creating a job market plan. S/U grading. PRQ: Admission to a graduate degree program.

# Inter-College Interdisciplinary Certificates

## Certificates of Graduate Study

### 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 510X - 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: (6)

HSCI 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 607 - Principles of Computer Security (3)

Two of the following (6)

CSCI 608 - Telecommunications and Networking Security (3)  
CSCI 609 - Computer Security Management (3)  
CSCI 610 - 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)  
ISYE 575 - Decision Analysis for Engineering (3)  
OMIS 679 - Business Geographics (3)  
OMIS 682 - Advanced Networking and Networking Security (3)  
PHHE 607 - Public Health and Health Services Management (3)  
UHHS 550 - Administration for Professionals in Health and Human Sciences (3)

#### Emergency Management and Response Track

**Coordinator: Theodore Hogan, Department of Technology**

Five of the following: (15)

CSCI 607 - Principles of Computer Security (3)  
IEET 590 - Topics in Engineering and Engineering Technology (3)  
ISYE 575 - Decision Analysis for Engineering (3)  
TECH 533 - Chemical Hazards in 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: David Changnon, Department of Geographic and Atmospheric Sciences; Alan Polansky, Department of Statistics and Actuarial Science**

STAT 500 - Introduction to Probability Theory (3)

Four of the following with at least one chosen from outside the division of statistics (12-15)

CSCI 607 - Principles of Computer Security (3)  
GEOG 506 - Natural Hazards and Environmental Risk (3)  
GEOG 602E - Internship: Geographic Information Systems (3-6)  
GEOG 656 - GIS Design and Data (3)  
STAT 538 - Applied Analysis of Time Series (3)  
STAT 635 - Regression Analysis (3)

#### Health Sciences Track (16)

**Coordinator: College of Health and Human Sciences**

Five of the following: (15)

CAHC 593 - Crisis Intervention (3)  
HSCI 550 - Administration for Professionals in Health and Human Sciences (3)  
PHHE 603 - Behavioral and Social Aspects of Public Health (3)  
PHHE 605 - Biostatistics in Public Health (3)  
PHHE 607 - Public Health and Health Services Management (3)  
PHHE 609 - Problems and Issues in Environmental Health (3)  
PHHE 613 - Principles and Methods of Epidemiology (3)  
PHHE 621 - Theories and Principles in Health Promotion (3)  
UNIV 590 - Internship (3-6)

#### Interdisciplinary Study of Language and Literacy

This certificate is designed to enhance graduate students' understanding of contemporary issues in the study of language and literacy. This certificate will be of value to students who plan to pursue careers in research, academic and applied settings. The certificate incorporates courses from the College of Education, College of Health and Human Sciences, and College of Liberal Arts and Sciences in order provide a broad perspective on this area of

study. Students who complete this certificate will gain the necessary theoretical and methodological knowledge to effectively conduct and interpret research studies concerning language and literacy. Students will also develop a broad, interdisciplinary understanding of language and literacy theory, research, and practice, which will enable them to engage in cutting-edge research and practical applications in educational and community contexts.

The Certificate of Graduate Study in Interdisciplinary Study of Language and Literacy 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 Graduate Study in Interdisciplinary Study of Language and Literacy should meet with the certificate coordinator early in their academic program of study to ensure adequate time for planning and scheduling of courses.

Participants will take 18 credit hours to complete the Certificate. They will take six credit hours of IDSP 596, at least one three-credit hour course in the methods strand, and at least one course from three of the other strands listed below. Courses must be taken from at least three different program areas (e.g., PSYC, ETR, and LTIC).

### Requirements (18)

Seminar course (6 semester hours required, ideally completed in the same academic year)  
IDSP 596 - Seminar in Interdisciplinary Studies of Language and Literacy (3)

#### Methods Strand (3)

ENGL 608 - Research Methods in Linguistics (3)  
EPS 523 - Application of Psychological Research to Educational Practice (3)  
ETR 522 - Educational Statistics II (3)  
ETR 745X - Interpretative Methods in Educational Research (3)  
ETR 739X - Fieldwork Methods in Educational Research (3)  
ETR 562 - Applied Categorical Data Analysis (3)  
ETR 722 - Methods of Multivariate Analysis (3)  
PSYC 671D - Studies in General Psychology: Quantitative Methods (when the course covers hierarchical linear modeling) (3)

At least one course from three of the strands listed below (9)

#### Acquisitions and Transitions Strand

ENGL 623 - Second Language Acquisition (3)  
FLAL 583 - Applied Linguistics and the Romance Languages (3)  
LTLA 537 - Acquisition of Spoken and Written Language (3)  
LTRE 718 - Adult Reading Instruction (3)  
LTRE 719 - Principles and Methods of Teaching Postsecondary Reading (3)  
PSYC 675 - Developmental Language Acquisition (3)

#### Processes Strand

ENGL 614<sup>1</sup> - Introduction to Linguistics (3)  
ENGL 615<sup>1</sup> - Descriptive English Linguistic (3)  
LTRE 711 - Seminar in Research Studies in the Field of Reading (3)  
LTRE 712 - Correlates of Effective Reading (3)  
PSYC 500 - Psychology of Language (3)

#### Influences Strand

HESA 502 - Educating Culturally Diverse Adults (3)  
ENGL 622 - Theories and Methods of Teaching English to Speakers of Other Languages (3)  
ENGL 633 - Pragmatics and Discourse (3)  
LTIC 501 - Multicultural Education: Materials and Methods (3)  
LTIC 515 - Bilingualism and Reading (3)  
LTIC 550 - Teaching Oral Skills to Adult English Language Learners: Methods and Materials (3)  
LTIC 551 - Teaching Literacy Skills to Adult English Language Learners: Methods and Materials (3)  
LTIC 553 - Crosscultural Issues in the Adult ESL Classroom (3)

#### Assessment Strand

ETR 529 - Principles of Educational Measurement (3)  
LTIC 547 - Assessment of Language-Minority Students (3)  
LTRE 520 - Diagnosis and Treatment of Reading Difficulties (3)  
Special Topics Courses

The following special topics courses may be used to fulfill a requirement in place of a course from the Acquisitions and Transitions, Processes, Influences, or Assessment strand, depending on topic and approval of the certificate coordinator.

COMD 772 - Seminar in Language (3)  
ETR 592 - Special Topics in Research and Assessment (3)  
FLST 583 - Special Topics in Linguistics (3)  
LTRE 714 - Seminar in Reading (3)  
PSYC 680 - Seminar in Psychology (3)

### Museum Studies (15-18)

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.

Internship: One or two of the following (3)

ANTH 693 - Museum Internship (1-2)  
ART 765 - Museum Internship (3)  
HIST 600 - Internship in Public History (3)  
EPFE 586 - Internship in Educational Foundations (3)

Students who already possess extensive professional experience in museums or related sites may petition the Museum Studies Program Committee for a waiver of the internship requirement.

All of the following (12)

ANTH 562 - Museum Methods (3)  
ART 654 - Museum Administration (3)  
ART 655 - Museum Exhibitions and Interpretation (3)  
TLCI 657 - Museum Education (3)

Additional electives (3) chosen from the following, in consultation with Museum Studies program coordinator:

ART 625/WGSS 625X - Museums: Gender, Race and Class (3)  
ART 656 - Advanced Curatorial Practice  
ART 658 - Preventive Conservation Seminar (3)  
ETT 531 - Visual Literacy (3)  
HIST 592 - Introduction to Public History (3)

Elective course substitution is possible with the approval of the Museum Studies program coordinator.

<sup>1</sup> Either ENGL 614 or ENGL 615 may be applied towards the certificate, but not both.

**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/HDFS 707X - Families Staying Well and Coping with Illness (3)

CAHC 708/HDFS 708X - Cultural and Spiritual Dimensions of Medical Family Therapy and Counseling Practice (3)

CAHC 709/ HDFS 709X - Medical Family Therapy and Counseling Practicum (3)

HDFS 705/CAHC 705X - Introduction to Medical Family Therapy and Counseling (3)

HDFS 706/CAHC 706X - Families, Disability and Chronic Illness (3)

HDFS 714/CAHC 714X - Medical Family Therapy and Counseling Internship (6)

# Other Academic Units

## International Affairs

Associate Vice President: Bradley Bond

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 Scholar Services Office

Associate Director: Stephanie Brown

The International Student and Scholar Services 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 supplement the study and research opportunities available on the DeKalb campus.

## 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

Interim Dean: Frederick Barnhart

Associate Dean: T. J. Lusher

Acting Associate Dean: Jana Brubaker

Acting Associate Dean: Leanne VandeCreek

## Faculty

Meredith Ayers, M.S., Northern Illinois University, M.L.S., Kent State University, associate professor  
 Frederick Barnhart, M.L.I.S., Indiana University, J.D., Chicago-Kent College of Law, Illinois Institute of Technology, professor  
 Jana Brubaker, M.L.S., Indiana University, M.A., Northern Illinois University, associate professor  
 Mary Burns, M.A., Case Western Reserve University, M.L.S., Kent State University, assistant professor  
 Sarah Cain, M.L.I.S., University of Illinois, Urbana-Campaign; M.P.A., Southern Illinois University, Carbondale, assistant professor  
 Wayne E. Finley, M.L.I.S., University of Illinois; M.B.A., Western Illinois University, Quad Cities, associate professor  
 Larissa Garcia, M.A., Northern Illinois University, M.A.L.S., Dominican University, assistant professor  
 Sarah Holmes, M.A., University of Hartford, M.L.I.S., Kent State University, assistant professor  
 Karen Hovde, M.A., Western Washington University, M.A., Northern Illinois University, associate professor  
 Wendell G. Johnson, M. Div. Trinity Evangelical Divinity School, M.A., Ph.D., Rice University M.L.S., Ed.D., Northern Illinois University, associate professor  
 Kathleen M. Ladell, M.A. & M.L.S., Indiana University, assistant professor  
 T. J. Lusher, Ed.D., Northern Illinois University, M.L.I.S., University of Iowa, M.A., Iowa State University, associate professor  
 Beth McGowan, Ph.D., University of Pennsylvania, M.L.I.S., University of Wisconsin, associate professor  
 Sarah McHone-Chase, M.S.L.I.S., University of Illinois, M.A., Illinois State University, associate professor  
 James Millhorn, M.A.L.S., University of Iowa, M.A., University of Oklahoma, associate professor  
 Nestor L. Osorio, M.A. & M.L.S., State University of New York, Geneseo, professor  
 Junlin Pan, M.A.L.S. & Ph.D., University of Arizona, M.S., Southwest Missouri State University, professor

Hao Phan, M.A., Northern Illinois University, M.L.I.S., University of California, Los Angeles, associate professor

Robert B. Marks Ridinger, M.L.S., University of Pittsburgh, M.A., Case Western Reserve University, professor

Matthew Short, C.A.S.D.L., University of Illinois, M.L.I.S., University of Illinois, assistant professor

Leanne VandeCreek, M.S.L.S., Catholic University, M.S.W., Fordham University, Tarrytown, associate professor

### **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, Faraday Library, and the Music Library. The University Libraries contain over 2 million physical and electronic 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 145 academic institutions throughout Illinois. Access is via the World Wide Web and allows users to immediately determine which of the 86 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, document delivery services, the reserves collection, periodicals collection, media collection, and the Scholars' Den. Microforms, the map collection, and government publications are located on the second floor; the Digital Convergence Lab and the Reading Assistance 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. Regular, interim, and holiday hours are posted near the entrance to each library and on the libraries' web site at <http://www.library.niu.edu>.

NIU libraries provide a variety of guides to collections and services. These materials are available online at [library.niu.edu/ulib](http://library.niu.edu/ulib). 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 information literacy and, for upper-level classes, in-depth instruction related to materials in particular subject areas. A for-credit library research class, UNIV 105, is also offered at the undergraduate level.

## **College of Law**

Interim Dean: Marc W. Cordes, J.D., J.S.M.

Associate Dean for Academic Affairs: Marc Falkoff

Associate Dean for Student Affairs: Kathleen Coless

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. The facilities as well as the student/faculty ratio promote a community atmosphere and maximize interaction between students and their law professors. The law library provides ample space for intensive study and reflection in quiet privacy and the latest in electronic legal research

tools. A multipurpose moot courtroom, equipped with up-to-date technology, serves as a realistic setting for practical exercises in courtroom proceedings. In addition to academics, law students are involved in a wide variety of scholarly and cocurricular activities such as Law Review, several moot court and trial advocacy 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 from the College of Law Office of Admission and Financial Aid, Room 151, Swen Parson Hall (815-753-8595) or at <http://law.niu.edu/law/>. In addition, NIU undergraduates in selected majors may be eligible to apply to the College of Law under one of the NIU accelerated programs. Students accepted into the College of Law pursuant to an accelerated program can start law school immediately after their junior year and can complete both their undergraduate degree and a law degree in a total of six years. See also current undergraduate catalog.

# University Administration

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## Deans

Bradley Bond, Ph.D., Dean, Graduate School, Associate Vice President  
 for Graduate Studies  
 Balaji Rajagopalan, Ph.D., Dean, College of Business  
 Laurie Elish-Piper, Ph.D., Dean, College of Education  
 Donald Peterson, Ph.D., Dean, College of Engineering and Engineering  
 Technology  
 Derryl Block, Ph.D., Dean, College of Health and Human Sciences  
 Mark Cordes, J.D., Interim Dean, College of Law  
 Judy Ledgerwood, Ph.D., Acting Dean, College of Liberal Arts and  
 Sciences  
 Paul Kassel, M.F.A, Dean, College of Visual and Performing Arts  
 Frederick Barnart, M.L.S., J.D., Dean, University Librarians Association

# 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 World Languages and Cultures, 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 university's ethics policies, including the Conflict of Interest policy, which is available in the *Academic Policies and Procedures Manual*. All employees of the university, including students employed on a part-time basis or as graduate assistants, are subject to the policy.

## Leave of Absence

A leave of absence, which relieves students from the continuous enrollment requirement, may be granted to any student who has been enrolled in a course numbered 699 or 799. Graduate students who are ineligible for a leave of absence because they have not enrolled in thesis or dissertation hours may cease to enroll for up to three terms (Fall, Spring, Summer) before their admission is revoked.

To request a leave of absence, students must complete the form available at the Graduate School website. Students may request a leave of absence for up to six terms. The request should be received and approved before the end of the first term for which the student plans not to enroll.

When a leave of absence is granted, the leave does not exempt a student from the Limitation on Time policy. (See "General Requirements section of this Catalog.)

## 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 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.

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 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.

Students who believe that their privacy rights under the Family Educational Rights and Privacy Act of 1974 have been violated, have the right to file a complaint with the Family Policy Compliance Office, U.S. Department of Education, 600 Independence Avenue, S.W., Washington, D.C. 20202-4605.

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