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

https://colsa.unh.edu/natural-resources-environment/program/bs/environmental-sciences-major-soil-watersheds-option

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 science is an interdisciplinary field concerned with the interaction of biological, chemical, and physical processes that shape the environment, and control the response of natural systems to human activities. Students graduating with a degree in environmental sciences will have an understanding of these interacting processes, experience working in interdisciplinary teams to apply this understanding, and the ability to communicate effectively with both scientific and lay audiences. While in this program, students will acquire significant experience with field, laboratory and analytical methods appropriate for employment in professional environmental science positions as well as a basic understanding of environmental policy. 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. Program faculty emphasize teaching and research in the areas of biogeochemical cycling, environmental chemistry, ecosystem science, global change, hydrology, plant ecology, soil science, and water resource management among many other fields.

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.

The Program has four options, and specific course requirements for the major vary by option. The ecosystems and soils and watersheds options are both managed by the Department of Natural Resources and the Environment in COLSA, and the geosystems and hydrology options are both managed by Earth Sciences in CEPS.

Requirements

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<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>NB 400</td>
<td>Introductory Environmental Sciences</td>
<td>9</td>
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<tr>
<td>NR 400</td>
<td>Professional Perspectives in Natural Resources</td>
<td></td>
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<tr>
<td>NR 403</td>
<td>Introduction to Environmental Science</td>
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<tr>
<td>NR 435</td>
<td>Contemporary Conservation Issues and Environmental Awareness</td>
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<tr>
<td>or NR 437</td>
<td>Principles of Sustainability</td>
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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
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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<tr>
<th>Course</th>
<th>Description</th>
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<tr>
<td>NR 791</td>
<td>Preparation for Capstone (and approved Capstone Experience)</td>
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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.