

# ENVIRONMENT & SUSTAINABILITY MINOR

College of Agriculture and Life Sciences, College of Arts and Sciences

Program Website (<https://cals.cornell.edu/environment-sustainability/education/es-minor/>)

## Program Description

The minor in Environment & Sustainability offers a structured yet flexible pathway for students interested in an integrated analysis of environment and sustainability issues. Students develop relevant knowledge and skills through a combination of courses in the natural sciences, social sciences and humanities.

Students enrolled in any major may pursue a minor in Environment & Sustainability (E&S). Students will customize a course of study (minimum 16 credits) that will allow them to develop a basic knowledge of the environmental sciences and humanities. The minor allows students with a wide diversity of interests to gain confidence in their understanding of sustainability, as well as the complex interactions and interdependencies that characterize ecosystems and relationships between society and environment. Building literacy and comprehension across key disciplines is a fundamental step toward effective engagement with sustainability and can provide students with highly desirable skills for the job market.

In order to apply for the minor, students should have their minor course plan ready (including what semester and year they intend to complete the courses). We recommend submitting your plan as early as possible—ideally before your senior year—to ensure you stay on track and have selected the most suitable courses. To learn more and access application link, visit the E&S minor webpage (<https://cals.cornell.edu/environment-sustainability/education/es-minor/>).

## Minor Requirements

- Five courses plus one colloquium (details below).
- Any undergraduate student at Cornell may enroll in the minor (except E&S majors).
- All courses except ENVS 2000 Environment and Sustainability Colloquium must be taken for a letter grade, and a grade of "C" or better must be recorded.
- At least two courses must be at the 3000-level or higher.
- AP credit will not be accepted.
- Overlap of no more than two courses between the E&S minor and a student's other major(s) and/or minors will be accepted.
- No course substitutions are allowed with two exceptions:
  - a. External transfer students using one course from a prior institution.
  - b. A course for the minor has a forbidden overlap with a course taken for a student's major.

Code	Title	Hours
<b>Environment &amp; Sustainability</b>		
Select one of the following:		3
NTRES 1101	Understanding Environment and Sustainability	
NTRES 1201	Global Water Sustainability	
NTRES 2010	Environmental Conservation	

<b>Environmental Biology</b>		
Select one of the following:		3
BIOEE 1610	Introductory Biology: Ecology and the Environment	3-4
BIOEE 2740	The Vertebrates: Comparative Anatomy, Function, Paleontology, and Evolution	4
BIOEE 3610	Advanced Ecology	4
BIOEE 3611	Field Ecology	3
BIOEE 3690	Chemical Ecology	3
BIOEE 3730	Biodiversity and Biology of the Marine Invertebrates	3
BIOEE 4460	Plant Behavior and Biotic Interactions, Lecture	3
BIOEE 4500		
BIOEE 4570	Limnology: Ecology of Lakes, Lectures	3
BIOEE 4660	Physiological Ecology, Lectures	3
BIOEE 4690	Food, Agriculture, and Society	3
BIOEE 4700 & BIOEE 4701	Herpetology, Lectures and	3
BIOEE 4750	Ornithology, Lectures	3
BIOEE 4760	Ichthyology: Biology of Fishes, Lectures	3
BIOEE 4800	Ecological Genetics	4
BIOMI 2900	General Microbiology Lectures	3-4
BIOMI 3500	Marine Microbes and Disease in a Changing Ocean	3
BIOMI 6300	Computational Approaches for Microbial Systems	3
BIOISM 3290	Field Animal Behavior	3
BIOISM 3330	Marine Parasitology and Disease	3
BIOISM 3450	Marine Mammal Biology	3
BIOISM 3740	Field Ornithology	3
BIOISM 4650	Shark Biology and Conservation	3
EAS 3030	Introduction to Biogeochemistry	4
ENTOM 2120	Insect Biology	4
ENTOM 3150	Spider Biology	3
ENTOM 3440	Insect Conservation Biology	3
ENTOM 3630	Bugs in Bugs— Insect Pathology and Immunity	3
ENTOM 3755	Social Animal Behavior: Arthropods to Apes	3
ENTOM 4440	Integrated Pest Management	4
ENTOM 4550	Insect Ecology	4
NTRES 3100	Applied Population Ecology	3
NTRES 3110	Fish Ecology, Conservation, and Management	3
NTRES 3150	Introduction to Conservation Bioacoustics	3
NTRES 3240	Sustainable, Ecologically Based Management of Water Resources	3
NTRES 3250	Forest Management and Maple Syrup Production	3
NTRES 3260	Applied Conservation Ecology	3
NTRES 3400	Molecular Tools for Ecology, Conservation, and Natural Resource Management	3
NTRES 4100	Advanced Conservation Biology: Concepts and Techniques	4
NTRES 4120	Wildlife Population Analysis: Techniques and Models	3
NTRES 4280	Principles and Practices of Applied Wildlife Science	3
NTRES 4560	Stream Ecology	4
PLSCI 2410	Introductory Plant Diversity and Evolution	4

PLSCI 3010	Biology and Management of Plant Diseases	4	AEM 4880	Global Food, Energy, and Water Nexus – Engage the US, China, and India for Sustainable Future	3-4
PLSCI 3150	Weed Biology and Management	4	ANTHR 2201	Early Agriculture	3
PLSCI 3210	Soil and Crop Management for Sustainability	3	ANTHR 2420	Nature-Culture: Ethnographic Approaches to Human Environment Relations	4
PLSCI 3420	Plant Physiology, Lectures	3	ANTHR 2482	Anthropology of Climate Change	3
PLSCI 4300	Mycology	4	ANTHR 3152	Peasant Economies and Ecologies	3
PLSCI 4660	Soil Ecology	3-4	ANTHR 3230	Humans and Animals	4
PLSCI 4730	Ecology of Agricultural Systems	4.5	ANTHR 3248	Finger Lakes and Beyond: Archaeology of the Native Northeast	3
<b>Environmental Physical Sciences</b>			ANTHR 3325	Food and Work	3
Select one of the following:			ANTHR 3422	Culture, Politics, and Environment in the Circumpolar North	3
BEE 3500	Heat and Mass Transfer in Biological Engineering	4	ANTHR 4101	The Entangled Lives of Humans and Animals	4
BEE 3710	Physical Hydrology for Ecosystems	3	ANTHR 4410		
BEE 4110			ANTHR 4442	Toxicity	3
BEE 4270	Water Measurement and Analysis Methods	3	ARTH 2255	Ecocriticism and Visual Culture	4
BEE 4710	Introduction to Groundwater	3	ARTH 3620	After Nature: Art and Environmental Imagination	4
BEE 4800	Atmospheric Chemistry: From Air Pollution to Global Change	3	ASIAN 2273	Religion and Ecological Sustainability	3
BIOEE 4570	Limnology: Ecology of Lakes, Lectures	3	ASRC 3565	Black Ecoliterature	3
BIOEE 4620			BIOEE 4690	Food, Agriculture, and Society	3
BIOEE 4780	Ecosystem Biology and Global Change	4	BME 4440	Science Policy Bootcamp: Concept to Conclusion	3
CEE 3310	Fluid Mechanics	4	BSOC 2061	Ethics and the Environment	4
EAS 1310	Basic Principles of Meteorology	3	CEE 5970	Risk Analysis and Management	3
EAS 1600	Environmental Physics	3	CLASS 2010	Discussions of Environment and Sustainability	3
EAS 2250	The Earth System	4	CLASS 2729	Climate, Archaeology and History	3
EAS 2680	Climate and Global Warming	3	CLASS 3750	Introduction to Dendrochronology	4
EAS 3010	Evolution of the Earth System	4	COML 2036	Literature and the Elements of Nature	3
EAS 3030	Introduction to Biogeochemistry	4	COML 3111	Literature, Art and Environment	3
EAS 3050	Climate Dynamics	3	COML 3264	Poetics, Economies, Ecologies	3
EAS 3340	Microclimatology	3	COML 3336	Border Environments	3
EAS 3420	Atmospheric Dynamics	3	COML 3435	Art, Nature, and Empire in Russian and Soviet Culture	3
EAS 3530	Physical Oceanography	3	COML 4902	Environmental Humanities: Theories and Methods	3
NTRES 3220	Global Biodiversity	3	COMM 2850	Communication, Environment, Science, and Health	3
NTRES 3240	Sustainable, Ecologically Based Management of Water Resources	3	COMM 3210	Communication and the Environment	3
NTRES 4560	Stream Ecology	4	COMM 4860	Risk Communication	3
PLSCI 2600	Soil Science	4	CRP 3555	Environmental Impact Review	3
PLSCI 3210	Soil and Crop Management for Sustainability	3	CRP 3840	Green Cities	3
PLSCI 3630	Soil Genesis, Classification, and Survey	4	CRP 3860	Planning for Sustainable Transportation	3
PLSCI 3650	Environmental Chemistry: Soil, Air, and Water	3	CRP 4080	Introduction to Geographic Information Systems (GIS)	4
PLSCI 4730	Ecology of Agricultural Systems	4.5	CRP 4590	Land Use Law	3
PLSCI 4660	Soil Ecology	3-4	CRP 5080	Introduction to GIS for Planners	4
PLSCI 4720	Nutrient and Carbon Cycling and Management in Ecosystems	3	DEA 1500	Introduction to Environmental Psychology	3
<b>Environmental Humanities &amp; Social Sciences</b>			DEA 4220	Ecological Literacy and Design	3
Select two of the following:			EAS 2400	Observing the Earth: Remote Sensing and GIS	3
AEM 1500	An Introduction to the Economics of Environmental and Natural Resources	3	ENGL 3795	Communicating Climate Change	3
AEM 2000	Contemporary Controversies in the Global Economy	3	ENGL 4675	The Environmental Imagination in American Literature	4
AEM 2500	Environmental and Resource Economics	3	ENGL 4795	Climate Communications Capstone	3
AEM 2770	Excursions in Computational Sustainability	3	FREN 4250		
AEM 4500	Resource Economics	3	FSAD 3200	Global Textile and Apparel Sustainability	3
AEM 4510	Environmental Economics	3			

GDEV 2010	Population and Social Change	3	SOC 3650	Sociology of Disasters	3
GDEV 2065	Environment and Development	3	SPAN 4690	Latin American and Latinx Environmentalisms	3
GDEV 2130	Introduction to Social Science Research Methods	3	STS 3181	Living in an Uncertain World: Science, Technology, and Risk	4
GDEV 3010	Theories of Society and Development	3	STS 4131	Comparative Environmental History	3
GDEV 3020	Political Ecologies of Health	3	STS 4460	Lightscares	4
GDEV 3031		3	<b>Environment &amp; Sustainability Colloquium</b>		
GDEV 3140	Mapping Our Worlds: Cartography and Analysis in GIS	4	Select one of the following:		
GDEV 3150	Climate Change and Global Development: Living in the Anthropocene	3	ENVS 2000	Environment and Sustainability Colloquium	1
GDEV 3240	Environmental Sociology	3	BEE 2000	Perspectives on the Climate Change Challenge	1.5
GDEV 3400	Agriculture, Food, Sustainability and Social Justice	3			
GDEV 3680	Environmental Decision Making	3			
GDEV 3781					
GOVT 1817	Making Sense of World Politics	4			
GOVT 3032	Politics of Public Policy in the U.S.	4			
GOVT 3583	Comparative Public Policy: Political Pathways to Equality	4			
GOVT 3613 & GOVT 3614 & GOVT 3623	Politics of Sustainable Development in Latin America I and Politics of Sustainable Development in Latin America II and Politics of Sustainable Development in Latin America III	1			
HIST 2371	US Climate Catastrophes: Rethinking US History through the Climate	4			
HIST 2581	Environmental History	4			
HIST 4262	Environmental Justice: Past, Present, Future	4			
LAW 4131	The Nature, Functions, and Limits of Law	4			
LAW 4330	Environmental Law and Policy	3			
LAW 4443	International Environmental Law and Policy	3			
LAW 6361	Environmental Law	3			
LAW 7358	International Environmental Law	3			
NS 4450	Toward a Sustainable Global Food System: Food Policy for Developing Countries	3			
NTRES 2201	Society and Natural Resources	3			
NTRES 3311	Environmental Governance	3			
NTRES 3330	Ways of Knowing: Indigenous and Place-Based Ecological Knowledge	3			
NTRES 4320					
NTRES 4600	Planning for Environmental Conservation and Sustainability	3			
PHIL 1440	Ethics of Eating	3			
PLSCI 2200	Introduction to Mapping and Spatial Analysis with GIS	3			
PLSCI 4200	Geographic Information Systems (GIS): Concepts and Application	3			
PUBPOL 3590	Environmental Justice and Policy	3			
PUBPOL 3670	Economics and Environmental Policy	3			
PUBPOL 3730	Comparative Environmental Policy	3			
PUBPOL 3910 & PUBPOL 5441	Federal Policy Making in Action and Effective Writing for Public Policy	1			
PUBPOL 5132	Legal Aspects of Public Agency Decision-Making	3			
SHUM 4697					