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ROAD MAP through the M.S.

First Semester:
• Course selection in collaboration with Director of Graduate Studies and other appropriate faculty.
• Form Advisory Committee consisting of:
  ➢ Major advisor from Geography Department -- must be Graduate faculty;
  ➢ At least two additional faculty members, one from Geography (Graduate faculty)
• Draft academic plan with input from Advisory Committee. Submit copy signed by members of advisory committee and Graduate Coordinator to department office.

Every Spring (by March 1):
• Complete and submit Department of Geography, Annual Graduate Report.

First through Fourth Semesters:
• Required Core Courses:
  ➢ GEOG 600 every semester
  ➢ GEOG 663 first fall semester
  ➢ GEOG 661 first spring semester
  ➢ GEOG 604 when first offered (spring even years)
• Additional course work:
  ➢ minimum 15 semester hour and 6 hours of thesis (GEOG 699), or
  ➢ minimum 21 semester hours and two Masters Research Papers under GEOG 672 (6 hrs)
• Presentation of thesis or non-thesis research at:
  ➢ a professional society conference (submit copy of program to department office), and
  ➢ a department colloquium

Third / Fourth Semester
• Submit an application for graduation to the Graduate School.
  ➢ June for December graduation; November for May graduation; April for August graduation

Fourth Semester (at the earliest):
• Prepare outline for M.S. Comprehensive Examination, in consultation with Advisory Committee.
• Comprehensive Examination
  ➢ Minimum 3 examiners (majority GEOG faculty; all Graduate faculty)
  ➢ 8th week: Written Exam (1 day)

Final Semester:
• Oral defense of thesis or non-thesis paper:
  ➢ Submit copy of thesis or non-thesis paper to all members of Advisory Committee.
  ➢ Defense typically consists of two parts: a summary presentation of the research and a follow-up question & answer session with the Advisory Committee.
• Upon acceptance of thesis by the Advisory Committee:
  ➢ Format thesis according to Graduate School guidelines.
  ➢ Submit a post-defense PDF copy of the thesis to the Graduate School reader.
  ➢ After any corrections noted by the Graduate School editor are made, upload the final version of the thesis to ProQuest/UMI Dissertation Publishing.
• Presentation of thesis or non-thesis paper research at a department colloquium.
• Participate in Graduate Commencement.
ROAD MAP through the Ph.D.

First Semester:
• Course selection in collaboration with Director of Graduate Studies and other appropriate faculty.
• Identify cognate field.
• Form Advisory Committee consisting of:
  ➢ Major advisor from Geography Department -- must be Senior Graduate faculty;
  ➢ At least two additional faculty members from Geography (Full or Senior Graduate faculty)
  ➢ An adjunct faculty or faculty from the cognate field.
• Draft academic plan with input from Advisory Committee. Submit copy signed by members of advisory committee and Graduate Coordinator to department office.
• With input from advisory committee, identify maximum of 24 credit hours from Masters degree coursework to be applied to PhD credit requirements.

Every Spring (by March 1):
• Complete and submit Department of Geography, Annual Graduate Report.

First through Fourth Semesters (and summers):
• Required Core Courses: GEOG 600, 604, 661, 663
• Specialty courses: at least 6 semester hours of “Advanced” courses in specialty area in GEOG.
• Cognate field courses: minimum 9 semester hours.
• Applied research experience: at least 6 semester hours of off-campus applied research experience completed under GEOG 602.
• Additional course work: 18-27 semester hours, including one course as research tool – e.g., GEOG 660, 760; BIOS 643, 646, 670; CSCI 670, 677; ECON 690; MATH 560; STAT 573, 574, 578, 579, 678, 680.
• Research participation in professional society meetings (paper or poster presentation, discussant)

Fourth Semester (at the earliest):
• Prepare outline for Ph.D. Qualifying Examination, in consultation with Advisory Committee.
• Meet with the research committee for preliminary approval of dissertation topic.

Fifth Semester:
• Qualifying Examination
  ➢ Minimum 4 examiners (3 GEOG, 1 external)
  ➢ 8th week: Written Exam (1 per day)

CANDIDACY Upon successfully completing the qualifying examination, the Student’s Advisory Committee recommends candidacy to the Dean of Graduate School. Upon approval of the Dean, of the Graduate School, the student is awarded a Certificate of Candidacy.

• Student finalizes Research Committee (in consultation with advisor) consisting of:
  ➢ Director/Chairperson of the committee (must be a Senior Graduate Faculty member);
  ➢ Two or more faculty from the Geography Department (Full or Senior Graduate faculty);
  ➢ A representative of a cognate field or an adjunct faculty.
  ➢ All NIU members of the research committee must be Graduate Faculty; at least 50% must be Senior Members of the Graduate Faculty.
• Note: The Research Committee must be approved by the Dean of the Graduate School.
• Research Proposal
  ➢ Preparation of Research Proposal.
  ➢ Approval of Research Proposal: research committee determines necessary changes in Research Proposal and approves the Research Proposal.
➢ Distribution of Research Proposal to faculty and graduate students at least one week prior to oral presentation of Research Proposal.
➢ Oral presentation of Research Proposal to the department.

Sixth Semester and Beyond:
• Up to 20 credit hours of GEOG 799 Doctoral Research and Dissertation.
• Once registration in 799 has begun, continue to register for a minimum of one hour of 799 each semester until the degree is completed.
• Prepare and submit research paper(s) to refereed journal and/or research proposal to external funding agency.

Final Semester
• Submit an application for graduation to the Graduate School.
  ➢ June for December graduation; November for May graduation; April for August graduation
• Submit a copy of dissertation to all members of the Research Committee.
• In consultation with the Chair of the Research Committee, student requests Oral Defense. The decision to schedule a defense is reached by the Research Committee.
• The defense will consist of two parts: a public presentation with opportunity for questions from any interested parties and a restricted examination session with the dissertation research committee.
• Three weeks prior to the defense, the student submits a request for oral defense and a draft copy of the dissertation (on paper) to the Graduate School.
• At least two weeks prior to the scheduled defense, the committee informs the Dean of the Graduate School the date, time, place, and dissertation title for the public presentation. The Graduate School will publicize this on campus, inviting attendance of interested persons.
• Upon acceptance of dissertation by all members of the Research Committee:
  ➢ Prepare final dissertation according to Graduate School guidelines.
  ➢ Submit a post-defense PDF copy of the dissertation to the Graduate School reader.
  ➢ After any corrections noted by the Graduate School editor are made, upload the final version of the dissertation to ProQuest/UMI Dissertation Publishing.
• Students are strongly encouraged to participate in Graduate Commencement which involves a hooding ceremony for all Ph.D. recipients.
The Campus and Community

In 1995, NIU celebrated its 100th birthday. Few of those who joined Governor John Peter Altgeld in breaking ground in 1895 could have imagined that their efforts would help create one of the nation's major teaching and research institutions.

Northern began by educating many of the state's teachers but has since grown to meet the challenges of the region's expanding and diversifying economy. Today more than 25,000 students are served by NIU's 41 departments in six undergraduate and graduate degree-granting colleges (Business, Education, Engineering and Engineering Technology, Liberal Arts and Sciences, Professional Studies, and Visual and Performing Arts). In addition, the College of Law awards degrees to more than 75 graduates each year and the College of Continuing Education offers one of the Midwest's largest credit and noncredit programs.

NIU has grown from a small state normal school to a large, respected research university dedicated to excellence and to serving one of the most dynamic regions in the nation. As recently as 2010, NIU was listed in the Carnegie Foundation’s top category for research-oriented institutions. Northern ranks among the nation’s top universities in the United States in terms of research, service and social mobility.

NIU is a blend of three distinct environments: it is a self-contained university campus in a small midwestern city near metropolitan Chicago. Most of Northern's students (about 75 percent) live on campus or nearby. Our 460-acre campus is a mixture of architectural styles, from Tudor Gothic to bold contemporary. The wooded east lagoon is a tranquil year-round retreat for students and visitors. Other popular gathering places are Holmes Student Center, Martin Luther King Jr. Memorial Commons, Student Recreation Center, and the lagoon.

Northern's home, DeKalb, a city of about 45,000 combines clean and friendly country living with the services of a middle-size city. NIU students have ready access to Chicago (only 65 miles to the east), the Fox River Valley and neighboring communities such as Rockford, which offer a variety of shopping, entertainment and services.

The combination of typically Midwestern characteristics – warm hospitality and friendliness, appreciation for both old and new, and a work ethic built on creativity and problem solving – makes NIU a comfortable and stimulating learning environment.

The Geography Graduate Program

Geography at Northern Illinois University evolved, with Geology, out of a former Earth Sciences department. The tradition of a land and resources emphasis continues with graduate curricula in urban/economic geography, mapping sciences, and physical geography with a focus on soils, hydrology, climate, and biogeography. The Master of Science program predates creation of the department in 1969/70. The Ph.D. program was approved by the IBHE in Fall 2009 and launched in January 2010. Including thesis or non-thesis research, the M.S. in Geography normally takes two years to complete. The Ph.D. requires two years of course work beyond the Masters and a dissertation of original research. Further information on the M.S. and Ph.D. graduate programs is found in NIU’s Graduate Catalog.

Research and Laboratory Facilities

The department provides a wide offering of modern facilities for computer graphics and analysis in all fields of study.

- the tree ring/biogeography laboratory houses a Velmex tree ring measuring system; a portable photosynthesis analysis system; a growth/germination chamber; and a variety of instruments and sampling tools for field application
- the soil characterizaton laboratory contains a laser diffraction particle size analyzer; pipette and sieving equipment for particle size analysis; an elemental analyzer for carbon and nitrogen concentration analysis of soil and vegetative samples; ovens; and a variety of standard equipment for soil characterization and wet/dry aggregate stability analysis. The lab holds a foreign/quarantine soil permit from the USDA. An ATV-mounted Giddings hydraulic drill rig and traditional field equipment are available for soil sampling and analysis.
- the meteorology/climatology research laboratory is equipped with computer workstations linked to the department's MET server as well as a multi-screen weather visualization wall. The system uses meteorological software and Internet resources for interactive analysis of surface and upper air data and GOES satellite images.
- the Advanced Geospatial Lab conducts funded research and provides support to faculty projects in GIS, geovisualization, spatial data development, image analysis, and spatial modeling.
- a geography graduate student thesis/dissertation lab provides M.S. and Ph.D. students with 24/7 access to department licensed GIS, remote sensing, spatial analysis, statistical analysis and modeling software.
- additional facilities include a soils analysis wet
lab, a NWS cooperative weather station, and a number of automated weather stations for remote field experiments.

**M.S. Degree Requirements**

The requirements for the M.S. degree in Geography include three core courses; 12-18 semester hours of elective courses in an area of specialization; a comprehensive examination; and the completion of a thesis or two non-thesis papers. All students admitted to the graduate degree program in geography are required to consult with an advisement committee to design a two-year program of study. Based on the student's prior educational background and career goals, the advisement committee will recommend a sequence of electives leading to specialization in a systematic field of geography. Upon consultation with an advisor, the student must select either the thesis or non-thesis degree option.

**Admission & Deficiencies**

Admission to the M.S. program presumes a level of analytical skills and general background equivalent to those required for the department's B.S. degrees, including at least 1 semester of calculus and a course in probability and statistics. For those intending to focus their studies in physical geography a 1-year sequence in biology, chemistry, and/or physics is recommended. Students who are admitted into the graduate program with course deficiencies must satisfy those deficiencies during their first year of graduate study. Courses designated as deficiencies do not carry graduate credit toward the degree.

**Requirements for the M.S. Degree**

All students must complete the following requirements:

1. 9 semester hours of core courses:
   a. GEOG 604, Concepts in Geography
   b. GEOG 661, Advanced Quantitative Methods for Geographic Research
   c. GEOG 663, Geographic Research Procedures
2. Satisfactory completion of 12-18 semester hours of elective course work. The majority of elective course work must be taken in the Department of Geography, and at least 50% taken in graduate courses (numbered 600 or greater).\(^1\)
4. Enroll in GEOG 600 each semester in residence. Each graduate student in geography must accumulate 2 semester hours of credit prior to graduation, but hours may not be applied toward credit-hour requirements for the M.S. degree. With the approval of the department, enrollment in GEOG 600 may be waived for a student whose circumstances prevent participation in this course.
5. Completion of a Thesis or 2 Non-thesis papers. Students doing the thesis option must accumulate 30 semester hours, 24 hours of which are in course work; students doing the non-thesis must accumulate at least 36 semester hours, of which 30 hours are in course work.

**Thesis Option**

The thesis is a capstone research experience demonstrating the ability to pose a question, relate what is known and unknown from the literature, design a strategy (experiment) to answer the question, conduct the experiment and appropriate analyses, interpret results from the analysis, and communicate these elements in writing and/or graphically. Students must orally defend a complete and nearly-final version of the thesis. A post-defense version of the thesis, approved by all committee members, shall be submitted an electronic copy of the thesis in PDF format according to the Guidelines for Preparing and Submitting Theses and Dissertations (see Graduate School website). Students must register for thesis under GEOG 699 for a minimum of 6 semester hours.

**Non-Thesis Option**

The non-thesis option is designed for students who wish to undertake several smaller research projects. Students must submit two major research papers, completed under GEOG 672. The first paper must be submitted and accepted prior to completion of 24 semester hours. An oral defense of the second paper, normally completed at the end of the second year, is required. Each paper must be reviewed and accepted by a committee of at least two NIU faculty, composed of regular or adjunct members of the Department of Geography.

6. Present findings of the thesis or at least one non-thesis paper at Geography Seminar (GEOG 600).
7. Present one paper or poster at a state, regional, or national professional meeting. Submit a copy of the conference program showing schedule of presentation to department’s Administrative Assistant.
8. Submit PDF copy of thesis, or both masters research papers to department Administrative Assistant.

\(^1\)In case where a student must achieve a certain grade as specified in the Graduate Catalog, and the student failed 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. (Committee Report for Graduate Council Meeting, March 6, 2000.)
Areas of Specialization

Students earning the M.S. degree in Geography are expected to develop a proficiency in at least one systematic field of study and a working knowledge of spatial analytic methods.

1. Urban/Economic Geography

The curriculum in urban/economic geography emphasizes the spatial, demographic and structural character of cities and regions. Course work in urban and economic geography provides a conceptual foundation for understanding the structure and dynamics of places and regions, as well as an introduction to the tools necessary for practical problem solving and policy evaluation. Faculty research interests currently include urban structure, land-use change and detection, environmental impacts of land-use change, spatial organization of high-tech industries, urban transportation systems and commuting, and the geography of health. The urban/economic track is designed for students wishing to pursue advanced degrees or careers in city planning, economic development, industrial and retail location, community development, transportation, public health, and land use planning.

2. Physical Geography

The curriculum in environmental geography is organized into four, overlapping fields: biogeography, climatology, hydrology and water resources, and soil science. Graduate studies combine classroom, laboratory, and field experiences. Due to the interdisciplinary nature of physical geography students are encouraged to develop a program of study that integrates two or more of these fields. Additional elective course work may also be taken in Geology, Biological Sciences or Physics. Current faculty research includes the climatology of extreme temperature and precipitation, hydroclimatology, regional climate modeling, remote sensing climatology, applied climatology, flood hydrology, landscape evolution, human impacts on natural environmental systems, forest ecology, plant-soil dynamics, soil spatial relationships, soil geomorphology, soil carbon sequestration, and quantitative modeling of natural systems. Collaborative projects with the National Weather Service, United States Geological Survey, The Nature Conservancy, County Forest Preserve Districts, Environmental Protection Agencies and the Natural Resource Conservation Service introduce students to applied research and problems confronting environmental specialists. Students may expect to find challenging careers with private sector firms or with government agencies having environmental assessment or management mandates.

3. GIS/Spatial Analysis

Urban/Economic and Physical Geography share a common methodological and epistemological foundation in the spatial analytic tools of geographic inquiry. Regardless of track of study, all students in the graduate program are encouraged to develop sound analytical skills in at least two areas of spatial analysis. In addition to traditional quantitative methods, the Department offers course work in geographic information systems (GIS), cartography, remote sensing, spatial statistics, regional analysis, field instrumentation, and spatial modeling. Students may augment their skills development with courses in mathematics, statistics or computer science. Students in the M.S. program may also earn the certificate in GIA (Geographic Information Analysis).

Tools skills are of little consequence without the systematic understanding necessary for the recognition of problems, design of an appropriate research strategy, and implementation of results. Students specializing in GIS/spatial analysis will be required to develop a systematic background in a subfield of urban/economic or physical geography.

The Comprehensive Examination

The purpose of comprehensive examination is to show evidence of the student's mastery of his/her chosen field of study. It is demonstrated through competence in the basic subject matter of the field and the ability to synthesize and think critically. It is a written exam.

Guidelines for the Comprehensive Examination

1. The exam cannot be taken until the student has completed at least 18 graduate hours in the program. Course work taken to fulfill deficiencies is not included toward the 18-hour minimum. The student may first take the comprehensive exam during the third semester in residence.

2. The Graduate School stipulates that the comprehensive exam can be taken no more than three times. We expect each student to prepare diligently so as to pass on the first attempt.

3. The examination is normally scheduled for the 8th week of fall and spring semester, to be completed in no fewer than 4.5 hours and no more than 6 hours. Each student must have at least three examiners, the majority of whom must be geography faculty. The student's advisor shall serve as chair of the examination committee. Examinations are offered in summer semesters only at the discretion of student's committee.

4. The subject matter to be examined and the composition of the examination committee are to be jointly determined by the student and the
The subject matter may consist of a series of topics within the student's fields of study that originate in courses taken or independent readings or research. It is the advisor's responsibility to ensure that the topics are relevant and neither too general nor too specific. When completed, the student shall submit an outline for his/her examination, signed as approved by the advisor, to the Graduate Coordinator together with a memorandum notifying of the student's intent to take the comprehensive exam. Notification of intent must be submitted by the 4th week of the semester.

5. The advisor has the ultimate responsibility for ensuring fairness and thoroughness of the examination. The advisor, interacting with members of the examination committee, shall ensure that all questions are appropriate and free of ambiguity.

6. Questions are to be graded by the respective faculty authors. Students must pass the exam with a grade of B- or better on all questions. The advisor shall report the pass or no pass to the department and the student.

7. The student's answers to the examination are to be filed in the student's permanent record. The student and any examiner may request to review the answers and/or grades for all questions.

The Graduate Coordinator, on behalf of the Department, shall consult with each student's advisory committee to ensure that the intent of this policy is upheld. The exam outline, dates of the exam, all grades, and the written comments of committee members will be permanently recorded in the student's Program Progress file.

Registration in Geography 699
A student who has formally begun the thesis or its equivalent must register in course number 699 in each subsequent term, including summer, until the thesis or equivalent is submitted to and formally approved by the Graduate School. Registration for this purpose may be in absentia. If circumstances prohibit continuing registration, a graduate student may request a leave of absence from the Dean of the Graduate School. If a student interrupts registration in course number 699 without obtaining a leave of absence then, upon recommendation of the major department, the student's admission to the degree program will be terminated. After a student has registered for the maximum number of semester hours that can be received for the thesis, he or she should register for one hour of audit in 699 until the thesis receives final Graduate School approval.
Timetable of the 2-Year M.S. Program

Year before starting graduate school
Nov/Dec/Jan
♦ take GRE, have results sent to NIU
♦ apply to NIU Graduate School

March - April – May
♦ receive admission decision from NIU
♦ notify department that you will enroll in program in August

1st Year begins (August 16)
♦ arrive on campus
♦ meet with graduate coordinator to discuss fall courses
♦ participate in annual TA instructional workshop
♦ receive TA/GA assignment; meet with faculty supervisor
♦ register for classes; complete any deficiencies
♦ participate in NIU directed TA workshops

end of August
♦ begin classes

Aug - Sept.
♦ meet with each member of faculty to introduce yourself and discuss academic interests

October 1
♦ identify advisor
♦ with input from advisor, select advisement committee
♦ with input from advisement committee, design two-year program

October 15
♦ file 2-year course plan with department office

January
♦ meet with graduate advisor/committee to discuss spring courses
♦ receive TA/GA assignment; meet with faculty supervisor
♦ register for classes; complete any deficiencies
♦ get topic for 1st research paper approved if choosing non-thesis track

March
♦ notify graduate coordinator of interest in financial support for 2nd year

April – May
♦ meet with graduate advisor/committee to discuss summer courses
♦ present non-thesis research at department colloquium (20 min.)

May
♦ register for summer courses

June, July, August
♦ complete 1st research paper if doing non-thesis track

♦ start thesis field research, if necessary

2nd Year begins (August 16)
♦ arrive on campus
♦ meet with graduate advisor/committee to discuss fall courses
♦ participate in annual TA instructional workshop
♦ receive TA/GA assignment; meet with faculty supervisor
♦ register for classes

end of August
♦ register for classes
♦ get topic for thesis approved if choosing thesis track
♦ identify professional meeting where you will present thesis or non-thesis research

October
♦ get topic for 2nd research paper approved if choosing non-thesis track
♦ begin preparations for comprehensive exams

November
♦ Submit completed application for Spring graduation

January
♦ meet with graduate advisor/committee to discuss spring courses
♦ receive TA/GA assignment; meet with faculty supervisor
♦ register for classes
♦ get outline for comprehensive exam approved

March
♦ take comprehensive exam
♦ submit 1st complete draft of thesis for May graduation

Sept/ Oct/ Nov/ Dec/ Jan/Feb/ March/ Apr/ May/ June
♦ present non-thesis or thesis research at professional meeting

April – May
♦ present thesis or non-thesis research at department colloquium

June
♦ submit defended draft of thesis for August graduation
♦ Submit completed application for Fall graduation

May -or- August
♦ Graduate. Get out in the world and make a difference
Certificate of Graduate Study in GIA

The department offers a Certificate in Geographic Information Analysis. This certificate is designed for graduate students in all disciplines and for professionals seeking an advanced education in geographic information systems, mapping science, and applications.

Students should consult with the graduate certificate adviser prior to registering for any courses. Regulations require students maintain a minimum 3.00 GPA in all graduate-level work undertaken at NIU in order to remain in good standing. The courses are listed below.

Course work from the following (16-18):
GEOG 5031, Soil Geography and Land Use Planning (3)
GEOG 5321, Geography of Health (3)
GEOG 5561, Fundamentals of Mapping (3)
GEOG 5571, Fundamentals of GIS (3)
GEOG 5581, Geovisualization (3)
GEOG 5591, Geographic Information Systems (3)
GEOG 5601, Remote Sensing of the Environment (3)
GEOG 5641, Location Analysis (3)
GEOG 5681, Workshop in GIS (3)
GEOG 5931, Computer Methods and Modeling (3)
GEOG 602J, Internship: Methods and Techniques (3)
   OR GEOG 602K, Internship: Mapping/Geovisualization (3)
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 771J, Independent Research: Methods and Techniques (1-3)
   OR GEOG 771K, Independent Research: Mapping/Geovisualization (1-3)
GEOG 790J, Seminar in Current Problems: Methods and Techniques (3)
   OR GEOG 790K, Seminar in Current Problems: Mapping/Geovisualization (3)

1Not available for credit to students who have taken these courses for undergraduate degree or who have earned the certificate in undergraduate study in geographic information systems; other course work within the certificate should be substituted.
**Ph.D. Degree Requirements**

The Ph.D. degree in Geography requires 90 semester hours of course work beyond the baccalaureate, 60 semester hours beyond the Masters, including three core courses, at least 6 hours of advanced topical course work in geography, and at least 9 hours of cognate course work outside of geography. A unique aspect of the Ph.D. program in geography at NIU is the requirement that students participate in applied research experience outside the university; credit for the applied research experience is earned through GEOG 602, Internship. A Ph.D. dissertation of original research is also required. All students admitted to the Ph.D. program in geography are required to meet with an advisement committee at least once a year. The advisement committee shall be composed of the students’ Ph.D. advisor, two additional graduate faculty from geography and one adjunct or external faculty person. The advisement committee consults with the student on a program of study, administers the student’s Ph.D. qualifying examination, and serves as the student’s dissertation research committee.

**Admission & Deficiencies**

Admission to the Ph.D. program presumes a level of knowledge, writing and analytical skills equivalent to those required for the department's M.S. degree. The students should indicate a clear focus of proposed study in their application letter. Under normal circumstances, students will not be admitted to the Ph.D. program with deficiencies. Potential students should address deficiencies by enrolling as a student at-large before applying to the Ph.D. program.

**Requirements for the Ph.D. Degree**

All students must complete the following requirements:

1. 60 semester hours beyond the Masters, including:
   - 9 semester hours of core courses:
     a. GEOG 604, Concepts in Geography
     b. GEOG 661, Advanced Quantitative Methods for Geographic Research
     c. GEOG 663, Geographic Research Procedures
   - at least 6 semester hours of advanced course work appropriate to their field of specialization. All courses taken in geography must be graduate courses (numbered 600 or greater).1
   - at least 9 semester hours of graduate-level, cognate course work related to the student’s Ph.D. field of specialization.
   - at least 6 semester hours of applied research experience external to the university, completed under GEOG 602. Appropriate settings for the applied research experience include corporate, NGO or governmental labs or research institutes. All prospective research experiences must be approved by the student’s advising committee.
   - at least 12 semester hours of dissertation under GEOG 799.

2. Enroll in GEOG 600 each semester in residence, for a minimum of four semesters. Hours in GEOG 600 do not apply toward requirements for the Ph.D. degree.

3. Develop skill in one research tool at a high level of proficiency, or two research tools at average proficiency

4. Satisfactory performance on an Ph.D. qualifying exam. The qualifying exam shall be taken only after all required course work is completed and with permission of the student’s advising committee.

5. Successful presentation and defense of a Ph.D. dissertation proposal to the student’s advising committee and department at the Geography Seminar (GEOG 600).

6. Presentation of one or more research papers at a national/international conference.

7. Submission of a research manuscript to a peer-reviewed or edited outlet, or submission of a research proposal to an external funding agency.

8. A dissertation of original research, theoretical or applied, and completed under GEOG 799 for a minimum of 12 semester hours. The final dissertation must be defended within 3 years after admission to candidacy.

9. Submission of the final dissertation, approved by the student’s committee, to the Graduate School and to the department’s Administrative Assistant (in PDF format).

10. An exit interview with the Graduate Coordinator and Chair prior to commencement and awarding of the doctoral hood.

**Areas of Specialization**

The Ph.D. in Geography builds on department strengths in the human organization of geographic space, spatial environmental science, and geographic information science, with a core mission of developing and applying knowledge, geospatial methods, and systems science to the spatial human and environmental sciences. Students pursuing the Ph.D. degree in Geography will develop an in-depth expertise in a systematic field of study along with...

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1In case where a student must achieve a certain grade as specified in the Graduate Catalog, and the student failed 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. (Committee Report for Graduate Council Meeting, March 6, 2000.)
their search and spatial analytic tools appropriate to that field.

1. Human Organization of Geographic Space
The curriculum in the human organization of geographic space broadly consists of urban geography, economic geography, environmental management, and human impacts on the environment. Appropriate fields of specialization for the Ph.D. depend on faculty interests. Currently these include, but are not limited to: urban geography; location theory; transportation; the spatial organization of industry and other human activities; comparative urbanization; geography of health; epidemiology; technological hazards; ecological economics; and the spatial modeling of human activity. Cognate course work may be taken in economics, history, political science, public health, or engineering.

2. Spatial Environmental Science
Department strengths in spatial environmental science consist of biogeography & forest ecology, hydrology & water resources, climatology, soil science, geophysical hazards and natural physical systems.
Appropriate fields of specialization for the Ph.D. depend on faculty interests. Currently these include, but are not limited to: biogeography; climate change; climatology of extreme temperature and precipitation; forest ecology; human impacts on natural environmental systems; hydrology; landscape evolution; natural hazards; pedology; plant-soil dynamics; regional climate modeling; regional environmental change; soil carbon sequestration; and the spatial modeling of natural systems. Cognate course work may be taken in geology, biological sciences, physics, or engineering.

3. Geographic Information Science
Mapping is one of the core traditions of geography. That visual aspect of modern geography is captured in geographic information science and the methods of geographic information systems, remote sensing, geovisualization, spatial analysis, field mapping, and cartography. Due to their role in geographic research and the communication of geographic understanding, Ph.D. students are required to be proficient in at least one method of geographic information science. Additional research tool proficiencies and cognate field understanding can be developed through course work in statistics, computer science, bioinformatics, genomics, econometrics, geochemistry, analytical chemistry, and mathematics.

Qualifying Exam & Admission to Candidacy (ABD)
In order to be recommended for admission to candidacy (i.e., conferral of A.B.D.), the student must successfully pass a qualifying examination and defend a dissertation proposal. The qualifying exam will normally evaluate conceptual understanding, knowledge of the literature, ability to design research, cognate understanding, and technical proficiency in the student’s area(s) of specialization. It is a written exam.

Guidelines for the Ph.D. Qualifying Examination
1. The Ph.D. qualifying exam cannot be taken until the student has completed a minimum of 30 semester hours of course work in the program, including all required core, advanced, and cognate field courses. The student will normally sit for the qualifying exam at the conclusion of their second year in residence.
2. together with a memorandum notifying of the student's intent to take the comprehensive exam. Notification of intent must be submitted by the 4th week of the semester.
3. The examination is normally scheduled for the 8th week of fall and spring semester. Each student must have at least four examiners who are members of the advising committee: the major advisor, two additional geography faculty, and an adjunct or a faculty member from the student’s cognate field; a majority of the committee must be graduate faculty. The exam will be conducted over a 4-day period, with the student responding to one examiner’s questions per day, in a period not to exceed 4 hours. Examinations may be offered (but not necessarily graded) in summer semesters at the discretion of the advising committee.
4. The subject matter to be examined will be jointly determined by the student and each member of the examination committee. In consultation with each examiner, the student will prepare an outline of potential subject matter topics for each exam. When completed, the examiner and student shall sign the outline and the student shall submit the set of approved examination outlines to the Graduate Coordinator and department Administrative Assistant.
5. Each examiner has responsibility for ensuring fairness and thoroughness of the examination. Examiners may request to read and/or discuss the outlines of other examiners; students are required to comply with those requests.
6. Questions are to be graded by authoring examiner. Examiners may grade exam questions on a P/F scale, A/B/C/D/F scale, or A/A-/B+/B-/C+/C-/D/F scale. A grade of B- or better is passing. Students must pass all questions to successfully pass the exam. Examiners shall submit all grades to the department and report an
overall grade of pass or no pass. The student's major advisor will then convey that information to the student.

7. The student's answers to the examination are to be filed in the student's permanent record. The student and any examiner may request to review the answers and/or grades for all questions.

8. The Graduate School stipulates that a student who fails a candidacy examination may repeat it once, after a period of time determined by the advising committee. A student who fails the exam a second time, or is not granted permission for a second attempt, will not be permitted to continue work toward the Ph.D. and will have their admission terminated. A student must be admitted to the doctoral program, must be in good academic standing, and must be enrolled in the term in which the qualifying exam is taken.

The Graduate Coordinator, on behalf of the Department, may review outlines, exam questions, or grades exams or consult with each student's advisory committee to ensure that the intent of this policy is upheld. The exam outline, dates of the exam, all grades, and the written comments of committee members will be permanently recorded in the student's Program Progress file.

**Registration in Geography 799**

A student who has been admitted to candidacy and begun dissertation research must register in GEOG799 in each subsequent term until the dissertation is submitted to and formally approved by the Graduate School. Registration for this purpose may be in absentia. If circumstances prohibit continuing registration, a graduate student may request a leave of absence from the Dean of the Graduate School. If a student interrupts registration in course number 799 without obtaining a leave of absence then, upon recommendation of the major department, the student's admission to the degree program will be terminated.
### Timetable of the Ph.D. Program

#### Year 1

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<tr>
<th>Fall</th>
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<th>Summer</th>
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<tr>
<td><strong>form advisement committee</strong></td>
<td><strong>file curriculum plan</strong></td>
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<tr>
<td>GEOG 600</td>
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<td>GEOG 602, Internship</td>
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<td>GEOG 661</td>
<td><em>or</em> GEOG 658 or 671</td>
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<td>GEOG elective</td>
<td>GEOG 604</td>
<td><em>- dissertation pilot project</em></td>
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<td><em>or</em> cognate elective</td>
<td><em>- field data collection</em></td>
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<td>GEOG elective</td>
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<tr>
<td><em>- dissertation</em></td>
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#### Year 3

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<th>Summer</th>
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<td>PhD qualifying exam</td>
<td>Dissertation proposal</td>
<td>Dissertation research &amp; writing</td>
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<td>colloquium &amp; defense</td>
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<td>Submit research paper to refereed journal</td>
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<td><em>Presentation at professional meeting</em></td>
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#### Year 4

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<td><em>Presentation at professional meeting</em></td>
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<td>Submit research paper to refereed journal</td>
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<td>Dissertation colloquium &amp; defense</td>
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<td><em>Exit Interview</em></td>
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Application for Admission to NIU

Applications are available online at 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. The completed application form, with the required application fee, must be received by the Graduate School no later than June 1 for admission to the fall semester, November 1 for the spring semester, and April 1 for the summer session. All remaining application materials – official transcripts, required test scores, and letters of recommendation – must be received by August 1 for the fall semester, January 1 for the spring semester, and June 1 for the summer session. (Dates for international students are indicated below.)

Applicants who hold baccalaureate degrees from colleges or universities other than Northern Illinois University, or who have been awarded a graduate degree elsewhere, should request that the appropriate institutions send one official copy of the transcript showing each degree directly to the Dean of the Graduate School. Applicants are urged to submit transcripts showing other post-baccalaureate work.

In addition to the following regulations, it is the responsibility of each student to read and understand the procedures and requirements described in the sections entitled "Admission to Graduate Study", “General Regulations”, and "Requirements for Graduate Degrees" in the current Graduate Catalog.

International Students

Application for admission, letters of recommendation, diplomas, mark sheets, test scores, and proof of adequate financial support must be received by the Graduate School no later than May 1 for admission to the fall semester or October 1 for the spring semester. Normally, international students will not be admitted to begin a degree program in the summer session.

All applicants whose native language is not English must present an IELTS score of 6.5 or alternatively, a TOEFL score of at least 80 on the TOEFL ibt, 213 on the scale of 0-300, or at least 550 on the older scale of 310-667 where applicable (in certain countries). The score must be for an examination administered no more than 24 months prior to the beginning of the academic term for which admission is sought. A student whose command of English appears deficient or marginal for purposes of graduate study will be required to take special instruction in English until this deficiency is removed. For IELTS information, contact www.ielts.org. For TOEFL information, contact www.toefl.org

International students must register for a minimum of 9 hours of credit each semester, including any undergraduate deficiencies in their disciplines and special instruction in English.

Graduate Admission Requirements

To be admitted as graduate students at NIU, applicants must have obtained a bachelor's degree from a four-year accredited college or university, must have the approval of the department in which they plan to major, and must have a minimum 2.75 grade point average (GPA), based on a 4.00 system, in undergraduate work. The Department of Geography normally requires a GPA of 3.00 for the last 45 hours of undergraduate course work and a minimum 1000 Graduate Record Examination (GRE) score (verbal and quantitative). All prospective graduate students must take the GRE (verbal and quantitative) prior to admission.

Matriculation

Graduate students must enroll in the semester or summer session for which they are admitted, indicated in the letter of admission from the Graduate School. At the discretion of the office of the dean of the Graduate School and with permission of the major department, matriculation may be deferred up to but not beyond two calendar years. The request for deferral of admission must be submitted to the Graduate School, in writing, no later than the end of the academic term for which admission has been granted. If students do not request a deferral of admission, and fail to matriculate (enroll in the term of admission) as required, their admission to that program is canceled.

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

Registration

Registration procedures as well as class offerings are found on the NIU website at www.niu.edu. Students will not receive credit for any course for which the registration is not completed according to these procedures.

Financial Support

Eligibility, Stipends, and Application

Graduate teaching assistantships, graduate research assistantships, and graduate staff assistantships are available to qualified graduate students. Students not admitted to the Graduate School are not eligible to receive graduate assistantships. Assistantships and fellowships (see below) usually begin in the fall semester and, for the 2011-2012 academic year, (9-
month) carry a stipend up to $10,528 plus waiver of tuition (in-state $5767; out-of-state $11,534). Students who hold assistantship appointments should be prepared to pay the full amount of fees in accordance with published university procedures.

Applications for graduate assistantships and fellowships should be completed prior to March 1, preferably before February 15. Students completing the first year of their program who wish to either continue receiving financial support or who wish to be considered for funding for the first time should submit their requests by the above date. Application forms are available from the Graduate School in Adams Hall, Room 102. Northern Illinois University does not discriminate on the basis of the gender, race, creed, color, or national origin of any applicant.

Obligations of Recipients, Course Load, and Criteria for Funding

Graduate assistantships are not research appointments and, therefore, have specific work assignments by the department and/or the advisor. Students holding graduate assistantships should be prepared to accept the obligations of such appointments. The Department of Geography expects graduate assistants to give first priority to academic achievement and to fulfilling the requirements of their appointments. The department normally will attempt to provide funding for a period of two years for those students who qualify. Available funds, departmental needs, and student performance, both academic and as a graduate assistant, are primary criteria. A graduate student holding a full-time or three-quarter-time appointment as a graduate assistant is considered to be pursuing a full-time course of instruction if enrolled in 9 or more semester hours in a fall or spring semester, or 6 semester hours in the summer session.

Internships and Cooperative Education Positions

The Department of Geography also helps to make available internships and cooperative education positions with government or private sector organizations. Internships and cooperative education positions usually carry academic credit and are available in most areas of specialization. In most cases, internships provide financial support equal to that of assistantships, but the level of support may differ according to the specific needs and resources of the agency. Students should note that the number of internships varies from year to year. Contact the Graduate Coordinator for further information.

Requirements for International Students

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 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. In accordance with State statute, teaching assistants engaged in oral instruction shall be persons who possess adequate competence in spoken English.

Rhoten A. Smith Assistantship Program for Women and Minorities

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

Fellowships and Other Awards

There are no application forms for Graduate School Fellowships awarded by the university. A student seeking nomination for one of these awards should contact the Graduate Coordinator. NIU Graduate School Fellowships are awarded in the spring for the following academic year.

Graduate School Fellowships are available to a limited number of outstanding students. They pay stipends for the ten-month academic year and provide tuition waivers (including out-of-state tuition). Selection is based upon academic achievement and departmental recommendation--not financial need. Recipients must enroll as full-time students (9 semester hours each semester). Students at the master's and sixth-year level are eligible.

For externally funded fellowships, graduate students should contact the Office of Sponsored Projects’ Grants and Fellowship Office. A grants and fellowship directory describes opportunities by 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. The Grants and Fellowship Office staff is available to assist students in using the directory and in preparing and submitting externally based fellowship applications.
Grading and Graduation Requirements

Grade Point Average and Academic Standing
To remain in good academic standing, a graduate student must maintain a minimum GPA of 3.0 in graduate courses required on the student's program as well as in all graduate courses taken. A graduate student who fails to maintain a GPA of 3.0 in his or her required program of courses may be dismissed from the degree program. A student-at-large must maintain a GPA of at least 3.0 in all graduate course work. Following any academic term at the end of which the cumulative graduate GPA falls below 3.0, the student will be placed on academic probation.

Academic Probation
A student on academic probation who fails to bring the GPA to the required level of 3.0 upon completion of an additional 9 semester hours of graduate work (excluding S/U course work but including course work for which a grade of IN has been recorded), or upon enrollment in any course 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 semester hours will not be permitted further registration until she or he has removed all grades of I and NR and achieved good academic standing.

Graduate assistants shall be graduate students in good standing on the effective dates of their appointments. Assistants will have appointments terminated if during the term of their appointments they (1) receive academic dismissal or (2) fail to achieve good standing after one semester, excluding summer session, on probationary status. Termination of an appointment due to probationary status may be appealed in writing to the Department of Geography. The office of the Dean of the Graduate School will make the final decision on such appeals.

Incompletes
When a student is passing a course yet special circumstances prevent a student's completing the requirements of a course, the instructor may, at her or his discretion, direct that the symbol I (indicating incomplete) be entered in the student's record. When the I is assigned, the instructor will file in the departmental office and in the Graduate School an Incomplete/Reversion Grade Form outlining the work to be completed, the deadline for completion of the work, and the grade that will be awarded if the student fails to meet the deadline. In no case may the deadline be later than 120 days after the last day of final examinations during the term for which the incomplete is assigned. The incomplete must be removed within 120 days.

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

Advisement
It is the responsibility of the student to seek proper advice and guidance from a faculty advisor throughout their program of graduate study. An advisor should be selected within the first few weeks of the student's first semester in residence. The advisor must be a regular faculty member of the Department of Geography and a member of the graduate faculty. Upon consultation with the advisor, the student will also select an advisement committee which is chaired by the advisor. Under normal circumstances members of the advisement committee will also serve on the student's comprehensive examination and thesis/non-thesis committees.

The advisor is the primary person responsible for directing a student's program of study and ensuring that all programmatic requirements for the degree are met. The advisor, together with the advisement committee, shall meet with the student in his/her first semester in residence to identify a specific set of courses and requirements for the student's degree program. One copy of the student's proposed program of study, signed by the advisor and advisement committee, must be submitted to the Graduate Coordinator by the eighth week of the first semester. Students must meet with the advisor and advisement committee prior to the eighth week of each Fall semester, whether in residence or not, and are encouraged to meet on a more periodic basis. Failure to comply with these advisement guidelines will result in a failing grade in GEOG 600 and possible dismissal from the graduate program.

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 withdrawal deadline specified on the Graduate School website, and must have the approval of the instructor, the department, and the office of the dean of the Graduate School.

Tuition and fees are charged for audit hours on the same basis as for hours taken for credit. Audit hours are included in the calculation of the total course load, but a student who enrolls as an auditor will not receive credit for the course. A student enrolled as an auditor who wishes to change that enrollment to registration for credit must do so early in the term, no later than the add/drop deadline specified for that course.

Withdrawal from a Course or from the University
All drops of or withdrawals from courses must be accomplished before the applicable deadlines. Schedule-change deadlines and drop and withdrawal procedures are published each term. Questions about those procedures should be directed to the Graduate School.

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

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

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 if they copy the work of another during an examination or turn in 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 cheating or plagiarism on an assignment or examination, or assisting others in same, may receive a grade of F for the course involved and may be suspended or dismissed from the university (see the Graduate Catalog).

Application for Graduation
A student who intends to graduate at the end of a particular term must have submitted to the Graduate School a completed graduation application, including the receipt for payment in the Bursar’s Office of the graduation fee, by the graduation-application deadline for that term. The deadline is available online at 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 and fails to graduate at the end of that term, the student must submit a “Reactivation of Application for Degree Form.” That form must be received in the Graduate School at least three months prior to the commencement date.

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

Faculty

Walker Ashley, Ph.D., University of Georgia, 2005, Associate Professor: environmental risk, synoptic and mesoscale meteorology/climatology, hydroclimatic variability, GIS

Mace Bentley, Ph.D., University of Georgia, 1999, Associate Professor: synoptic and mesoscale meteorology/climatology, severe storms, satellite remote sensing, hydroclimatology

David Changnon, Ph.D., Colorado State, 1990, Professor: regional climate variability and change; hydroclimatic studies; synoptic climatology; climate extremes; applied climatology

Xuwei Chen, Ph.D., Texas State University, 2006, Assistant Professor: GIS, spatial analysis and geostatistics, cartography and geovisualization, transportation analysis

David Goldblum, Ph.D., University of Colorado, 1994, Associate Professor: biogeography, human impacts on the environment, natural disturbances, climate change, exotic species introductions, habitat fragmentation

Richard P. Greene, Ph.D., Minnesota, 1989, Associate Professor: urban geography; land resources and remote sensing; geographic information systems; spatial analysis

Michael E. Konen, Ph.D., Iowa State, 1998, Associate Professor: soil sciences, landscape evolution, geomorphology, human impacts on surface processes

Andrew J. Krmencic, Ph.D., Indiana, 1983, Professor: spatial markets, economic geography, quantitative methods, spatial statistics, transportation, agriculture

Wei Luo, Ph.D., Washington University, 1995, Professor: hydrology, geomorphology, physical process modeling, remote sensing, GIS.

David J. Murphy, Ph.D., SUNY College of Environmental Science and Forestry, 2010, Assistant Professor: net energy, ecological economics, systems modeling, spatial analyses

Lesley Rigg, Ph.D., Melbourne, 1998, Professor: biogeography, forest ecology, plant/soil relationships; quantitative methods (vegetation analysis)

Jie Song, Ph.D., Delaware, 1995, Professor: dynamic meteorology/climatology; regional/mesoscale climate modeling; micrometeorology; remote sensing of the environment.

James L. Wilson, Ph.D., University of North Carolina, 1991, Assistant Professor: geography of health and population, rural and historical geography.

Adjunct Faculty


Sharon Ashley, Ph.D., University of Georgia, 2006

Richard Boniak, Ph.D., SIU Carbondale, 2007: Assistant Professor of Environmental Science, Aurora University


Julie D. Jastrow, Ph.D., University of Illinois, 1994: Scientific Associate, Argonne National Laboratory

William P. Kleiman, M.S.Ed., NIU, 1986; Project Director, Nachusa Grasslands Preserve, The Nature Conservancy

Christopher F. Pearson, Ph.D., University of Otago, New Zealand, 1991: Geodetic Advisor for Illinois, NOAA

Michael T. Ritsche, M.S., NIU, 2001: Scientific Associate, Argonne National Laboratory

Mark W. Stelford, Ph.D., NIU, 2001: Soil Research Scientist, John Deere

Staff

Jodi Heitkamp, M.S., NIU, 2006: Cartographer

Rick Schwantes, B.S., NIU, 2003: Research Scientist

Dawn Sibley, A.S., Kishwaukee Community College, 1997: Office Support Associate

Barbara Vogel, Office Manager

Leonard Walther, B.S., NIU, 1982: Cartographer

Phillip Young, B.S., NIU, 1992: Research Scientist and Computing System Administrator
William Morris Davis Fund for Graduate Research

William Morris Davis, for whom Davis Hall is named, is known as one of the fathers of North American geography. A geographer, earth scientist, and meteorologist, Davis initiated some of this country’s first graduate programs in Geography and was a major proponent of the field research method. This fund provides graduate students in Geography with support for the acquisition of specialty data, equipment, supplies, or services related to their thesis, non-thesis or dissertation research.

Who is Eligible to Apply: only those students admitted to candidacy* in the MS or PhD program in Geography at Northern Illinois University. No more than two awards will be made to any one student.

What it Funds:
· purchase of data, equipment, specialty software or supplies not currently available in the department or readily accessible through the university;
· rental of specialty equipment or instrumentation;
· external research services – e.g., laboratory processing, Internet survey hosting, etc.

What it does not Fund:
· field research travel, accommodations, or per diem living expenses
· conference fees, conference travel or per diem living expenses
· publication fees, printing, or reproduction costs
· workshops, training, books, or serials
· computers, computer peripherals, computer services, standard software or applications development/programming tools
· personal services – e.g., typing, transcribing, research assistant, etc.
· salary, tuition, or university fees

Application Process: submit an application packet consisting of
1. a short description of the research, what the award funds will purchase, why this purchase is critical to the research, and a justification of the budget
2. a detailed budget, with vendor/supplier price quotes
3. a timetable for use of the award purchase and completion of the research
4. a statement of transfer to the Department of Geography - where the item(s) purchased will be transferred upon completion of research use

Conditions of Award: All data, equipment, software or supplies purchased with William Morris Davis Award funds will remain the property of the Department of Geography at Northern Illinois University. Students receiving the award will have full and exclusive rights to access/use of award-purchased materials during the active term of their research.

Award Cycle and Deadlines: Applications will be accepted and processed twice each calendar year: fall and spring semester. Completed applications should be submitted to the department’s graduate secretary (or Graduate Coordinator) on or before: October 15 for fall award, or March 15 for spring award.

* PhD students must be fully admitted to candidacy as described in the Graduate Catalog; MS students must have completed a majority of the core courses and at least 20 graduate credit hours in geography at NIU.
Titles of Recent Ph.D. Dissertations, M.S. Theses and M.S. Research Papers
Faculty director in parentheses

2011
Burlingame, Melissa A. “Spatial Analysis of Management Plan Impacts on Landscape Change for the Forest Preserve District of Kane County, IL.” (Goldblum)
Darby, Keith D. “Municipalities Competing for Land: Sorting Out Land Cover Change Among Annexed & Unincorporated Areas of Naperville’s Southwest Expansion Center.” (Greene)
Pearse, Jacob T. “Cryptosporidium and Humans: A Human Ecology Approach.” (Wilson)
Wang, Siqin “Job Density and Employment Subcenters in the Four U.S. Metropolitan Areas.” (Greene)
Whippo, Tara L. “Variable Catchment Sizes for the Two-Step Floating Catchment Area Method: A Case Study of Accessibility to Primary Care Physicians within Two Illinois Regions.” (Luo)

2010
Falsey, Mary Beth “Hydric Soil Determination Using IRIS Tubes, Soil Morphological Features, and Monitoring Wells at a Northern Illinois Wetland.” (Konen)
Gensini, Vittorio A. “Climatology of Potentially Severe Convective Environments from Reanalysis.” (Ashley)
Grudzinski, Bartosz P. “Estimating Hydraulic Conductivity from Drainage Patterns on Mars – A Case Study in the Mare Tyrrehenum Quadrangle.” (Luo)
Haller, Kara A. “The Regional Context of Reviving Downtown Riverside, IL: An Amenity Index Approach.” (Greene)
Haller, Kara A. “The Geography of Foreclosures and the Neighborhood Stabilization Program in Joliet, IL.” (Greene)
Hatzis, Joshua J. “The Development of a Dynamic Root Distribution for the Community Land Model with Carbon-nitrogen Interactions.” (Song)
Hayes, Jessica L. “Community Gardens in Chicago Neighborhoods: The Role of Community Gardens in the Local Food System, Food Accessibility and Environmental Justice.” (Blue)
Kazmierczak, Thomas C. “Rangeland to Cropland Conversion in the Great Plains” (Greene)
Kwit, Matthew C. “Light Environments Influence on Understory Sugar Maple Carbon Balance and Survival at and North of the Current Range Limit.” (Goldblum)
Lisowski, Alicia M. “Characteristics of the Soils in the Boreal and Deciduous Forests of Lake Superior Provincial Park, Ontario, Canada.” (Konen)
Loesch, Jameson L. “The Competitive Role of Balsam Fir (Abies balsamea) in the Forest Understory at the Deciduous/Boreal Forest Ecotone, Ontario, Canada” (Rigg)
Maxwell, Alexis S. “The Vanishing Farmland Myth: Tracking Farmland Loss to Urbanization Through the Use of Geospatial Data.” (Greene)
Paulikas, Marius J. “Thunderstorm Hazard Risk for the Atlanta, GA Metropolitan Region.” (Ashley)
Walsh, Thomas R. “Evaluating and Classifying the Phase Cycles of the Madden-Julian Oscillation.” (Changnon)

2009
Church, Heather L. “The Change of Corn and Soybean Acres in the United States.” (Greene)
Glaves, Brian P. “Seed Rate Study for Restoration Ecology: What Weight of Seed Should Be Planted for Best Results?” (Rigg)
Gilson, Christopher W. “Human Vulnerability to Lightning in Georgia.” (Ashley)
Matthew, Joshua C. “The Homer Site: The First Triceratops Bone Bed – Hell Creek Formation Southeastern Montana.” (Rigg)
McCarragher, Shannon R. “Geographic Variations in Seed Germination, Seedling Growth, and Mortality of Sugar
Maple (*Acer saccharum*) Under Different Temperature and Climate Regimes: Results of Common Garden and Reciprocal Transplant Experiments.” (Goldblum)

**Prell, Jenni A.** “Meteorological Instrumentation Performance and Data Quality Using Temperature, Relative Humidity, and Wind Speed Sensors in Barrow, Alaska.” (Changnon)

**Roberts, Gregory A.** “Analysis of Employment Center Change in the Chicago Metropolitan Area, 1990 – 2000.” (Greene)

**Schoen, Joseph M.** “A Climatology of Fatal Tornadic and Non-tornadic Wind Events by Storm Type in the United States, 1998-2007.” (Ashley)

**Vogel, Cynthia J.** “Agricultural and Urban Land Use Change: Detecting the Perimetropolitan Bow Wave at National and Regional Scales.” (Greene)

**Winter, Jericho M.** “Assessment of Hydric Soil Indicators, Iris Tubes and Water Table Dynamics in Northeastern Illinois.” (Konen)

**Zappa, Monica K.** “Assessing Human Vulnerability to Hurricanes in Latin America Coastal Communities: A Case Study of Bluefields, Nicaragua.” (Ashley/Blue)

**2008**

**Black, Alan W.** “Non-tornadic Convective Wind Fatalities in the United States: 1997-2007.” (Ashley)

**Burman, Anna.** “A Comparison of Flood Data Formats in DeKalb County, IN.” (Greene)

**Burman, Anna.** “Biases and the Importance of Place in U.S. Refugee/Asylee Policy: A Multi-Scalar Analysis of Four Southeast Asian Countries.” (Blue)

**Nyberg, Michelle N.** “Exploration of Chlorophyll Fluorescence for *Acer saccharum* Marsh. Seedlings and Saplings Growing Along Their Northern Range Limit and at a Mid-Range Site in North America.” (Rigg)

**Qi, Yi.** “The Impact of Toxically Releasing Inventory Sites on Residential Property Values in Aurora, Illinois, 1999.” (Greene)

**Vogelman, Brooke L.** “Urban Expansion in Kane County, Illinois: Examining Planning Efforts in a Metropolitan Fringe County with a Purchase of Development Rights Program.” (Greene)

**2007**

**Arnold, Martin T.** “Relative Depravation, Concentrated Disadvantage, and Homicide in Chicago: An Analysis at Multiple Geographic Levels.” (Wang)

**Feliberty, Yvette C.** “Spatial Distribution of Toxic Release Inventory Sites in Illinois: Is there Environmental Inequity?” (Wang)

**Kelly, Heidi R.** “Land Use Impacts on Soil Microbial Community Dynamics.” (Konen)

**Luo, Lan.** “An Exploratory Spatial Analysis of Late-Stage Cancer Diagnosis in Illinois 1998 to 2000.” (Wang)

**McElvogue, Jean M.** “Latino and Asian Settlement Patterns in Chicago’s Suburbs.” (Greene)

**Oltman, Dustin R.** “A Synoptic Climatology of Destructive Tornado Events in the Central Midwest.” (Bentley)

**Sabdo, Christy A.** “Tillage System Impacts on Soil Carbon Stocks in Northcentral Illinois.” (Konen)

**Seales, Dean J.** “A Site Location Analysis of an Apricot Orchard in the Baltimore/Washington Fringe (Appalachian Region).” (Greene)

**Seales, Dean J.** “A GIS Model Approach to Study Urban Change: The Case of the Blackberry Watershed, Illinois.” (Greene)

**Song, Guan.** “Modeling Energy, Water and Carbon Fluxes Over a Corn Field Using Coupled Land Surface Model and Dynamic Crop Model.” (Song)

**Trivedi, Tarun H.** “Designing a Geography Information Systems-based Prototype Airport Noise Reporting System.” (Greene)

**Walden-Mather, Jamie.** “Feral Horse Population Dynamics and Climate Variation in West Central Colorado.” (Krmeneck)

**Wollenweber, Jennifer L.** “The Effects of Cultivation on Soil Properties Along a Catena in Kane County, Illinois.” (Konen)
2006
Catania, Nathan C. “Land-Use Impact on Soil Properties Along a Catena and North Central Illinois.” (Konen)
DeMyunck, Erin L. “The Relationship Between International Migration and Sprawl: the Case of Elgin, IL.” (Greene)
Hall, Soren G. “The Impacts of Urban Sprawl on the Vulnerability to Tornado Hazards in Northeastern Illinois.” (Ashley)
Heitkamp, Jodi L. “Limitations of GIS in Map Production: Illustrations by Examples.” (Wang)
Lee, Lauren M. “Examining Lightning Occurrence at the Most Popular Gold Courses in Georgia Including a Focused Analysis of Lightning Risk Surrounding the Masters Golf Tournament.” (Bentley)
Stowell, Jessica L. “An Exploratory Spatial Analysis of Alzheimer’s Disease in Montreal, Quebec and Vancouver, British Columbia.” (Krmenec)
VerHalen, Patrick J. “Climate Reconstruction for Lake Superior Provincial Park Using Climate-Growth Relationships of Red Pines (Pinus Resinosa).” (Rigg)

2005
Bennett-Wittenauer, Theresa J. “The Costs of Urban Sprawl: How Municipal Service Costs Are Impacted by Land Area Consumption.” (Greene)
Sandstrom, Michael A. “Relating Surface Dew Point Temperatures to Mesoscale Convective Complexes.” (Changnon)
Schaffer, Charles H. III “Investigating the Importance of Land Cover on Evapotranspiration.” (Song)

2004
Granta, Charles. “Using Synoptic Categories to Determine the Relationship of Severe Weather and Low Level Jets to Enhance Weather Prediction.” (Song)
Lauritsen, Ryan G. “An Extreme Dew Point Climatology for the Midwestern United States.” (Bentley)
Liao, Ke. “Climatological Study of the Nocturnal Low-Level Jet in the Southern Great Plains.” (Song)
Napoli, James M. “A Forest Modeling Procedure Using Dasyemtric Interpolation in a GIS Environment: Lake Superior Provincial Park, Ontario, Canada.” (Greene/Rigg)
O’Brien, Van M. “Constructing Geographic Areas for Analysis of Homicide in Small Populations.” (Wang)
Pinna, Martin U. “A Geographic Analysis of Stock Car Racing.” (Greene)
Szczuka, Tomasz. “An Application of Land Evaluation and Site Assessment Model (LESA) and Geographic Information Systems (GIS) as an Effective Measure of Social Implications in Farmland Conversion Process.” (Greene)

2003
Bigley, Russell L. “An Examination of Two Daily Mean Temperature Calculations: Is the Current Mean Temperature Adequate for Calculating Heating Degree Days?” (Changnon)
Sparks, Jesse A. “The Influence of the Great Lakes on the Maintenance of Severe Mesoscale Convective Systems that Traverse Over Them: An Observational Investigation.” (Bentley)
2002
Buell, Honor Melanie. “Suburban Population Clusters of Multi-Family Housing in DuPage County, Illinois: A Look at Walkability and Quality of Life.” (Greene)
Diochon, Amanda C. “A Demographic Analysis of Sugar Maple (Acer Saccharum Marsh) Seedlings at the Species Northern Growth Limit in Lake Superior Provincial Park, Ontario, Canada.” (Rigg)
Hayakawa, Shuhei. “A Graphical User Interface for GIS Analyses of Census Data.” (Greene)
Lindenmier, Larry J. “Student’s Achievement Gap in Illinois: Socioeconomic Status or School District?” (Wang)
Perciante, Craig T. “Measuring and Relating Selected Variables in DLA Simulated Watershed Networks.” (Luo)
Russ, Karen L. “A GIS Analysis of the Paleoclimatic of the Upper Midwest.” (Greene)
Sill, Paul M. “Methods for Determining Retail Trade Area Boundaries for Consumer Oriented Businesses: A Review and Illustration.” (Krmenc)
Sill, Paul M. “An Example of Regression and Probability Modeling in a Retail Based Geographic Information System Environment Using Both Classic and Modern Economic Foundations.” (Krmenc)
Ulreich, Raymond G. “Defining the Geographic Realities of Land Use Change Due to Population Growth.” (Greene)

2001
Healy, Mark L. “The Importance of German Immigration as a Locational Factor in the Illinois Brewing Industry: 1870-1920.” (Wang)
Healy, Mark L. “GEG 101 ONLINE!: A Web-Based Course in World Regional Geography.” (Greene)
Jones, Douglas J. “Analysis of 1985-1990 Immigrant Settlement Patterns Within Metropolitan Areas Classified by Migration Characteristics.” (Greene)
Jones, Linda S. “Composition, Structure, and Regeneration Dynamics of an Oak (Quercus alba) Woodland in Northern Illinois.” (Rigg)
Ritsche, Michael T. “PDO Effects on Winter Temperatures in the United States Midwest.” (Changnon)
Schuble, Todd J. “Intraurban Congestion-Relief Tunnels: A Chicago Case Study.” (Greene)
Siczewicz, Peter J. “An Application of Internet GIS and Temporal GIS to a Digital History Website” (Greene)
Stan, Amanda B. “Factors Affecting White Oak (Quercus alba) Seedling Establishment and Growth in a Northern Illinois Woodland.” (Rigg)

2000
Buhta, Michelle. “ENSO Relationships to Summer Drought in the United States Midwest.” (Changnon)
Cha, Soomee. “Defining Employment Centers in Milwaukee: A GIS Solution to Boundary Questions.” (Greene)
Liang, Shumin. “The Use of Geographic Information System for Locating and Interpreting Contemporary Urban Growth of Chicago’s Urban Fringe.” (Greene)
Guidelines for the Preparation of the Thesis and of Non-Thesis Papers

Master's level research conducted under the thesis or non-thesis option is expected to be a scholarly contribution to knowledge. It should illustrate the student's capabilities for formulating a researchable question and for carrying out the inquiry necessary to answer that question. Thesis research focuses on one specific issue in considerable detail. The non-thesis option is intended for students who prefer to develop and illustrate their capabilities for independent research through two smaller topics. The two non-thesis papers need not be substantively related. However, the two non-thesis research papers are considered to be equivalent to a thesis and, therefore, follow many of the same composition, formatting, and submission guidelines.

Non-thesis Requirements

Two substantive research papers

a. prepared under GEOG 672; neither paper should exceed 3 credit hours.

b. directed by a non-thesis research committee composed of at least two faculty members: a research supervisor and a 2nd reader. The non-thesis supervisor must be a regular faculty of the Department of Geography, additional readers may be adjunct faculty or other faculty persons associated with NIU. Normally, the student's advisor serves as the non-thesis supervisor. As is the case with a thesis committee, the student should choose members for the non-thesis research committee who are most capable of contributing to the completion of the proposed research. It is entirely possible, therefore, that research committees for the first and second papers may be different.

c. one of which must be presented to the Geography Seminar, GEOG 600. The second must be orally defended at a formal defense to the research committee.

d. composed (see below) and formatted according to the directions for a Master's thesis in the Department of Geography.

e. bound and submitted to the Graduate Coordinator upon successful completion. Two copies are required. Non-thesis papers may be soft-bound in 3-hole binders. The front cover of the binder should either be transparent or affixed with a label indicating the paper title and author.

Thesis Requirements

One substantive research report

a. prepared under GEOG 699. Once a student begins enrollment in thesis hours he/she must continuously register until completed. A maximum of 6 credit hours count toward degree requirements.

b. directed by a thesis research committee composed of at least three faculty members. The thesis supervisor is normally the student's advisor and must be a member of the Geography graduate faculty. A majority of the committee must be Geography faculty and a majority must be graduate faculty.

c. defended orally. Oral defenses are open to the public, although only the thesis committee evaluates the student's defense for pass or failure. Students are required to present findings of the thesis at the Geography Seminar (GEOG 600) and to present one paper or poster at a state, regional, or national professional meeting.

d. composed (see below) and formatted according to the directions for a Master's thesis in the Department of Geography. Students 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.

General Organizational Format for the Thesis and Non-thesis Papers

- abstract
- title page
- acknowledgments (optional)
- dedication (optional)
- Table of Contents
- List of Tables (if necessary)
- List of Figures (if necessary)
- List of Appendices (if necessary)
- Preface (optional)
- main body of thesis (begins on page 1)
- references/bibliography
- appendices (if applicable)

### Office Space Policy

Graduate students in the Department of Geography, whether enrolled full- or part-time are eligible for office space within the department. The department currently offers a mix of graduate office space, from smaller 2-3 person rooms to one large 10 person room. Nonetheless, space is limited. The following guidelines (prepared by a graduate student committee) shall serve in the determination and prioritization of graduate office space.

1. Priority of assignments shall be:
   a. -- full-time, funded students with teaching and/or research obligations
   b. -- full-time, non-funded students
   c. -- part-time students.

   In all cases, on-campus students have priority over off-campus students.

2. Office mates may share a common field of study.

3. Seniority of students and personal preferences as to office mates should be honored when possible. Special assignment request should be submitted to the Graduate Coordinator in writing.

4. Change in status from year-to-year, or semester-to-semester should be evaluated on a case by case basis to ensure that office assignments reflect change in responsibility.

5. Incompatibility and dispute resolution should be resolved through mediation and reassignment, if necessary, by the Graduate Coordinator.

6. All graduate students, part- and full-time, will receive a departmental mailbox.

### Employment Information

Students may be interested in information about positions filled by recent geography graduates and the types of organizations employing them. Although the list does not account for all graduates, it highlights employment prospects.

### Positions Held by Recent Graduates

--Land use specialist and environmental planner
--Soil scientist
--Remote sensing analyst
--Census data user consultant
--Air pollution meteorologist
--City planner
--Forest ecologist
--National weather service forecaster
--Environmental Program administrator
--Cartographer/Geographic information manager
--TV Meteorologist
--Geographic market analyst
--Retail site selector
--Transportation systems planner
--GIS system & data consultant
--Commercial and residential property analyst
--GIS Specialist
--Service Climatologist
--Research Meteorologist

### Employers of Recent Graduates

--South Florida Water Planning District
--U.S. Bureau of the Census
--U.S. Bureau of Land Management
--U.S. Forest Service
--City of Chicago
--Kane County Soil Conservation District
--Kane County Development Department
--Salomon Smith Barney
--Thompson & Associates
--World Book
--Rand McNally
--DeKalb County
--Cook County Elections Office
--Cook County Forest Preserve District
--City of Elmhurst
--R.F. Weston
--National Climate Data Center
--Argonne National Lab
--National Weather Service
--Commonwealth Edison
--United Airlines
--Walgreens Co.
--Christopher Burke Engineering
--V3 Companies of Illinois
--John Deere
--Sidwell
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*Availability subject to change
Graduate School Calendar 2011-2012

FALL 2011 SEMESTER

Application deadline:
May 1, 2011  Last day for international students (except permanent residents and persons residing in the U.S.) to submit application and all supporting credentials for Fall 2011 admission.

July 15, 2011  Last day to submit complete application and all supporting credentials for admission for Fall 2011 semester (expect international students; see May 1).

Aug. 22, Mon.  First day of regularly scheduled Fall 2011 classes.

December 2011  Graduation deadlines:
Sat., June 11  Last day to submit completed application (including adviser’s signature and Bursar’s Office receipt for fee payment), and program of courses, for December 2011 graduation.

Oct. 28, Fri.  Last day to submit department’s report of thesis defense.

Nov. 4, Fri.  Last day to submit final post-defense version of thesis electronically.

Dec. 2, Fri.  Last day to submit department’s report of results of comprehensive examination.

Saturday, December 11, 2011  Commencement; December 2011 degree date.

SPRING 2012 SEMESTER

Application deadline:
Oct. 1, 2011  Last day for international students (except permanent residents and persons residing in the U.S.) to submit application and all supporting credentials for Spring 2012 admission.

Dec. 10, 2011  Last day to submit application for admission for Spring 2012 semester (except international students; see October 1). Last day to submit all supporting credentials for Spring 2012 admission (except international students; see October 1).

Jan. 17, Tues.  First day of regularly scheduled Spring 2012 classes.

May2012  Graduation deadlines:
Nov. 4, 2011  Last day to submit completed application (including adviser’s signature and Bursar’s Office receipt for fee payment), and program of courses, for May 2012 graduation.

April 6, Fri.  Last day to submit department’s report of thesis defense.

April 13, Fri.  Last day to submit final post-defense version of thesis electronically.

May 7, Mon.  Last day to submit department’s report of results of comprehensive examination.

Sunday, May 13, 2012  Commencement; May 2012 degree date