

ENVIRONMENTAL EARTH SCIENCE MAJOR

The Department of Earth & Environmental Sciences offers this environmental science major, which provides students with broad exposure to environmental problems, as well as training in essential problem-solving skills, such as Geographic Information Systems (GIS). The major requires a broad background in the natural sciences and core curriculum that familiarizes students with topics, tools, and methods. Core courses cover topics in hydrology, climate, and environmental geology. Students completing the degree should be able to enter environmental scientist positions in private industry and regulatory agencies and environmental policy positions. In addition, the major provides a strong science background for individuals seeking to practice environmental law or continue on to graduate school.

Requirements

Course requirements for the environmental science major are given below:

Course ID	Title	Credits
Courses Required Outside EENS		
MATH 1210	Calculus I ¹	4
MATH 1220	Calculus II ¹	4
MATH 1230	Stats For Scientists	4
CHEM 1070 & CHEM 1075	General Chemistry I and General Chemistry Lab I	4
CHEM 1080 & CHEM 1085	General Chemistry II and General Chemistry Lab II	4
CHEM 2500	Environmental Chemistry	3
PHYS 1210 & PHYS 1211	Introductory Physics I and Introductory Physics I Lab ²	4
Foundational Courses		
EENS 1110 & EENS 1115	Planet Earth and Planet Earth Lab	4
EENS 1300 & EENS 1305	Earth as a Living Planet and Earth as a Living Planet Lab	4
Core Courses		
EENS 2070	Weather and Climate	3
EENS 2090	Surface Water Hydrology ³	3
EENS 3150 & EENS 3151	Intro to GIS and Intro to GIS lab	4
EENS 4300	Groundwater Hydrology	3
Elective		
Select five environmental electives at or above 2000-level ⁴		15
EENS 2020	Environmental Geology	
EENS 2060	Introductory Geography	
EENS 2080	Extreme Weather	
EENS 2220	Earth & Life Through Time	
EENS 2230	Oceanography	
EENS 2240	Geology of Our National Parks	
EENS 3050	Natural Hazards & Mitigation	
EENS 3600	Science of Climate Change	
EENS 3100	Planetary Geology	
EENS 3120	Soils and Soil Formation	
EENS 3170	Geomorphology	
EENS 3180	Making Landscapes	
EENS 3190	Earth Materials	
EENS 3270	Sedimentation and Strat	
EENS 3550	Shark Paleobiology	
EENS 3650	Marine Environmental Geology	

EENS 3730	Pathways to Urban Sustainability
EENS 4030	Advanced GIS
EENS 4040	Coastal Marine Geology
COLQ 4120	The Grand Canyon
EENS 4180	Intro Remote Sensing
EENS 4250	Isotopes in The Environm
EENS 4350	Geologic Dating Methods
EENS 4360	Environmental Geochemstr
EENS 4370	Independent Study in GIS and Remote Sensing
EENS 4380	Remote Sensing for Env Anlys
EENS 4390	Geospatial and Numerical Methods
EENS 4440	Introduction to Geophysics
EENS 4840	Earth & Planetary Geophysics
EENS 4910	Independent Study
EENS 4990	Honors Thesis

Total Credit Hours

63

- 1 Math 1150 and 1160 ((Long Calculus sequence) may be taken instead of MATH 1210 to complete the Calculus 1 requirement. MATH 1310 Consolidated Calculus (4 c.h.) may be taken instead of MATH 1210 Calculus I (4 c.h.)/MATH 1220 Calculus II (4 c.h.)
- 2 PHYS 1310 General Physics I (4 c.h.)/PHYS 1311 General Physics I Lab (0 c.h.) will satisfy the requirement
- 3 Should be taken as soon as possible after major declaration; C- or better required.
- 4 A minimum of three electives must be at the 3000-4000 level. Students are strongly encouraged to include Remote Sensing and Environmental Geochemistry in their electives. **No capstone course is required for this major.**