Doctor of Philosophy in Earth and Environmental Sciences (MS 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 environmental science, and also demonstrate expertise in their chosen geoscience and environmental science challenge discipline area.
2. Upon completion, students will be able to critically analyze scientific data in geoscience and environmental sciences, evaluate and design geoscience and/or environmental monitoring 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 masters segree or at least 30 hours of graduate coursework in environmental science, biology, chemistry, geology, mathematics or engineering.
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, they must meet the following minimums: 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, with a speaking score of 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 6 hours in EVSE, GEOL, CE, PLAN, or BIOL at the 5000/6000 level		6
Dissertation		
Select at least 9 hours from:		9

EVSE 6399	DISSERTATION	
EVSE 6699	DISSERTATION	
EVSE 6999	DISSERTATION	
EVSE 7399	DOCTORAL DEGREE COMPLETION	
Total Hours		**30**

Students who enter with a master's degree in a science or engineering field, or with 30 semester hours of graduate coursework, take a diagnostic examination in the first year of residence to evaluate this previous work. Students take their comprehensive exam in the third year of residence. Dissertation hours and doctoral degree completion course are taken after passing the comprehensive exam. 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, PhD candidates are required to complete significant program milestones. These involve additional periods of research and scholarly work, beyond the minimum 30 credit hours:

1. Successful completion of the Diagnostic Evaluation 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/)