DOCTORAL PROGRAM

GEOGRAPHY AND ENVIRONMENTAL SCIENCE AND POLICY

GEOGRAPHY TRACK

STUDENT HANDBOOK

2012

Revised 04/09/2012

DEPARTMENT OF GEOGRAPHY, ENVIRONMENT, AND PLANNING
The Ph.D. degree in Geography and Environmental Science and Policy is an interdisciplinary program which includes two areas of curricular emphasis (tracks): ‘Geography’ and ‘Environmental Science & Policy.’ Each track has its own course requirements, research themes, graduate coordinator, and faculty members that serve as dissertation advisors. Incoming doctoral students are required to designate either ‘Geography’ or ‘Environmental Science & Policy’ as their area of emphasis (track) in their application for admission.

The Geography track of the Ph.D. degree is designed to draw on the interdisciplinary strengths of the Geography faculty and to educate our students to respond to rapid changes in knowledge production and application. To that end, emphasis is placed on providing theoretical rigor and methodological skills that will enable students to make significant and original research and policy contributions. Course offerings emphasize three research themes: (a) human geography, (b) environmental geography, and (c) geographic information science (GIScience) and spatial analysis. Through a commitment to quality interdisciplinary teaching, combined with research and hands-on learning opportunities, the Geography track is dedicated to ensuring that students are well prepared for careers in academia, and the private and public sectors.

**AREA OF EMPHASIS: GEOGRAPHY**

Many organizations, including the National Science Foundation and the National Institutes of Health, have recognized the need for expanding the capacity of faculty to develop and communicate disciplinary and interdisciplinary knowledge in order to respond to real-world issues and problems. The Geography track of the Doctoral Program distinctly focuses on developing state-of-the-art researchers who are able to navigate today’s complex world. We expect that our graduates will address many important local, regional, national, and global issues that require a cross-disciplinary perspective. To that end, the Geography track of the Ph.D. program is designed to expand opportunities for students interested in complex social and environmental problems. The track currently comprises three research themes that reflect the strengths of the faculty. However, the faculty is also open to new areas of research that reflect student needs and interests. The three current research themes are:

- **A. Human Geography**
- **B. Environmental Geography**
- **C. GIScience and Spatial Analysis**

**Human Geography** studies the construction of space, place, and power. It includes economic geographies (e.g., globalization and development), political geographies (e.g., geopolitical struggles and new social movements), and social and cultural geographies (e.g., territories and identities). Human geography is central to explaining contemporary spatial processes, including
the role of cities within the global economy, locating urban-rural intersections in the production of uneven development, and how class, gender, and race shape struggles for social justice.

**Environmental Geography** links the study of nature and society by considering the ways conventional divisions between human (social) and non-human (natural) worlds are bridged through the production of socio-natures. This understanding is crucial to explaining contemporary environmental problems, including the privatization of natural resources, inequalities in access to food and water, injustices associated with environmental hazards and undesirable land uses, and the role of human activities in spurring large-scale environmental change.

**GIScience and Spatial Analysis** concentrates on the use of advanced geospatial technologies, and the development and use of geospatial data and methods, to applied research problems in human and environmental geography. A rigorous understanding of such geospatial technologies as Remote Sensing, GIS, and GPS, as well as modern methods of spatial statistical analysis, and spatial analytical techniques such as agent-based modeling, is critical to developing appropriate analytical approaches to geographic problems.

### ADMISSION REQUIREMENTS

**Background Requirement**
Incoming doctoral students are required to designate either ‘Geography’ or ‘Environmental Science & Policy’ as their area of emphasis (track) in their application for admission. Students seeking admission into the Geography track should have a Master’s degree, or its equivalent from an approved college or university. Once admitted, students are required to take a minimum of 60 hours prior to obtaining the Ph.D. It is possible, however, to enter directly into the doctoral program without a Masters Degree. Such students must complete all the required coursework portion of the Masters Degree in Geography, and complete a minimum of 90 hours prior to obtaining the Ph.D. Exceptional students already enrolled in the Geography M.A. Program can potentially move into the Geography track of the doctoral program prior to completing the Masters Degree. In this case, the students’ advisors will recommend the students for entry into the Ph.D. program. Every such case will be evaluated on a case-by-case basis by the Geography Graduate Coordinator and the rest of the Geography faculty. After a review of the student's credentials, this committee either approves or denies the student entry. If approved, the student will need to formally apply to the Geography track in the Geography and ESP Ph.D. program via the USF Graduate Admissions application process.

Typically, applicants have degrees in geography, environmental science, public health, or earth science. However, applicants with degrees in other disciplines are also encouraged to apply. Those students admitted without a degree(s) in one of the disciplines listed above may be required to take selected undergraduate courses as determined by the Geography Graduate Program Coordinator and the Geography faculty.
Grade Point Average and Graduate Record Exam (GRE)
Students must have a minimum grade point average of 3.2 (on the four point scale) for all academic work prior to admission, and the submission of GRE scores is an unconditional requirement. The GRE must be taken within five years preceding the application and the score submitted regardless of the grade point average. Official copies of GRE scores and all transcripts should be sent to the Geography Graduate Program Coordinator.

Letter of Intent
A letter of intent must be submitted to the Geography Graduate Program Coordinator. The letter should outline the applicant's specific academic interests and goals. The letter should also clearly indicate: (a) that the applicant wishes to be considered for the Geography track of the Ph.D., and (b) which faculty member(s) the applicant is potentially interested in working with, as her/his advisor (please refer to the list of Geography Division faculty on page 19).

Letters of Recommendation
The applicant should arrange to have at least three letters of recommendation submitted to the Graduate Program Coordinator prior to the application deadline. Prospective students should solicit the letters of recommendation from sources who are familiar with the applicant's academic/work history and performance. At least two letters must come from referees affiliated with an educational institution.

Resume
The applicant should submit and complete and up to date resume as part of his or her application packet.

Please submit the items outlined above directly to:

Graduate Program Coordinator of Geography
Department of Geography, Environment, and Planning
University of South Florida
4202 East Fowler Avenue, NES 107
Tampa, FL 33620-5250

Application Deadlines
The application deadlines for the fall semester admission are: February 15 for those applying for a Graduate Assistant (GA) position (January 15 for international students seeking a GA position), and April 1 if not applying a GA position. The application deadline for spring semester admissions and GA positions (if available) is October 15.

Students are encouraged to apply at least one month before the application deadline to allow time for application processing. Applications will continue to be reviewed after the deadlines until all GA and non-GA openings in the program have been filled. Please visit the Graduate Admissions website at http://admissions.grad.usf.edu/ for application forms and application fee information. The application and application and fee must be submitted online as per the instructions provided at the USF Graduate Admissions website.
Students admitted to the Doctoral Program
Normally, students are admitted into the doctoral program conditional on the successful completion of their Master’s degree program, or its equivalent. Documentary proof of this is a requirement of admission.

Students Moving into the Doctoral Program Without a Masters Degree
A student can apply directly to the Geography track of the doctoral program in his/her original application, or can be in either the Geography M.A. program a minimum of one semester, and then his/her advisor/major professor can recommend that he/she apply for the Doctoral program. The Geography Graduate Program Coordinator will review the student's credentials and make a recommendation to the Geography faculty regarding whether or not the student should apply to the program. If the student is given permission to apply to the program, the application is then reviewed via the established process of program application at USF with respect to program admission and funding.

ADVISING
When a student is admitted to the Geography track of the Ph.D. program, he/she, with the assistance of the Geography Graduate Program Coordinator, will be assigned an advisor based upon mutual interests of the student and faculty member. The role of the advisor (major professor) is to guide the student in selecting appropriate coursework for his/her program of study and to work with the student in developing research ideas and an eventual dissertation topic. In consultation with his/her advisor, the student will select a Ph.D. committee that will serve not only as the student's dissertation committee, but as the qualifying exam committee as well (more information on these topics is available in the degree requirement section). For students in the Geography track of the Ph.D. program, the advisor and at least two committee members must be faculty members affiliated with the Geography Division of the department (see list on page 19).

Graduate Student Supervisory Committee Expectations of Conduct
The following expectations will be followed by all participants involved in a dissertation committee, including student, advisor (major professor) and committee members:
1) Regular communication of research progress between the student and the committee members.
2) If major changes occur to the proposed study, the student in consultation with his/her advisor, is responsible to convene a committee meeting.
3) If concerns arise either with regards to what can be considered major changes between committee members, or other matters pertaining to the pursuit of the proposed study, these should be resolved by the Geography Graduate Program Coordinator working in conjunction with an ad hoc committee appointed by the Director of Geography. If the Geography Graduate Program Coordinator is the student’s major professor, then the Chair will appoint another faculty member to head that committee. If the concerns cannot be resolved at that level, then the matter will be referred to the Department Chair. If resolution cannot be reached at the departmental level, the student has the right to file a grievance with the College. If a student is considering such a step, he/she is are
encouraged to review the USF Graduate Catalog section on University Academic Grievance Procedures as time limits do apply.

FINANCIAL SUPPORT

Graduate Assistants
The department awards graduate assistantships annually. Doctoral students are usually given one-year contracts that are renewable for up to three years dependent upon satisfactory work and academic progress. If an applicant wishes to be considered for a graduate assistantship position, he/she should complete the Graduate Assistantship Application (available at the USF Geography Department website) and send it, along with other application materials, to the Geography Graduate Program Coordinator. Graduate assistantships are awarded based upon grade point average, GRE scores, letters of recommendation, student area of interest, and relevant prior experience.

Graduate assistants in the Geography track of the Geography/ESP Ph.D. Program are under the direct supervision of the Director of Geography and the Geography Graduate Program Coordinator, who are responsible for assigning specific duties to students. Typically, students are required to teach one section of an introductory-level course, (or supervise/instruct a laboratory course, or a discussion section), that is linked to a course that is instructed by a faculty member. In addition to the general supervision provided by the unit director and graduate program coordinator, the student will be assigned a faculty supervisor for his/her TA assignment.

The nine-month contract runs from early August to mid-May and graduate assistants are legally and contractually required to be on campus during this period.

Applicants with a combined verbal and quantitative GRE score above 1250 and a GPA above 3.6 for graduate level work may be considered for a Dean's Scholarship in addition to their assistantship stipend. Additional funding via summer school instruction is sometimes possible depending on the teaching needs of the Geography Unit. Ph.D. graduate assistantships currently include tuition waivers for up to 12 credit hours per semester.

Project (Research) Assistants
Research assistants (RAs) are students who are hired to assist faculty with grant-funded projects. Students hired as RAs will conduct, for example, literature reviews, computer analysis, cartography, fieldwork, and/or laboratory analysis related to these projects. Students may be hired on salary, or on an hourly basis. The rate of pay varies from project to project. Students are selected for these positions based upon the skill sets needed for individual projects. These positions may, or may not, provide tuition waivers.

Other Financial Support
The Center for Urban Transportation Research (CUTR), the United States Geological Survey (USGS), and the Florida Center for Community Design and Research (FCCDR) occasionally hire geography graduate students. Students may submit applications for employment at these
offices. In addition, part-time and full-time jobs that become known to the department are posted on the department website, or on the bulletin board outside of the department office (NES 201).

**Fellowships**
Fellowships are funds received by the student for which no work is required. A listing of potential fellowships can be found at the USF Graduate Studies website at: [http://www.grad.usf.edu/fellowship.asp](http://www.grad.usf.edu/fellowship.asp)

**Scholarships, Grants, Work Study, and Loans**
The Graduate School houses a Scholarship Library that allows students to access information on private sources of funding through computerized databases as well as source books. The Office of Financial Aid administers the Federal Work Study Program as well as several loan programs. Students interested in loans, or work study, should apply as soon as possible, after January 1 each year, for the coming academic year, which starts in August. Application packets are available outside the Office of Financial Aid (SVC 1102) or by calling (813) 974-4700.

**DEGREE INFORMATION AND REQUIREMENTS**

Doctoral degree requirements established by the University of South Florida Graduate School are found in the USF Graduate Catalog that can be accessed at: [http://catalog.grad.usf.edu/](http://catalog.grad.usf.edu/)

The university guidelines include information related to: (1) time limitations, (2) academic residency, (3) the major professor and the doctoral advisory committee, (4) the comprehensive qualifying exam, (5) admission to candidacy, (6) the written dissertation, and (7) the dissertation defense. Additional guidelines and policies specific to the Geography track of the Geography and Environmental Science & Policy Ph.D. program are included below, along with other pertinent information about the degree program.

**Degree Requirements for the Ph.D. in Geography and Environmental Science & Policy:**
**Geography Track**

**Credit Hours:**
The curriculum consists of 60 semester hours past the Master’s degree, or 90 hours past the Bachelor’s degree, and allows for a distinct concentration in Geography. Specifically, the Ph.D. curriculum consists of the following requirements:

<table>
<thead>
<tr>
<th>Component</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core Requirement</td>
<td>3</td>
</tr>
<tr>
<td>Area of Emphasis Requirements</td>
<td>6</td>
</tr>
<tr>
<td>Electives and Dissertation</td>
<td>51</td>
</tr>
</tbody>
</table>
1. Required Core Course for the Ph.D. degree (3 Hours)

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEO 7021</td>
<td>Doctoral Dissertation Preparation</td>
<td>3 cr. hrs</td>
</tr>
</tbody>
</table>

2. Area of Emphasis Requirements for the Geography Track (6 Hours)

**Theory:**

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEO 7606</td>
<td>Seminar in Urban Environments</td>
<td>3 cr. hrs</td>
</tr>
</tbody>
</table>

The following courses can be used as a substitute for the course listed above:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEO 6058</td>
<td>Geographic Literature and History</td>
<td>3 cr. hrs</td>
</tr>
<tr>
<td>GEO 6116</td>
<td>Perspectives in Environmental Thought</td>
<td>3 cr. hrs</td>
</tr>
</tbody>
</table>

**Methods:**

Based upon the student’s area of interest, he/she must take at least one course from the following list of quantitative, qualitative, or GIS course offerings:

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEO 6166</td>
<td>Multivariate Statistical Analysis</td>
<td>3 cr. hrs</td>
</tr>
<tr>
<td>GEO 6119</td>
<td>Geographical Techniques &amp; Methodology:</td>
<td>3 cr. hrs</td>
</tr>
<tr>
<td></td>
<td>Qualitative Research Methods</td>
<td></td>
</tr>
<tr>
<td>GIS 6100</td>
<td>Geographic Information Systems</td>
<td>3 cr. hrs</td>
</tr>
</tbody>
</table>

3. Electives and Dissertation Credits

Students must complete a minimum of 51 other hours in the form of electives, directed reading, directed research, independent study, or dissertation hours. Students’ Advisory Committees will advise students on the number of elective courses required, the selection of elective courses, and the number of dissertation hours required. A minimum of 18 dissertation hours is completed as part of the degree program, and no more than 50% of the required dissertation hours can be taken as directed reading, directed research, and/or independent study hours. Graduate hours can be completed outside the department to support the elective requirements for the degree.

**Elective Courses:**

Upon entering the Geography track of the Ph.D. program, students select one research theme from the list of three current themes: (a) Human Geography, (b) Environmental Geography, or (c) GIScience and Spatial Analysis. New research themes can also be created that reflect student needs and desires, and additional faculty interests. Students must take 9 credit hours in their chosen research theme. Course selection is determined after consultation with the student's major professor and dissertation committee. A wide variety of graduate courses associated with each research theme are available in the Department of Geography, Environment, and Planning and approved coursework can also be completed in other departments to fulfill this elective requirement.

The following research themes and courses are available:
### Theme A: Human Geography

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEO 6058</td>
<td>Geographic Literature and History</td>
<td>3</td>
</tr>
<tr>
<td>GEO 6428</td>
<td>Seminar in Advanced Human Geography</td>
<td>3</td>
</tr>
<tr>
<td>GEO 6605</td>
<td>Contemporary Urban Issues</td>
<td>3</td>
</tr>
<tr>
<td>GEO 6475</td>
<td>Political Geography Seminar</td>
<td>3</td>
</tr>
<tr>
<td>GEO 6345</td>
<td>Technological Hazards and Environmental Justice</td>
<td>3</td>
</tr>
<tr>
<td>GEO 6545</td>
<td>Economic Geography Seminar</td>
<td>3</td>
</tr>
<tr>
<td>GEO 6627</td>
<td>Site Feasibility Analysis</td>
<td>3</td>
</tr>
<tr>
<td>GEO 6704</td>
<td>Transportation Geography</td>
<td>3</td>
</tr>
<tr>
<td>GEO 6119</td>
<td>Geographical Techniques &amp; Methodology: Qualitative Research Methods</td>
<td>3</td>
</tr>
<tr>
<td>GEO 6166</td>
<td>Multivariate Statistical Analysis</td>
<td>3</td>
</tr>
<tr>
<td>GEO 7606</td>
<td>Seminar in Urban Environments</td>
<td>3</td>
</tr>
<tr>
<td>GIS 6307</td>
<td>Socioeconomic Applications of GIS</td>
<td>3</td>
</tr>
</tbody>
</table>

A regional geography course (from the list on page 10) can be substituted for a course in the Human Geography theme.

### Theme B: Environmental Geography

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>GEO 6116</td>
<td>Perspectives in Environmental Thought</td>
<td>3</td>
</tr>
<tr>
<td>GEO 6345</td>
<td>Technological Hazards and Environmental Justice</td>
<td>3</td>
</tr>
<tr>
<td>GEO 6209C</td>
<td>Physical Geography Seminar</td>
<td>3</td>
</tr>
<tr>
<td>GEO 6215</td>
<td>Geomorphology Seminar</td>
<td>3</td>
</tr>
<tr>
<td>GEO 6217</td>
<td>Karst Geomorphology</td>
<td>3</td>
</tr>
<tr>
<td>GEO 6255</td>
<td>Weather, Climate, and Society</td>
<td>3</td>
</tr>
<tr>
<td>GEO 6263</td>
<td>Soils Seminar</td>
<td>3</td>
</tr>
<tr>
<td>GEO 6286</td>
<td>Advances in Water Resources</td>
<td>3</td>
</tr>
<tr>
<td>GEO 6288</td>
<td>Hydrological Systems</td>
<td>3</td>
</tr>
<tr>
<td>GEO 6347</td>
<td>Natural Hazards</td>
<td>3</td>
</tr>
<tr>
<td>GEO 6166</td>
<td>Multivariate Statistical Analysis</td>
<td>3</td>
</tr>
<tr>
<td>GIS 6038C</td>
<td>Advanced Remote Sensing</td>
<td>3</td>
</tr>
<tr>
<td>GIS 6039</td>
<td>Readings in Remote Sensing</td>
<td>3</td>
</tr>
<tr>
<td>GIS 6306</td>
<td>Environmental Applications of GIS</td>
<td>3</td>
</tr>
<tr>
<td>GIS 6355</td>
<td>Water Resources Applications of GIS</td>
<td>3</td>
</tr>
</tbody>
</table>

### Theme C: Geographic Information Science and Spatial Analysis

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>GIS 5075</td>
<td>Global Positioning Systems</td>
<td>3</td>
</tr>
<tr>
<td>GIS 6038C</td>
<td>Advanced Remote Sensing</td>
<td>3</td>
</tr>
<tr>
<td>GIS 6039</td>
<td>Readings in Remote Sensing</td>
<td>3</td>
</tr>
<tr>
<td>GIS 6100</td>
<td>Geographic Information Systems</td>
<td>3</td>
</tr>
<tr>
<td>GIS 6103</td>
<td>Programming for GIS</td>
<td>3</td>
</tr>
<tr>
<td>GIS 6112</td>
<td>Spatial Database Development</td>
<td>3</td>
</tr>
<tr>
<td>GEO 6115</td>
<td>Field Techniques</td>
<td>3</td>
</tr>
<tr>
<td>GEO 6119</td>
<td>Geographical Techniques &amp; Methodology: Applied Spatial Analysis and GIS</td>
<td>3</td>
</tr>
<tr>
<td>GIS 6146</td>
<td>GIS Seminar</td>
<td>3</td>
</tr>
</tbody>
</table>
GEO 6166  Multivariate Statistical Analysis  3 cr. hrs
GIS 6306  Environmental Applications of GIS  3 cr. hrs
GIS 6307  Socioeconomic Applications of GIS  3 cr. hrs
GIS 6355  Water Resources Applications of GIS  3 cr. hrs

GEO 6166, GEO 6119, or GEO 6100 cannot be used to satisfy both the area of emphasis and elective course (theme) requirements.

Regional Courses:

In addition to the courses listed above, students are strongly encouraged to complete at least one of the following regional courses:

- GEA 6195  Seminar in Advanced Regional Geography  3 cr. hrs
- GEA 6215  Seminar in North American Geography  3 cr. hrs
- GEA 6745  Asian Geography Seminar  3 cr. hrs
- GEA 6252  Seminar in the Geography of the American South  3 cr. hrs
- GEA 6406  Seminar in Latin American and Caribbean Geography  3 cr. hrs
- GEA 6504  Seminar in European Geography  3 cr. hrs

A regional geography course can be substituted for a course in the Human Geography theme.

Note: Students entering the Ph.D. program directly from the Bachelor’s degree must take the courses required for the Masters’ degree in Geography, and/or other courses designated by the Graduate Program Coordinator before taking courses toward the Ph.D.

Policy for Taking Graduate Courses outside USF and the Tampa campus

Graduate courses offered at other universities or other USF campuses can have a different focus than those offered on the USF Tampa campus. Students must get approval from their advisors and the Geography Graduate Program Coordinator prior to taking any outside courses to verify that these courses will count toward their degrees. Additionally, only faculty on the USF Tampa campus can serve as the major professor/advisor for graduate students enrolled on the Tampa campus.

THE DISSERTATION PROPOSAL, QUALIFYING EXAM, AND THE DISSERTATION

Major Professor and Doctoral Committee

Following the guidelines established by the USF Graduate School (Section 7 - University Degree Requirements at http://catalog.grad.usf.edu/), the student designates a major professor no later than the time that the student has completed 50% of the program. As soon as the area of research is determined for the student, in consultation with a major professor, a doctoral advisory committee is appointed. This committee will consist of the major professor and at least two other faculty members affiliated with the Geography division. Full time faculty members at the level of assistant, associate or full professor in the Geography division can serve as the major professor, or as an in-division committee member. Faculty members with less than a 100% appointment in Geography can only serve as external committee members.
The Qualifying Examination - Written and Oral
The purpose of the Qualifying Examination is to evaluate whether or not a student is prepared to teach and conduct research at the collegiate level. In general terms, questions are asked in relationship to three fields of competence. Fields of competence may be defined by AAG specialty group categories, common upper division courses, emerging areas of study, regions, or major methodologies, including theoretical perspectives. The questions are intended to test knowledge of (a) the scope, historical development, and current debates in the student’s fields of interest (including how they fit into the history of geography); (b) the main theoretical and methodological approaches to the fields of interest; and (c) as appropriate, the specific techniques (e.g. specific statistical, qualitative, GIS, cartographic, language, or other skills) necessary to undertake and evaluate research in the fields of interest.

The examination has both written and oral parts, and can only be completed in the Fall and Spring semesters. The written exam is prepared for the student by the major professor and the advisory committee. The examination questions are given to the student by his/her major professor and the completed exam must be returned to the major professor within 72 hours. The oral portion of the examination will be held within two weeks after the completion of the written examination. The student’s major professor serves as chair of the oral examination, and is responsible for organizing and facilitating the examination. Within two weeks, the student's major professor and the advisory committee evaluate the written exam. If the answer to any question is determined to be incorrect or incomplete, the student is informed and this information is addressed during the oral exam. If it is determined the student did not successfully complete the oral exam, the major professor and the advisory committee recommend the next course of action. This can be, but is not limited to: (1) completion of another oral exam within two weeks; (2) completion of additional written questions; (3) completion of both items #1 and #2; or (4) dismissal from the program.

Dissertation Proposal
After the successful completion of the oral qualifying examination, each student must prepare a formal written dissertation research proposal in consultation with his/her major professor and advisory committee. Upon approval of the proposal by the major professor, the document is forwarded to the student’s committee for an initial review; normally a two week period is required for this. If the committee sees no major problems, the student then gives an open, formal presentation of the proposal, which is followed by an oral defense of the proposal. A copy of the dissertation proposal must be made available in the department (second floor front desk) one week prior to the proposal defense for public review. The student and her/his major professor are also responsible for posting appropriate public announcements regarding the dissertation proposal defense in order to be consistent with statutory requirements for a public meeting.

Order for Completing Some of the Degree Requirements
The order in which the written examination, oral qualifying examination and dissertation proposal defense must be taken is: (1) Written comprehensive examination; (2) Oral qualifying examination; (3) Dissertation research proposal defense. The whole process must be completed over a 90-day period (Summer is excluded). The 90-day period will stop on the last day of final
exams in each Fall and Spring semester and will pick-up on the first day of classes in the following semester.

**Admission to Candidacy**
After designation of a major professor and appointment of an advisory committee, and upon successful completion of: (1) all required coursework, (2) the written and oral Qualifying Exam, and (3) the Dissertation Proposal Defense, the student becomes a Doctoral Candidate.

**Preparation Guidelines for the Qualifying Examination**
1. The student should meet with his/her major professor to set the date for the written and oral portions of the comprehensive qualifying exam. After consultation with the student's advisory committee, the intended dates for the exams are submitted to the Geography Graduate Program Coordinator for final approval to avoid time conflicts with other departmental and university activities.
2. The student's major professor and advisory committee will develop the exam.
3. Prior to the written exam, the student will be provided with preparation materials for the exam by the major professor and the advisory committee.
4. These preparation materials can consist of the following:
   a. Specific themes for the question(s) to be asked on the exam. The information provided should be specific enough to allow the student to prepare on his/her own for the question(s).
   b. A reading list that consists of materials related to the question(s) to be asked on the exam. By reviewing and understanding this literature the student should be able to successfully answer the question(s) on the exam.
5. Any questions or concerns that the student has related to the written and oral qualifying exams should be directed to his/her major professor.

**The Dissertation**
The dissertation is an original scholarly contribution to the field of geography. It has no prescribed length and may be highly varied in methodology, topic, and style of presentation based upon the guidance and recommendations of the major professor and the advisory committee. After approval by the major professor, the written dissertation will be forwarded to the advisory committee. The student must allow three weeks for the advisory committee to review the dissertation. If the committee sees no major problems, the student can proceed to the oral defense.

**Oral Defense of the Dissertation**
A public oral defense of the dissertation is held after the approval of the written dissertation content by the major professor and the advisory committee. An external chair is required for this part of the examination as determined by the graduate school. Acceptance of the dissertation may be conditional upon the student adding to or modifying some of its parts. Upon successful defense of the dissertation, the examining committee recommends to the University that the student be awarded the Ph.D. degree. A copy of the dissertation must be made available in the department (second floor front desk) one week prior to the defense for public review. The student and her/his major professor are also responsible for posting appropriate public
announcements regarding the dissertation defense in order to be consistent with statutory requirements for a public meeting.

**Graduation Requirements**

(1) A minimum cumulative graduate GPA at USF of 3.00.

(2) Completion of all course requirements.

(3) Successful completion of written and oral comprehensive qualifying exams.

(4) Successful presentation and defense of a Ph.D. dissertation proposal.

(5) Successful completion of a doctoral dissertation.

(6) Successful defense of the doctoral dissertation.

(7) Recommendation from the major professor and dissertation committee for awarding the Ph.D. Degree.
GEA 6195 SEMINAR IN ADVANCED REGIONAL GEOGRAPHY (3) Analytic study of a selected region of the world. Repeat once for credit, but region may not be repeated. (PR: GS in Geography)

GEA 6215 SEMINAR IN NORTH AMERICAN GEOGRAPHY (3) Advanced survey of historical and contemporary issues in North American geography including: west and non-west exchange, revolutionary transformation, nation-building, regional disparities, and continental relations among states. (PR: GS in Geography or CI)

GEA 6252 SEMINAR IN THE GEOGRAPHY OF THE AMERICAN SOUTH (3) Intensive examination of regional geographic studies and their application to the American South, integrating concepts related to the physical and cultural landscapes, economic growth and change, urbanizations, and cultural diffusion processes. (PR: GS in Geography or CI)

GEA 6406 SEMINAR IN LATIN AMERICAN AND CARIBBEAN GEOGRAPHY (3) Readings and discussions organized around an examination of regional and systematic analysis of selected topics of Latin American and Caribbean geography. Emphasis is on combining physical and cultural analysis of this region. (PR: GS in Geography or CI)

GEA 6504 SEMINAR IN EUROPEAN GEOGRAPHY (3) Readings and discussions organized around an examination of regional and systematic analysis of selected topics of European Geography. Emphasis is on combining physical and cultural analysis of this region. (PR: GS in Geography or CI)

GEA 6745 ASIAN GEOGRAPHY SEMINAR (3) Analysis of regional divisions and spatial variations within Asia. Examines the significance of Asia in the global context. Focus on political, economic, cultural, and historical geographies, including development, environment, religion and gender. (PR: GS in Geography or CI)

GEO 6058 GEOGRAPHIC LITERATURE AND HISTORY (3) The origins and development of the discipline as revealed through an examination of the principal written sources. (PR: GS in Geography, or CI)

GEO 6115 ADVANCED FIELD TECHNIQUES (3) Field examination of one region. Students will complete field work in human and physical geography in a selected area. (PR: GS in Geography or CI)

GEO 6116 PERSPECTIVES ON ENVIRONMENTAL THOUGHT (3) Analysis of the evolution of the major schools of environmental thought from antiquity to present-day green analysis, deep ecology, eco-feminism, and post-modern ecology. (PR: GEO 6058 or CI)
GEO 6119 GEOGRAPHICAL TECHNIQUES AND METHODOLOGY: Analytic study of a technique or investigation into an aspect of methodology. Repeat. once for credit, but topic may not be repeated. (PR: GS in Geography)

GEO 6166 MULTIVARIATE STATISTICAL ANALYSIS (3) Examination of advanced statistical approaches used by geographers. Descriptive, spatial and inferential statistics and multivariate analysis are highlighted. (PR: GS in Geography or CI, GEO 3164C)

GEO 6209C PHYSICAL GEOGRAPHY SEMINAR (3) Analytic study of one or more topics from physical geography. Selected problems may include hydrology, physiography, meteorology, climatology, soils, or vegetation, etc. May be repeated once. (PR: GS in Geography or CI)

GEO 6215 GEOMORPHOLOGY SEMINAR (3) Advanced examination of geomorphic processes and landforms with an emphasis placed on the formation and evolution of landscapes on a variety of scales. (PR: GEO 4372 or CI)

GEO 6217 KARST GEOMORPHOLOGY (3) An in-depth examination of the geomorphic aspects of karst landforms. The objectives, methods and results of karst geomorphic studies in which both field and laboratory analysis have been applied to geomorphic problems are reviewed. (PR: GS in Geography or CI)

GEO 6255 WEATHER, CLIMATE AND SOCIETY (3) This course explores the societal impact of weather, as well as the human impact on weather and climate. Students lead and participate in discussions on topics such as weather hazards, extreme temperature and human physiology, historical civilization and extreme climate, economic value of forecasts, weather modification, urbanization, and other land use change, anthropogenic aerosols, past and future climates. (PR: undergraduate general meteorology or CI)

GEO 6263 SOILS SEMINAR (3) Examination of how earth systems influence soil formation and variation. Detailed analysis of soils climosequences, biosequences, toposequences, lithosequences, chronosequences, and anthrosequences. (PR: GEO 4372 or CI)

GEO 6286 ADVANCES IN WATER RESOURCES (3) Water resources policies are viewed from theoretical and practical perspectives focusing on management strategies in different physical and human environments. (PR: GS in Geography or CI)

GEO 6288 HYDROLOGICAL SYSTEMS (3) A systematic approach to hydrology using the drainage basin as the fundamental unit of analysis is used to explore form and process, while modeling streamflows. (PR: GEO 4372 or CI)

GEO 6345 TECHNOLOGICAL HAZARDS AND ENVIRONMENTAL JUSTICE (3) examination of theories, debates, methods, and models that improve our understanding of human vulnerability to technological hazards and risks, with emphasis on issues of fairness and equity in the distribution and impacts of hazards, (PR: GS in Geography or CI)
GEO 6347 NATURAL HAZARDS (3) Analysis of natural hazards integrating principles of physical, social, economic, political, and technical forces that affect extreme geophysical events. (PR: GEO 4372 or CI)

GEO 6428 SEMINAR IN ADVANCED HUMAN GEOGRAPHY (3) Analytic study of a problem selected from aspects of the human landscape (urban, political, economic, population, settlement). (PR: GS in Geography or CI)

GEO 6475 POLITICAL GEOGRAPHY SEMINAR (3) Advanced investigation of geopolitical issues including: the human construction of territoriality, ethnic relations, the making of nations and states, the geopolitics of localities, and environmental policy making. (PR: GEO 4470 or CI)

GEO 6545 ECONOMIC GEOGRAPHY SEMINAR (3) An intensive examination of selected issues in economic geography including: regional development and decline; spatial labor market trends; business locational analysis; and comparative economic policy. (PR: GEO 4502 or CI)

GEO 6605 CONTEMPORARY URBAN ISSUES (3) Advanced survey of urban issues such as: industrial restructuring and urban development, inner-city ethnic relations, the geopolitics or urban governance, and urban culture. (PR: GEO 3602; GEO 4604 or CI)

GEO 6627 SITE FEASIBILITY ANALYSIS (3) A project-oriented geographic examination of urban real estate development and site feasibility practices. Hands-on course including concepts of real estate development patterns, urban growth, and site-specific factors related to feasibility of specific developments. (PR: GS in Geography, or CI)

GEO 6704 TRANSPORTATION GEOGRAPHY (3) Review of transportation issues and analysis, focusing on modeling and planning for flows of goods and people. Provides a hands-on approach to the use of GIS for such analysis. (PR: GEO 4114C; GEO 4700 or CI)

GEO 6908 INDEPENDENT STUDY (1-19 Var.) Independent study in which students must have a contract with an instructor. S/U.

GEO 6918 DIRECTED RESEARCH (1-19 Var.) Repeat. S/U. (PR: GR. ML, CC)

GEO 6944 INTERNSHIP IN GEOGRAPHY (3) The internship in Geography is designed to provide students the opportunity to work in an appropriate governmental agency to gain practical field experience. S/U. (PR: GS in Geography, CC)

GEO 6947 DIRECTED TEACHING (1-6 Var.) (PR: GS or CI)

GEO 6970 RESEARCH METHODS IN GEOGRAPHY (3) This course stresses conducting geographic research within the scientific method. Include aspects of both quantitative and qualitative research. Specific topics include sample design, data collection, defending and discussing results and conclusions, developing oral presentations, construction of written proposals and production of a thesis. (PR: GS and CI)
GEO 6971 THESIS: MASTER’S (1-19 Var.) Repeat. S/U. (PR: CC)

GEO 7021 DOCTORAL DISSERTATION PREPARATION (3) This course is designed to assist students in discovering, framing, and developing dissertation topics; to think creatively about the theoretical issues raised by their topics; to begin research on these issues; to draft a dissertation proposal; and to draft a dissertation outline. (PR: GS and CI)

GEO 7606 SEMINAR IN URBAN ENVIRONMENTS (3) This seminar will explore topics in the study of urban environments through readings, discussion, and research. Students will be exposed to a wide variety of perspectives and scientific methodologies related to various aspects of the urban environment. (PR: GS and CI)

GEO 7980 DOCTORAL DISSERTATION RESEARCH (2-15 var.) The dissertation will be a cohesive, original, and independent contribution to scholarship. The research is to be performed under the guidance of the major professor and the supervisory committee, which determine how many total dissertation hours each student completes (maximum 42 hours). (PR: Accepted into program, GEO 7920 and permission of the student’s advisor)

GIS 5049 GIS FOR NON MAJORS (3) An introduction to the concepts underlying digital information systems for non-geography majors and non-geography graduate students.

GIS 5075 GLOBAL POSITIONING SYSTEMS (3) Examination of the theory, operation and application of Global Positioning Systems (GPS). (PR: GIS for Non-Majors or permission of instructor).

GIS 6038C ADVANCED REMOTE SENSING (3) Study of digital image processing techniques. Topics include filtering techniques, geometric and radiometric normalization, and classification algorithms with emphasis on developing. (PR: GS in Geography or CI, GEO 4124C)

GIS 6039 READINGS IN REMOTE SENSING (3) Analytic study of selected topics in remote sensing. Discussions around topics include data acquisition, sensor systems, multispectral and radar image analysis, change detection, and integration of remote sensing with GIS. (PR: GIS 6038C)

GIS 6100 GEOGRAPHIC INFORMATION SYSTEMS (3) Spatial problem solving utilizing GIS mapping and statistical methods. The course is designed to give students hands-on experience in using computerized techniques for geographic analysis. (PR: GS in Geography or CI)

GIS 6103 PROGRAMMING FOR GIS (3) Examination of the concepts and techniques for the customization of Geographic Information Systems (GIS) using object-oriented programming. (PR: GEO 6157 OR CI)
GIS 6112 SPATIAL DATABASE DEVELOPMENT (3) Development and management of spatial data for use in a Geographic Information System (GIS), including creating, editing, modifying and validating spatial data. (PR: GIS 6100 or CI).

GIS 6146 GIS SEMINAR (3) Analytic study of selected topics in GIS. The course will familiarize students with case studies involving GIS applications in environmental studies, coastal modeling, and urban planning. (PR: GIS 6100 or CI)

GIS 6306 ENVIRONMENTAL APPLICATION OF GIS (3) Examination of GIS applications in agriculture, forestry, wildlife management, biodiversity conservation, environmental assessment, water resources, and pollution modeling. Use of advanced GIS analysis techniques relevant to the specific applications. (PR: GIS 6100)

GIS 6355 WATER RESOURCES APPLICATION OF GIS (3) Examination of GIS applications in water resources, including watershed analysis, pollution modeling, and water resources modeling. Use of advanced GIS analysis techniques relevant to the specific applications. (PR: GIS 6100 or CI)
GRADUATE FACULTY ADVISORS IN GEOGRAPHY:

Kevin Archer, Associate Professor, Ph.D. John Hopkins University (1990)
Dr. Archer’s research concerns the nature and implications of globalization, particularly political-economic and cultural. He also focuses on the increasingly post-political production of nature. His empirical work concentrates on North America, particularly Tampa Bay-Orlando, Celebration, and the Everglades as well as the European Union.

Pratyusha Basu, Associate Professor, Ph.D. University of Iowa (2003)
Dr. Basu’s research broadly encompasses human, environmental and regional geography, with a specific focus on rural-urban intersections, struggles over access to agricultural and environmental resources, gender identities and the regional geography of India. Current research topics include: urban dairying and suburbanization in Delhi (India's capital), access to information technologies in rural India and the U.S., and anti-dam struggles along India’s Narmada river. Dr. Basu mainly utilizes qualitative and ethnographic methods in her research.

Martin Bosman, Associate Professor, Ph.D. University of Kentucky (1999)
Dr. Bosman’s research focuses on global city formations, the political economy and ecology of urbanization, and the politics of place-competition. He is particularly interested in working with students on geographies of urbanization and globalization; gated communities and the politics of anti-urban economic development; and the rift in the metabolic relations between cities and nature.

Jayajit Chakraborty, Associate Professor, Ph.D. University of Iowa (1999)
Dr. Chakraborty’s research interests are located at the intersection of hazards geography, health geography, and urban geography, and encompass a wide range of environmental and social justice concerns. Specific topics include air pollution, environmental health, environmental justice, information and communication technologies, urban environmental change, and vulnerability to natural and technological disasters. His research utilizes GIScience and spatial statistical techniques.

Ruiliang Pu, Assistant Professor, Ph.D. Chinese Academy of Sciences jointly with University of California-Berkley (2000)
Dr. Pu’s research interests are in remote sensing, GIS, and spatial statistics with direct applications to natural hazard monitoring, land use/cover change detection, biophysical and biochemical parameters extraction, and terrestrial and coastal ecosystem studies. His current research topics include mapping and characterization of seagrass habitats using spacecraft observations, urban environmental studies using thermal and optical remote sensing data, and land surface temperature retrieval studies with thermal satellite imagery.

Steven Reader, Associate Professor, Ph.D. University of Bristol (England) (1989)
Dr. Reader’s interests are in using GIScience and spatial statistics for social science applications. His current interest is in public health applications, specifically the two issues of cardiovascular death and low birth weight. Dr. Reader is also engaged in developing spatial statistical methodologies, particularly in the analysis of point pattern data.