

ENVIRONMENTAL SCIENCES MAJOR: SOIL AND WATERSHEDS OPTION (B.S.)

<http://colsa.unh.edu/nren/envsci/environmental-sciences-bs>

Description

The College of Life Sciences and Agriculture (COLSA) and the College of Engineering and Physical Sciences (CEPS) jointly offer a bachelor of science degree in environmental sciences. Environmental sciences is an interdisciplinary field concerned with the interaction of biological, chemical, and physical processes that shape our natural environment. Students graduating with a degree in environmental sciences will have an understanding of these interacting processes, the ability to communicate effectively with both scientific and lay audiences, competency in field methods appropriate for entry-level environmental science positions, competency in the use and application of geographic information systems (GIS), a basic understanding of environmental policy, and the ability to contribute to multidisciplinary teams. The University of New Hampshire is a recognized leader in environmental sciences research, and the environmental sciences program capitalizes on faculty expertise in this area. The program has 15 full-time faculty members, with major teaching and research emphases in the areas of biogeochemical cycling, environmental chemistry, ecosystem science, global change, hydrology, plant ecology, soil science, and water resource management.

Employment opportunities include environmental consulting firms; educational facilities (e.g., science centers); environmental monitoring laboratories (e.g., water treatment plants, the Environmental Protection Agency); government agencies (e.g., the U.S. Geological Survey, Bureau of Land Management, Natural Resource Conservation Service), university and government research laboratories; and nongovernment environmental organizations. The environmental sciences program also constitutes an excellent preparation for graduate programs in several areas relating to the environment. Students should consult with their adviser early if their goals include further study.

The Program has three options: ecosystems, soils and watersheds, and hydrology. Environmental science B.S. degrees with options in ecosystems and soil and watersheds are managed by the Department of Natural Resources and the Environment in COLSA. The Department of Earth Sciences in CEPS offers the hydrology option of the B.S. environmental sciences degree. Specific course requirements for the major vary by option.

Requirements

Introductory Environmental Sciences	9
NR 400 Professional Perspectives in Natural Resources	
NR 403 Introduction to Environmental Science	
NR 435 Contemporary Conservation Issues and Environmental Awareness	
or NR 437 Principles of Sustainability	
Foundation Courses	24
Biology	

BIOL 412	Introductory Biology: Evolution, Biodiversity and Ecology	
Chemistry: Choose one		
CHEM 403	General Chemistry I	
	or CHEM 405 Chemical Principles for Engineers	
	or CHEM 411 Introductory Chemistry for Life Sciences	
Physics: Choose one		
PHYS 401	Introduction to Physics I	
	or PHYS 407 General Physics I	
Calculus: Choose one		
MATH 424B	Calculus for Life Sciences	
	or MATH 425 Calculus I	
Statistics: Choose one		
BIOL 528	Applied Biostatistics I	
	or MATH 644 Statistics for Engineers and Scientists	
	or EREC 525 Statistical Methods and Applications	
Geology: Choose one		
ESCI 401	Dynamic Earth	
	or ESCI 402 Earth History	
	or ESCI 409 Geology and the Environment	
Core Courses		15
ESCI 534	Techniques in Environmental Sciences	
NR 658	Introduction to Geographic Information Systems	
ESCI 654	Fate and Transport in the Environment	
NR 602	Natural Resources and Environmental Policy ¹	
	or GEOG 673 Political Ecology	
Additional Requirements		40
Biology or Physics: Choose one		
NR 439	Environmental Biology	
	or BIOL 411 Introductory Biology: Molecular and Cellular	
	or PHYS 402 Introduction to Physics II	
	or PHYS 408 General Physics II	
Ecology: Choose one		
NR 527	Forest Ecology	
	or BIOL 541 General Ecology	
Soils		
NR 501	Studio Soils	
Watersheds		
NR 703	Watershed Water Quality Management	
Ecosystems: Choose one		
NR 751	Aquatic Ecosystems	
	or NR 730 Terrestrial Ecosystems	
	or NR 711 Wetland Ecology and Management	
Soils II: Choose one		
NR 761	Environmental Soil Chemistry	
	or NR 744 Biogeochemistry	
	or NR 706 Soil Ecology	
4 Approved Electives		
	Elective (CHEM 404 can be used if CHEM 403 was taken)	
	Elective	
	Elective	
	Elective	

Capstone

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NR 791	Project in Environmental Science I (and approved Capstone Experience) ²
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¹ Many students enroll in the EcoQuest program (a study abroad opportunity in New Zealand), which satisfies the policy requirement, and capstone requirement if taken senior year.

² NR 791 must be taken Spring semester Junior year. Capstone experience (e.g. EcoQuest, Internship) must be completed during the senior year/final 2 semesters.