

# Environmental Toxicology (17ETM)

## Description

The Department of Environmental Molecular Toxicology offers an undergraduate minor in Environmental Toxicology that is available to all baccalaureate degree students at North Carolina State University. The minor is intended to provide undergraduate students with an understanding of how chemicals and physical agents can adversely affect biological systems and the environment, including the mechanisms of chemically induced toxicity, the fate and effects of chemicals in the environment, and the evaluation of chemical hazards and risks. The minor is especially appropriate for (but not limited to) students majoring in the biological or agricultural sciences, physical sciences or science education.

## Requirements

- Completion of 15 credit hours.
- 9 credit hours will be required courses and 6 credit hours will be elective courses.
- A grade of 'C-' or better is required for all courses taken to fulfill the minor requirements.

## Required Courses (9 credit hours)

- TOX 401 Principles of Toxicology (4 cr – F)
- TOX 415 Environmental Toxicology and Chemistry (4 cr – S)
- TOX 490 Seminar in Environmental Toxicology (1 cr – F)

## Elective Courses (6 credit hours)

- TOX 495 Special Topics in Toxicology (1-3 cr)
- TOX 499 Undergraduate Research in Toxicology (1-3 cr – F, S, Sum)
- BCH 451 Principles of Biochemistry (3 cr – F, S, Sum)
- BO (ZO) 360 Introduction to Ecology (3 cr – S, Sum)
- CE 280 Principles of Environmental Engineering (3 cr – F)
- CH 315 Quantitative Analysis (4 cr – F, S, Sum)
- CH (MEA) 323 Earth System Chemistry (3 cr – S)
- ES 100 Introduction to Environmental Science (3 cr)
- ET 201 (202, 301, 302, 401) Environmental Technology Laboratory (1 cr)
- ET 310 Environmental Monitoring and Analysis (3 cr)
- ET (MEA) 320 Fundamentals of Air Pollution (4 cr)
- ET 450 Environmental Regulation (3 cr)
- FS (MB) 405 Food Microbiology (3 cr – F)
- FW (ZO) 353 Wildlife Management (3 cr – F)
- GN 311 (previously GN 411) Principles of Genetics (4 cr – F, S, Sum)
- NTR (ANS) 419 Human Nutrition in Health and Disease (3 cr – S)
- ST 311 Introduction to Statistics (3 cr – F, S, Sum)
- TC (TAM) 401 Environmental Aspects of the Textile Industry (3 cr – S)
- ZO 421 Principles of Physiology (3 cr – F, S, Sum)

If selected, the following must involve a topic in toxicology:

- ALS 498 Honors Research (3 cr – F, S, Sum)
- ALS 499 Honors Research (3 cr – F, S, Sum)

NOTE: Other courses may qualify if they contain significant content related to toxicology; consent of the Toxicology Undergraduate Teaching Coordinator is required.

## **Admissions and Certification of Minor**

The minor will be administrated by Dr. Seth Kullman, the Undergraduate Coordinator. NC State undergraduate students may be admitted to the minor after successfully completing 60 credit hours. Students should contact the minor coordinator and complete a minor application form/work plan. This form will be forwarded to the student's advisor.

## **Contact Person**

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