

**School of Geosciences  
University of South Florida**

**DOCTORAL PROGRAM**

**GEOGRAPHY AND ENVIRONMENTAL  
SCIENCE AND POLICY (GEP)**

**STUDENT HANDBOOK 2018-19**

**Revised 04/27/2018**

Geography and Environmental Science and Policy Doctoral Program  
<http://hennarot.forest.usf.edu/main/depts/geosci/grad/students/>

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## **1. PROGRAM DESCRIPTION**

The Ph.D. degree in Geography and Environmental Science and Policy (GEP) is an interdisciplinary program, and its curriculum is designed around critical areas of geography and the environment. The GEP Program is designed to integrate fully the strengths of the Geography and the Environmental Science and Policy (ESP) Programs in the School of Geosciences (SGS) at the USF. Emphasis is placed on providing theoretical rigor and methodological skills, thereby enabling students to make significant and original research and policy contributions in an integrated interdisciplinary environment. In addition, the degree has a very strong applied component emphasizing working on solutions to real-world geographical and environmental problems.

The Geography Program in the SGS serves needs of a growing urban population in one of the largest metropolitan areas in the southeastern United States. As such, its research focus, although varied, is centered on urban processes, both physical and human. Course offerings emphasize economic, social, and planning issues in the urban environment; physical/environmental geography, natural/technological hazards; environmental justice; environmental and water resources policy and management; and geographic information science (GIScience) and spatial analysis.

The Environmental Science and Policy (ESP) Program is an interdisciplinary research and teaching program that emphasizes the integration of sound science into environmental policy development and analysis. Students take classes in natural and physical sciences, as well as areas of public policy, environmental law, ethics, and economics. Accordingly, the program draws faculty from diverse educational backgrounds, including Biology, Ecology, Geology, Geography, Engineering, Public Administration, Political Science, Law, Philosophy, Public Health, and related disciplines. Through a commitment to quality interdisciplinary teaching, combined with research and hands-on learning opportunities, the GEP Doctoral Program in the SGS is dedicated to ensuring that students are well prepared for careers in academics, and private and public sectors.

## **2. PROGRAM AREAS OF EMPHASIS**

Many organizations, including the National Science Foundation and the National Institutes of Health, have recognized the need for expanding interdisciplinary research to handle real-world problems. The GEP Doctoral Program distinctly focuses on developing state-of-the-art researchers who are able to navigate in today's complex world. Many of our former students are already active in seeking solutions to pressing contemporary public problems, and we anticipate that current and future students will continue addressing pressing local, regional, national, and global issues that require a cross-disciplinary perspectives. To that end, the Ph.D. in the GEP program is designed to expand opportunities for students interested in complex social and environmental problems. The degree program currently has nine areas of emphasis that reflect the strengths of existing faculty and key research needs. However, new areas of emphasis can

also be created that reflect students' needs and desires, and additional faculty interests. The eight current areas of emphasis are:

- 1. Human Geography**
- 2. Environmental Geography**
- 3. Environmental Sustainability**
- 4. Economic, Social, and Planning Issues in the Urban Environment**
- 5. GIScience and Spatial Analysis**
- 6. Karst Science and Climate Change**
- 7. Natural/Technological Hazards and Health**
- 8. Water Resources & Environment and Policy**
- 9. Wildlife and Landscape Ecology**

The *Human Geography* emphasis 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 socio-spatial processes, including the growing 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 and environmental justice.

The *Environmental Geography* emphasis links the study of nature and society by considering the ways that conventional divisions between human and more-than-human worlds are interconnected through the production of myriad socio-natures. This understanding is crucial to understanding 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.

The *Environmental Sustainability* emphasis concentrates research on a wide spectrum of sustainability issues, including global sustainability, the impact of urban runoff on natural systems, environmental and human health impacts of air pollution, the effects of air toxins on community health, the integration of environmental science, policy and sustainability, the impact of religious belief systems on environmental policy and sustainability, privatization and sustainability in developing countries, urban landscaping and sustainability, and Florida native plants, invasive species and sustainability.

The *Economic, Social, and Planning Issues in the Urban Environment* emphasis provides a framework for studying the economic, social and environmental issues associated with (sub)urbanization. As much of the world is transitioning from rural to urban societies, there are many research questions that are critical to the understanding of this process and the overall implications of development to human society.

The *GIScience and Spatial Analysis* emphasis 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 geographies. 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.

The *Karst Science and Climate Change* emphasis provides a unique niche for the school. There are only a handful of departments in the world that offer Ph.D. level instruction in the area of karst science, although approximately 20 percent of the Earth's land surface is considered a karst landscape. Similarly, the study of climate change is important at both the regional and global levels. This area of the proposed degree program has a high-tech, applied orientation through which an understanding of emerging problems related to such change is gained.

The *Natural/Technological Hazards and Health* emphasis encourages research on a wide array of issues such as vulnerability of populations to hazards, the impact of environmental pollution on health, and environmental issues. This type of research is becoming increasingly important as our societies become more susceptible to the impacts of hazards due to population locations and economic conditions. Risk assessment and management for natural/technological hazard mitigation is a growing area of concentration.

The *Water Resources & Environment and Policy* emphasis provides students with a concentration in the science and policy study of water quality and water supply. Research and teaching topics include developing new and innovative methods to detect and evaluate changes to water quality and availability resulting from urban systems and other human impacts and assessing effectiveness of protection and control measures that have been implemented or proposed to prevent or reverse these impacts.

The *Wildlife and Landscape Ecology* emphasis builds on the strengths of faculty engaged in examining ecological research and public policy questions associated with the geography of plant and animal communities and the conservation of rare and endangered species as well. This area of research is increasingly important as development and urban growth increasingly place humans and human activities in conflict with the habitats and ranges of native animal and plant species in different regions of the world.

### **3. ADMISSION REQUIREMENTS**

#### **3.1 Background Requirement**

Students wishing to gain admittance into the GEP Doctoral Program should have a Master's Degree, or its equivalent from an approved college or university. These students are required to take a minimum of 60 hours prior to obtaining the Ph.D. It is also possible, however, to enter directly into the doctoral program without a Master's Degree. Such students must complete the coursework portion of the Master's Degree required in either the Department of Geography, or ESP or Geosciences, and complete a minimum of 90 hours prior to obtaining the Ph.D. Exceptional students already enrolled in the Geography or ESP Masters Programs can potentially move into the doctoral program prior to completing the Master's Degree. In this case, the student's advisor will recommend the student for possible entry into the Ph.D. program. Such a case will be evaluated on a case-by-case basis by the Geography and ESP Graduate Program Committee. After review of the student's credentials, this committee either approves or denies

the student entry. If approved, the student will need to formally apply for the 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 and ESP Graduate Program Committee (e.g. via non-structural courses, independent study, etc.).

### **3.2 Grade Point Average, Graduate Record Exam (GRE) and TOEFL/IELTS**

Students must have a minimum grade point average of 3.2 (on the four point scale) for all work prior to admission, and the submission of GRE scores is an unconditional requirement (297 combined Verbal/Quantitative on the new scale or 1000 combined Verbal/Quantitative on the old scale is the general minimum for USF). The GRE must be taken within five years preceding the application and the score is submitted regardless of the grade point average. TOEFL (minimum of 79 on internet based test or equivalent for other forms of the test) or IELTS (minimum score 6.5) is required for international students. Official copies of transcripts, GRE scores, and TOEFL/IELTS scores are required to be sent to the USF Graduate Admissions Office.

### **3.3 Letter of Intent**

The letter should outline the applicant's specific academic interests and goals. The letter should also clearly indicate: (a) the student's specific academic interests and goals, and (b) which faculty member(s) the applicant would like to work with.

### **3.4 Letters of Recommendation**

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

### **3.5 Resume and Writing Sample**

The applicant should submit a complete and up-to-dated resume as part of his/her application packet. The applicant should also submit a writing sample as a part of his or her application packet.

Please submit the Letter of Intent, Letters of Recommendation (an email link will be sent to your references), Resume, and Writing Sample via the USF online application system (<http://www.usf.edu/admissions/graduate/>).

### **3.6 Application Deadlines & Graduate Assistantships**

The application deadline for the fall semester admission is February 15. Students applying for a Graduate Assistantship (GA) position (considered for fall semester admission only) should also include a completed GA application form. It can be uploaded as a part of the online application or forwarded to the current graduate director. The form can be found at:

[http://hennarot.forest.usf.edu/main/depts/geosci/grad/data/GA\\_Application\\_Form.pdf](http://hennarot.forest.usf.edu/main/depts/geosci/grad/data/GA_Application_Form.pdf)

Students are encouraged to apply at least one month before the application deadline to allow time for application processing. Please visit the Graduate Admissions website at <http://www.usf.edu/admissions/graduate/> for application forms and application fee information. The application and application fee must be submitted online as per the instructions of the Graduate Admissions website.

### **3.7 Students Admitted to the Doctoral Program**

Normally, students are admitted into the doctoral program conditional upon the successful completion of a Master's Degree program or an equivalent. Documentation of this will be requested.

### **3.8 Students Entering into the Doctoral Program without a Master's Degree**

A student can apply directly to the doctoral program in his/her original application, or can be in either the Geography M.A. program or the ESP M.S. program a minimum of one semester, and then his/her advisor/major professor can recommend that he/she apply for the doctoral program. The GEP Doctoral Program Committee reviews the student's credentials and makes a recommendation regarding whether the student should apply for the program. If the student is given permission to apply for the program, the application is then reviewed via the established process of program application review and recommendations are made regarding admission to the program and funding.

## **4. ADVISING**

When a student is admitted to the program, the student, with the assistance of the Graduate Director, will have a designated advisor based upon mutual interests of the student and a faculty member. The role of the advisor 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 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 are found in section 7).

## **5. FINANCIAL SUPPORT**

### **5.1 Graduate Assistants**

Typically, SGS funds eight regular semesters for PhD students from the time of enrollment if they are entering the program with a relevant Master's degree or twelve semesters if they enter the program with a Bachelor's degree. Students can only receive a maximum of six years of funding including other sources, such as research assistantships. If an applicant wishes to be considered for a graduate assistantship position, he or she should complete the Graduate Assistantship Application (see section 3.6 above) and send it, along with other application materials, via the USF online application system. Graduate assistantships are awarded based upon grade point average, GRE scores, letters of recommendation, student area of interest, and prior experience.

Graduate assistants in the GEP Doctoral Program are under the direct supervision of the SGS Director, who assign the specific duties to students. Typically students are required to teach one section of an introductory-level course, (or supervise/instruct laboratory, or discussion sections), which is linked to a course that is instructed by a faculty member. In addition to the general supervision provided by the Director, students will be assigned faculty supervisors for the TA assignments.

*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 320 (on the new score scale) and a GPA above 3.6 for graduate level work may be awarded a Dean's Scholarship in addition to the assistantship stipend. Additional funding via summer school instruction is sometimes possible depending on the teaching needs of the SGS. Doctoral Graduate Assistant (GA) positions currently include tuition waivers for up to 12 credit hours per semester.

This funding is contingent upon satisfactory progress in research activities and courses and satisfactory performance in teaching assistantship (TA) duties. The School Director may revoke a student's teaching assistantship at any time if it is determined that the student has failed to meet the contractually agreed to expectations of a teaching assignment. Similarly, a student's advisor or committee may revoke a research assistantship if it is determined that a student has failed to meet the expectations of an assignment. It is the responsibility of the student to fully understand any terms and conditions of his/her assignment. The student's advisory committee is responsible for clearly delineating the academic and departmental expectations of the graduate student, as well as for evaluating the student's progress. Receipt of an unsatisfactory evaluation may result in loss of funding as a GA.

### **5.2 Project (Research) Assistants**

Research Assistants (RAs) are students who are hired to assist faculty with grant-funded projects. Students hired as RAs will complete, for example, literature reviews, computer analysis, cartography, fieldwork, and/or laboratory analysis related to various 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 RA positions based upon the skills needed for individual projects. These positions may, or may not, provide tuition waivers.

### **5.3 Other Financial Support**

The Center for Urban Transportation Research (CUTR), the United States Geological Survey (USGS), and the Water Institute (in CAS/SGS) sometimes hire Geography and ESP graduate students. Students may submit applications for employment to these agencies. In addition, part-time and full-time jobs that become known to SGS are posted on the bulletin board outside of the SGS main office (NES 201).

### **5.4 Fellowships**

Fellowships are funds received by students for which no work is required. A listing of potential fellowships can be found at the website of the Office of Admissions website at: <http://www.usf.edu/admissions/graduate/graduate-assistantships.aspx>.

### **5.5 Scholarships, Grants, Work Study, and Loans**

The USF 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 of 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.

## **6. 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://www.grad.usf.edu/catalog.php>

USF 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 and Environmental Science and Policy (GEP) Doctoral Program are included below, along with other pertinent information about the degree program.

### **6.1 Degree Requirements**

#### ***Credit Hour:***

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 or Environmental Science and Policy.

Specifically, the Ph.D. curriculum consists of core, emphasis area and other elective/dissertation research courses with the following requirements:

- |   |            |
|---|------------|
| a) Core Requirements                      | 12 credits |
| b) Area of Emphasis/Elective Requirements | 9 Credits  |
| c) Other Electives and Dissertation       | 39 credits |

#### ***a). Core Requirements (12 Hours)***

All students must complete the following courses:

- |          |   |           |
|----------|---|-----------|
| EVR 7021 | Doctoral Dissertation Preparation         | 3 credits |
| GEO 7606 | Seminar in Urban and Natural Environments | 3 credits |
| GEO 6116 | Perspectives in Environmental Thought     | 3 credits |
| Or       |   |           |

GEO 6058 Geographic Literature and History 3 credits

One of these methods courses:

GIS 6100 Geographic Information Systems 3 credits

GIS 6038C Advance Remote Sensing 3 credits

GEO 6119 Qualitative Research Methods 3 credits

GEO 6166 Multivariate Statistical Analysis 3 credits

*b). Areas of Emphasis/Elective Requirements (9 Hours)*

Upon entering the program students select one area of emphasis from the list of eight current areas: (1) Human Geography, (2) Environmental Geography, (3) Environmental Sustainability, (4) Economic, Social, and Planning Issues in the Urban Environment, (5) GIScience and Spatial Analysis, (6) Karst Science and Climate Change, (7) Natural/Technological Hazards and Health, (8) Water Resources & Environment and Policy, and (9) Wildlife and Landscape Ecology. New areas of emphasis can also be created that reflect student needs and desires, and additional faculty interests. Students must take 9 credit hours in their area of emphasis. Such 9 credit hours courses are determined after consultation with the student's major professor and dissertation committee. There is a wide variety of graduate courses in the areas of emphasis available in the SGS, and approved coursework can also be completed in other departments to fulfill this requirement.

*c). Other Electives and Dissertation (39 hrs for post-Master's and 69 hrs for post-Bachelor's)*

Students must complete a minimum of 39 other hours (past the Master's Degree) and 69 (past the Bachelor's Degree) in forms of electives, directed reading, directed research, independent study, or dissertation hours. Students' Advisory Committees will provide advice on the number of elective courses required, the selection of elective courses, and the number of dissertation hours required. A total of 12 dissertation hours is required to complete as part of the degree program, and no more than 50% of the required dissertation hours can be taken as Directed Research. Graduate hours can be completed outside of the SGS to support the elective requirements for the degree.

The following electives and dissertation courses are available:

EVR 6101 Geomorphology for Environmental Scientists

EVR 6216 Advances in Water Policy and Management

EVR 6320 Environmental Management

EVR 6408 Wildlife Ecology

EVR 6921 Scholarly Presentation of Environmental Research

EVR 6922 EPS Capstone seminar

EVR 6934 Special Topics in Environmental Science and Policy/Seminar in Natural Environments

EVR 6936 Seminar in Environmental Science

EVR 6937 Seminar in Environmental Policy

EVR 7980 Doctoral Dissertation

GEA 6195 Seminar in Advanced Regional Geography

GEA 6215 Seminar in North American Geography

GEA 6252 Seminar in the Geography of the American South

GEA 6406 Seminar in Latin American and Caribbean Geography  
 GEA 6504 Seminar in European Geography  
 GEA 6745 Asian Geography Seminar  
 GEO 6115 Advanced Field Techniques  
 GEO 6209C Physical Geography Seminar  
 GEO 6215 Geomorphology Seminar  
 GEO 6217 Karst Geomorphology  
 GEO 6255 Weather, Climate, and Society  
 GEO 6263 Soils Seminar  
 GEO 6286 Advances in Water Resources  
 GEO 6288 Hydrological Systems  
 GEO 6347 Natural Hazards  
 GEO 6345 Technological Hazards and Environmental Justice  
 GEO 6428 Seminar in Advanced Human Geography  
 GEO 6475 Political Geography Seminar  
 GEO 6545 Economic Geography Seminar  
 GEO 6605 Contemporary Urban Issues  
 GEO 6627 Site Feasibility Analysis  
 GEO 6704 Transportation Geography  
 GEO 6908 Independent Study  
 GEO 6918 Directed Research  
 GEO 6970 Research Methods n Geography  
 GEO 7938C Doctoral Professional Development in Geosciences  
 GEO 7980 Doctoral Dissertation  
 GIS 5049 GIS for Non-Majors  
 GIS 5075 Global Positioning Systems  
 GIS 6038 Advanced Remote Sensing  
 GIS 6039 Readings in Remote Sensing  
 GIS 6103 Programming for GIS  
 GIS 6112 Spatial Database Development  
 GIS 6146 GIS Seminar  
 GIS 6306 Environmental Applications of GIS  
 GIS 6307 Socioeconomic Applications of GIS  
 GIS 6355 Water Resources Applications of GIS  
 GLY 6573 Fluvial Hydrology and Geomorphology  
 GLY 6824 Ecohydrology  
 GLY 6828 Ground-Water Geochemistry  
 CWR 6305 Urban Hydrology  
 CWR 6533 Water Quality Modeling  
 ECP 6305 Environmental Economics and Policy  
 IDS 6215 Seminar in Global Sustainability  
 PAD 6338 Urban Land Use and Policy Administration  
 PAD 6339 Housing and Public Policy  
 PCB 6933 Seminar in Ecology  
 PHC 6301 Water Pollution and Treatment  
 PHC 6312 Environmental Fate of Chemical Releases

PHC 6313 Indoor Environmental Quality  
PHC 6353 Environmental Risk Assessment  
POS 5159 Urban Policy Analysis  
URP 6056 City and Regional Planning  
URP 6100 Planning Theory and History  
URP 6115 Planning, Policy and Politics  
URP 6232 Research Methods for Urban and Research Planning  
URP 6930 Special Topics in Urban and Regional Planning  
URP 6940 Internship in Urban and Regional Planning

Note: Students entering the Ph.D. program directly from a Bachelor's Degree program must take the courses required for the Master's Degrees in either the Geography Master's Program or the ESP Master's Program, and/or other courses designated by the Graduate Director of the program before taking core courses toward the Ph.D.

### **6.2 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 from those offered on the USF Tampa campus. Students must get approval from their advisors and the Graduate Director prior to taking any outside courses to verify that these courses will count toward their degrees. Additionally, only faculty in the SGS on the Tampa campus can serve as the major professors/advisors for graduate students enrolled on the Tampa campus.

### **6.3 Policies for Ph.D. Students Regarding Teaching**

- 1) International students must take any required English and/or teaching courses if their minimum TOEFL or IELTS score does not meet the Graduate School standards.
- 2) PhD students are not expected to teach classroom courses in their first semester.
- 3) PhD students cannot teach 4000 level classes unless they have a proven teaching background.
- 4) If not teaching a course, GAs will be given no more than 2 assignments per semester.
- 5) All PhD GAs are encouraged to take one class in their first semester at the Academy of Teaching and Learning Excellence (ATLE) <http://www.usf.edu/atle/>.
- 6) If a student is having trouble teaching, he/she will be instructed to contact ATLE for help in addressing his/her area of weakness. After this, if the student's work is still deemed unsatisfactory by SGS, GA support may be withdrawn.
- 7) All GAs will be given the opportunity to provide the Associate Chair with their preferences for assigned duties before these assignments are created. The Associate Chair will do its utmost to accommodate these preferences.

All GAs will be evaluated annually by an assigned faculty mentor to consider the fitness for continued funding.

### **6.4 Core Course Substitutions**

Although course substitutions for required core courses are strongly discouraged in SGS, under certain extenuating circumstances, they are allowed. Students needing a substitution for one of the required core classes should produce a written petition and complete the department substitution form. Only comparable graduate level courses at the same level covering similar material can serve as a replacement. The student will need to provide a syllabus of that course to

the Director, his/her advisor, the Graduate Director and the Graduate Committee who can then approve or deny the request. Major professors alone do not have the authority to unilaterally approve the substitution of any required core courses.

## **7. THE DISSERTATION PROPOSAL, QUALIFYING EXAM, AND THE DISSERTATION**

### **7.1 Formation and Composition of PhD Advisory Committee**

The Ph.D. advisory committee should typically be formed by the 8th week of the student's second semester. If the student enters with a Bachelor's degree and will initially complete a Master's degree, the composition of the advisory committee should follow that for a PhD committee. Failure to form an advisory committee by the end of the third semester is considered "unsatisfactory progress." The Ph.D. advisory committee should have a minimum of four faculty members with a majority coming from SGS. At least one member but no more than two members must come from outside our academic the SGS, and the School encourages the inclusion of one committee member external to USF. Full time faculty members at the level of assistant, associate or full professor in the Geography and ESP Programs in the SGS can serve as a major professor or as an in-program committee member. Faculty members with less than a 100% appointment in SGS can only serve as external committee members. Research faculties (at assistant, associate or full professor level) from the SGS can serve as co-advisors.

Under exceptional circumstances, a student may need to change his/her major professor(s) or reconstitute the membership of his/her advisory committee. In these circumstances, the student must inform all original and new committee members of this change in writing, such as in an email, so that all committee members are aware of the reasons for the change. Original and new committee members must then review the requested changes and accept or reject them with clear explanations to the student. If the changes occur after the qualifying exam and/or proposal have been passed, the committee may require the student to redo them, particularly if the student changes research topics.

### **7.2 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. Students must enroll a minimum of two (2) hours of graduate credit in their discipline at the time they take the qualifying examination. If the exam is taken between semesters, students must enroll a minimum of two (2) hours of graduate credit in the semester before or following the exam. 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 and Environmental Science and Policy); (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. The written exam is prepared for the student by the major professor(s) and the advisory committee. Each examination question is given to the student by his/her major professor (s) and must be completed and returned to the major professor(s) within 24 hours before the next question is provided. The whole written exam must be completed 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(s) serve as chair of the oral examination, and is responsible for organizing and facilitating the examination. Within two weeks, the student's major professor(s) and the advisory committee will evaluate the written exam. The nature and content of the qualifying exam is at the discretion of the Ph.D. advisory committee. In order to provide as much transparency as possible to a students preparing for their qualifying exams, an assessment rubric will be used to determine whether students passed the exams. 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 that the student did not successfully complete the oral exam, the major professor(s) and the advisory committee will 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 Ph.D. program.

Qualifying exams should be completed no later than the end of the 5th semester for Ph.D. students to attain candidacy, or by the 6th semester for those entering the program without a Master's Degree. If remedial action is required, then it must be successfully completed by the end of the student's 6th semester. Failure to pass the qualifying exam by the end of the 6th semester, or the equivalent for part-time students, is considered "unsatisfactory progress."

### **7.3 Preparation Guidelines for the Qualifying Examination**

- 1) The student should meet with his/her major professor(s) 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 Graduate Program Director for final approval to avoid time conflicts with other departmental and university activities.
- 2) The student's major professor(s) 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(s) 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.

### **7.4. 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. The dissertation proposal must be prepared in accordance with the guidelines below. These guidelines are based on those provided by the National Science Foundation for Dissertation Improvement Grants. The proposal should contain five sections:

- 1) *The Project Summary (one page maximum)*: The project summary must include: (i) an overview of the project; (ii) a statement on the intellectual merit of the proposed research; and (iii) a statement on the broader impacts of the proposed research.
- 2) *Project Description (12 pages maximum)*: The Project Description must include (i) a clear statement of the work to be undertaken; (ii) a literature review and theoretical framework placing the proposed research in context; (iii) methods or description of the experiment and procedures; (iv) expected outcomes. Illustrations (figures, tables, graphs, maps etc.) should be included in the twelve page limit. Brief captions should be added to each illustration.
- 3) *References (no page limit)*: Full citations of all references cited in the text must be included.
- 4) *Funding Support (one page maximum)*: A statement regarding support available and needed to successfully complete the research.
- 5) *Research Plan and Timeline*: This should include milestones of when assigned tasks will be completed and submitted to the major professor and advisory committee.

*Style*: The proposal must conform to the following layout:

- i. *Paper*: Use letter size (8.5 x 11 inches).
- ii. *Typeface*: Use Times New Roman font size 11 or 12. Smaller fonts can be used for mathematical equations and illustrations but must be easily readable.
- iii. *Spacing*: Single 1.5 line spacing.
- iv. *Margins*: Margins in all directions must be one inch.
- v. *Page numbers*: Paginate the document.
- vi. *Submission*: Submit the document to your advisor in Microsoft Word and pdf formats.

Upon approval of the proposal by the major professor(s), the document is then forwarded to the student's committee for an initial review; normally a two-week period is required for this. At the discretion of the advisory committee, if the committee sees no major problems, the proposal can be defended as part of the qualifying exams or up to 60 days after the qualifying exams but not including the summer semester. The student then gives an open, formal presentation of the proposal, which is followed by an oral defense of the proposal. The format of the proposal defense is at the discretion of the advisory committee. Failure to pass the proposal defense by the end of the 6th semester, or the equivalent for part-time students, is considered "unsatisfactory progress."

### **7.5 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 60-day period (Summer excluded). The 60-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.

## **7.6 Admission to Candidacy**

After designation of a major professor(s) and appointment of an advisory committee, and upon successful completion of: (1) all required course work which includes required core courses and electives, (2) the written and oral Qualifying Exam, and (3) the Dissertation Proposal Defense, the student becomes a Doctoral Candidate.

## **7.7 The Dissertation**

The dissertation is an original scholarly contribution to the field of Geography and Environmental Science and Policy. 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(s) and the advisory committee. After approval by the major professor(s), 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. Formatting of the dissertation must follow the Graduate School guidelines.

## **7.8 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(s) 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 a Ph.D. degree.

## **7.9 Graduation Requirements**

- (1) All courses must have a grade of no less than a 3.0.
- (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 a Ph.D. Degree.

**Appendix I**  
**List of Graduate Courses Offered by the School of Geosciences for GEP Program**

**EVR 6101** GEOMORPHOLOGY FOR ENVIRONMENTAL SCIENTISTS (3). Course will explore the evolution of landscapes, natural processes that alter Earth's surface, and rates of change in the surficial environment. The course will emphasize topics relevant to environmental scientists in Florida - esp. soils, karst, & coasts.

**EVR 6216** ADVANCES IN WATER QUALITY POLICY AND MANAGEMENT (3). Conceptual structure and practical implementation of U.S. watershed-based water quality regulations and policies. Practical application of scientific information and quantitative methods in management/policy decisions for water quality protection.

**EVR 6320** ENVIRONMENTAL MANAGEMENT (3). This course introduces the students to environmental management from technical and non-technical perspectives. The major topics covered will be water and air quality, environmental sustainability, collaboration and building consensus.

**EVR 6408** WILDLIFE ECOLOGY (3). Population ecology, animal behavior, food resources, habitat resources, wildlife diseases, predation, competition, wildlife and water, wildlife and soils, hunting and trapping, exotic wildlife, urban wildlife, and conservation

**EVR 6921** SCHOLARLY PRESENTATION OF ENVIRONMENTAL RESEARCH (1-3). Discussion and practice in methods of writing, presenting, and defending cross-disciplinary environmental research. Written and oral assignments on communicating research objectives, methods, results, theory, and analysis of policy relevance. Prerequisite: Second year in the M.S. program in ESP, or permission of instructor

**EVR 6922** ESP CAPSTONE SEMINAR (3). A capstone graduate course that integrates issues related to science, policy and management in making decisions. Each semester, the program selects an environmental issue to serve as a case study. Some anticipated themes include global warming, water quantity and quality, air pollution and restoration. Prerequisite: Standing in the M.S. program or Graduate Certificate program in ESP, or permission of instructor

**EVR 6930** RESEARCH COLLOQUIUM IN ENVIRONMENTAL SCIENCE AND POLICY (1).

**EVR 6934** SPECIAL TOPICS IN ENVIRONMENTAL SCIENCE AND POLICY/SEMINAR IN NATURAL ENVIRONMENTS (3). A core course in the Geography and Environmental Science and Policy Doctoral Program that examines natural environments via sets of readings, discussion, and research. Students will be exposed to a wide variety of perspectives and scientific methodologies related to various aspects of the natural environment. (PR: GS and CI).

**EVR 6936** SEMINAR IN ENVIRONMENTAL SCIENCE (3). A seminar course that reviews a major theme or themes in environmental science that integrates knowledge and research from various scientific disciplines.

**EVR 6937** SEMINAR IN ENVIRONMENTAL POLICY (3). Critical assessment of environmental policy and regulatory formulation, implementation, evaluation, and revision in the context of scientific, technological, institutional, political, social and economic factors; case studies of major U.S. policies.

**EVR 7021** DOCTORAL DISSERTATION PREPARATION (3). This course will assist students in developing dissertation topics; to think creatively about their topics; to draft a dissertation proposal and a dissertation outline. Students should register for either evr or geo 7921 depending on his/her subject area.

**EVR 7980** DOCTORAL DISSERTATION RESEARCH (2-15 var.).

**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 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 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 6119** QUALITATIVE RESEARCH METHODS (3). A synoptic and detailed treatment of the subject, and an examination of the conceptual frameworks and practical issues behind data acquisition and analysis and how to interpret results.

**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 7938C** DOCTORAL PROFESSIONAL DEVELOPMENT IN GEOSCIENCES (3).

**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 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).

**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** REMOTE SENSING SEMINAR/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 6307** SOCIOECONOMIC APPLICATIONS OF GIS (3).

**GIS 6355** WATER RESOURCES APPLICATIONS 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.

**GLY 6573** FLUVIAL HYDROLOGY AND GEOMORPHOLOGY (3). The course covers the mechanics of open channel flows, primarily to understand the potential energy available to do work, and the geomorphic responses to work, including channel initiation, sediment transport, and channel adjustment. (PR: MAC 2311 or the equivalent).

**GLY 6824** ECOHYDROLOGY (3). This course covers hydrological processes along the atmosphere-plant-soil continuum and the ways in which hydrological processes control ecological structure and function. (PR: MAC 2311 or the equivalent).

**GLY 6828** GROUND-WATER GEOCHEMISTRY (3). Chemical behavior of ground water. Includes interaction of water with aquifer materials, chemical effects of waste disposal, use of chemical tracers, and transport of hazardous chemicals. Methods of sampling and data interpretation are emphasized. Lec. (PR: One year of college Chemistry, GLY 4822, GLY 6246).

**MET 6149** SAME AS GEO 6255.

## **Appendix II**

### **Graduate Faculty Advisors in Geography and ESP Programs**

All graduate faculty advisors in Geography and ESP programs specify those usually considered as GPY/ESP faculty. Per the eligibility to advise PhD students, regular professors at all ranks can be a major advisor and committee member; research professors at all ranks can be co-advisor and committee member; and GLY faculty can be co-advisor and committee member. The basic information for all faculty members in Geosciences, their ranks and their interest research areas can be found at <http://hennarot.forest.usf.edu/main/depts/geosci/faculty/>. All GPY/ESP faculty are listed as follows.

**Fenda Akiwumi**, Associate Professor, Ph.D. Texas State University (2006), Water Resources, Cultural Geography, Hydrology.

**Kamal Alsharif**, Associate Professor, Ph.D. University of Minnesota (2004), Water Resources, Conservation, Management.

**Martin Bosman**, Associate Professor, Ph.D. University of Kentucky (1999), History and Philosophy of Geographic Thought, Global City Formation, Economic Restructuring and Urban and Regional Revitalization.

**Jennifer Collins**, Professor, Ph.D. University College London (England) (2001), Tropical climatology, Hurricane Activity, Environmental Factors Influencing the Inter-Annual Variation of Hurricane Numbers.

**Lori Collins**, Research Associate Professor, Ph.D. University of South Florida (2007), LiDAR, Terrestrial Laser Scanning, 3D Printing, GPS, GIS, and Visualization Techniques.

**Travis Doering**, Research Associate Professor, Ph.D. University of South Florida (2007), Spatial technologies and imaging for cultural and natural heritage applications

**Joni Firat**, Associate Professor, Ph.D. Florida State University (2008), Geographic Information Science, Landscape Ecology.

**Yujie Hu**, Assistant Professor, Ph.D. Louisiana State University (2016), GIS, Transportation, Human Mobility and Accessibility, Public Health, Crime, Human-Environment Interactions.

**Shawn Landry**, Research Associate Professor, Ph.D. University of South Florida (2013), Environmental Geography, Remote Sensing, Geospatial Analysis, GIS/GPS, Decision Support Systems.

**Ambe Njoh**, Professor, Ph.D. University of London (England) (1990), The Urban Planning/Public Health Nexus, Sustainable Development, Hygiene and Sanitation, Water Delivery Systems; Transportation and Land Use.

**Ruiliang Pu**, Professor, Ph.D. Chinese Academy of Sciences joint with University of California-Berkeley (2000), Remote Sensing, GIS, Spatial Analysis, Ecology, Physical Geography.

**Steven Reader**, Associate Professor, Ph.D. University of Bristol (England) (1989), Geographical Information Systems, Computer Cartography, Spatial Analysis, Medical Geography

**Ran Tao**, Assistant Professor, Ph.D. University of North Carolina (2017), Geographic Information Science, spatial interactions (OD flows), spatial statistics, spatial data mining, geovisualization, transportation, migration, crime, civic conflicts

**Philip van Beynen**, Associate Professor, Ph.D. McMaster University (1998), Karst Environments Pertaining to Paleoclimate Change, Human Disturbance, Environmental Indices and Sustainability.