ENGLISH CONSERVATION AND SUSTAINABILITY MAJOR (B.S.)

https://colsa.unh.edu/natural-resources-environment/program/bs/environmental-conservation-sustainability-major

Description

ECS Major Curriculum

The ECS major is comprised of 14 core requirements providing integrative courses in both environmental conservation and sustainability, along with a foundation in biology, ecology, physical and social science, and the basic tools and skills applied to problem solving. These core requirements are typically fulfilled in the first two years. Beginning in their junior year, ECS students, in consultation with their advisers, create a seven course focus area based on an ecological system or natural resource of their choosing. The focus area provides advanced study in ecology and natural resources; social sciences; tools, skills, and/or natural history and should reflect the student's interests and future goals. Additionally, each ECS student completes a practicum experience and a capstone option.

The ECS major provides the opportunity for students to gain a common foundation of knowledge and skills emphasizing integration and critical thinking, while allowing for sufficient flexibility to pursue their interests and passions within a large and complex field of study. The design of the curriculum will allow each student at least four, and as many as six, free electives, which they may fulfill as they choose. Many students pursue international experiences, such as the UNH EcoQuest program in New Zealand, add a minor or dual degree (such as the dual degree in environmental and natural resource economics), and/or international experiences, such as the UNH EcoQuest program in New Zealand, add a minor or dual degree (such as the dual degree in environmental and natural resource economics), and/or pursue research opportunities with our faculty or through another of UNH's undergraduate research opportunity programs.

Requirements

ECS Major Requirements

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td><strong>Degree Core Requirements</strong></td>
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<tr>
<td><strong>Foundational Courses:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NR 435</td>
<td>Contemporary Conservation Issues and Environmental Awareness</td>
<td>4</td>
</tr>
<tr>
<td>NR 437</td>
<td>Principles of Sustainability</td>
<td>4</td>
</tr>
<tr>
<td><strong>Natural Science:</strong></td>
<td></td>
<td></td>
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<tr>
<td>Biology</td>
<td></td>
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<tr>
<td>BIOL 412</td>
<td>Introductory Biology: Evolution, Biodiversity and Ecology</td>
<td>2</td>
</tr>
<tr>
<td>BIOL 439</td>
<td>Ecological Principles</td>
<td>2</td>
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<tr>
<td><strong>Physical Science:</strong></td>
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<td></td>
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<tr>
<td>NR 403</td>
<td>Introduction to Environmental Science</td>
<td>4</td>
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<tr>
<td>NR 458</td>
<td>The Science of Where</td>
<td>4</td>
</tr>
<tr>
<td>CHEM 403</td>
<td>General Chemistry I</td>
<td>4</td>
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<tr>
<td>CHE 410</td>
<td>Energy and Environment</td>
<td>4</td>
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</tbody>
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University of New Hampshire
The ECS major capstone experience may be filled by any one of the following options:

### Senior Capstone Options

1. Select at least one course at the 600 or 700 levels.
2. Select two to five courses; no more than one course may be at the 400 or 500 level. Additional courses must be approved by the Social Sciences coordinator.
3. Directed projects fulfilling one of the following: McNair Research Theses, Hamel Center Programs (IROP, SURF USA, SURF Abroad, etc.) may be applied in consultation with the adviser and ECS program coordinator.

#### Option 1:
- **NR 415** Natural Resources Field Methods
- **BIOL 412** Introductory Biology: Evolution, Biodiversity and Ecology (Inquiry, Disc BS)
- **ENGL 401** or Discovery Course
- **EREC 411** Environmental and Resource Economics Perspectives (or Discovery Course, not SS or ETS)

#### Option 2:
- **NR 507** Introduction to our Energy System and Sustainable Energy
- **NR 606** International Energy Topics
- **NR 643** Economics of Forestry
- **NR 662** Environmental Policy, Planning and Sustainability in New Zealand
- **NR 720** International Environmental Politics and Policies for the 21st Century
- **NR 724** Resolving Environmental Conflicts
- **NR 784** Sustainable Living - Global Perspectives
- **NR 787** Advanced Topics in Sustainable Energy
- **ANTH 695** Globalization and Global Population Health

#### Option 3:
- **CEP 614** Fundamentals of Planning
- **CEP 673** Green Real Estate
- **ECON 665** Intermediate Microeconomic Analysis
- **ECON 645** International Economics
- **ECON 648** Economic Development
- **ECON 706** Economics of Climate Change
- **EREC 572** Introduction to Natural Resource Economics
- **EREC 606** Land Economics Perspectives: Uses, Policies, and Taxes
- **EREC 627** Community Economics
- **EREC 680** Agricultural and Food Policy
- **EREC 706** Environmental Economics
- **EREC 756** Rural and Regional Economic Development
- **GEOG 673** Political Ecology
- **HIST 818** American Environmental History
- **POLT 751** Comparative Environmental Politics and Policy
- **SOSC 668** Environmental Sociology
- **SOSC 730** Communities and the Environment
- **TOUR 400** Introduction to Tourism

#### Option 4:
- **NR 663** Applied Directed Research in New Zealand (NZ Directed projects, if taken in the senior year)

### Work Experience

The focus area is based upon at least one course in the ecology and natural resources category, along with a combination of courses in the social sciences; tools, skills, and natural history categories; and any additional courses from the ecology and natural resources category reflecting the student’s interests and future direction. Focus areas should be designed in close consultation with the adviser. Courses used to fulfill core requirements may not be used in the focus area.

If NR 663 Applied Directed Research in New Zealand is taken in the junior year or earlier, then one Critical Issues seminar (2cr) or Leadership for Sustainability must be taken in the senior year to fulfill the capstone requirement.

Each ECS major will engage in a practical experience reflecting their interests and goals. The choice of the experience will be made in conjunction with the adviser and may occur any time beginning with the sophomore year.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>NR 658</td>
<td>Introduction to Geographic Information</td>
<td>4</td>
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<tr>
<td>NR 602 or Discovery Course</td>
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<td>4</td>
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**Third Year**

**Fall**

- NR 602 or Discovery Course: 4 credits
- Ethics/Values Requirement: 4 credits
- Focus Area Courses: 8 credits
- OR Electives
  - OR any remaining Discovery or WI requirement
  - OR Capstone 4 credits
  
**Credits**: 16

**Spring**

- Focus Area Courses: 5 credits
- OR Electives
- OR any remaining Discovery or WI requirements
- OR Capstone 4 credits

**Credits**: 16

**Fourth Year**

**Fall**

- Capstone Requirement: 2-4 credits
- Focus Area Courses: 12 credits
- OR Electives
- OR any remaining Discovery of WI requirements

**Credits**: 14-16

**Spring**

- Capstone Requirement: 2-4 credits
- Focus Area Courses: 12 credits
- OR Electives
- OR any remaining Discovery of WI requirements

**Credits**: 14-16

**Total Credits**: 126-130

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1. All choices for the Ecological Principles requirement except for SAFS 502 are fall courses.
2. The Statistics, Physical Science, Writing Skills and Presentation Skills requirements may be taken in either the Fall or Spring Semester of the second year.
3. Work experience, internship, etc may be scheduled any time beginning in the second year.
4. One of the 2 credit capstone seminars may be taken in either the fall or spring of the junior year.
5. One 2 credit seminar may be taken in each of the Fall and Spring semesters of the Senior Year OR NR 786 may be taken in the Fall semester of the Senior Year.

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**Student Learning Outcomes**

Students will be able to:

- Formulate tests of environmental questions, acquire data, and apply scientific methods to answer these questions;
- Describe and explain the ecological and societal value of biodiversity, sustainability, and environmental stewardship;
- Use principles of ecology, economics, sustainability, and policy science to solve real-world environmental problems;
- Communicate effectively to peers within the environmental community and with audiences outside of the discipline.

- Describe and explain the interactions among physical, biological, chemical, and human components of the environment;