

# Toxicology (Minor)

To see more about what you will learn in this program, visit the Learning Outcomes website (<https://apps.oirp.ncsu.edu/pgas/>)!

The minor in Toxicology (formerly known as the (Environmental Toxicology Minor) minor provides undergraduate students with an understanding of how chemicals and physical agents can adversely affect biological systems and the environment. Areas of exploration include the mechanisms of chemically induced toxicity, the fate and effects of chemicals in the environment, and the evaluation of chemical hazards and risks. The Toxicology minor is available to undergraduate students in all majors at NC State University and may be especially appropriate for students majoring in the life sciences, agricultural sciences, physical sciences, natural resources, or science education. Students should be aware that many of the courses in the Toxicology minor have pre-requisites and plan accordingly.

## Admissions and Certification of Minor

Students can enroll in the Toxicology Minor after through CODA (in MyPack) after completing TOX 401 with a C or better. All requirements for the minor must be completed no later than the semester in which the student expects to graduate from his or her major degree program. Students apply to graduate in the minor through MyPack at the same time that they apply to graduate in their major program.

## Coordinator

**Dr. Elizabeth Ellen Thompson**

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**SIS code: 17ETM**

### Plan Requirements

- Completion of a minimum of 18 credit hours.
- A grade of 'C-' or better is required for all courses taken to fulfill minor requirements, with a 2.0 GPA required in the minor for graduation.
- No more than one course in the minor can be taken for credit only (S/U).
- Courses taken for the minor can also be used toward major requirements, GEP Electives, or Free Electives.
- At least 9 credit hours of the minor must be completed at NC State.

Code	Title	Hours	Counts towards
<b>Required Courses</b>			
NOTE: Start with TOX 401			
TOX 401	Principles of Toxicology	4	
TOX 415	Environmental Toxicology and Chemistry	4	
TOX 400	Undergraduate Seminar in Toxicology	1	

NOTE: Take TOX 400 after you have taken several other courses for the minor.

## Foundational Courses

Complete at least 3 credit hours from the following:		
AEC 360	Ecology	4
BIO 414	Cell Biology	3
CH 220	Introductory Organic Chemistry	3
CH 221	Organic Chemistry I	3
GN 311	Principles of Genetics	4
MB 351	General Microbiology	3
ST 311	Introduction to Statistics	3

## Elective Courses

Complete at least 6 credit hours from the following: <sup>1</sup>		
AEC 390	Community Ecology	3
BIO 416	Cancer Cell Biology	3
CH 315	Quantitative Analysis	3
ES 400	Analysis of Environmental Issues	3
ET 201	Environmental Technology Laboratory I	1
ET 202	Environmental Technology Laboratory II	1
ET 301	Environmental Technology Laboratory III	1
ET 302	Environmental Technology Laboratory IV	1
ET 310	Environmental Monitoring and Analysis	3
ET/MEA 320	Fundamentals of Air Pollution	3
ET 401	Environmental Technology Laboratory V	1
FS/MB 405	Food Microbiology	3
GN 456	Epigenetics, Development, and Disease	3
MEA 323	Geochemistry of Natural Waters	3

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NTR 419	Human Nutrition and Chronic Disease	3
PRT 203	Humans and the Environment	3
<b>Total Hours</b>		<b>70</b>

<sup>1</sup> Other courses and research experiences may qualify if they involve significant toxicology content; approval by the Coordinator of the Minor is required. Email [BioSciHelp@ncsu.edu](mailto:BioSciHelp@ncsu.edu) with course or experience information if you want to make a request.