ENVIRONMENTAL CONSERVATION AND SUSTAINABILITY MAJOR (B.S.)

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

Description

The ECS major curriculum is comprised of 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 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 global studies), and/or pursue research opportunities with our faculty or through another of UNH’s undergraduate research opportunity programs.

Requirements

Degree Requirements

Minimum Credit Requirement: 128 credits

Minimum Residency Requirement: 32 credits must be taken at UNH

Minimum GPA: 2.0 required for conferral*

Core Curriculum Required: Discovery & Writing Program Requirements

Foreign Language Requirement: No

All Major, Option and Elective Requirements as indicated. *Major GPA requirements as indicated.

Major Requirements

<table>
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<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
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<tr>
<td></td>
<td>Foundational Courses:</td>
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<tr>
<td>NR 435</td>
<td>Contemporary Conservation Issues and Environmental Awareness</td>
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<td>NR 437</td>
<td>Principles of Sustainability</td>
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<td>Natural Science:</td>
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<td>Biology</td>
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Biol 412 Introductory Biology: Evolution, Biodiversity and Ecology
NR 439 Environmental Biology

Ecological Principles: Select one of the following
- Biol 547W Ecology
- NR 527 Forest Ecology
- SAFS 502 Agroecology

Physical Science: Select one of the following
- NR 403 Introduction to Environmental Science
- CHEM 403 General Chemistry I
- CHBE 410 Energy and Environment
- ESCI 409 Geology and the Environment
- CEE 520 Environmental Pollution and Protection: A Global Context
- PHYS 401 Introduction to Physics I

Social Science:
- Natural Resources Policy: Select one of the following
  - NR 602 Natural Resources and Environmental Policy
  - NR 662 Environmental Policy, Planning and Sustainability in New Zealand

Essential Tools and Skills:
- Field Methods:
  - NR 415 Natural Resources Field Methods
- Statistics: Select one of the following
  - BIOL 528 Applied Biostatistics I
- EREC 525 Statistical Methods and Applications

Geospatial Analysis:
- NR 658 Introduction to Geographic Information Systems

Writing Skills: Select one of the following
- ENGL 502 Professional and Technical Writing
- ENGL 503 Persuasive Writing
- ENGL 561 Nature Writers

Presentation Skills: Select one of the following
- NR 508 Communicating Science
- CMN 500 Public Speaking
- THDA 522 Storytelling, Story Theatre, and Involvement Dramatics
- THDA 583 Introduction to Puppets
- THDA 624 Theatre for Young Audiences

Focus Area

Select seven total courses to create a focus area addressing an environmental issue, ecological system, or natural resource (see below) 1

Ecology and Natural Resources:
Select one to four courses: no more than one course may be at the 400 or 500 level. Additional courses must be at the 600 or 700 levels.
- NR 433 Wildlife Ecology
- NR 561 Studio Soils
- NR 562 Forest Ecosystems and Environmental Change
- NR 564 Freshwater Resources
- NR 637 Landscape Ecology
- NR 650 Wildlife Population Ecology
- NR 642 Introduction to Biogeography
- NR 650 Principles of Conservation Biology
- NR 660 Ecology and Biogeography of New Zealand
- NR 661 Restoration Ecology and Ecosystem Management in New Zealand
- NR 663 Applied Directed Research in New Zealand
- NR 663 Conservation Genetics and Applied Evolution
- NR 756 Soil Ecology
- NR 750 Terrestrial Ecosystems
- NR 734 Tropical Ecology
- NR 743 Addressing Arctic Challenges
- NR 744 Biogeochemistry
- NR 751 Aquatic Ecosystems
- NR 761 Environmental Soil Chemistry
- NR 765 Community Ecology
- NR 782 Forest Health in a Changing World
- ESCI 400 Global Environmental Change

1. Select seven total courses to create a focus area addressing an environmental issue, ecological system, or natural resource.
Senior Capstone Options

Select at least one course and two to five courses: no more than one course may be at the 400 or 500 level. Additional courses must be from the social sciences; tools, skills, and natural history categories; and any natural resources category, along with a combination of courses in the social sciences; tools, skills, and natural history categories; and any natural resources category, along with a combination of courses in the social sciences; tools, skills, and natural history categories; and any natural resources category.

Social Sciences

Select two to five courses: no more than one course may be at the 400 or 500 level. Additional courses must be from the social sciences; tools, skills, and natural history categories; and any natural resources category, along with a combination of courses in the social sciences; tools, skills, and natural history categories; and any natural resources category.

Sample Course Sequence

First Year

Fall

Biol 412 Introductory Biology: Evolution, Biodiversity and Ecology (Inquiry, Disc BS) 4

Credits

Spring

NR 437 Principles of Sustainability 4

NR 439 Environmental Biology 4

EREC 411 Environmental and Resource Economics Perspectives (or Discovery Course, not SS or ETS) 4

ENGL 401 or Discovery Course 4

Credits

Second Year

Fall

NR 415 Natural Resources Field Methods 2

Ecological Principles 1 4
**Physical Science (Disc PS)** ² 4  
**Presentation Skills (possible Disc FPA)** ² 4  
Practicum ³ 0  
Elective 4  
Credits 18  

**Spring**  
Statistics (Disc QR) ² 4  
Writing Skills (Univ. writing req.) ² 4  
NR 658 Introduction to Geographic Information Systems 4  
NR 602 or Discovery Course 4  
Credits 16  

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

**Spring**  
Focus Area Courses ⁵ 16  
OR Electives  
OR any remaining Discovery or WI requirements  
OR Capstone ⁴ 4  
Credits 16  

**Fourth Year**  
**Fall**  
Capstone Requirement ⁵ 2-4  
Focus Area Courses 12  
OR Electives  
OR any remaining Discovery of WI requirements  
Credits 14-16  

**Spring**  
Capstone Requirement ⁵ 2-4  
Focus Area Courses 12  
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.