

 FLORIDA ATLANTIC UNIVERSITY	NEW/CHANGE PROGRAM REQUEST Graduate Programs		UGPC Approval _____ UFS Approval _____ Banner Posted _____ Catalog _____
	Department Geosciences College Science		
Program Name Doctor of Philosophy in Geosciences		<input type="checkbox"/> New Program <input checked="" type="checkbox"/> Change Program	Effective Date (TERM & YEAR) Fall 2019
<p>Please explain the requested change(s) and offer rationale below or on an attachment</p> <p>We are updating the catalog narrative description to remove explicit program specialization areas, simplify/clarify the text, remove redundancies and address affiliate faculty restrictions regarding committee chair. Attached is the original catalog entry and the revised catalog entry, with and without tracked changes.</p>			
Faculty Contact/Email/Phone Dr. Zhixiao Xie / xie@fau.edu / 7-2852		Consult and list departments that may be affected by the change(s) and attach documentation	
Approved by Department Chair _____ College Curriculum Chair _____ College Dean _____ UGPC Chair _____ UGC Chair _____ Graduate College Dean _____ UFS President _____ Provost _____		Date 02/06/2019 2/11/2019 <small>Digitally signed by Robert W. Stackman Jr. DN: cn=Robert W. Stackman Jr, o, ou, email=rstackma@fau.edu, c=US Date: 20190211142433-0500</small>	

Email this form and attachments to UGPC@fau.edu one week before the UGPC meeting so that materials may be viewed on the UGPC website prior to the meeting.

GRADUATE COLLEGE

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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:

1. Minimum of a bachelor's degree in a field of geosciences or related area. Students who have already earned a master's degree or equivalent in geography, geology or related field may be admitted to the doctoral program and may be awarded up to 30 credits toward the Ph.D. in Geosciences. Geosciences-related areas include anthropology, biology, chemistry, civil engineering, environmental science, public administration and urban and regional planning.

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2. International students whose native language is not English must score at least 550 on the paper-based TOEFL or at least 79-80 on the computer-based test or a score of 6 or higher on the IELTS.
3. A Graduate Record Exam (GRE) score of 150 or higher on the verbal portion and 150 or higher on the quantitative portion, and a cumulative GPA of at least 3.0 in the applicant's last degree program.
4. Three satisfactory professional and/or academic letters of reference.
5. A written letter of support from a Geosciences faculty member with doctoral faculty status at FAU or an approved cognate faculty member with doctoral faculty status at FAU indicating a willingness to supervise the applicant's doctoral research.

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Degree Requirements

A total of 90 credits beyond the bachelor's degree or 60 credits beyond an earned master's degree in a related field (as defined under Admission Requirements), admission to candidacy and successful defense of a research dissertation in an approved area within the geosciences will earn students the Ph.D. in Geosciences. Students must maintain earn a cumulative grade point average of 3.0 or higher and a grade "B" or higher in any course applied to the degree program.

A minimum of 54 credits out of the 90 credits presented for the degree must be earned from the Geosciences Department (courses with EVR, ESC, GEA, GEO, GIS and GLY prefixes). Therefore, no more than 36 credits for those admitted with a Bachelor's degree or 6 credits with those entering with a Master's degree may come from outside the Geosciences Department. No more than 36 credits of the 90 total credits submitted for the degree may come from outside the Geosciences Department.

~~Thus, students who are admitted to the program with a master's degree in an approved related or cognate area as opposed to a master's degree in Geography or Geology may apply the 30 credits from that related area to the doctoral in Geosciences and may take up to 6 more credits outside of Geosciences.~~

~~1. Students must earn a cumulative grade point average of 3.0 or higher and a grade "B" or higher in any course applied to the degree program.~~

All students are required to complete a core of 9 credits in the Geosciences as listed below. All must be completed prior to applying for candidacy.

Geosciences Core (9 credits required)		
Research in the Geosciences	GEO 6118	3
Thesis Seminar	GLY 6931	3
Geosciences Colloquium Series*	GEO 6920	3

* 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

For students entering directly from a bachelor's degree program, 57 additional course credits are required. For students entering with a master's degree in geography, geology or a related field, 27 additional course credits are required. ~~These additional credits must be taken in coursework~~ All coursework must be at the 5000 or 6000 level in geography, geology and interdisciplinary cognates as appropriate to the student's research plan. These courses ~~should be chosen in consultation with the~~ must be approved by student's dissertation advisor and Director of the PhD program ~~/or dissertation committee. However, no~~

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 student's dissertation advisor and Director of the PhD program ~~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 course~~ requirements without approval from the student's dissertation advisor and Director of the PhD program ~~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 requirements without approval from the student's dissertation advisor and Director of the PhD program ~~doctoral committee and department chair approval.~~

~~The student's major advisor and committee must approve all coursework in the student's program.~~

Note: Courses designated as undergraduate proficiency deficiency 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 deficiency 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. ~~All majority of the committee~~ members must have doctoral-Graduate Faculty status in the ~~doctoral program~~ FAU Graduate College. ~~Two-The majority of the committee~~ members ~~may must~~ be from ~~another the~~ FAU Geosciences ~~d~~Department. The remaining committee members may include Affiliate Graduate Faculty or program at FAU or may be from another department at FAU, another university or a ~~doctoral-holding professionals in the local community~~ with expertise pertinent to the research program designed. ~~._ Affiliate Gradaute~~ Faculty members ~~from outside FAU~~ may not serve as the sole committee chair, but may co-chair a committee with a FAU Geosciences Graduate Faculty member.

2. Satisfactory completion of written and oral ~~an~~ examinations covering graduate-level material in the field of geosciences. The material for the exams will be determined by the student's committee as

appropriate to the student's research plan. The exams ~~must~~ should 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 examinations are permitted. A second failure on the qualifying exams 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~~ public presentation and successful defense 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~~ must be conducted under the direction of a Graduate fFaculty member in the Geosciences Department ~~or other approved department-affiliated units~~ serving as Chair or Co-Chair of the student's dissertation committee. While conducting the doctoral research, a minimum of 24 credits must be included comprised of any combination of credits from GEO 7978, Advanced Research, and GEO 7980, Dissertation, including at least 6 credits of GEO 7980. A student may not enroll in GEO 7978, Advanced Research credits, until the semester the student plans to take the candidacy exams and may not enroll in GEO 7980, Dissertation credits, until the student has 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 by the student's dissertation committee.

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