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

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>Introductory Environmental Sciences</td>
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<tr>
<td>NR 400</td>
<td>Professional Perspectives in Natural Resources</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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<tr>
<td>Foundation Courses</td>
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<tr>
<td>Biology</td>
<td>BIOL 412 Introductory Biology: Evolution, Biodiversity and Ecology</td>
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<tr>
<td>Chemistry: Choose one</td>
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<tr>
<td>CHEM 403</td>
<td>General Chemistry I</td>
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<tr>
<td>or CHEM 409 Chemical Principles for Engineers</td>
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<tr>
<td>or CHEM 411 Introductory Chemistry for Life Sciences</td>
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<td>Physics: Choose one</td>
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<tr>
<td>PHYS 401</td>
<td>Introduction to Physics I</td>
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<tr>
<td>or PHYS 407 General Physics I</td>
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<tr>
<td>Calculus: Choose one</td>
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<tr>
<td>MATH 424B</td>
<td>Calculus for Life Sciences</td>
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<td>or MATH 425 Calculus I</td>
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<td>Statistics: Choose one</td>
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<tr>
<td>BIOL 528</td>
<td>Applied Biostatistics I</td>
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<td>or MATH 644 Statistics for Engineers and Scientists</td>
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<td>or EREC 525 Statistical Methods and Applications</td>
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<tr>
<td>Geology: Choose one</td>
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<tr>
<td>ESCI 401</td>
<td>Dynamic Earth</td>
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<td>or ESCI 402 Earth History</td>
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<td>or ESCI 409 Geology and the Environment</td>
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<td>Core Courses</td>
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<td>ESCI 534</td>
<td>Techniques in Environmental Sciences</td>
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<td>NR 658</td>
<td>Introduction to Geographic Information Systems</td>
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<td>ESCI 654</td>
<td>Fate and Transport in the Environment</td>
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<td>NR 602</td>
<td>Natural Resources and Environmental Policy</td>
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<td>or GEOG 673 Political Ecology</td>
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<td>Additional Requirements</td>
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<td>Biology or Physics: Choose one</td>
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<tr>
<td>NR 439</td>
<td>Environmental Biology</td>
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<td>or BIOL 411 Introductory Biology: Molecular and Cellular</td>
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<td>or PHYS 402 Introduction to Physics II</td>
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<td>or PHYS 408 General Physics II</td>
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<td>Ecology: Choose one</td>
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<td>NR 527</td>
<td>Forest Ecology</td>
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<td>or BIOL 541 General Ecology</td>
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<td>Soils</td>
<td>NR 501 Studio Soils</td>
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<td>Watersheds</td>
<td>NR 703 Watershed Water Quality Management</td>
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<td>Ecosystems: Choose one</td>
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<td>NR 751</td>
<td>Aquatic Ecosystems</td>
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<td>or NR 730 Terrestrial Ecosystems</td>
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<td>or NR 711 Wetland Ecology and Management</td>
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<td>Soils II: Choose one</td>
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<td>NR 761</td>
<td>Environmental Soil Chemistry</td>
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<td>or NR 744 Biogeochemistry</td>
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<td>or NR 706 Soil Ecology</td>
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<td>4 Approved Electives</td>
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<td>Elective (CHEM 404 can be used if CHEM 403 was taken)</td>
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Environmental Sciences Major: Soil and Watersheds Option (B.S.)

<table>
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<tr>
<th>Elective</th>
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<tbody>
<tr>
<td><strong>Capstone</strong></td>
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<tr>
<td>NR 791</td>
<td>Preparation for Capstone (and approved Capstone Experience)</td>
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</table>

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.