Environmental Toxicology

Welcome to our Graduate Program in Environmental Toxicology (ETOX)

The program is interdisciplinary in nature and it is open to graduates in Biology, Biomedical Sciences, Chemistry, Chemical Engineering, Civil Engineering, Earth Sciences and other areas with the appropriate prerequisites. The goal of this program is to produce professionals capable of assessing the impact of industrial and rural development on the environment, and to propose and/or implement changes to improve the environment.

Program Description

The Master of Science in Environmental Toxicology at the University of South Alabama offers an interdisciplinary curriculum to teach graduate students the biochemical and physiological processes resulting from the interactions between toxic compounds and the biosphere.

Students in this program will learn to:

- evaluate the impact of specific pollutants in the environment
- perform laboratory and field-tests to monitor environmental pollutants
- control and manage toxic substances
- identify water and air pollutants
- be up to date concerning current and new legislation and protocols in this area
- apply research techniques in different disciplines in science and engineering

Graduates from this program will be able to work in industrial settings in the areas of Industrial Hygiene, Environmental Health, Environmental Engineering, Environmental Toxicology, Pharmaceutical industry or to continue their education by pursuing a Ph.D. degree in Toxicology or related areas. In addition, graduates from the program will be qualified for jobs requiring MS degrees in their original areas of concentration. For example, a chemist or a chemical engineer will be better qualified to work in a chemical or pharmaceutical company if, in addition to his/her background in chemistry or engineering, the applicant has the training in toxicology to address the environmental impact of the project.

Program Requirements

A total of 35 credit hours are required for the MS degree in Environmental Toxicology, including:

- 21 credit hours of core courses (see below)
- A Research Thesis (6 credit hours) or a Library Research Project (3 credit hours)
- The remaining credit hours include courses in specific areas of concentration.

The “Research Thesis” must be completed either at the University of South Alabama or, upon approval by the Graduate Committee, at a governmental or industrial laboratory in the area. In our experience, a Research Thesis

http://www.southalabama.edu/graduatemajors/etox/index.html
makes students more competitive when applying for jobs after graduation and is a must if one plans on pursuing Ph.D.-level education.

The option of a "Library Research Project" is more appropriate for candidates who are already working in the field and wish to advance in their careers by obtaining a Master degree. Students who select the 'Library Research Project' option must take an extra 3 credit hours of coursework to complete the 35 credit hours in the program.

Required Core Courses (21 credit hours):
- CE 579 Fundamentals of Environmental Engineering (3 credit hours)
- ST 550 Environmental Statistics (3 credit hours)
- EXT 515 Environmental Toxicology (3 credit hours)
- GIS 501 Research Integrity (1 credit hour)
- CH 514 Environmental Chemistry (4 credit hours)
- SY 567 Environmental Sociology (3 credit hours)
- BLY 515 Ecotoxicology (4 credit hours)

NOTE: Students who did not have 6 hours of undergraduate Biochemistry must also take 6 hours of graduate Biochemistry as part of the program. The minimum number of hours for the degree remains at 35.

Comprehensive Qualifying Exam:
After submission and approval of the prospectus, students will schedule a comprehensive qualifying exam. The exam will be oral and will start with a presentation of the Prospectus and, where applicable, a Progress Report. Students will first be examined on the prospectus (and progress report), and then on any area of study closely or broadly related to the student's area of specialization. The student will be graded by all committee members, following a rubric that looks at various aspects of the presentation and has three possible scores for each of them: 1 (insufficient), 2 (meets expectations) and 3 (above expectations). In order to pass the exam, students will have to score an average of 2 or higher. Students are encouraged to look at the rubric before the presentation to be aware of the committee's expectations. Students who fail the exam, will be given a second opportunity.

Comprehensive Qualifying Exam Committee:
The comprehensive qualifying exam committee shall consist of at least 2 members of the thesis committee (excluding the major professor) and one other member of the graduate faculty to be agreed upon by the thesis committee. The major professor may be present at the exam but only as an observer. Pass or fail will be determined by majority vote.

Advisors:
Upon acceptance in the program, every student will be assigned an advisor responsible for tracking the student's progress. Together the advisor and student will identify appropriate elective courses to reach the student's goals for the program. The advisor does not have to be the student's thesis mentor although in some cases the advisor may fill both roles. Students must meet with the advisor at least once in the semester. Students in the program will be blocked from registering for new courses until they have met with their advisors to select the appropriate courses.
Requirements for ETOX Program Admission

- BS/BA degree from an accredited four-year institution in one of the following disciplines: Biochemistry, Biology, Bio-medical Sciences, Chemistry, Chemical or Civil Engineering. Graduates from other disciplines are encouraged to contact the program director before submitting an application.
- An undergraduate GPA of 3.00 or better is preferred. Under exceptional circumstances, students with an undergraduate GPA below 3.00 will be considered.
- Graduate Record Examination (GRE). Although no minimum numerical GRE score is required for admission to the program, candidates are expected to perform at the 50th percentile level nationwide (around 500 points in both Verbal and Quantitative components of the test).
- Students must have completed the following undergraduate courses:
  - Statistics (1 semester)
  - Calculus (1 semester)
  - General Biology (1 semester)
  - Organic Chemistry (2 semesters)
- Other prerequisites needed for specific courses within each concentration. It is recommended (but not required) that students applying to the program also complete 6 credit hours of undergraduate Biochemistry. Those students who did not take undergraduate Biochemistry will have to include 6 hours of graduate Biochemistry among the required courses to complete the program. This will not change the total number of hours required to complete the program.

Deadlines for Application:
- Early admission: March 1
- Regular admission: July 15 (Fall) and December 1 (Spring)

Areas of Concentration

Students may choose one of the following areas of concentration:

- Biology (TXBY)
- Basic Medical Sciences (TXMS)
- Chemistry (TXCH)
- Environmental Engineering (TXEE)
- Exposure Route/Chemical Transport (TXEC)

How to Apply

Apply online for admission through PAWS.

Complete your Application >>
(https://paws.southalabama.edu/prod/usaadmssp.P_USA_ApplyAdmission)
ETOX Published Works

View our list of former research projects to see how your ideas can correlate with this program.

View Projects >>
(http://www.southalabama.edu/graduatemajors/etox/resources/etox_published_works.pdf)

Annual Security and Fire Safety Report Statement

The University of South Alabama publishes certain crime statistics each year as required by the Jeanne Clery Act. This report is required by federal law and contains policy statements and crime statistics for the school. The policy statements address the school's policies, procedures and programs concerning safety and security. Three years' worth of statistics are included for certain types of crimes that were reported to have occurred on campus, in or on off-campus buildings and property owned or controlled by the school and on public property immediately adjacent to the campus. This report, along with more information, is available online at: http://www.southalabama.edu/departments/police/resources/fireandsafetyreport.pdf. You may also request a paper copy from the University Police office located at 290 Stadium Blvd.