ENVIRONMENTAL SCIENCES (BS) CAHNR

The major in Environmental Sciences is based in the physical and biological sciences, but also includes course work in selected areas of the social sciences. The major leads to a Bachelor of Science degree, and may be adopted by students in either the College of Agriculture, Health and Natural Resources or the College of Liberal Arts and Sciences. This curriculum offers a comprehensive approach to the study of environmental problems, including not only a rigorous scientific background, but also detailed analyses of the social and economic implications of environmental issues. The complexity and interdisciplinary nature of environmental science is reflected in the core requirements of the major. These courses, assembled from several different academic departments representing two colleges, provide both breadth and depth, preparing students for careers that deal with environmental issues and for graduate study in environmental sciences and related fields.

Required Courses

Course	Title	Credits
Basic (Natural) Sciences		
BIOL 1107	Principles of Biology I	4
BIOL 1108	Principles of Biology II	4
or BIOL 1110	Introduction to Botany	
Select one of the following Chemistry sequences		8-10
CHEM 1124Q & CHEM 1125Q & CHEM 1126Q	Fundamentals of General Chemistry I and Fundamentals of General Chemistry II and Fundamentals of General Chemistry III	
CHEM 1127Q & CHEM 1128Q	General Chemistry I and General Chemistry II	
MATH 1131Q & MATH 1132Q	Calculus I and Calculus II	8
Select one of the following Physics sequences:		8
PHYS 1201Q & PHYS 1202Q	General Physics I and General Physics II	
PHYS 1401Q & PHYS 1402Q	General Physics with Calculus I and General Physics with Calculus II	
Select one of the following:		3-4
STAT 1000Q	Introduction to Statistics I	
STAT 1100Q	Elementary Concepts of Statistics	
STAT 3025Q	Statistical Methods	
NRE 1000E	Environmental Science	3
Sophomore Seminar Course		
ENVS 2000	Integrating Humans and the Environment	3
Capstone Course		
NRE 4000W	Natural Resources Planning and Management [1]	3
Internship or Research Experience		
Internship and/or research experience (must be approved by the student's advisor)		1-6
Total Credits		**45-53**

[1] Completion of NRE 4000W Natural Resources Planning and Management satisfies the writing in the major and information literacy exit requirements.

Prerequisites

The following courses are prerequisites for several upper division course concentration options. It is the student's responsibility to ensure that all prerequisites in the catalog for concentration courses have been satisfied:

Course	Title	Credits
ARE 1150	Principles of Applied and Resource Economics	3
ECON 1200	Principles of Economics (Intensive)	4
or ECON 1201	Principles of Microeconomics	
ERTH 1050	Earth's Dynamic Environment	4
GEOG 2300E	Introduction to Physical Geography	3
MARN 1002E	Introduction to Oceanography	3

Students are required to complete a minimum of 36 credits of approved courses, at the 2000-level or higher. Approved courses include: ENVS 2000 Integrating Humans and the Environment, NRE 4000W Natural Resources Planning and Management, 1-6 credits of internship or research experience, and a minimum of 24-credits within a declared concentration.

Area of Concentration

All students majoring in Environmental Sciences must declare and fulfill the requirements of a concentration in a discipline associated with the program before graduation. Approved concentrations are listed below.

- Sustainable Systems
- Global Change
- Environmental Health

Sustainable Systems Concentration

The same course cannot be used to fulfill more than one knowledge competency.

Course	Title	Credits
Resource Management		
Select at least two courses from the following:		6
EEB 2208E	Introduction to Conservation Biology	
GEOG 3340	Environmental Planning and Management	
MARN 3030	Coastal Pollution and Bioremediation	
NRE 2010	Natural Resources Measurements	
NRE 2215E	Introduction to Water Resources	
NRE 2345	Introduction to Fisheries and Wildlife	
NRE 2600E	Global Sustainable Natural Resources	
NRE 3105	Wetlands Biology and Conservation	
NRE 3125	Watershed Hydrology	
NRE 3305	African Field Ecology and Renewable Resources Management	
NRE 3335	Wildlife Management	
NRE 3345	Wildlife Management Techniques	
or NRE 3345W	Wildlife Management Techniques	

NRE 3500	Exurban Silviculture
NRE 3535	Remote Sensing of the Environment
NRE 4255	Water Quality Management
NRE 4335	Fisheries Management
NRE 4575	
SPSS 2100E	Environmental Sustainability of Food Production in Developed Countries
Ecological Systems	
Select at least two courses from the following:	6
EEB 2100E	Global Change Ecology
EEB 2222E	Plants in a Changing World
EEB 2244E	General Ecology
or EEB 2244WE	General Ecology
EEB 3247	
EEB 4230W	Methods of Ecology
EEB 3230/ MARN 3014	Marine Biology
NRE 2455	Forest Ecology
NRE 4205	Stream Ecology
NRE 4340	Ecotoxicology
Built Systems	
Select at least one course from the following:	3
AH 3175E	Environmental Health
ENVS/EVST/ENVE 3110E	Brownfield Redevelopment
GEOG 2400E	Introduction to Sustainable Cities
LAND 3230WE	Sustainable Environmental Planning and Landscape Design
NRE 3265	Sustainable Urban Ecosystems
NRE 4425	Urban and Community Forestry
SPSS 3550	Urban Plant Systems Construction and Maintenance
Governance and Policy	
Select at least one course from the following:	3
AH 3174	
ARE 2434E	Environmental and Resource Policy
ARE 2235	
ARE 3437E	Marine Fisheries Economics and Policy
ARE 4438E	Valuing the Environment
ARE 4462E	Environmental and Resource Economics
ECON/MAST 2467E	Economics of the Oceans
ENVS/EVST/ENVE 3100	Climate Resilience and Adaptation: Municipal Policy and Planning
GEOG 3320W	Environmental Evaluation and Assessment
MAST/POLS 3832	Maritime Law
NRE 3000	Human Dimensions of Natural Resources
NRE 3201	Conservation Law Enforcement
NRE 3245E	Environmental Law
POLS 3412	Global Environmental Politics
SOCI 2707	Energy, Environment, and Society
or SOCI 2707W	Energy, Environment, and Society
Ethics, Values, and Culture	
Select at least one course from the following:	3
ANTH 3339	
ENGL 2635E	Literature and the Environment
ENGL 3240E	American Nature Writing
ENGL 3715E	Nature Writing Workshop
GEOG 3410E	Human Modifications of Natural Environments
GERM 2400E	The Environment in German Culture
HIST/MAST 2210E	History of the Ocean
HIST 3540E	Environmental History of the Americas
HIST 3542E	New England Environmental History
JOUR 3046E	Environmental Journalism
LAND 2210E	The Common (Shared) Landscape of the USA: Rights, Responsibilities and Values
PHIL 3216E	Environmental Ethics
SOCI 2701E	Sustainable Societies
SOCI 2705E	Sociology of Food
SOCI 2707	Energy, Environment, and Society
or SOCI 2707W	Energy, Environment, and Society
SOCI 2709E	Society and Climate Change
or SOCI 2709WE	Society and Climate Change
Economics and Business	
Select at least one course from the following:	3
ARE 2235	
ARE 4305	Sustainable Economic Development
ARE 4438E	Valuing the Environment
ARE 4444	Economics of Energy, Climate, and the Environment
ARE 4462E	Environmental and Resource Economics
ECON/MAST 2467E	Economics of the Oceans
ECON 3466E	Environmental Economics
ECON 3473	Economic Development
Total Credits	**24**

Global Change Concentration

The same course cannot be used to fulfill more than one knowledge competency.

Course	Title	Credits
Climate Change and its Impacts		
Select at least two courses from the following:		6
ERTH 3010	Earth History and Global Change	
ERTH 4850	Paleoclimatology	
GEOG 3400	Climate and Weather	
GEOG 4300		
MARN 3000E	The Oceans and Global Climate	
NRE 2600E	Global Sustainable Natural Resources	
NRE 3115	Air Pollution	
NRE 3146	Climatology	
NRE 4170	Climate-Human-Ecosystem Interactions	
SPSS 2100E	Environmental Sustainability of Food Production in Developed Countries	

SPSS 2500E	Principles and Concepts of Agroecology	
Land and Ocean Use and its Impacts		
Select at least two courses from the following:		6
EEB 2100E	Global Change Ecology	
EEB 2208E	Introduction to Conservation Biology	
EEB 2222E	Plants in a Changing World	
ERTH 3020	Earth Surface Processes	
ERTH/MARN 3230	Beaches and Coasts	
GEOG 3310		
GEOG 3410E	Human Modifications of Natural Environments	
MARN 3001	Foundations of Marine Sciences	
MARN 3030	Coastal Pollution and Bioremediation	
MARN 4066	River Influences on the Marine Environment	
NRE 2215E	Introduction to Water Resources	
NRE 2345	Introduction to Fisheries and Wildlife	
NRE 2600E	Global Sustainable Natural Resources	
NRE 3105	Wetlands Biology and Conservation	
NRE 3115	Air Pollution	
NRE 4255	Water Quality Management	
NRE 4340	Ecotoxicology	
NRE 4135/ ERTH 4735	Introduction to Ground Water Hydrology	
Natural Science		
Select at least two courses from the following:		6
CHEM 4370	Environmental Chemistry - Atmosphere	
CHEM 4371	Environmental Chemistry - Hydrosphere	
EEB 2244E	General Ecology	
or EEB 2244WE	General Ecology	
EEB 2245	Evolutionary Biology	
or EEB 2245W	Evolutionary Biology	
EEB 3247		
EEB 3230/ MARN 3014	Marine Biology	
EEB/ERTH 4120	Paleobiology	
ERTH 4110	Sedimentology and Stratigraphy	
ERTH 4210	Glacial Processes and Materials	
ERTH 4720	Environmental Geochemistry	
GEOG 2300E	Introduction to Physical Geography	
MARN 4030W	Chemical Oceanography	
MARN 4060	Physical Oceanography	
MARN 4202Q	Models of the Ocean Carbon Cycle	
NRE 2455	Forest Ecology	
NRE 3125	Watershed Hydrology	
NRE 3145	Meteorology	
NRE 4205	Stream Ecology	
SPSS 2120	Environmental Soil Science	
SPSS 3420	Soil Chemistry Components	
Methods		
Select at least one course from the following		3
CE 2251	Probability and Statistics in Civil and Environmental Engineering	
CE/ENVE 3530/ ERTH 3710	Engineering and Environmental Geology	
EEB 3266	Field Herpetology	
EEB 4100	Big Data Science for Biologists	
EEB 4230W	Methods of Ecology	
EEB 4262	Field Methods in Ornithology	
ERTH 4430	Stable Isotope Biogeochemistry	
ERTH 4510	Applied and Environmental Geophysics	
ERTH 4710	Environmental Site Assessment	
ERTH 4810	Modeling the Changing Atmosphere and Ocean	
ERTH 4735/ NRE 4135	Introduction to Ground Water Hydrology	
GEOG 3500Q	Geographic Data Analysis	
GEOG/ERTH 4230	GIS and Remote Sensing for Geoscience Applications	
GEOG/MARN 3505	Remote Sensing of Marine Geography	
MARN 4202Q	Models of the Ocean Carbon Cycle	
NRE 2000	Introduction to Geomatics	
NRE 2010	Natural Resources Measurements	
NRE 3305	African Field Ecology and Renewable Resources Management	
NRE 3345/3345W	Wildlife Management Techniques	
NRE 3535	Remote Sensing of the Environment	
NRE 4335	Fisheries Management	
NRE 4475	Forest Management	
NRE 4535	Remote Sensing Image Processing	
NRE 4544	Land Surveying for Environmental Management and Planning	
NRE 4575		
NRE 4665	Natural Resources Modeling	
PHYS 2400	Mathematical Methods for the Physical Sciences	
STAT 2215Q	Introduction to Statistics II	
STAT 3025Q	Statistical Methods	
Governance and Policy		
Select at least one course from the following		3
AH 3174		
ARE 2235		
ARE 2434E	Environmental and Resource Policy	
ARE 3437E	Marine Fisheries Economics and Policy	
ARE 4438E	Valuing the Environment	
ARE 4462E	Environmental and Resource Economics	
ECON/MAST 2467E	Economics of the Oceans	
ENVS/EVST/ENVE 3100	Climate Resilience and Adaptation: Municipal Policy and Planning	
EVST/POLS 3412	Global Environmental Politics	
GEOG 3320W	Environmental Evaluation and Assessment	
MAST/POLS 3832	Maritime Law	
NRE 3000	Human Dimensions of Natural Resources	
NRE 3201	Conservation Law Enforcement	
NRE 3245E	Environmental Law	

SOCI 2707	Energy, Environment, and Society	
or SOCI 2707W	Energy, Environment, and Society	
Total Credits		**24**

Environmental Health Concentration

Students must pass:

Course	Title	Credits
AH 3021	Environment, Genetics and Cancer	3
AH 3175E	Environmental Health	3
ANSC 4341	Food Microbiology and Safety	3
NRE 4340	Ecotoxicology	3
Select two of the following:		6
AH 3275	HAZWOPER	
ENVS/EVST/ENVE 3110E	Brownfield Redevelopment	
ERTH 4710	Environmental Site Assessment	
MARN 3030	Coastal Pollution and Bioremediation	
MCB 2400	Human Genetics	
NRE 3115	Air Pollution	
NRE 4255	Water Quality Management	
PATH 3700	Emerging Infectious Diseases and Pandemics	
PATH 4300	Principles of Pathobiology	
SPSS 2120	Environmental Soil Science	
Select one of the following:		3
AH 3570	Health and Safety Management in the Workplace	
AH 3571	Health Hazards in the Workplace	
AH 3573	Health and Safety Standards in the Workplace	
AH 3574	Ergonomics	
PSYC 3105	Health Psychology	
Select at least one of the following:		3
EEB 3245	Evolutionary Medicine	
ECON 2451/2451W	Economic Behavior and Health Policy	
GEOG 3240	Health Geography: Connecting People, Place, and Health	
Total Credits		**24**

Note

A B.S. in Environmental Sciences can also be earned through the College of Liberal Arts and Sciences. For a complete description of the major in that college, refer to the Environmental Sciences description in the “College of Liberal Arts and Sciences” section of this *Catalog*.

University General Education Requirements

Every student must meet a set of core requirements to earn a baccalaureate degree, in addition to those required by the student's major course of study and other requirements set by the student's school or college. For more information about these requirements, please see General Education Requirements (https://catalog.uconn.edu/undergraduate/gen-ed-requirements/).

College of Agriculture, Health and Natural Resources Degree Requirements

Students must meet a set of requirements established by the college in addition to the University's General Education requirements. For more information, see the College of Agriculture, Health and Natural Resources (https://catalog.uconn.edu/undergraduate/agriculture-health-natural-resources/#requirementstext) section of this catalog.