

Environmental Science

Director: Stefan Schnitzer, Ph.D.

Environmental Science integrates a fundamental understanding of the ecology of natural ecosystems and the processes by which humans influence, exploit, evaluate, conserve and restore their environment. The main goals for interdisciplinary major are to develop new knowledge in environmental science, educate students in the fundamental ecological and physical processes that govern the environment, train leaders who can identify and solve complex environmental problems and to educate students to help restore and sustain a healthy planet using an evidence-based approach.

Environmental Science Major

The goal of the major is to provide a comprehensive and in-depth education in environmental science, which includes the study of the ecology of natural ecosystems and the processes by which humans understand, influence, exploit, mitigate, share, conserve and restore their environment. Students complete 22 courses (68-69 credit hours) encompassing required and elective courses in the natural sciences and engineering, field and laboratory courses, internships and laboratory research experience and a capstone seminar.

Code	Title	Hours
Introductory Course		3
BIOL 1420	Introduction to Environmental Biology	
Foundational Courses		29
BIOL 1001	General Biology 1	
BIOL 1002	General Biology 2	
CHEM 1001	General Chemistry 1	
CHEM 1002	General Chemistry 2	
COSC 1010	Introduction to Software Development	
COSC 3570	Introduction to Data Science	
or MATH 3570	Introduction to Data Science	
MATH 1410	Calculus for the Biological Sciences	
or MATH 1450	Calculus 1	
MATH 4720	Statistical Methods	
or MATH 4740	Biostatistical Methods and Models	
PHYS 1009	Earth and Environmental Physics	
Content Area and Advanced Core Courses		27
Lecture courses		
BIOL 3400	Ecology	
BIOL 3404	Evolutionary Biology	
BIOL 4401	Advanced Ecology	
BIOL 4410	Conservation Biology	
PHIL 3350	Philosophy of the Environment	
or THEO 4440	Foundations of Ecological Ethics	
POSC 4351	Environmental Politics and Policy	
Field/laboratory courses. Choose two of the following:		
BIOL 2001	Principles of Biological Investigation	
BIOL 4402	Experimental Ecology and Field Biology	
BIOL 4403	Tropical Ecology in Panama	
or BIOLI 4403	Tropical Ecology in Panama	
BIOL 4802	Experimental Microbiology	
BIOL 4956	Laboratory Research Project in Biological Sciences ¹	
INES 4987	Environmental Studies: Applying the Internship Experience	
Capstone Course		
INES 4997	Capstone in Environmental Studies	
Elective Courses ²		9-10
Choose two of the following:		
ANTH 1201	Introduction to Biological Anthropology	

ANTH 2201	Human Evolutionary Process
ANTH 2203	Human Geography
ANTH 3153	Demography
ANTH 4144	The Rise of Agriculture
ANTH 4245	Archaeology of Complex Societies
ANTH 4316	Culture Change and Development
ECON 4016	Environmental and Natural Resource Economics
ENGL 3775	Literature and Place
ENGL 4453	Romanticism and Nature
ENGL 4765	Material Cultures
ENGL 4825	Native American / Indigenous Literatures
SOCI 3720	Environment and Society
SOCI 3750	Food, Water and Society
SPAN 4320	Latin American and Latinx Contemporary Issues
Choose one of the following:	
BIOL 4402	Experimental Ecology and Field Biology ³
BIOL 4403	Tropical Ecology in Panama ³
BIOL 4406	Plant Biology
BIOL 4801	Microbiology
BIOL 4802	Experimental Microbiology ³
BIOL 4956	Laboratory Research Project in Biological Sciences ³
CEEN 3510	Environmental Engineering
CEEN 4145	Advanced Strength and Applied Stress Analysis
CEEN 4550	Water Resources Planning and Management
CEEN 4715	Sustainable Engineering
COSC 1020	Object-Oriented Software Design
COSC 4610	Data Mining
INES 4987	Environmental Studies: Applying the Internship Experience ³
PHYS 1007	Survey of Meteorology
PHYS 1008	Astronomy and Space Physics

Total Credit Hours:**68-69**

- ¹ At least 3 credit hours must be completed to fulfill requirement.
- ² Other appropriate courses may be completed as electives with the approval of the program director.
- ³ May be completed as an elective only if not completed as a content area and advanced core course.