

**SCHOOL OF ENVIRONMENT AND NATURAL RESOURCES**  
Undergraduate Minor in Environmental Science

The minor in environmental science is designed to provide students with an opportunity to analyze interactions between the physical, chemical, and biological components of the environment in relation to human and ecological health, and to understand many of the most important issues confronting society today. Environmental issues such as global climate change, safe water quality, wetland reconstruction, environmental sustainability, ecosystem restoration, biological diversity, hazardous contaminant pollution of soil and water, carbon sequestration, and food security are challenging areas of critical importance in environmental science. The Environmental Science minor introduces students to the scientific principles, concepts, and methodologies required to understand the interrelationships of the natural world, to identify and analyze environmental problems both natural and human-made, and to examine alternative solutions for resolving and/or preventing them. The ES minor will be useful to students majoring in pure and applied physical sciences including Agricultural Sciences, Earth Sciences, Biological Sciences, and providing a complement to social science programs.

**A total of 15 semester units are required for this minor.**

Course number	Course Title	Credit hours	Prerequisite
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**Required:**

ENR 2100	Introduction to Environmental Science	3	
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**Choose 2: Introductory Coursework**  
(must total between 4-7 units)

ENR/EARTHSC 2155	Energy and Environment	3	
ENR 3000	Soil Science ( <b>REQUIRED FOR SOIL RESOURCES FOCUS AREA</b> )	3	
ENR 3280	Water Quality Management	2	
ENR 4285	Watershed Hydrology	3	Chem 1210 & MATH 1151/1156
ENR 3300	Introduction to Forestry, Fisheries, and Wildlife	3	ENR 2100
ENR 3321	Biology and Identification of Woody Forest Plants	3	
ENR 3700	Introduction to Spatial Information for Environment and Natural Resources	3	
ENR 5797.06	Study Abroad (Iceland)	3	ENR 5790.06 and Instructor permission
ENR 5797.01	Study Abroad (Australia)	3	Instructor permission

**Controlled Electives:**

(add courses from *one* of the following 3 focus areas to meet the 15 unit minimum requirement; must not overlap with Introductory Coursework)

*Ecosystem Restoration*

ENR 3322	Forest Ecosystems	3	ENR 2100, ENR 2300, & ENR 3321
ENR 4260	Soil Resource Management	3	ENR 3000
ENR 5250.01	Wetland Ecology and Restoration	3	EEOB 3410
ENR 5273	Environmental Fate and Impact of Contaminants in Soil and Water	3	2 semesters of CHEM
ENR 5279	Soil & Ecosystem Services: Assessment & Restoration	3	
ENR 5280	Stream Ecology	4	ENR 3300
ENR 3800	Principles & Tools of Ecosystem Restoration	2	ENR 2100, or BIOLOGY 1114
EEOB 3410	Ecology	4	Biology 1114
ENR/FABE/ENVENG 5310	Ecological Engineering and Ecosystem Restoration	4	Junior standing
GEOG 2960	Introduction to Physical Geography	4	
GEOG 3980	Biogeography: An Introduction to Life on Earth	3	
GEOG 3900	Global Climate Change: Causes and Consequences	3	

*Continued on reverse*

Course number	Course Title	Credit hours	Prerequisite
<i>Soil Resources and Environmental Sustainability</i>			
ENR 3001	Soil Science Laboratory	1	ENR 3000
ENR 4260	Soil Resource Management	3	ENR 3000
ENR 5260	Soil Landscapes: Morphology, Genesis & Classification	3	ENR 3000 & 3001
ENR 5261	Environmental Soil Physics	3	
ENR 5262	Soil Chemical Processes & Environmental Quality	3	1 semester of CHEM
ENR 5263	Biology of Soil Ecosystems	3	ENR 3000
ENR 5268	Soils and Climate Change	2	
ENR 5273	Environmental Fate and Impact of Contaminants in Soil and Water	3	2 semesters of CHEM
ENR 5279	Soil & Ecosystem Services: Assessment & Restoration	3	
EARTHSC 2203	Environmental Geoscience	3	
EARTHSC 5550	Geomorphology	4	EARTHSC 1121 & EARTHSC 1122
GEOG 3900	Global Climate Change: Causes and Consequences	3	

#### *Water Science*

ENR 5250.01	Wetland Ecology and Restoration	3	EEOB 3410
ENR 5273	Environmental Fate and Impact of Contaminants in Soil and Water	3	2 semesters of CHEM
ENR 5280	Stream Ecology	4	ENR 3300
ENR 4345	Methods in Aquatic Ecology	4	ENR 2100
EARTHSC 2204	Exploring Water Issues	3	
EARTHSC 2206	Principles of Oceanography	3	
EARTHSC 4450	Water, Ice, and Energy in the Earth System	3	EARTHSC 1121& CHEM 1210; or PHYSICS 1250

#### **Restrictions and General Information**

1. The minor is not available to students majoring in Environmental Science, Natural Resource Management or Forestry, Fisheries and Wildlife. Students majoring in Environmental Policy & Decision Making or Environment, Economy, Development and Sustainability should take an additional course from the list of introductory coursework in place of ENR 2100 (unless using the 3 hour allowable overlap for ENR 2100).
2. A maximum of 6 approved study abroad credits (ENR 5797 or a related study abroad experience as approved by an ENR advisor) may be used toward the minor unless specified otherwise.
3. A minimum 2.00 cumulative point-hour ratio is required in the minor course work; and a minimum grade of a C- is required for each course used to complete the minor.
4. A minor should be declared at the time a student accumulates 60 hours.
5. A student is permitted to overlap up to 6 credit hours between the GE and the minor.
6. The minor must contain a minimum of 12 credit hours distinct from the major and/or additional minors (i.e. if a minor requires more than 12 credit hours, a student is permitted to overlap those hours beyond 12 with a major or with another minor).
7. The minor must include at least 6 hours of upper-level or upper-division course work (3000 or above).
8. Course work graded Pass/Non-Pass cannot count in the minor, and no more than 3 credit hours of course work graded Satisfactory/Unsatisfactory may count toward the minor.
9. A student is permitted to count up to 6 total hours of transfer credit and/or credit by examination.
10. No more than 3 credit hours of xx93 may count toward the minor.