

# FLORIDA ATLANTIC UNIVERSITY™

## Graduate Programs—PROGRAM CHANGE REQUEST

UGPC APPROVAL \_\_\_\_\_

UFS APPROVAL \_\_\_\_\_

CATALOG \_\_\_\_\_

DEPARTMENT: GEOSCIENCES

COLLEGE: SCIENCE

PROGRAM NAME: DOCTOR OF PHILOSOPHY IN GEOSCIENCES

**EFFECTIVE DATE**

(PROVIDE TERM/YEAR)

FALL 2014

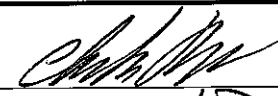
PLEASE EXPLAIN THE REQUESTED CHANGE(S) AND OFFER RATIONALE BELOW AND/OR ATTACHED:

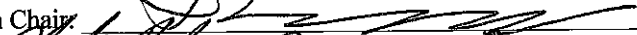
THE REQUESTED CHANGES TO THE REQUIREMENTS FOR THE PH.D. IN GEOSCIENCES ARE INTENDED TO 1) CLARIFY THE NUMBER OF 5000 LEVEL COURSE CREDITS THAT MAY BE COUNTED TOWARDS THE DEGREE FOR STUDENTS ENTERING FROM BACHELOR'S AND MASTER'S DEGREES, 2) LIMIT THE NUMBER OF GEO 6918 GRADUATE RESEARCH CREDITS THAT MAY BE COUNTED TOWARDS THE DEGREE FOR STUDENTS ENTERING FROM BACHELOR'S AND MASTER'S DEGREES, AND 3) REMOVE MINIMUM CREDIT REQUIREMENTS FOR GEO 7978 ADVANCED RESEARCH.

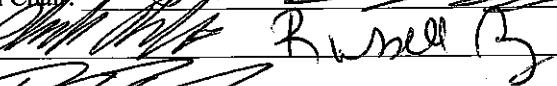
Faculty contact, email and complete phone number:  
 Scott Markwith, [smarkwit@fau.edu](mailto:smarkwit@fau.edu), 561-297-2102

Consult and list departments that might be affected by the change and attach comments.

**Approved by:**

 Department Chair: 

 College Curriculum Chair: 

 College Dean: 

 UGPC Chair: 

 Graduate College Dean: 

UFS President: \_\_\_\_\_

Provost: \_\_\_\_\_

**Date:**

3/10/14

03/12/14

3/13/14

3/24/14

3/24/14

Email this form and syllabus to [UGPC@fau.edu](mailto:UGPC@fau.edu) one week before the University Graduate Programs Committee meeting so that materials may be viewed on the UGPC website prior to the meeting.

## Doctoral Program

### Doctor of Philosophy in Geosciences

The Department of Geosciences at Florida Atlantic University offers advanced graduate training leading to the degree of Doctor of Philosophy (Ph.D.) in Geosciences. This professionally oriented program combines Department specialties in geography and geology with other cognate areas in the College and the University through an innovative curriculum that includes ecology and conservation biology, chemistry, anthropology, civil engineering, ocean engineering and urban and regional planning. The program provides advanced research and technical training to allow its graduates to find solutions to problems. While the main focus of the degree is on traditional, full-time students, the degree program also welcomes part-time students who wish to maintain their professional employment while earning their doctoral degree.

The Department expects doctoral students in the program to specialize in one of the following three areas:

**Hydrology and Water Resources**-Research in the areas of hydrology and water resources to develop a complete understanding of surface and subsurface processes and their practical applications. Studies deal with flow issues, supply issues and water quality, as well as the effects of global warming. Studies also include coastal and wetland environments. This research area combines coursework and faculty expertise in spatial information technology, including GIS, hydrologic modeling, digital image analysis and geovisualization, as well as geology, geography, biology, civil and ocean engineering and chemistry.

**Urban Development and Sustainability**-Research on urban land-use change, urban environmental systems and urban economic development. Studies utilize geographic information science and other spatial analysis tools to incorporate sustainable urban development in the subtropical environment of the Everglades ecosystem. This includes the local impact of globalization and global environmental change on South Florida communities. This research area combines coursework and faculty expertise in GIS, remote sensing, geovisualization and cartography, as well as faculty expertise in geography, geology, biology and urban and regional planning.

**Cultural and Spatial Ecology**-Research focused on the biogeography of natural ecosystems as well as ethnobotanical studies focused on the cultural variations in human uses and sustainability of plants. Emphasis on reconstructing past environments and analyzing present environments utilizing field work, satellite imagery, aerial photographs and archival research, as well as extracting environmental information from advanced and specialized remote sensing imagery for mapping and modeling of vegetation, ecosystems and natural resources. This research area combines coursework and faculty expertise in field methods and spatial information technology, such as GPS, GIS, satellite image analysis and geovisualization, as well as geography, geology, anthropology and biology.

### Admission Requirements

Individuals will be admitted to the doctoral program in Geosciences based on the following requirements:

Geosciences Colloquium Series*	GEO 6920	3
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\* This is a 1-credit course with content that varies each semester. Students are required to take this course for three semesters for a total of 3 credits. Students may not apply for candidacy until all colloquium requirements have been completed.

#### Additional Courses

57 credits for students entering directly from their bachelor's degree program or 27 credits for students entering with a master's degree in geography, geology or a related field will be made up of The remaining credits will comprise coursework at the 5000 or 6000 levels in geography, geology and interdisciplinary cognates from an approved list as appropriate to the student's research plan. These courses should be chosen in consultation with the student's advisor and/or dissertation committee. However, no more than 18 credits beyond the bachelor's degree and 9 credits beyond the master's degree of 5000-level work may be applied to the degree without approval from the committee chair and Department Chair.

No more than 3 credits of Directed Independent Study (GEO 6908 or GLY 6908) may be used to meet this requirement without doctoral committee and Department Chair approval.

No more than 15 credits beyond the bachelor's degree, and 9 credits beyond the master's degree of GEO 6918 Graduate Research may be used to meet the coursework requirement without doctoral committee and Department Chair approval. All courses will be at the 5000 level or above; however, no more than 9 credits of 5000-level work may be applied to the degree without approval from the committee chair and Department Chair.

The student's major advisor and committee must approve all coursework in the student's program, and any exceptions to the approved cognate list must be made by the Geosciences Graduate Program Committee in consultation with the Department Chair.

Note: Courses designated as undergraduate proficiency courses, generally for students coming into the program with a non-related undergraduate degree, may not be used to satisfy course requirements for the degree. Undergraduate proficiency courses will be outlined in the admissions notification.

#### Admission to Candidacy

1. Formation of a dissertation committee. This committee includes a minimum of the advisor plus three other members. A majority of the members must have doctoral faculty status in the doctoral program. Two of the members may be from another department or program at FAU or may be a doctoral-holding professional in the local community with expertise pertinent to the research program designed. Affiliate faculty members from outside FAU may serve as co-chair with a Geosciences faculty member.

2. Satisfactory completion of an examination covering graduate-level material in the field of geosciences. The material for the exam will be determined by the student's committee as appropriate to the student's research plan. The exam must be taken during the academic term immediately following the completion of the coursework outlined in section 1 of the degree

requirements. Two attempts at the examination are permitted. A second failure on the qualifying exam will result in dismissal from the program. Full-time students should become candidates by the end of their fifth semester in the program. Part-time students should become candidates by the end of semester seven.

3. Submission and presentation of an original research proposal. The student must receive written notification from the doctoral supervisor of satisfactory performance to meet this requirement.

#### Doctoral Research

1. Dissertation research should be conducted under the direction of a faculty member in the Geosciences Department or other approved Department-affiliated units. While conducting the doctoral research, a minimum of ~~12~~ 24 credits composed of any combination of credits from of GEO 7978, Advanced Research, and GEO 7980, Dissertation, including at least 6 credits of GEO 7980, Dissertation; must be included. Students may not enroll in GEO 7978 Advanced Research credits until the semester the student plans to take the candidacy exams or GEO 7980 Dissertation credits until they have reached candidacy.

2. Written submission, public presentation and defense of a satisfactory research dissertation. The defense will include an oral examination of the research presented.