

Geography & Geographic Information Science

SCHOOL OF EARTH, SOCIETY & ENVIRONMENT

GRADUATE HANDBOOK

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OVERVIEW

Graduate Programs

"The power and beauty of geography allow us to see, understand, and appreciate the web of relationships between people, places and environments."

Background Information

The University of Illinois at Urbana-Champaign is among the nation's most distinguished teaching and research institutions. The campus is the home of the second largest academic library in the United States and the largest map collection among public universities.

A national leader in the field of computer design and applications, the Urbana-Champaign campus also houses the National Center for Supercomputing Applications and is the home of Blue Waters, a sustained-petaflop supercomputer. The campus serves approximately 43,000 students of whom about 10,000 are engaged in graduate work in more than 100 fields of study. An internationally recognized graduate faculty of approximately 3000 members works closely with graduate students in their respective fields.

The Department of Geography and Geographic Information Science, formerly the Department of Geography, has a long and distinguished history of world-class scholarship. For more than 50 years, the department has been consistently ranked one of the nation's top geography departments for its quality of research and instruction. Today, the department is a vibrant and diverse unit organized around four major core areas of specialization: Cities and Metropolitan Areas; Geographic Information Science; Rivers, Watersheds, and Landscapes Dynamics; and Society, Space, and Environments. Each specialization is staffed by leading experts in their respective fields.

The Department of Geography & Geographic Information Science (GGIS) is home to three Geography graduate programs: Master's (M.A./M.S.) and a Ph.D., and a Professional Science Master's (PSM) program with a concentration in Geographic Information Science. (Please see the Professional Science Master's Handbook for information and program requirements specific to this program.) The Ph.D. also includes an accelerated option for highly-motivated students who wish to pursue a Ph.D. after completion of a bachelor's degree. Each graduate student works closely with a particular faculty member who serves as the student's advisor. Students select among the department's four core specializations as a focus for research and coursework.

Departmental Core Areas of Specialization:

The Department of Geography & Geographic Information Science, and its graduate degree programs, are organized around four-areas of specialization. Each area includes a core group of faculty and graduate students, providing a scholarly community for research and education. The organization and requirements of the specializations are presented at the end of this document.

Cities and Metropolitan Areas: The Cities and Metropolitan Areas specialization recognizes the dramatic growth in the size, number, and population of cities across the globe in the last ten years as

the influence of cities across regions and nations deepens. This track examines the ever-evolving form, function, problems, and possibilities in these places. Areas of emphasis include: urban health and quality of life; urban governance and politics; race, class, and city policing; critical studies of urban transportation and mobilities; globalization, neoliberalization, and the city.

Geographic Information Science: This area of specialization focuses on developing and utilizing geospatial data, methods and technologies for understanding a wide range of social and environmental issues. Areas of emphasis include: Cyber-GIS, spatiotemporal GIS, satellite remote sensing, spatial analysis, qualitative GIS, and GIS and society.

River, Watershed and Landscape Dynamics: Using state-of-the-art field and laboratory equipment, researchers in this area of specialization tie together geomorphological, hydrological, and ecological processes and phenomena to advance understanding of rivers, watershed, and the landscapes affected by them.

Society, Space, and Environment: This area of specialization builds upon the foundations of human geography as an integrating social science to examine the interplay of socio-spatial processes involved in the shaping of the Earth's natural and built environments. The specialization has four emphases:

1) Development Geography; 2) Urban Geography; 3) Politics of the Environment; and 4) The Political Economy of Crime.

Research Facilities

The department also includes several state-of-the-art research laboratories and research groups maintained by individual faculty members. These include:

The *CyberGIS Center for Advanced Digital and Spatial Studies* is internationally-renowned for research in GIScience. Its mission is to empower advanced digital and spatial studies through innovation of CyberGIS technologies and applications. Founded and directed by Prof. Shaowen Wang, and housed in the department, the center addresses diverse GIScience challenges including: computationally intensive spatial analysis and modelling, cyberGIS, cyberinfrastructure-based geospatial problem-solving environments, computing and data-intensive applications and sciences, and high-performance and collaborative GIS.

The *Space-Time Analysis and Research* (STAR) Lab, directed by Prof. Mei-Po Kwan, seeks to develop and apply innovative analytical methods to analyze complex high-resolution space-time data in geographic, health, transport, and urban research.

The *Fluvial Geomorphology* Lab, directed by Prof. Bruce Rhoads and housed in Davenport Hall, aims at improving our basic scientific understanding of the morphodynamics of rivers and streams and the relation of these morphodynamics to human activity, ecosystems, and biogeochemical processes.

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Application Procedure

Applicants must submit a completed application form, three letters of reference, official transcripts from each undergraduate and/or graduate school attended, and an official G.R.E. (Verbal/Quantitative/ Analytical) record. The Graduate Admissions Committee evaluates the student's academic accomplishments and promise as well as the match between the applicant's professional goals and core faculty expertise. Each candidate's statement of purpose is read carefully to determine his or her suitability for the department's graduate program. For information on specific areas of research, please contact a participating faculty member. Information about the department in general, as well as the professional activities of individual faculty members, may be found on the web at www.geog.illinois.edu. Please refer to the Graduate College Apply page for their application procedures and requirements.

Transfer of Credit

The University has specific and stringent requirements concerning the transfer of credit. Please see the Graduate College web site for <u>Transfer of Credit</u> requirements.

Financial Assistance

The Department of Geography & Geographic Information Science provides a wide range of financial support for graduate students working on Master's and Ph.D. degrees. Please visit the <u>Financial Support page</u> for details. Further information on admission requirements and deadlines can be found at the Graduate College <u>Apply</u> page. Questions may be directed to Geography Graduate Contact at (217) 300-3618, or <u>mcohn@illinois.edu</u>.

Ph.D. Program

The Ph.D. is a highly individualized degree that emphasizes advanced training and research. Students develop and demonstrate both depth and breadth in geographical inquiry. They gain an understanding of the major epistemological and methodological questions that have shaped the development of geography as a discipline and master a set of research methods that are appropriate to their area of specialization. Students acquire a detailed understanding of a particular sub-field of geography, conduct and disseminate independent research in that sub-field, and broaden their backgrounds through study in one or more allied disciplines. The program is intended to lead students into innovative research as demonstrated in research seminars, independent investigations, and the completion of a dissertation. The student's academic performance must be marked by initiative, intellectual integrity, a sense of problem identification, and critical acumen.

Students can enter the Ph.D. program through two routes: 1) <u>after earning a Master's degree</u>, or 2) <u>after earning a Bachelor's degree</u>. The degree requirements for each option are described separately.

Admission to the Ph.D. is limited to those who have achieved distinction in previous undergraduate and graduate work (a 3.2 GPA on a 4-point scale is a generally accepted criterion) and who have demonstrated the determination and initiative required for doctoral success. Strong letters of recommendation are essential. International applicants whose native language is not English must meet English Proficiency Requirements for admissions for University of Illinois. International students who would like to be considered for teaching assistantships must submit a TOEFL taken within the last two years and meet the requirements for International Teaching Assistants set by the Graduate College. Graduate College regulations preclude review of any application from a foreign student that does not include a TOEFL score.

Application to the Ph.D. program includes: a completed online application; three letters of reference; official transcripts from all academic institutions attended; official GRE (Verbal, Quantitative, Analytical/Writing) results; plus official TOEFL results from applicants for whom English is a second language.

Students currently in the Geography Master's program at the University of Illinois who wish to apply to the Geography Ph.D. program will need: three letters of recommendation, transcripts from all graduate and undergraduate schools attended; a statement of purpose; plus a <u>petition</u> signed by your advisor and the Director of Graduate Studies.

Ph.D., For Students Entering With A Master's Degree

This option in the Ph.D. program is aimed at highly motivated and academically qualified students who have a strong commitment to earning a doctoral degree and have already earned a Master's degree. The program is designed to take approximately 3-4 years, although the actual time to degree is likely to vary.

Advising

Students enter the Ph.D. program intending to work with a particular faculty member, and that faculty member serves as the student's faculty advisor. Students should meet with their faculty advisor at the time of arrival. At these meetings the student's career objectives and primary interests within the discipline and cognate fields will be reviewed, as well as any deficiencies and appropriate measures to overcome them. The advisor will assist the student in selecting courses for the first semester.

The advisor may be any member of the graduate faculty in the Department of Geography and Geographic Information Science (GGIS). Please see the Graduate College specifications for co-chair and co-research directors. The advisor and student should meet regularly to discuss progress and future plans. Effective communications between student and advisor are critical for Ph.D. success. Either the student or the faculty advisor is free at any time to request a change in advising assignment.

Late in the spring semester of the first year the student and her/his advisor will select two additional faculty members to serve on the student's Departmental Exam Committee. The majority of the committee members must be faculty members of the Department of Geography and Geographic Information Science at the University of Illinois. The student, advisor, and other committee members will meet at the end of this semester and near the end of every semester thereafter (until the student graduates), each time discussing the student's progress with him/her and reporting that progress to the Graduate Committee through the advisor. Changes to the Departmental Exam Committee may be made at any time with approval of both the student and advisor.

Ph.D. Degree Requirements

The Graduate College requires that at least 64 hours of graduate coursework beyond the Master's degree be completed for the Ph.D. degree. Graduate coursework is defined as courses at the 400-level or above.

All graduate students are required to maintain a 3.0 (B) or better G.P.A. and earn an A or B grade in all required courses. Although students consult regularly with their faculty advisor about progress and requirements, the primary responsibility for meeting Graduate College and departmental requirements, and for insuring good progress toward degree completion, lies with the student.

Ph.D. Course Requirements

- 1. GEOG 471 (Introduction to Contemporary Geographic Thought). Doctoral students are strongly recommended to take Geography 471 during their first semester, unless already taken as a Master's student.
- 2. GEOG 491 (Research Methods in Geography). This course examines geographic research design and methodology. It is designed to provide students with guidance in preparing and completing a research proposal in their area of interest, preferably one that they will then complete as part of their degree program. Students are strongly recommended to take this course in their second semester.
- 3. Methods Requirement. All Ph.D. students must take at least two graduate-level courses on analytical research methods from the following options:
 - o GEOG 439 Health Applications of GIS
 - GEOG 440 Business Applications of GIS
 - o GEOG 460 Air Photo Interpretation
 - GEOG 467 Dynamic Simulation of Resource Modeling
 - o GEOG 473 Digital Cartography & Map Design
 - o GEOG 476 Applied GIS to Environmental Studies
 - GEOG 477 Introduction to Remote Sensing
 - GEOG 478 Techniques of Remote Sensing
 - o GEOG 479 Advanced Topics in GIS
 - o GEOG 480 Principles of GIS
 - GEOG 489 Programming for GIS
 - GEOG 570 Advanced Spatial Analysis
 - o GEOG 587 Qualitative Research Methods

Other graduate-level methods courses offered in Geography & Geographic Information Science also count towards this requirement. Courses from other departments or taken in a Master's degree program may be applied to this requirement with the permission of the student's faculty advisor and the Director of Graduate Studies.

Building upon the methods requirement, doctoral students are required to demonstrate competence in a specific research technique. Techniques may include: a foreign language (to the level of passing the ETS reading examination); quantitative or qualitative methods; GIS; cartography or other alternatives from outside the department. The student's advisor is responsible for defining the appropriate level of competency required.

In addition to these formal requirements, the department requires that graduate students attend all department and graduate student colloquia. The department has a formal colloquium series with its talks regularly communicated to graduate students. Such attendance is an important part of the student's professional development, and it is essential in maintaining the department as a vibrant intellectual community.

Each student must also fulfill program requirements specific to his/her specialization area (see relevant statements for: Cities and Metropolitan Areas; Society, Space and Environment; Geographic Information Science; or River, Watersheds, and Landscape Dynamics.)

Students who wish to register for GEOG 595 must obtain faculty approval and complete a 595 Plan of Study Form. GEOG 595 may be taken for a letter grade, S/U (Satisfactory/Unsatisfactory) grade or CR/NC (Credit/No Credit) grade. The CR/NC grade requires the completion of the Credit/No Credit Form by the deadline set by the Graduate College. Please note the <u>Graduate College Handbook</u> regarding Credit/No Credit grades.

The department permits students to take a maximum of 8 credit hours of Geography 595 courses for an S/U or CR/NC grade. Students are not permitted to take CR/NC or S/U grades within their declared program of specialization, or to use CR/NC or S/U grade courses to meet the minimum departmental requirement of two 500-level classes.

Doctoral Candidacy and Examinations

Departmental Examination (Qualifying Exam)

By the end of his/her third semester in residence, the student will take a written and oral *Departmental Examination*. It will be both evaluative and diagnostic, and will focus on the specific area(s) of interest, and the student's area of specialization within the program (e.g., GIScience, physical geography, cities and metropolitan areas, etc.). A student must complete the GGIS Departmental Examination Request Form two weeks prior to the planned exam date. The written examination will cover the following areas:

- a. Basic concepts and literature in the area of specialization
- b. Research methods currently used in the area of specialization.
- c. Areas of interest within the area of specialization.

The advisor is responsible for assembling the questions and administering the written examination. Each question will be evaluated by the committee member who provided it, and the results will be circulated to the entire committee. Two faculty members must be physically present at the oral exam. Upon successful completion, an oral examination will be held to further examine the student's abilities and progress. The possible outcomes are:

- a. Pass; no major deficiencies.
- b. Fail; remediable deficiencies. If there are remediable deficiencies, the committee will identify them, specify the nature of the remedial work to be done, specify a deadline for its completion, and specify a set of criteria for its evaluation. Failure to meet these requirements will result in a "fail"; successful completion will result in a "pass."
- c. Fail; major deficiencies. If deficiencies are serious enough that, in the committee's judgment, the probability of the student's success in the Department's Ph.D. program is low, a "fail" will be recommended. In this case, the student may appeal through established procedures.

Upon completion of the written and oral examinations, the advisor must complete a GGIS Departmental Examination Results Form and place a copy of the written questions, written answers, and the committee's decision in the student's file. This requirement must be met for degree completion.

University Preliminary Exam and Dissertation Proposal

Upon completion of a successful departmental exam, a student in consultation with their advisor will form a Preliminary Exam Committee consisting of at least four faculty members, 3 must be members of the Graduate Faculty, 2 tenured, and a majority must be GGIS faculty. By the end of the fourth semester, the student will prepare a written dissertation proposal and distribute among committee members for comment. Since exposure of one's ideas to the critical review of peers and faculty is an important learning experience, each Ph.D. student is required to make a public presentation of his/her dissertation proposal in a graduate or departmental colloquium.

Two weeks in advance of the presentation, the title and abstract of the proposal will be submitted to the Graduate Contact and circulated to the GGIS community. A complete written version of the proposal will be given to the committee, and a copy will be made available to the department for perusal at least one week before the presentation.

As soon as possible after the colloquium presentation, the student will take the oral *University Preliminary Examination*. The preliminary examination will be administered by a committee appointed by the Graduate College upon recommendation of the advisor and student with the concurrence of the Director of Graduate Studies or Department Head. Students must be enrolled for the entire academic term in which the preliminary exam occurs. According to Graduate College regulations, the committee must include at least four voting members, including the chair, who must be a member of the Graduate Faculty, three members of the Graduate Faculty and two tenured UIUC faculty members. The majority of the committee must be from GGIS.

The examination will focus primarily upon a defense of the dissertation proposal but may include questioning and discussion on the student's area of specialty. The student, committee chair, and at least one additional voting member of the committee must be physically present for all oral components of the entire examination (i.e., presence by video or teleconference is not acceptable). If the committee has more than one chair, all chairs must be physically present; in these cases, no additional voting member is required to be physically present. All voting members of the committee must be present in person or participate via teleconference or other electronic media during the examination, deliberation, and results determination of all oral components of the examination. The outcome, determined by majority vote, may be:

- admission to candidacy;
- admission to candidacy denied pending the removal of apparent deficiencies and reexamination; or
- failure with a request that the student withdraw from the program.

Students who fail may retake the exam one additional time. The committee chair is responsible for convening the committee, conducting the examination, and obtaining the Preliminary Exam Result Form from the GGIS Graduate Contact, who will submit it to the Graduate College.

A student's failure to schedule the preliminary examination within five semesters of enrollment after entering the Ph.D. program will subject his/her record to review by an evaluation committee. In this evaluation the committee may recommend actions to address deficiencies or withdrawal from the program.

Final Examination and Final Examination Committee

After the dissertation is provisionally accepted by the committee, an oral defense, the Final Examination (Defense of the Dissertation), is mandatory. Students must be enrolled for the entire academic term in which the Final Examination occurs. Outcome of that defense may be:

- pass the candidate with no revisions required,
- pass the candidate pending revision of the dissertation, or
- fail the candidate.

If the student passes with one dissenting fail vote on the Final Examination Result form (FER), the dissenting member may, but is not required to sign the Thesis/Dissertation Approval. Students who fail may retake the exam one additional time.

The final examination committee is appointed by the Dean of the Graduate College, upon recommendation of the Head or DGS of GGIS. The student's thesis advisor (i.e. Director of Research) need not be the chair of the committee, but this individual must have an affiliate or adjunct appointment in GGIS and should maintain an active research program. The chair of the final examination committee *must* be a member of the Graduate Faculty and of GGIS.

The committee chair is responsible for convening the committee, conducting the examination, and submitting the Final Examination Result Form to the GGIS graduate contact and to the Academic Services unit of the Graduate College. The student, committee chair, and at least one additional voting member of the committee must be physically present for all oral components of the entire examination (i.e., presence by video or teleconference is not acceptable). If the committee has more than one chair, all chairs must be physically present; in these cases, no additional voting member is required to be physically present. All voting members of the committee must be present in person or participate via teleconference or other electronic media during the examination, deliberation and results determination of all oral components of the examination. In cases in which the student passed with one dissenting fail vote (excluding the Director of Research on the Final Examination Result (FER), the dissenting member may, but is not required to sign the Thesis/Dissertation Approval.

A copy of the completed dissertation must be submitted to the advisor not less than four weeks prior to the scheduled oral defense of the document. The complete dissertation must also be submitted to the Committee at least two weeks in advance of the defense. In no case will a dissertation be accepted less than four weeks prior to the terminal date for Ph.D. final examinations set by the Graduate College for each semester and summer session. The oral exam should be scheduled with close attention to the Graduate College deadlines. Students should not assume that their committee members will be willing to conduct an exam during the summer sessions or without adequate time to evaluate the dissertation.

Dissertation

The dissertation is based on original research and must be a substantial contribution to knowledge. The candidate is encouraged to review progress regularly with his/her committee (usually identical to the preliminary examination committee) and especially with his/her advisor. It is the candidate's responsibility to comply with all Graduate College and GGIS requirements concerning the format of the dissertation. Format guidelines are available on the <u>Graduate College Thesis Requirements</u> web

page. The faculty member responsible for checking the format may also be consulted for guidance. Candidates are encouraged to complete their dissertation in residence.

Annual Review of Student Progress

Graduate student progress and accomplishments are reviewed annually to provide constructive feedback for students and their faculty advisors. Annual reviews of students will involve a two-step procedure. First, students will have a formal meeting with their advisers and discuss academic progress. A form will guide the discussion; and the department will collect the results of the meeting. Second, progress of all students will be discussed at the final faculty meeting of the academic year. In this setting, all faculty will provide their assessment of any particular student.

The student's advisor must inform the Director of Graduate Studies of any disagreement of opinion between the student and the advisor on the performance evaluation, proposed plan of action, or both. The Department Head or other faculty member will provide the second review if the student's advisor is the DGS. It is stressed that the primary purpose of this review is to provide positive feedback and discussion to assist the student in their progress towards graduation and other career goals. The review will also be used as the basis for appointment and funding decisions.

Teaching Opportunities

Graduate students who specify college or university teaching as one of their primary career objectives are strongly encouraged to gain teaching experience by serving as a Teaching Assistant and/or by serving as course instructor. Before becoming a teaching assistant, all graduate students must complete the Center for Innovation in Teaching & Learning Graduate Academy, offered 1-2 weeks before each semester begins. The department will make every effort to provide a primary teaching opportunity for doctoral students at least once during their program. Recommendations for teaching positions will be guided in part by the student's teaching record. In addition, the Center for Innovation in Teaching and Learning offers extensive workshops and seminars in professional development, as well as a teaching certificate.

Summary of Ph.D. Requirements

- \geq 64 credit hours
- Course requirements
 - -GEOG 471
 - -GEOG 491
 - -2 methods classes quantitative or qualitative, see web site for some options
 - -Competence in research technique
- Departmental Exam (3rd semester)
 - -Oral and written components
 - -Covers basic concepts, research methods, area of specialization
 - -Exam committee 3 faculty members, 2 from Geography
- University Preliminary Exam (4th semester)
 - -Prepare dissertation proposal
 - -Present proposal at a graduate or departmental colloquium
 - -Prelim exam involves a defense of the proposal
 - -Committee at least 4 faculty members, majority from GGIS, at least 2 tenured, chair must be Graduate Faculty
- Dissertation preparation and defense
 - -Original research and a substantial contribution to knowledge
 - -Well written and in an acceptable format
 - -Final Examination
 - -Dissertation deposit

Ph.D. Timeline for students entering with a Master's degree

(a very ambitious 3-year program)

YEAR 1 (PhD):

Fall:

- Coursework*, including GEOG 471
- o Meet regularly with faculty advisor

Spring

- o Coursework*, including GEOG 491 (or take GEOG 491 in the spring semester of year 2 if you need more time to develop a dissertation topic)
- o Discuss dissertation topics with advisor
- o Develop dissertation proposal in GEOG 491
- o Meet with faculty advisor to discuss plans and deadlines for departmental exam

YEAR 2 (PhD):

Fall

- o Coursework (this can include GEOG 595)
- o Form departmental exam committee
 - o (at least 3 faculty members including advisor, majority from GGIS)
- o Refine dissertation proposal with advisor
- Form dissertation committee (at least 4 faculty members, 3 members of the Graduate Faculty,
 2 tenured, and majority from GGIS.)
- o Take <u>Departmental Exam (otherwise known as the Qualifying Examination)</u>

Spring

- o Coursework (this can also include GEOG 595)
- o Present dissertation at a graduate or departmental colloquium
- o Take <u>University Preliminary Exam</u>

YEAR 3 (PhD):

Fall

- o Course registration (mainly GEOG 595 and GEOG 599 Thesis Research)
- Dissertation research and writing
- o Meet regularly with advisor and committee
- Start applying for teaching/research positions

Spring

- Course registration (only GEOG 599)
- Dissertation writing
- o Apply for graduation
- o Dissertation: Finish writing dissertation
 - Schedule Final Examination
 - <u>Final Examination(Dissertation Defense)</u> and <u>Dissertation Deposit</u>
- Graduate!!

When planning coursework, remember that you need:

- at least 64 semester hours
- Two methods classes
- Satisfy any specific course requirements for your area of specialization

Professional development is also very important:

- Gain teaching experience, if you want to go into teaching
- Attend conferences
- Present your research at conferences
- Submit papers for publication
- Network with colleagues in your field

Ph.D., For Students Entering With a Bachelor's Degree

This option provides an accelerated track to obtain the Ph.D. degree for highly qualified students who do not yet have a Master's degree. The program emphasizes academic, research and professional development tailored for the Ph.D. degree so that students can move quickly into doctoral studies. A Master's degree, earned after completing certain requirements, is less emphasized than the Ph.D. This option is aimed at highly motivated and academically qualified students who have a strong commitment to earning a Ph.D. degree. The program is designed to take approximately 5 years, although the actual time to degree will vary. Alternatively, students with a Bachelor's Degree may wish to consider applying to the Master's program with a view to applying to the Ph.D. program in their second year.

Advising

Students enter the Ph.D. program intending to work with a particular faculty member, and that faculty member serves as the student's advisor. The advisor, who may be any member of the GGIS graduate faculty, will aid the student in formulating a tentative degree program comprising the most appropriate courses according to the student's background, interests, and career objectives. The advisor and student should meet regularly to discuss progress and future plans. Effective communications between student and advisor are critical for Ph.D. success. Either the student or the faculty advisor is free at any time to request a change in advising assignment.

Late in the spring semester of the first year, the student and his/her advisor will select two additional faculty members to serve on the student's Advisory Committee. The majority of the committee members must be faculty members of the Department of Geography & GIS. The student, advisor, and other committee members will meet at the end of this semester and near the end of every semester thereafter (until the student earns a Master's degree), each time discussing the student's progress with him/her and reporting that progress to the Graduate Committee through the advisor. Changes to the Advisory Committee may be made at any time with approval of both the student and advisor.

Ph.D. Combined Requirements, (General)

The Graduate College requires that at least 96 hours of graduate coursework be completed for the Ph.D. degree. Graduate coursework is defined as courses at the 400-level or above.

The program of study for the Ph.D. for students entering the program with a Bachelor's degree has two distinct phases. The first two years are primarily devoted to coursework and completion of a research paper of publishable quality, which is reviewed by the student's Advisory Committee. Based on the research paper and the student's performance in the program, the committee decides whether the student is eligible to continue in the Ph.D. program beyond the second year. At this stage, a student may be awarded a Master's Degree without being given permission to continue in the Geography Ph.D. program. The second phase of the program involves completion of Ph.D. requirements including additional course requirements, the Departmental Exam (Qualifying Exam), University Preliminary Exam, Final Examination (Dissertation Defense), and dissertation deposit.

All graduate students are required to maintain a 3.0 (B) or better G.P.A, and earn an A or B grade in all required courses. Although students consult regularly with their faculty advisor(s) about progress and requirements, the primary responsibility for meeting Graduate College and departmental requirements, and for insuring good progress toward degree completion, lies with the student.

Course Requirements

- 1. GEOG 471 (Introduction to Contemporary Geographic Thought). This course is an examination of recent trends in geographic thought. Students are strongly encouraged to take Geography 471 during their first semester.
- 2. GEOG 491 (Research Methods in Geography). This course examines geographic research design and methodology. It is designed to provide students with guidance in preparing and completing a research proposal in their area of interest, preferably one that they will then complete as part of their degree program. Students are strongly encouraged to take Geography 491 during their second semester.
- 3. Advanced (500-level) coursework requirement. Students must complete at least 12 credit hours in 500-level courses, and at least 8 or the 12 hours must be in GGIS.
- 4. Methods Requirement. All Ph.D. students entering the program with a Bachelor's degree must take at least two graduate-level courses on analytical research methods from the options listed below. At least one of these courses must be in geographic information systems (GIS) or related geospatial techniques. Appropriate GIScience courses below are identified with an asterisk (*). Other GIScience courses in and outside Geography may be used to fulfill this requirement with the permission of the student's advisor and the Director of Graduate Studies.
 - GEOG 439 Health Applications of GIS*
 - o GEOG 440 Business Applications of GIS
 - o GEOG 460 Air Photo Interpretation*
 - o GEOG 467 Dynamic Simulation of Resource Modeling
 - o GEOG 473 Digital Cartography and Map Design
 - GEOG 476 Applied GIS to Environmental Studies*
 - GEOG 477 Introduction to Remote Sensing*
 - GEOG 478 Techniques of Remote Sensing*
 - GEOG 479 Advanced Topics in GIS*
 - GEOG 480 Principles of GIS*
 - GEOG 489 Programming for GIS*
 - o GEOG 570 Advanced Spatial Analysis
 - o GEOG 587 Qualitative Research Methods

Other graduate-level methods courses offered in GEOG also count towards the methods requirement. Courses from other departments may be applied to this requirement with the permission of the student's faculty advisor and the Director of Graduate Studies.

Building upon the methods requirement, doctoral students are required to demonstrate competence in a specific research technique. Techniques may include: a foreign language (to the level of passing the ETS reading examination), quantitative or qualitative methods, GIS, cartography, or other alternatives from outside the department. The student's advisor is responsible for defining the appropriate level of competency required.

In addition to these formal requirements, the department holds a strong expectation that graduate students will attend the department and graduate student colloquium series on a regular basis. Such attendance is an important part of the student's professional development, and it is essential for maintaining the department as a vibrant intellectual community.

Each student must also fulfill the requirements specific to his/her area of specialization (see below.)

Students who wish to register for GEOG 595 must obtain faculty approval and complete a 595 Plan of Study Form. GEOG 595 may be taken for a letter grade, S/U (Satisfactory/Unsatisfactory) grade or CR/NC (Credit/No Credit) grade. The CR/NC grade requires the completion of the Credit/No Credit Form by the deadline set by the Graduate College. Please note the <u>Graduate College Handbook</u> regarding Credit/No Credit grades.

The department permits students to take a maximum of 8 credit hours of Geography 595 courses for an S/U or CR/NC grade. Students are not permitted to take CR/NC or S/U grades within their declared program of specialization, or to use CR/NC or S/U grade courses to meet the minimum departmental requirement of two 500-level classes.

Doctoral Candidacy and Examinations

1. Research Paper: During the second year, the student will prepare, under the direction of his/her advisor, a research paper of publishable quality. The paper will be prepared in the format of a journal article and presented to the student's Advisory Committee for review and approval. The Advisory Committee will review the student's research paper and decide whether the student is eligible to continue in the Ph.D. program. A copy of the research paper and a form signed by committee members describing the outcome of the research paper review will be submitted to the Graduate Contact and placed in the student's file.

Students who successfully complete the research paper, and have completed at least 32 credit hours of graduate coursework, including course requirements 1-4 above, will be awarded a Master's degree in Geography.

- 2. Departmental Exam: After the successful completion of the research paper and permission to continue to the Ph.D. program has been authorized by petition, the student, in consultation with their advisor, will form a Departmental Exam Committee. The Committee will consist of 3 members of the, the majority from GGIS. By the end of his/her sixth semester in residence, the student will take a written and oral departmental examination. A student must request approval for taking the exam, using the GGIS Departmental Examination Request Form two weeks prior to the exam date. The exam will be both evaluative and diagnostic, and will focus on the area of specialization (e.g., GIScience, physical geography, etc.), as well as the student's specific areas of interest. The written examination will consist of at least one question on each of the following topics:
 - a. Basic concepts and literature of the area of specialization.
 - b. Research methods currently used in the area of specialization.
 - c. A specific area of interest within the area of specialization.

The advisor will be responsible for assembling the questions and administering the written examination. Each question will then be evaluated by the person who wrote the question, and the results will be circulated to the entire committee. Following this, an oral examination will be held to further examine the student's abilities and progress. The possible outcomes are:

- a. Pass; no major deficiencies.
- b. Fail; remediable deficiencies. If there are remediable deficiencies, the committee will identify them, specify the nature of the remedial work to be done, specify a deadline for its completion, and specify a set of criteria for its evaluation. Failure to meet these requirements will result in a "fail"; successful completion will result in a "pass."
- c. Fail; major deficiencies. If deficiencies are serious enough that, in the committee's judgment, the probability of the student's success in the Department's Ph.D. program is low, a "fail" will be recommended. In this case, the student may appeal through established procedures.

Upon completion of the written and oral examinations, the advisor is responsible for completing the GGIS Departmental Exam Results Form and placing a copy of the written questions, written answers, and the committee's decision in the student's file. This requirement must be met for degree completion.

University Preliminary Exam and Dissertation Proposal

Upon completion of a successful departmental exam, a student in consultation with their advisor will form a Preliminary Exam Committee consisting of at least 4 members, 3 must be members of the Graduate Faculty, 2 tenured and the majority must be GGIS faculty. In the seventh semester, the student will prepare a written dissertation proposal and distribute the proposal among committee members for comment. Since exposure of one's ideas to the critical review of peers and faculty is an important learning experience, each Ph.D. student is required to make a public presentation of his/her dissertation proposal in a graduate or departmental colloquium.

Two weeks in advance of the presentation, the title and abstract of the proposal will be submitted to the Graduate Contact and circulated to the GGIS community. A complete written version of the proposal will be given to the committee and a copy will be made available to the department for perusal at least one week before the presentation.

As soon as possible after the colloquium presentation, the student will take the oral <u>University Preliminary Examination</u>. The preliminary examination will be administered by a committee appointed by the Graduate College upon recommendation by the advisor and student with the concurrence of the Department Head. Students must be enrolled for the entire academic term in which the preliminary exam occurs. According to Graduate College regulations, the committee must include at least four voting members, including three members of the Graduate Faculty and two tenured members of the University of Illinois faculty. The majority of the committee must be from GGIS.

The examination will focus primarily upon a defense of the dissertation proposal but may include questioning and discussion on the student's area of specialty and minor field. The student, committee chair, and at least one additional voting member of the committee must be physically present for all oral components of the entire examination (i.e., presence by video or teleconference is not

acceptable). If the committee has more than one chair, all chairs must be physically present; in these cases, no additional voting member is required to be physically present. The student, the chair of the committee, and one voting member of the committee must be present in person throughout the oral component of the examination. Other members of the committee may participate via teleconference or other electronic media during the examination, deliberation, and results determination of all oral components of the examination. The outcome, determined by unanimous vote, may be: admission to candidacy; admission to candidacy denied pending the removal of apparent deficiencies and reexamination; or, failure with a request that the student withdraw from the program. Students who are failed may retake the exam one additional time. The committee chair is responsible for convening the committee, conducting the examination, and submitting the Preliminary Exam Result Form to the GGIS Department and to the Academic Services unit of the Graduate College.

A student's failure to schedule the preliminary examination within five semesters of enrollment after entering the Ph.D. program will subject his/her record to review by an evaluation committee.

Final Examination and Final Examination Committee (Dissertation Defense)

After the dissertation is provisionally accepted by the committee, an oral defense, known as the Final Examination (Defense of the Dissertation), is mandatory. Students must be enrolled for the entire academic term in which the Final Examination occurs. Outcome of that defense may be pass the candidate with no revisions required, pass the candidate pending revision of the dissertation, or fail the candidate. Students who are failed may retake the exam one additional time.

The final examination committee is appointed by the dean of the Graduate College, upon recommendation of the Head or DGS of Geography & GIS. The student's thesis advisor (i.e. Director of Research) need not be the chair of the committee, but this individual must have an affiliate or adjunct appointment in the Department of Geography & GIS and should maintain an active research program. The chair of the final examination committee must be a member of the Geography & GIS Graduate Faculty. The committee chair is responsible for convening the committee, conducting the examination, and submitting the Final Examination Result Form to the GGIS Department and to the Academic Services unit of the Graduate College.

The student, committee chair, and at least one additional voting member of the committee must be physically present for all oral components of the entire examination (i.e., presence by video or teleconference is not acceptable). If the committee has more than one chair, all chairs must be physically present; in these cases, no additional voting member is required to be physically present. All voting members of the committee must be present in person or participate via teleconference or other electronic media during the examination, deliberation and results determination of all oral components of the examination. In cases in which the student passed with one dissenting fail vote (excluding the Director of Research) on the Final Examination Result form (FER), the dissenting member may, but is not required to sign the TDA (Thesis/Dissertation Approval). The TDA form must be signed by all of the committee members and submitted before the student submits the final dissertation to the Graduate College.

A copy of the completed dissertation must be submitted to the advisor not less than four weeks prior to the scheduled oral defense of the document. The complete dissertation must also be submitted to the Committee at least two weeks in advance of the defense. In no case will a dissertation be accepted less than four weeks prior to the terminal date for Ph.D. final examinations set by the Graduate

College for each semester and summer session. The oral exam should be scheduled with close attention to the Graduate College deadlines. Students should not assume that their committee members will be willing to conduct an exam during the summer sessions or without adequate time to evaluate the dissertation.

Dissertation

The dissertation is based on original research and must be a substantial contribution to knowledge. The candidate is encouraged to review progress regularly with his/her committee (usually identical to the preliminary examination committee) and especially with his/her advisor. It is the candidate's responsibility to comply with all Graduate College and GGIS requirements concerning the format of the dissertation. Format guidelines are available on the <u>Graduate College website</u>. The faculty member responsible for checking the format may also be consulted for guidance. Candidates are encouraged to complete their dissertation in residence.

Annual Review of Student Progress

Graduate student progress and accomplishments are reviewed annually to provide constructive feedback for students and their faculty advisors.

Teaching Opportunities

Graduate students who specify college or university teaching as one of their primary career objectives are strongly encouraged to gain teaching experience by serving as a Teaching Assistant and/or by serving as course instructor. Before becoming a teaching assistant, all graduate students must complete the Center for Innovation in Teaching & Learning Graduate Academy. The department will make every effort to provide a primary teaching opportunity for doctoral students at least once during the student's program. Recommendations for teaching positions will be guided in part by the student's teaching record. Students are encouraged to gain insight into college teaching through the Department's Professionalization Program. In addition, the Center for Innovation in Teaching and Learning offers workshops and seminars in professional development, as well as a teaching certificate.

Summary of Combined MA/Ph.D. degree requirements

- \geq 96 credit hours
- Course requirements
 - GEOG 471
 - GEOG 491
 - 2 methods classes, including one GIS class see website for details
 - ≥ 12 hours at the 500 level, at least 8 of those hours in Geography
 - Competence in research technique
- Research Paper (4th semester)
 - Research paper of publishable quality
 - Present research paper to advisory committee
 - Advisory committee consists of 3 faculty members, at least 2 from Geography
- Advisory committee decides if student is eligible to continue for Ph.D.
 - Departmental Exam (6th semester)
 - Oral and written components

- Covers basic concepts, research methods, area of specialization
- Exam committee 3 faculty members, 2 from Geography
- University Preliminary Exam (7th semester)
 - Prepare dissertation proposal
 - Present proposal at departmental colloquium or graduate colloquium
 - Prelim exam involves a defense of the proposal
 - Committee at least 4 faculty members, 3 from the Graduate Faculty, 2 tenured and majority from GGIS,
- Dissertation preparation and defense
 - Original research and a substantial contribution to knowledge
 - Well written and in an acceptable format
 - Final Examination

Dissertation Deposit

PhD Timeline – <u>Combined</u> Master's and Ph.D. program (5-year program):

YEAR 1:

Fall:

Coursework,* including GEOG 471

Spring

- Coursework*
- o Discuss research paper topics with advisor. Work on research over summer
- Meet with faculty advisor to discuss plans and deadlines for departmental exam
- o Form Advisory Committee (3 faculty members including advisor, with a majority from GGIS)

YEAR 2:

<u>Fall</u>

- Coursework*
- o Conduct research for Research Paper
- Start writing Research Paper

Spring

- o Coursework* (this can also include GEOG 595)
- o Finish Research Paper
- o Submit research paper to committee for approval
- Meet with faculty advisor and advisory committee to discuss plans, reading lists and departmental exam

YEAR 3:

Fall:

- Coursework*, (this can include GEOG 595)
- o Discuss dissertation topics with advisor

Spring

- Coursework*, including GEOG 491
- o Develop dissertation proposal in GEOG 491
- o Take <u>Departmental Exam</u>
 - Form dissertation committee (at least 4 faculty members, 3 from Graduate Faculty, 2 tenured, and majority from GGIS

YEAR 4:

Fall

- Coursework mainly GEOG 595
- Complete dissertation proposal
- o Present dissertation proposal at a graduate or departmental colloquium
- o Take <u>University Preliminary Exam</u>
- o Apply for grants and fellowships for dissertation research

Spring

- o Registration mainly or only GEOG 595 and GEOG 599
- Conduct dissertation research

YEAR 5:

Fall

- o Registration Mainly GEOG 595 and GEOG 599
- Dissertation research and writing
- Meet regularly with advisor and committee
 Start applying for teaching/research positions

Spring

- o Registration Only GEOG 599
- o Apply for graduation
- o Dissertation: Finish writing dissertation
 - Schedule Final Examination and Dissertation deposit
- Graduate!

*When planning courses, remember that you need:

- at least 96 semester hours
- Two methods classes
- Satisfy any specific course requirements for your area of specialization

Professional development is also important:

- Gain teaching experience, if you want to go into teaching
- Attend conferences
- Present your research at conferences
- Submit papers for publication
- Network with colleagues in your field

Master's Program

The Department of Geography & Geographic Information Science awards the Master of Arts or Master of Science degree in Geography to those who successfully complete the Department's general M.A./M.S. requirements and the requirements of one of the Department's areas of specialization (Cities, and Metropolitan Areas; Geographic Information Science; Society, Space and Environments; Rivers, Watersheds, and Landscape Dynamics). In exceptional cases, a student may obtain a degree outside a normal program through separate agreement with an individual faculty member and approval of the Director of Graduate Studies.

The purpose of the Master's program is to provide a framework by which the candidate may obtain competence in at least one of the systematic branches of geography and support this with mastery of at least one primary research technique and a basic understanding of geographic information systems (GIS). Master's degree work incorporates formal class work, seminars and direct research experience.

Admission to a Master's degree program is restricted to those applicants who have demonstrated high academic ability (a 'B' average is a generally accepted minimum requirement). A complete application requires: a completed online application; three letters of reference, official transcripts from each academic institution attended, and official GRE results (Verbal/Quantitative/Analytical Writing, taken within two 2 years of the beginning of the first proposed term of study). Applicants are advised that the Admissions Committee carefully evaluates the student's statement of purpose.

Students whose native language is not English are required to meet the English Proficiency Requirements set by the Graduate College for admission. The policy for international teaching assistants can also be found on the Graduate College website at English Proficiency Requirement for International Teaching Assistants. Graduate College regulations preclude review of any application from a foreign student that does not include a TOEFL score.

Advising

Students enter the Master's program intending to work with a particular faculty member, and the faculty member serves as the student's advisor. The advisor, who must be a member of the Geography & Geographic Information Science graduate faculty, will aid the student in formulating a tentative degree program comprising the most appropriate courses according to the student's background, interests, and career objectives. The advisor and student should meet regularly to discuss progress and future plans. Effective communications between student and advisor are critical for Master's success. Either the student or the faculty advisor is free at any time to request a change in advising assignment.

At these meetings the student's career objectives and primary interests within the discipline and cognate fields will be reviewed, as well as any deficiencies and appropriate measures to overcome them. The advisor will assist the student in selecting courses for the first semester.

Master's Program Requirements

The Graduate College requires that at least 32 hours of course work be completed for a Master's degree. Twelve of the 32 hours must be in 500 level courses, and at least eight of these twelve must be

in Geography & Geographic Information Science. An overlapping requirement is that at least 16 400/500 level hours must be accumulated in Geography.

The University has specific and stringent requirements concerning the transfer of credit. Please see the Graduate College web site for <u>Transfer of Credit</u> requirements.

Master's Course Requirements:

- 1. GEOG 471 (Introduction to Contemporary Geographic Thought). GEOG 471 provides students with a review of the geographic methodologies and philosophies that have prevailed in recent decades, as well as those of the present. In addition, this course provides students with exposure to the research methodologies of a variety of departmental faculty members. It is strongly recommended that the student take this course in the first semester of study.
- 2. GEOG 491 (Research Methods in Geography). GEOG 491 is designed to provide students with appropriate guidance in preparing and completing a research proposal in their area of interest, preferably one that they will then complete as part of their degree program. It is strongly recommended that the student take this course in the second semester of study.
- 3. GIS Requirement. All Master's students are required to take at least one course on geographic information systems (GIS) and related geospatial techniques. Options include:
 - o GEOG 439 Health Applications of GIS
 - o GEOG 440 Business Applications of GIS
 - o GEOG 440 Business Applications of GIS
 - o GEOG 460 Air Photo Interpretation
 - GEOG 473 Digital Cartography and Map Design
 - GEOG 476 Applied GIS to Environmental Studies
 - GEOG 477 Introduction to Remote Sensing
 - GEOG 478 Techniques of Remote Sensing
 - o GEOG 479 Advanced Topics in GIS
 - o GEOG 480 Principles of GIS
 - GEOG 489 Programming for GIS

Other graduate-level GIS courses may be applied to this requirement with the permission of the student's faculty advisor and the Director of Graduate Studies.

In addition to these formal requirements, the department holds a strong expectation that graduate students will attend the department and graduate student colloquium series on a regular basis. Such attendance is an important part of the student's professional development, and it is essential for maintaining the department as a vibrant intellectual community.

Each student must also fulfill the requirements specific to his/her specialty area (see statements for Cities and Metropolitan Areas; Geographic Information Science; Rivers, Watersheds, and Landscape Dynamics; Society, Space and Environments). It is important to note that some areas of specialization (e.g., Rivers, Watersheds, and Landscape Dynamics) require a student to take the thesis option in completing their degree.

Students who wish to register for GEOG 595 must obtain faculty approval and complete a 595 Plan of Study Form. GEOG 595 may be taken for S/U (Satisfactory/Unsatisfactory) grade or CR/NC

(Credit/No Credit) grade. The CR/NC grade requires the completion of the Credit/No Credit Form by the deadline set by the Graduate College. Please note the <u>Graduate College Handbook regarding</u> Credit/No Credit grades:

- a. The department restricts a student to a maximum of 8 S/U credits or CR/NC grades, including the thesis if this option is taken.
- b. Students are not permitted to use S/U or CR/NC grades to meet the Graduate College's minimum requirement of three 500-level classes.
- c. Please note the <u>Graduate College Handbook Registration</u> policies before registering for these credits.

The department requires all graduate students to maintain a 3.0 (B) average or better. All courses that are required, either by the department or by the student's area of specialization, must be passed with an A or B grade. For elective courses, the student's average grade must be 3.0.

Master's Research Paper Requirement:

Students are required to initiate and complete a research project and present the findings in a set of research papers or a thesis; completion is understood to mean production of an acceptable written thesis or papers. For students in the GIS and Society, Space and, Environments areas of specialization, this requirement may be fulfilled in one of the following ways:

- a. Research Paper Option: Two (2) written research papers which address substantive research questions; these papers will be submitted formally to the examining committee prior to the oral examination. Such papers are typically derived from 500-level research seminars, independent study, planned summer field experience, or from an internship.
- **b.** Thesis Option: Successful completion of a Master's thesis. A maximum of 8 semester hours of thesis research (GEOG 599) may be counted towards the Master's degree; the Master's thesis must be approved by a member of the Graduate Faculty.

The research papers or thesis must be presented in a style used by one of the major professional journals. Students in the Rivers, Watershed and Landscape Dynamics are required to submit a thesis. The student will be expected to answer questions about the research papers/thesis during the Master's examination.

Final Examination for Master's Degree

The student must have completed or must be enrolled in all courses needed for the degree and must have completed all other requirements before taking the Master's final examination.

The student and his/her advisor will select two additional faculty members to serve on the student's Advisory Committee. The majority of the committee must comprise faculty members of the Department of Geography and Geographic Information Science at UIUC.

The final examination for students taking the "Research Paper Option" (option a.) will consist of both oral and written segments, but it will be viewed as a single unit for purposes of evaluating the student's performance. The written portion will consist of approximately five questions assembled by the advisor: one on the student's research technique, one on geographic philosophy and

methodology, and three on the student's area of specialization. The question on methodology will deal primarily with research approaches being used in the student's area of the discipline as illustrated by recent books and periodicals. Within two weeks after the written portion is completed, the oral portion will be given. The committee will examine the student to assess his/her ability in analytical thinking and general knowledge of the contemporary situation in the declared area of specialization. Students should not assume that their committee members will be willing to conduct an exam during the summer sessions or without adequate time to evaluate the dissertation.

Students who complete a thesis (option b) are not required to undertake a final written examination. However, they are required to undertake an oral defense of their thesis. As a result of either final examination, the committee will award the student a grade of:

- a. Pass; no major deficiencies. If taking the thesis option the student is then responsible for meeting the Graduate College requirements to deposit the thesis.
- b. Fail; remediable deficiencies. If there are remediable deficiencies the committee will identify them, specify the nature of the remedial work to be done, specify a deadline for its completion, and specify a set of criteria for its evaluation. Failure to meet these requirements will result in a "fail"; successful completion will result in a "pass."
- c. Fail; major deficiencies. If deficiencies are serious enough that, in the committee's judgment, the student does not meet acceptable standards for a Master's degree from this department, a "fail" will result. In this case, the student may appeal through established procedures to the Department's Faculty Advisory Committee. The appeal will then be rejected or allowed. If allowed, the student will be re-examined orally by a new committee whose recommendation will be final.

NOTE: Whatever the outcome of the student's examination, the advisor is required to submit a written record of the examination result to the Graduate Contact, as well as copies of the examination questions and written answers if the research paper option was followed.

Elective Courses for Master's Program

Elective courses are selected with consent of the advisor. Note the following requirements and restrictions.

- You must complete at least 16 400/5000 level hours in geography. Usually this is met by GEOG 471, GEOG 491, a GIS course, and two 500 level GEOG courses.
- A maximum of 2 elective courses may be taken S/U or CR/NC (including a thesis). Please note the Graduate College Handbook for CR/NC grades.
- If you write a thesis, only 8 hours of GEOG 599 credit will apply towards the minimum 32 hours needed for the Master's degree. Additional GEOG 599 credit may be earned in the course of completing the thesis, but will not reduce the 400/500 level credit needed to complete the degree requirement below the minimum level of 24 hours. The Graduate College requires that the Master's thesis be approved by a member of the Graduate Faculty.

NOTE: This is an integration of university and departmental requirements and, therefore, represents the minimum requirements. Students must meet the minimum requirements for both the Department of Geography and Geographic Information Science and the Graduate College in order to obtain a degree.

Summary of Master's degree requirements

- \geq 32 credit hours
- Course requirements
 - GEOG 471
 - GEOG 491
 - One GIS class
 - ≥ 12 hours at the 500 level, at least 8 of those hours in GEOG
- Thesis option
 - Prepare and defend a Master's thesis (registration in GEOG 599 is required for the deposit of a thesis.)
 - Independent research in your area
 - Thesis committee 3 faculty members, majority from GGIS
- Exam option
 - 2 research papers (may be seminar/class papers)
 - Oral and written exams
 - Exam committee − 3 faculty members, majority from GGIS

Master's (MA or MS) Timeline

YEAR 1 (MA/MS):

Fall:

o Coursework*, including GEOG 471

Spring

- o Coursework*, including GEOG 491
- o Meet with faculty advisor to discuss plans and deadlines for Master's thesis or exam
- o Thesis option: Identify topic for Master's thesis
- o Select thesis committee (at least 3 faculty members including advisor, with a majority from GGIS)

YEAR 2 (MA/MS):

<u>Fall</u>

o Coursework (this can include GEOG 595 and GEOG 599, (GEOG 599 required for students depositing a thesis)

Thesis option:

- Conduct and complete research for thesis
- Start writing thesis
- Discuss deadlines and defense/exam date with faculty advisor
- o Exam option:
 - Identify 2 research papers for requirement
 - Identify areas/topics for Master's exam
 - Select exam committee

YEAR 2 (MA/MS) continued:

Spring

- o Coursework (this can include GEOG 595 and GEOG 599, (GEOG 599 required for students depositing a thesis)
- o Thesis option: Finish writing thesis
 - Schedule thesis defense
 - Thesis defense and deposit
- o Exam option: Discuss content of exam with faculty advisor and committee
 - Schedule exam
 - Complete exam
- o Apply for graduation
- o Graduate!

*When planning courses, remember that you need:

- At least 32 credit hours
- One GIS class
- At least 12 hours at the 500 level, with at least 8 of those hours in Geography and Geographic Information Science (this can include GEOG 595 and GEOG 599)
- Satisfy any specific course requirements for your area of specialization.

Cities and Metropolitan Areas Specialization

Statement

The Cities and Metropolitan Areas specialization recognizes the dramatic growth in the size, number, and population of cities across the globe in the last ten years as the influence of cities across regions and nations deepens. This track examines the ever-evolving form, function, problems, and possibilities in these places. Empirical focus extends to cities and their relations as they operate in North America, the global north, and the global south. Scholarly work in this area of specialization rests on the belief that robust theory and incisive empiricism are equally important elements to deeply understanding the current nuances of cities, their processes, and their relations.

Research methods used to advance understanding of cities and metropolitan regions embrace a diverse set of tools and techniques, centering around the synergistic strengths of qualitative, quantitative, and GIS applications. Qualitative techniques (including field observation, ethnographic analysis, open-ended interviewing, survey research, archival search, and discourse analysis), quantitative techniques (including descriptive and inferential statistics, spatial analysis, analytic modeling, social network analysis), and geographic information systems analysis are equally important approaches.

Emphases

The Department of Geography and Geographic Information Science (GGIS) at the University of Illinois at Urbana-Champaign offers a graduate program leading to both M.A. and Ph.D. degrees in Geography, with specialization in the study of cities and metropolitan areas. This specialization has five emphases:

- 1. Spatial access to health care
 - Socio-spatial segregation and wellness
 - o Social justice and health care provision
 - o Neighborhoods and Health
 - Environment and health
- 2. Urban Governance and Politics
 - o Regimes of power and city redevelopment
 - o Discourses of city growth and city redevelopment
 - Urban economic development and politics
 - City policing strategies and social justice
 - New and emerging suburban socio-political trends
 - Urban political ecology
- 3. Urban Physical and Social Transformation
 - City spatial structure
 - City gentrification
 - o Creative city making
 - New patterns of segregation
 - Race theory
- 4. Critical Studies of Urban Transportation and Mobilities
 - New infrastructural provision
 - o Critical perspectives on infrastructure and economic development

- Mobilities of people and freight
- o Accessibility for different social groups (by race, class, gender, ethnicity)
- 5. Globalization, Neoliberalism, and the City
 - o City-global economic relations
 - o Changing neoliberal political dynamics
 - o Politics of the local urban state
 - o Neoliberalism, ghettoization, and incarceration
 - o Cities and the global south

All five emphases are concerned with geographical change, conflict, and development in both historical and contemporary contexts.

Master's Requirements

Students must meet all GGIS requirements for the Master's program, including Geography 471 (Introduction to Contemporary Geographic Thought), a GIS class, and Geography 491 (Research in Geography), or their equivalent. Students can pursue the Thesis option or the Exam Option for the M.A. Degree. The thesis option may be required for entry into subsequent Ph.D. programs.

Ph.D. Requirements

Students must meet all GGIS requirements for the Ph.D. in Geography including Geography 471 (Introduction to Contemporary Geographic Thought) and Geography 491 (Research in Geography), or their equivalent. The dissertation must be within the advising competence of the faculty in the program and is expected to be an original contribution to the field and to involve the examination of geographic processes using appropriate research methodology.

Advanced Courses Offered in the Department

- GEOG 410: The Geography of Development and Underdevelopment
- GEOG 412: Geospatial Technology and Society
- GEOG 438: Geography of Health Care
- GEOG 439: Health Applications of GIS
- GEOG 440: Business Applications of GIS
- GEOG 446: Sustainable Planning Seminar
- GEOG 465: Transportation and Sustainability
- GEOG 482: Challenges of Sustainability
- GEOG 483: Urban Geography
- GEOG 520: Political Ecology
- GEOG 560: Spatial Epidemiology
- GEOG 570: Advanced Spatial Analysis
- GEOG 587: Qualitative Research Methods
- GEOG 594: Seminar in Social Geography: the Turbulent City
- GEOG 594: Seminar in Social Geography: the Poststructuralist City
- GEOG 595: Advanced Studies in Geography
- GEOG 595: Seminar: The Urban Environment
- GEOG 595: Seminar: Mobilities

Related Courses Offered in Cognate Departments

- AAS 479: Race, Medicine and Society
- ANTH 557: Social Construction of Space
- ANTH 565: Race and Cultural Critique
- PS 415: Neighborhoods and Politics
- SOC 421: Racial and Ethnic Families
- SOC 472: Urban Communities and Public Policy
- SOC 521: Sociology of Race and Racism
- SOC 578: Ethnography Urban Communities
- UP 406 : Urban Ecology
- UP 407: State and Local Public Finance
- UP 420: Planning for Historic Preservation
- UP 423: Introduction to International Planning
- UP 533: Community in American Society
- UP 535: Local Policy & Immigration
- UP 546: Land Use Policy and Planning
- UP 547: Regional Planning and Policy
- UP 552: Regional Development Theory
- UP 587: Qualitative Research Methods
- UP 589: Research Design and Methods

Participating Faculty

- Trevor Birkenholtz
- Julie Cidell
- Brian Jefferson
- Mei-Po Kwan
- Sara McLafferty
- David Wilson

Affiliated Faculty

Ulrike Gerhard, University of Heidelberg (Germany) Faranak Miraftab, Urban and Regional Planning

For More Information

The Department of Geography and Geographic Information Science provides a wide range of financial support for graduate students working on Master's and Ph.D. degrees. Please visit the <u>Financial Support page</u> for details. Further information on admission requirements and deadlines can be found at the Graduate College <u>Apply</u> page. Questions may be directed to Geography Graduate Contact at (217) 300-3618, or email <u>mcohn@illinois.edu</u>,

Dr. David Wilson, Director of Graduate Studies, can be reached at (217) 333-0877. For further information on the Cities and Metropolitan Areas Program, or contact a participating faculty member.

Geographic Information Science Specialization

Statement

Revolutionary changes are taking place in how we process, analyze, and model the enormous quantities of geographic information generated by satellites, mobile devices, sensor networks, and other geospatial technologies. The Geographic Information Science specialization examines the nature of digital geographic information, the geospatial tools and methods for analyzing and modeling such information, and the value of geographic information for understanding economic, environmental and social transformations at the local, regional, national and global scales. We emphasize methodological training in GIScience as the foundation for using geographic information to understand these changes and for developing innovative new tools and technologies for analyzing and managing geospatial information in the decades to come. Students also gain a critical awareness of the roles of geographic information and GIScience in society and the strengths and limitations of GIScience tools and technologies.

Emphases

The Department of Geography and Geographic Information Science (GGIS) at the University of Illinois offers a graduate program leading to both the Master's and Ph.D. degrees in Geography with a specialization in Geographic Information Science (GIScience). Students can focus on: (1) GIScience methods and theory in areas such as: geographic information systems, dynamic modeling, remote sensing, interregional modeling and spatial analysis; or (2) the application of GIScience methods in areas such as health, urban, physical, or environmental geography. Specific areas of emphasis include:

GIScience methods and development

- a. space-time integration in GIScience
- b. satellite remote sensing
- c. Cyber GIS
- d. parallel and distributed computing
- e. multi-scale and distributed GIS

Spatial Analysis

- a. geospatial big data analytics
- b. collection and analysis of GPS data
- c. spatiotemporal modeling and analysis
- d. agent-based modeling
- e. geostatistical modeling and landscape analysis
- f. spatial accessibility modeling

Environmental and socioeconomic applications

- a. vegetation and climate change
- b. dynamics of watersheds and fluvial systems
- c. land cover disturbance and change
- d. health and health care
- e. urban travel and mobility
- f. GIS and society

The Department of Geography & Geographic Information Science has a state-of-the-art laboratory for teaching in GIScience. The teaching laboratory consists of 30 workstations equipped with a wide variety of software for GIS, image processing, air photo interpretation, and spatial/statistical analysis. Students also have access to an array of input/output devices, including a large-format, color plotter Facilities for GIS research are distributed among the research laboratories listed below. Campus-wide computing resources include the National Center for Supercomputing Applications, a world-class facility for supercomputing.

CyberGIS Center for Advanced Digital and Spatial Studies

The *CyberGIS Center for Advanced Digital and Spatial Studies* is internationally renowned for research in GIScience. Its mission is to empower advanced digital and spatial studies through innovation of CyberGIS technologies and applications. Founded and directed by Prof. Shaowen Wang, and housed in GGIS, the center addresses diverse GIScience challenges including: computationally intensive spatial analysis and modelling, CyberGIS, cyberinfrastructure-based geospatial problem-solving environments, computing and data-intensive applications and sciences, and high-performance and collaborative GIS.

Prerequisites

Applicants to the Geography program with a specialization in GIScience are expected to have completed: 1) a course in GIS or cartography, 2) an introductory statistics course.

Master's Requirements

Students must meet all GGIS requirements for the Master's degree including GEOG 471 (Recent Trends in Geographic Thought), and GEOG 491 (Research in Geography). In addition, students must complete at least three courses from the GIScience core. With permission of the faculty advisor, students may substitute GIScience-related courses offered in other departments. GIScience students are strongly encouraged to pursue the Thesis option for the Master.

Ph.D. Requirements

For admission to the doctoral program, with a specialization in Geographic Information Science, a completed Master's degree with thesis is required. Students must meet all Departmental requirements for the Ph.D. degree including GEOG 471 (Recent Trends in Geographic Thought), and GEOG 491 Research in Geography), or their equivalents. The GIScience specialization also requires GEOG 479 Advanced Topics in GIS), or GEOG 480 (Principles of GIS), or the equivalent, and additional graduate coursework in one or more specialized areas of GIScience, including at least one 500-level course. Students are encouraged to take GIScience-related courses in fields such as computer science, agricultural economics, econometrics, and atmospheric sciences.

Core Courses

- GEOG 412: GIS and Society
- GEOG 439: Health Applications of GIS
- GEOG 440 Business Applications of GIS
- GEOG 460: Analysis and Interpretation of Aerial Photography
- GEOG 467: Dynamic Simulation of Natural Resource Problems
- GEOG 468: Biological Modeling
- GEOG 473: Digital Cartography and Map Design
- GEOG 476: Applied GIS to Environmental Studies
- GEOG 477: Introduction to Remote Sensing
- GEOG 478: Techniques of Remote Sensing
- GEOG 479: Advanced Topics in GIS
- GEOG 480: Principles of Geographic Information Systems
- GEOG 481: Modeling Earth and Environmental Systems
- GEOG 489: Programming for GIS
- GEOG 570: Advanced Spatial Analysis

Participating Faculty

- Julie Cidell
- Mei-Po Kwan
- Sara McLafferty
- Shaowen Wang

Affiliated Faculty

• Surangi Punyasena, Plant Biology

River, Watershed, and Landscape Dynamics

Students wishing to enter this area of specialization are strongly urged to contact the participating faculty member most closely matching their prospective research interests. The program emphases are closely tied to current research interests of individual faculty members.

Statement

The River, Watershed, and Landscape Dynamics area of specialization builds upon the foundations of physical geography as an integrating science that examines the origins, contemporary development, and processes of the Earth's natural and human-modified surfaces. All participating faculty place strong emphasis on the theoretical underpinning of their research and teaching. The principal research themes of this area of specialization reflect the specialties of the participating faculty. Each of the participating faculty has strong links to other departments and/or programs on campus and a high proportion of the research conducted in the specialization has a strong interdisciplinary flavor. It also maintains strong cross-campus connections with other water-related research programs in Geology, Civil and Environmental Engineering and Natural Resources and Environmental Sciences. Faculty in the program also maintain close working relationships with scientists in the Illinois State Geological Survey, Illinois State Water Survey, Illinois Natural History Survey and the Illinois Water Science Center of the U.S. Geological Survey, all of which are located on campus.

Participating Faculty

James Best Piotr Cienciala Bruce Rhoads Murugesu Sivapalan Shaowen Wang

Affiliated Faculty (Faculty who have a formal appointment in Geography)

Gary Parker, Civil and Environmental Engineering CEE

Faculty Collaborators on Campus (teach related courses and serve on graduate student committees)

Alison Anders, Geology Marcelo Garcia, Civil and Environmental Engineering Praveen Kumar, Civil and Environmental Engineering Ximing Cai, Civil and Environmental Engineering Mark David, Natural Resources and Environmental Sciences

Prerequisites

Students must already have completed, or take immediately upon entry into the program: 1) an introductory college calculus course a one course minimum is required, but course work through calculus of several variables is recommended), 2) college physics.

MA/MS Requirements

The Geography Master's program, with a specialization in the River, Watershed and Landscape Dynamics follows the guidelines of the Graduate School and the Department of Geography and Geographic Information Science. Prospective students should appreciate that an important additional requirement is that the program requires master's candidates to undertake the thesis option.

Participating faculty consider the research experience to be an essential ingredient of graduate training in physical geography. Students should also appreciate that the participating faculty will usually supervise graduate research in areas that fall within their expertise.

Ph.D. Requirements

The Geography doctoral program, with a specialization in River, Watershed and Landscape Dynamics, follows the guidelines of the Graduate School and the Department of Geography and Geographic Information Science. Although students in the doctoral program focus upon a specialized topic they are expected to develop a general familiarity with all aspects of contemporary thought related to river, watershed, and landscape dynamics. Complementary course work outside the department in the form of a minor see departmental requirements) is required.

Graduate Courses in the Department

- GEOG 401: Watershed Hydrology
- GEOG 406: Fluvial Geomorphology
- GEOG 408: Watershed Analysis
- GEOG 460: Analysis & Interpretation of Aerial Photography
- GEOG 467: Dynamic Simulation of Natural Resource Problems
- GEOG 468: Biological Modeling
- GEOG 575: Alluvial Boundary Layer Dynamics

Related Graduate Courses in Other Departments

- CEE 432: Stream Ecology
- CEE 450: Surface Hydrology
- CEE 453: Urban Hydrology and Hydraulics
- CEE 551: Open Channel Hydraulics
- CEE 559: Sediment Transport
- NRES 403: Watersheds and Water Quality
- NRES 490: Surface Water System Chemistry
- GEOL 440: Sedimentology and Stratigraphy
- UP 405: Watershed Ecology and Planning

Society, Space & Environments Specialization

The Department of Geography and Geographic Information Science (GGIS) at the University of Illinois at Urbana-Champaign offers both the M.A. and Ph.D. degrees in Geography with a specialization in Society, Space, and Environments. This program has four emphases:

- 1) Development Geography
- 2) Urban Geography
- 3) Politics of the Environment
- 4) Geographies of Conflict

Statement

The Society, Space and Environments area of specialization builds upon the foundations of human geography as an integrating social science to examine the interplay of socio-spatial processes involved in the shaping of the Earth's natural and built environments.

Scholarly work in this track rests on the belief that theory is important to informed human geographical investigation.

Research methods embrace both qualitative techniques including field observation, interviewing, survey research, archival search, and discourse analysis) and quantitative techniques including descriptive and inferential statistics, GIS, remote sensing, spatial analysis, social network analysis, and content analysis). Topical emphases include demographic processes, health care inequality, land use change, political ecology, gender, democracy and environmental justice, geography of conflicts, and urban social and political processes.

Emphases

- 1. Development Geography
 - Political ecology
 - African and Indian agrarian systems
 - Environment and development
 - Rural-urban interactions
 - o Environment and health
- 2. Urban Geography
 - Spatial mismatch
 - Discourses of growth and redevelopment
 - o Transportation and infrastructure
 - Urban political ecology
 - o Urban political processes
 - o Urban health inequalities

- 3. Politics and the Environment
 - Environmental policy
 - o Resource conflicts
 - Environmental security
 - Social justice and democracy
 - Natural resource control
- 4. The Political Economy of Crime
 - Prison-ghetto connections
 - Policing strategies and human mediation

Master's Requirements

Students must meet all GGIS requirements for the Master's program in Geography, including Geography 471 (Introduction to Contemporary Geographic Thought), a GIS class, and Geography 491 (Research in Geography), or their equivalent. Students can pursue the Thesis option or the Exam Option for the M.A. Degree. The thesis option may be required for entry into subsequent Ph.D. programs.

Ph.D. Requirements

Students must meet all GGIS requirements for the Ph.D. in Geography including Geography 471 (Introduction to Contemporary Geographic Thought) and Geography 491 (Research in Geography), or their equivalent. Students must also complete a formal minor 16 credit hours through course work in one or two related fields. Advanced course work in research methods, including qualitative or quantitative methodologies, is also required. The dissertation must be within the advising competence of the faculty in the program and is expected to be an original contribution to the field and to involve the examination of geographic processes using appropriate research methodology.

Advanced Courses Offered

- GEOG 410: The Geography of Development and Underdevelopment
- GEOG 412: Geospatial Tech and Society
- GEOG 438: Geography of Health Care
- GEOG 439: Health Applications of GIS
- GEOG 440: Business Applications of GIS
- GEOG 446: Sustainable Planning Seminar
- GEOG 455: Geography of Sub-Saharan Africa
- GEOG 465: Transportation and Sustainability
- GEOG 466: Environmental Policy
- GEOG 467: Dynamic Simulation of Natural Resource Problems
- GEOG 482: Challenges of Sustainability
- GEOG 483: Urban Geography
- GEOG 496: Climate & Social Vulnerability
- GEOG 520: Political Ecology
- GEOG 560: Spatial Epidemiology
- GEOG 570: Advanced Spatial Analysis
- GEOG 587: Qualitative Research Methods
- GEOG 594: Seminar in Social Geography
- GEOG 595: Advanced Studies in Geography

Participating Faculty

- Trevor Birkenholtz
- Julie Cidell
- Brian Jefferson
- Mei-Po Kwan
- Sara McLafferty
- David Wilson

Affiliated Faculty

- Brian Dill, Sociology
- o Zsuzsa Gille, Sociology
- o Faranak Miraftab, Urban and Regional Planning

DIRECTOR OF GRADUATE STUDIES (DGS)

The Director of Graduate Studies is an administrative person in the department that coordinates and regulates the graduate program. Central to this person's role in the department is to assist graduate students who need information about the program or require assistance related to their program of study. The DGS is in the department to help graduate students with these issues and problems. The DGS is also tasked to recruit graduate students, assist in staffing undergraduate classes with teaching assistants, pursue external-to-department funding opportunities for prospective graduate students, facilitate the one day graduate student orientation of new students, and organize the Association of American Geographers Annual Meeting Department and Alumni Reception.

Academic Integrity

Responsible academic integrity and professional conduct are important for maintaining the high quality of research and education at the University of Illinois at Urbana-Champaign. The Illinois official statement can be found on the Academic Human Resources web site at www.ahr.uiuc.edu/ahrhandbook/chap5. In addition, the School of Earth, Society, and Environments requires a Responsible Conduct of Research Training to be completed each year. Graduate students should also be aware of the policies regarding academic integrity and intellectual property on Graduate College Handbook for Students, Faculty and Staff at www.grad.illinois.edu/gradhandbook/chapter1.

Computer Policy

The Department of Geography and GIScience does not provide personal computers for graduate students; however, graduate students have access to several shared desktop computers and printers located in graduate student spaces throughout the department. The computer hardware and software requirements for graduate research and coursework vary greatly for students working in different subfields of geography and with particular faculty members. Some faculty members are able to provide computing resources for their graduate students. Graduate students are strongly encouraged to speak with their faculty advisor about their computing resource needs and about hardware and software requirements specific to their area of research and education. A graduate student may keep a personallyowned computer in her/his departmental office, but in general, these personal computers will not be maintained or supported by the department, school, or college. These personal computers also are required to have up-to-date antivirus software and to be compatible with existing university-wide computer networks. Computers with improperly licensed software are not permitted or supported. The Department or University will not be responsible for loss or damage of personal belongings. GGIS graduate students who have computing and systems-related questions are encouraged to contact ATLAS (Applied Technologies for Learning in the Arts and Sciences) staff who provide computing services and support for students and faculty in the department. http://www.atlas.illinois.edu/

Deadlines

Students are responsible for their own registration and for ensuring the accuracy of their schedules. Students can check their registration online and print their schedules as needed. Students who find errors in their schedules should immediately correct these errors. Corrections must be completed before the deadline for adding or dropping a course as posted on the Graduate College web site.

The Graduate College provides announcements concerning academic deadlines, fellowship opportunities, and workshops each week through GradLinks. These email announcements and departmental emails are sent to your University of Illinois email address, @illinois.edu.

E-mail Policy

Following the Graduate College policy, the @illinois.edu email address should be used for all University related correspondence. The Department's support staff and Director of Graduate Studies will send emails to your @illinois.edu address only.

All Graduate College policies can be found on The Graduate College Handbook of Policy and Requirements for Students on the Graduate College web site at http://www.grad.illinois.edu/gradhandbook.

It is expected that all graduate students in the Department of Geography and Geographic Information Science will read and adhere to the Department of Geography and Geographic Information Science, University of Illinois at Urbana-Champaign, and Graduate College campus policies.

Helpful Links

Geography and Geographic Information Science Courses, Schedules, and Requirements

Check your schedule and financial responsibly:

Fellowship Information Financial Assistance Graduate Students Forms

Graduate Assistantship Clearinghouse

Graduate College

Graduate College Academic Calendar

Graduate College Handbook

Housing

International Student and Scholar Services ISSS)

Map of University of Illinois Registration Checklist Student Health Insurance

Student Rights and Responsibilities

Tuition and Fee Rates

University Student Financial Services &

Cashier Operations

http://geog.illinois.edu/

http://catalog.illinois.edu/graduate/

https://my.illinois.edu/uPortal/render.userLayoutRootNode.uP

http://www.grad.illinois.edu/fellowships

http://www.grad.illinois.edu/prospective/financial

http://www.grad.illinois.edu/forms/

http://www.grad.illinois.edu/clearinghouse/

http://www.grad.illinois.edu/

http://www.grad.illinois.edu/general/calendar/current

http://www.grad.illinois.edu/gradhandbook

http://www.housing.illinois.edu

http://isss.illinois.edu// http://illinois.edu/map/view

https://my.illinois.edu/uPortal/render.userLayoutRootNode.uP

https://www.uhcsr.com/illinois

http://admin.illinois.edu/policy/code/index.html http://www.registrar.illinois.edu/financial/tuition.html

http://www.usfsco.uillinois.edu

Department of Geography & GIS DEPARTMENTAL (QUALIFYING) EXAM REQUEST

Please submit two weeks prior to the examination date.

| Date: | _ | Degree sought | |
|--|--------------------|---------------------|-----------------------------|
| Student Name: | | GEOG 471 taken _ | |
| Advisor Name: | | GEOG 491 taken _ | |
| Exam Room: | | | |
| Day 1: Date and time: | | | |
| Day 2: Date and time: | | | |
| Day 3: Date and time: | | | |
| How will this exam be administered If you plan to email the questions to the | | | eer person to receive them. |
| Is the student permitted to use ma | terials during the | examination? ☐ Yes | \square No |
| If yes, what materials? | | | |
| The student and advisor have selected has asked each member to serve or | | | ty members, and the student |
| 1. | | | |
| 2 | | | |
| 3 | _ | | |
| Advisor signature | Date | Director of Graduat | e Studies signature Date |
| Tiation distintuit | Dute | Director of Graduat | cotables signature Date |

Student is responsible for submitting the Departmental Examination Request Form at least two weeks prior to the examination date, and for requesting an examination room.

Department of Geography & GIS DEPARTMENTAL (QUALIFYING) EXAMINATION RESULTS

To be submitted after the examination.

| Student Name: | | | | |
|------------------------|-----------------------|------------------|--|----------------|
| Date: | | | | |
| Written Examina | tion Completed and su | bmitted to Gradu | ate Contact: Yes N | lo |
| | Underst | anding of conce | epts and literature | |
| Excellent Comments: | Very Good | Good | Needs Improvement | Unsatisfactory |
| | Underst | anding of curre | nt research methods | |
| Excellent Comments: | Very Good | Good | Needs Improvement | Unsatisfactory |
| | Area of | specialization w | rithin the program area | |
| Excellent Comments: | Very Good | Good | Needs Improvement | Unsatisfactory |
| | | | | |
| | | | | |
| Binding Requiren | nents: | | | |
| Advisor Signature | e Date | | Director of Graduate Studies signature | |

Advisor is responsible for grading, providing comments, and returning the examination questions and answers along with this form to the Graduate Contact, before the student can move to the next stage of degree completion.