ENVIRONMENTAL STUDIES - BACHELOR OF ARTS (BA)

The Environmental Studies Program (ENVS) is an interdisciplinary program that combines and integrates different types of knowledge to address the complex environmental, resource, and sustainability challenges in coupled human environment systems. This is accomplished by addressing the grand challenges related to sustaining the planet and its people. How do we meet the needs of a growing human population while sustaining our life support systems—climate, air and water systems, natural resources, species assemblages, and ecosystems on land and in the oceans? How do we increase the well-being of those at risk of global environmental change in an unequal world while not compromising future generations? Our research expertise includes food systems; dimensions of global change; conservation biology, restoration ecology; ecosystem biogeochemistry; environmental governance, science and policy interactions; environmental inequality and climate justice; environmental ethics; sustainable livelihoods; and behavioral dimensions of climate change mitigation and adaptation.

Undergraduate students acquire an awareness of the complexity of factors relating to human interaction with the environment. They become acutely aware that environmental problems have both human and biophysical components, and gain knowledge of the general principles of human-environmental interactions, global habitability, environmental change and sustainable societies. The ENVS major includes introductory coursework in natural sciences, economics and mathematics; intermediate coursework in policy, ethics, economics and writing; and advanced coursework offered by several departments and programs across CU Boulder.

Requirements

Students must complete:

- The general requirements of the College of Arts and Sciences.
- Foundational courses in sciences, policy, ethics, economics, writing and math.
- 12 credit hours of upper-division coursework to specialize in an area of interest.
- An internship or field course.
- A cornerstone course.
- A capstone course.

Required Courses and Credits

Code	Title	Credit Hours
Introductory Sequence in Environmental Studies		
ENVS 1000	Introduction to Environmental Studies	4
ENVS 1001	Introduction to Human Dimensions of Environmental Studies	4
Introductory Sequence in Biology or Earth Science		
Complete one of the following options. All classes from this combination must be in the same department.		7-8
Biology Option		
Complete any two of these lecture/laboratory combinations		
EBIO 1210 & EBIO 1230	General Biology 1 and General Biology Laboratory 1	
EBIO 1220 & EBIO 1240	General Biology 2 and General Biology Laboratory 2	
EBIO 1250	Introduction to Biology Research	
EBIO 1100 & EBIO 1110	Biology and Society and Biology and Society Laboratory [1]	
Geology Option		
GEOL 1030	Introduction to Geology Laboratory 1	
and any two of the following introductory Geology courses		
GEOL 1010	Exploring Earth	
or GEOL 1012	Exploring Earth for Scientists	
GEOL 1020	Dodos, Dinos, and Deinococcus: The History of a Habitable Planet	
GEOL 1040	Geology of Colorado	
GEOL 1060	Global Change: An Earth Science Perspective	
GEOL 1150	Water, Energy and Environment: An Introduction to Earth Resources	
GEOL 1170	Our Deadly Planet	
GEOL 2001	Planet Earth	
Atmospheric and Oceanic Sciences Option		
Complete all courses		
ATOC 1050 & ATOC 1070 & ATOC 1060	Weather and the Atmosphere and Weather and the Atmosphere Laboratory and Our Changing Environment: El Nino, Ozone, and Climate	
Physical Geography Option		
Complete both courses		
GEOG 1001	Our Changing Planet: Climate and Vegetation	
GEOG 1011	Our Changing Planet: Landscapes and Water	
Introductory Course in Chemisty or Physics		
Choose one course (and the lab, if required) from the following:		3-5
CHEM 1011	Environmental Chemistry 1	
CHEM 1113 & CHEM 1114	General Chemistry 1 and Laboratory in General Chemistry 1	
PHYS 1110	General Physics 1 (calculus based)	
PHYS 2010	General Physics 1 (algebra based)	
Intermediate Natural Science Requirement		
Choose one course (and the lab, if required) from the following:		3-4
ENVS 2000	Applied Ecology for Environmental Studies	
ENVS/CVEN 3434	Introduction to Applied Ecology	
ENVS/ATOC 3600/ GEOG 3601	Principles of Climate	
EBIO 2040	Principles of Ecology	
GEOG 3511	The Water Cycle	
GEOL 2001	Planet Earth	
GEOL 2005	Introduction to Earth Materials	
Intermediate Policy Requirement		
Choose one course from the following:		3
PSCI 2106	Introduction to Public Policy Analysis	

PSCI 2116	Introduction to Environmental Policy and Policy Analysis	
PSCI 3206	The Environment and Public Policy	
Intermediate Social Science Requirement		
Choose one course from the following:		3-4
ENVS/GEOG 3022	Climate and Energy Justice	
ENVS 3030	Topics in Environmental Social Sciences	
ENVS 3031	Environmental Psychology	
ENVS 3032	Environment, Media and Society	
ENVS 3033	Governing the Environment	
Economics Requirements		
ECON 2010	Principles of Microeconomics	4
ECON 3535	Natural Resource Economics	3
or ECON 3545	Environmental Economics	
Ethics Requirement		
Choose one course from the following:		3
ENVS/PHIL 3140	Environmental Ethics	
ENVS/PSCI 3064	Environmental Political Theory	
Statistics/Calculus Requirement		
Choose one course from the following (not all courses fulfill the Gen. Ed. QRMS requirement):		3-5
EBIO 1010	Introduction to Statistics and Quantitative Thinking for Biologists	
EBIO 4410	Biological Statistics	
GEOG/GEOL 3023	Statistics and Geographic Data	
MATH 2510	Introduction to Statistics	
PSCI 2075	Quantitative Research Methods	
PSYC 2111	Psychological Science I: Statistics	
SOCY 2061	Introduction to Social Statistics	
MATH 1300	Calculus 1	
MATH 1310	Calculus for Life Sciences	
APPM 1350	Calculus 1 for Engineers	
Writing Requirement		
ENVS 3020	Advanced Writing in Environmental Studies	3
Application Requirement (An Internship or Field Course)		
Choose one course from the following:		2-6
ENVS 2100	Topics in Applied Environmental Studies	
ENVS 3001	Sustainable Solutions Consulting	
ENVS 3100	Topics in Applied Environmental Studies	
ENVS 3103	Applied Environmental Studies: Mining in Four Corners	
ENVS 3173/ THTR 4173/ ATLS 3173	Creative Climate Communication	
ENVS/IAFS 3640	Data Analysis for Global Environmental Affairs	
ENVS 3930	Internship	
ENVS 4050	Field Methods in Ecosystem Science	
ENVS/EBIO 4340	Conservation Biology and Practice in Brazil's Atlantic Forest	
ENVS/MUSM 4795	Field Methods in Zoology and Botany	
ARTS 4444	Art and Environments Field School	
CVEN 3434	Introduction to Applied Ecology	
EBIO 4090	Coral Reef Ecology	
EBIO 4100	Advanced Ecology	
EDUC 4833	Teaching and Learning Earth Systems	
EVEN 4100	Environmental Sampling and Analysis	
GEOL 2700	Introduction to Field Geology	
Cornerstone Requirement		
Choose one course from the following:		3
ENVS/GEOL 3520	Energy and Climate Change: An Interdisciplinary Approach	
ENVS 3525	Intermediate Environmental Problem Analysis: Topical Cornerstones	
ENVS 3621	Energy Policy and Society	
Capstone Requirement		
Choose one course from the following:		3
ENVS 3800	The Art of Research: The Essential Elements of Research in Environmental Studies	
ENVS 4800	Capstone: Critical Thinking in Environmental Studies	
ENVS 4990	Senior Thesis	
ENST 4150	Energy Policy Project	
Specialization Requirement		
Complete a minimum of 12 credits. Upper-division courses that fulfill the Intermediate Natural Science, Intermediate Social Science, Policy, Application, Cornerstone and Capstone requirements may apply toward the specialization requirement if those areas are already fulfilled with another course. No course may apply to two areas in the ENVS major.		12
Total Credit Hours		**63-74**

[1] Students cannot receive credit for both GEOL 1010 and GEOL 1012. GEOL 2001 requires a prerequisite of any 1000-level GEOL lecture or ENVS 1000.

Approved courses that fulfill the major requirements are listed on the program's Curriculum (http://www.colorado.edu/envs/undergraduate-students/curriculum/) webpage. To explore suggested focus areas and learn how to select courses that align with specific interests, visit the ENVS Guidance Documents (http://www.colorado.edu/envs/undergraduate-students/curriculum/guidance-documents/) webpage.

Four-Year Plan of Study

Through the required coursework for the major, students will complete all 12 credits of both the Social Sciences and the Natural Sciences, including the lab, areas of the Gen Ed Distribution Requirement as well 3 credits of the Arts and Humanities part of this requirement and the QRMS component of the Gen Ed Skills Requirement.

Year One		
Fall Semester		**Credit Hours**
ENVS 1000	Introduction to Environmental Studies (partially fulfills Gen. Ed. Distribution: Natural Sciences)	4

ENVS 1150	First-Year Writing in Energy, Environment and Sustainability (fulfills Gen. Ed. Skills course: Lower-division Written Communication)	3
One mathematics course in preparation for statistics or calculus. (may fulfill Gen. Ed. Skills: QRMS)		3-4
Elective		3
Elective		3
	Credit Hours	**16-17**
Spring Semester		
ENVS 1001	Introduction to Human Dimensions of Environmental Studies	4
Statistics/Calculus requirement (may fulfill Gen. Ed. Skills: QRMS)		3-5
Elective		3
Elective		3
	Credit Hours	**13-15**
Year Two		
Fall Semester		
Introductory biology or earth science, with Lab - first course - partially fulfills Gen. Ed. Distribution: Natural Sciences and Gen. Ed. Distribution: Natural Sciences with Lab		3-4
Intermediate Policy requirement - may partially fulfill Gen. Ed. Distribution: Social Sciences		3
Gen. Ed. Distribution/Diversity course (example: Arts & Humanities/Global Perspective)		3
Elective		3
Elective		3
	Credit Hours	**15-16**
Spring Semester		
Introductory biology or earth science - second course		3-4
ECON 2010	Principles of Microeconomics (Economics requirement - first course - partially fulfills Gen. Ed. Distribution: Social Sciences)	4
Introductory course in chemisty or physics, and lab if required - may partially fulfill Gen. Ed. Distribution: Natural Sciences		3-5
Elective(s) or Upper-division Elective(s) (if needed)		6-3
	Credit Hours	**16**
Year Three		
Fall Semester		
Intermediate natural science requirement		3-4
ENVS 3020	Advanced Writing in Environmental Studies (ENVS Writing requirement - fulfills Gen. Ed. Skills: Upper-division written communication)	3
ECON 3535 or ECON 3545	Natural Resource Economics (ENVS Economics requirement - second course - - partially fulfills Gen. Ed. Distribution: Social Sciences) or Environmental Economics	3
ENVS Ethics requirement - may partially fulfill Gen. Ed. Distribution: Arts & Humanities		3
Elective or Upper-division Elective (if needed)		3
	Credit Hours	**15-16**
Spring Semester		
ENVS Cornerstone requirement		3
ENVS Application requirement		2-6
ENVS Intermediate Social Science requirement - may partially fulfill Gen. Ed. Distribution: Social Sciences		3-4
ENVS Specialization course		3
Elective or Upper-division Elective (if needed)		3-0
	Credit Hours	**14-16**
Year Four		
Fall Semester		
ENVS Capstone		3
ENVS Specialization course		3
ENVS Specialization course		4-3
Gen. Ed. Distribution course (example: Arts & Humanities)		3
Elective or Upper-division Elective (if needed)		3
	Credit Hours	**16-15**
Spring Semester		
ENVS Specialization course		3
Gen. Ed. Distribution/Diversity course (example: Arts & Humanities/US Perspective)		3
Elective or Upper-division Elective (if needed)		3
Elective or Upper-division Elective (if needed)		3
Elective or Upper-division Elective (if needed)		3
	Credit Hours	**15**
	Total Credit Hours	**120-126**

Learning Outcomes

Students will be able to:

- Integrate scientific principles of earth systems and human-environment interactions, understanding of perspectives and values, and practical responses in the study of environmental problems and proposed solutions.
- Evaluate different sources, claims and data for environmental topics and construct their own arguments.
- Produce an independent research-based analysis of an environmental issue.
- Evaluate contrasting perspectives on and values for environmental issues.
- Generate effective communication about environmental topics in written and oral format.
- Evaluate how environmental movements, policies, decision-making processes, benefits, information and burdens are shaped by and influence systems of exploitation and inequality.

Curriculum Principles

For the classes that environmental studies faculty teach, we strive to build student skills and knowledge from freshman to senior year through designing a curriculum that deliberately scaffolds skills and knowledge. This will be accomplished through communication amongst the faculty as facilitated by the curriculum committee to make sure that each individual class is serving students' learning in light of the larger program goals. Curriculum mapping and analysis of assessments will help to ensure that we are delivering the curriculum we intend and serving the students' educational goals. For classes that are taught by other departments we will review and align major requirements so that

those classes serve the overall learning outcomes of the major and the students' educational progress.

Curriculum Goal Statement

The environmental studies undergraduate major is focused on training students rigorously in the multiple dimensions of environmental change through courses that integrate scientific understanding of human-environment interactions, practical responses to environmental problems, and the values that shape our decisions and behavior.