Doctor of Philosophy in Earth and Environmental Sciences (BS Entry)

About This Program

Doctor of Philosophy in Earth and Environmental Sciences provides students with the interdisciplinary knowledge and skills to conduct independent research in Earth and Environmental Sciences. Students conduct dissertation research under the supervision of a faculty member in one of the participating departments (Biology, Chemistry, Earth and Environmental Sciences, Civil and Environmental Engineering, or Urban and Public Affairs). The supervising professor and a faculty committee assign courses in this primary area of emphasis to support the student's research and professional goals. To provide interdisciplinary training, additional courses are assigned in a secondary area of emphasis.

Competencies

1. Upon completion, students will demonstrate expertise in methods found in multiple discipline areas within geoscience and/or environmental science and also demonstrate expertise in their chosen geoscience and/or environmental science discipline area.
2. Upon completion, students will be able to critically analyze scientific data in geoscience and environmental sciences, critically evaluate and design geoscience and/or environmental montoring sytems and/or models, and synthesize and integrate methodologies found in scientific and engineering disciplines into a multi-disciplinary scientific framework.
3. Upon completion students will be able to communicate complex information from geoscience and/or environmental science sub-disciplines using written reports, peer-reviewed journals, and oral presentations to specialists and non#specialists.

Admissions Criteria

For unconditional admission a student must meet the following requirements:

1. A bachelor's degree in environmental science, geosciences, biology, chemistry, mathematics, or engineering. Students with a bachelor's in other sciences will also be considered, subject to satisfactory completion of courses to make up deficiencies.
2. A strong quantitative background including courses in differential and integral calculus (i.e., Calculus I and II). Students that have not taken these courses will be expected to complete them during their first year of residence.
3. A minimum graduate coursework GPA of 3.0 on a 4.0 scale, as calculated by the Graduate School.
4. Graduate Record Examination (GRE) scores are considered in admission decisions. Doctoral students who have succeeded in the Earth and Environmental Sciences Program typically score higher than the 60th percentile the verbal and the quantitative portion of the GRE.
5. For applicants whose native language is not English and have not completed a bachelors degree at a US institution, the following minimum scores must be reported: TOEFL iBT (minimum 81 overall, with sectional scores of at least 22 writing, 23 speaking, 20 reading, or 16 listening) or IELTS (minimum overall band of 6.5, speaking 7.0).
6. Favorable letters of recommendation from people familiar with the applicant's academic work and/or professional work.
7. A statement must be submitted to the program detailing the applicant's specific research interests and identifying the faculty member who is requested as supervisor of the dissertation research.
8. Students may be considered for unconditional admission if further review of their transcripts, recommendation letters, correspondence or direct interactions with Earth and Environmental Sciences faculty, and statement of research interests indicates that they are qualified to enter the doctoral program.

Curriculum

Foundations		
EVSE 5454	STATISTICS FOR EARTH AND ENVIRONMENTAL SCIENTISTS	4
Select one of the following engineering courses		3
CE 5321	ENGINEERING FOR ENVIRONMENTAL SCIENTISTS	
CE 5319	PHYSICAL-CHEMICAL PROCESSES II	
or CE 5328	FUNDAMENTALS OF AIR POLLUTION	
Select 3 hours in EVSE or GEOL at the 5000 level		3
Select 3 hours in PLAN at the 5000 level		3
Select two semesters of:		2
EVSE 5199	SEMINAR IN ENVIRONMENTAL & EARTH SCIENCES	
or GEOL 5199	TECHNICAL SESSIONS	
Select 21 hours of EVSE, GEOL, BIO, CE, PLAN, or DATSC at the 5000/6000 level		21
Dissertation		

Select at least 9 hours from:		9
EVSE 6399	DISSERTATION	
EVSE 6699	DISSERTATION	
EVSE 6999	DISSERTATION	
EVSE 7399	DOCTORAL DEGREE COMPLETION	
Total Hours		**45**

Students who enter with a bachelor's degree take 45 semester hours of graduate coursework that includes engineering, science, and Public Policy courses. In addition, students take after the comprehensive exam dissertation and doctoral degree completion courses. These students are encouraged to take the diagnostic exam in their first year of enrollment and the compressive exam in their third year of enrollment. The student's supervising committee must approve all courses taken to meet degree requirements.

Students may choose among any of the five participating units for their primary and secondary areas of emphasis. Course selection within these areas of emphasis is guided by the student's supervising committee and must result in a cohesive program that supports the dissertation research.

Program Completion

In addition to coursework, the PhD program requires completion of significant additional milestones that require time and effort beyond the core 45 credit hours:

1. Successful completion of the Diagnostic Examination at the end of the first year of residence.
2. Successful completion of the Comprehensive Examination, an oral defense of a research proposal to be pursued for the dissertation, and a specialization examination over areas of the student's proposed research.
3. Demonstration of proficiency in one foreign language or a research tool such as advanced computer skills, statistics, or operations research.
4. Successful defense of the dissertation and acceptance of the dissertation by the supervising committee.

Advising Resources

First time in college students should plan to speak to a program advisor when starting their second year. or have an academic advising hold. Transfer students should contact program advising when enrolled or have an academic advising hold.

Location:

SH 328C

Email:

kaycee.nikses@uta.edu

Phone:

817-272-9686

Web:

Schedule an appointment (https://outlook.office365.com/book/PHYSGEOLEESADVISING@mavs.uta.edu/)