



University of Colorado Boulder
Environmental Studies Major Requirements for Students Declaring Fall 2013 --
Spring 2017

Natural Sciences Requirements

Purpose: Understand the scientific process in the natural sciences, understand how this process generates knowledge, and be able to apply the results of natural scientific research to problems and questions as they relate to what is broadly called the environment.

Introductory Course

ENVS 1000 (4) Introduction to Environmental Studies

Biology Sequence Complete one sequence and applicable lab(s)

EBIO 1030 (3) and EBIO 1040 (3) + EBIO 1050 (1) Biology: A Human Approach and lab

EBIO 1210 (3) + EBIO 1230 (1) and EBIO 1220 (3) + EBIO 1240 (1) General Biology and labs

Chemistry or Physics Course Complete one course and lab if lab is co-requisite

CHEM 1011 (3) Environmental Chemistry

CHEM 1113 + CHEM 1114 (5) General Chemistry 1 and lab

PHYS 1110 (4) General Physics

PHYS 2010 (5) General Physics with lab

Earth Science Sequence Complete one sequence and associated lab(s)

ATOC 1050 (3) and ATOC 1060 (3) + ATOC 1070 (1) Weather and the Atmosphere/ Our Changing Environment, and lab

GEOG 1001 (4) and GEOG 1011 (4) Environmental Systems with labs

GEOL 1010 (3) + GEOL 1030 (1) and choice of: GEOL 1020 (3), GEOL 1040 (3), or GEOL 1060 (3) Exploring Earth and Introduction to Geology lab and choice of: History of a Habitable Planet, Geology of Colorado, or Global Change 1 - An Earth Science Perspective

GEOL 1010 (3) and choice of: GEOL 2001 (4) or GEOL 2005 (4) Exploring Earth and choice of: Planet Earth or Introduction to Earth Materials

GEOL 1012 (3) + GEOL 1030 (1) and choice of: GEOL 1020 (3), GEOL 1040 (3), or GEOL 1060 (3) Exploring Earth for Scientists and Intro to Geology Lab 1 and choice of: History of a Habitable Planet, Geology of Colorado, or Global Change 1 -- An Earth Science Perspective

GEOL 1012 (3) and choice of: GEOL 2001 (4) or GEOL 2005 (4) Exploring Earth for Scientists and choice of: Planet Earth or Introduction to Earth Materials

GEOL 2001 (4) and GEOL 2005 (4) Planet Earth and Introduction to Earth Materials

Intermediate Natural Science Complete one course

ENVS 2000 (4) Introduction to Applied Ecology for Environmental Studies

CVEN 3434 (3) Introduction to Applied Ecology*

EBIO 2040 (4) Principles of Ecology with lab

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Social Sciences Requirement

Purpose: Develop a familiarity with the drivers of human actions regarding social-ecological systems.

Intermediate Social Science Complete one course

- ENVS 3022 (3) Climate Politics & Policy
- ENVS 3030 (3) Topics in Environmental Social Sciences
- ENVS 3031 (3) Environmental Psychology
- ENVS 3032 (3) Environment, Media and Society

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Values Requirements

Purpose: Examine both the economic drivers and the underlying moral beliefs, personal and social ethics, principles, and theoretical commitments that might be informing environmental discourse and also driving human actions and decisions.

Introductory Economics Mandatory

- ECON 2010 (4) Principles of Microeconomics

Intermediate Economics Complete one course

- ECON 3535 (3) Natural Resource Economics
- ECON 3545 (3) Environmental Economics

Ethics Complete one course

- ENVS/PHIL 3140 (3) Environmental Ethics
- PSCI 3064 (3) Environmental Political Theory

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Policy Requirement

Purpose: Learn to systematically analyze environmental problems and critically assess the ways in which public policies may help to address these problems. Students will learn a basic knowledge of existing environmental laws and policies and the processes through which environmental policies are made and implemented.

Intermediate Policy Complete one course

- PSCI 2106 (3) Introduction to Public Policy Analysis
- PSCI 2116 (3) Introduction to Environmental Policy and Policy Analysis
- PSCI 3206 (3) The Environment & Public Policy

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Math Requirement

Purpose: Learn to use mathematical systems as a tool to quantify and understand complex issues and to use mathematical systems to help solve problems.

Choose between statistics or calculus 1 and complete one course

Statistics:

- EBIO 1010 (3) Introduction to Statistics and Quantitative Thinking for Biologists
- EBIO 4410 (4) Biometry**
- GEOG/GEOL 3023 (4) Statistics and Geographic Data

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MATH 2510 (3) Introduction to Statistics
PSCI 2075 (3) Quantitative Research Methods
PSYC 2111 (4) Psychological Science 1: Statistics**
SOCY 2061 (3) Introduction to Social Statistics

Calculus 1:

APPM 1350 (4) Calculus 1 for Engineers
MATH 1300 (5) Calculus 1
MATH 1310 (5) Calculus for Life Sciences

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Writing Requirement

Purpose: Develop an understanding of rhetorical situations in professional writing and be able to apply critical thinking skills when delivering or receiving information. Learn to frame a problem and develop an idea from knowledge based on research.

Complete one course

ENVS 3020 (3) Advanced Writing in ENVS
EBIO 3940 (3) Written Communication in the Sciences

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Application Requirement

Purpose: Acquire practical and "hands-on" experience applying knowledge and skills outside the classroom. Improve the ability to integrate the knowledge and skills taught in the ENVS major and emphasize their real-world applications.

Complete one course

ENVS 2100 (3) Topics in Applied Environmental Studies
ENVS 3001 (3) Sustainable Solutions Consulting
ENVS 3100 (3) Topics in Applied Environmental Studies+
ENVS 3103 (3) Mining 4 Corners+
ENVS 3173/THTR 4173/ATLS 3173 (3) Creative Climate Communication+
ENVS/IAFS 3640 (3) Global Data Analysis+
ENVS 3930 (3) Internship* +
ENVS 4050 (3) Field Studies in Environmental Sciences+
ARTS 4444 (6) Art and Rural Environments+
CVEN 3434 (3) Introduction to Applied Ecology* +
EBIO 4090 (2) Coral Reef Ecology* +
EBIO 4100 (3) Mountain Research Station field course* +
EBIO/ENVS/MUSM 4795 (3) Museum Field Methods/Zoology and Botany+
EDUC 4833 (3) Teaching and Learning Earth Systems+
EVEN 4100 (3) Environmental Sampling and Analysis* ** +
GEOL 2700 (2) Introduction to Field Geology**

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Cornerstone Requirement

Purpose: A foundation course to synthesize lower-division environmental science, policy, and values courses into a cohesive knowledge base to prepare students for specialization and capstone courses.

Complete one course

ENVS/GEOL 3520 (3) Energy & Climate Change
ENVS 3521 (3) Climate Politics and Policy++
ENVS 3525 (3) Intermediate Environmental Problem Analysis: Topical Cornerstones++
ENVS 3555 (3) Sustainable Economices++
ENVS 3621 (3) Energy, Policy & Society++

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Capstone Requirement

Purpose: The capstone requirement provides an opportunity for students to pursue intellectual integration of the multiple scientific disciplines and allows students to demonstrate competence in integrative analysis and problem solving.

Complete one course

ENVS 3800 (3) The Art of Research
ENVS 4800 (3) Capstone: Critical Thinking in Environmental Studies (students may take only one ENVS 4800 class)
ENVS 4850 (1-3) ENVS Honors Thesis Research
ENVS 4950 (3) Seminar: ENVS Honors Thesis
ENVS 4990 (3) Senior Thesis*
ENST 4150 (3) Energy Policy Project

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Specialization Requirement (continued on next two pages)

Purpose: Allow more advanced students to focus on one aspect of environmental studies to develop a deeper understanding. To explore focus areas and learn how to select courses that align with your interests, see the ENVS Guidance Documents at:

<http://www.colorado.edu/envs/current-students/undergraduate-students/curriculum/guidance-documents>

Example Focus Areas: Climate, Energy, Hydrology, Natural Resources, Sustainable Development

Complete a minimum of 12 credits from the following list

ENVS 3001 (3) Sustainable Solutions Consulting
ENVS 3005 (3) Environmental Education: From Theory to Practice
ENVS 3007 (3) Animal Ethics and Policy
ENVS/EBIO 3040 (4) Conservation Biology
ENVS/PHYS 3070 (3) Energy & the Environment
ENVS/GEOL 3520 (3) Energy & Climate Change
ENVS 3521 (3) Climate, Politics & Policy
ENVS 3600/ATOC 3600/GEOG 3601 (3) Principles of Climate**
ENVS 3621 (3) Energy Policy & Society
ENVS/SOCY 4027 (3) Inequality, Democracy, & the Environment
ENVS/SOCY 4030 (3) Sociology of Climate Change
ENVS 4100 (3) Special Topics in Environmental Studies
ENVS 4120 (4) Special Topics in Environmental Studies
ENVS/EBIO/GEOL 4160 (3) Introduction to Biogeochemistry**
ENVS/GEOG 4201 (3) Biometeorology

ANTH 4020 (3) Explorations in Anthropology: Conservation/Indigenous Peoples

ATOC 3050 (3) Principles of Weather**
ATOC 3070/GEOL 3070 (3) Introduction to Oceanography**
ATOC 3300/GEOG 3301(3) Analysis of Climate & Weather Observations**
ATOC 3500/CHEM 3151 (3) Air Chemistry & Pollution**
ATOC 4200 (3) Biogeochemical Oceanography
ATOC 4215 (3) Descriptive Physical Oceanography
ATOC 4550 (3) Mountain Meteorology
ATOC 4700 (3) Weather Analysis & Forecasting**
ATOC 4720 (3) Introduction to Atmospheric Dynamics**
ATOC 4730 (3) Physical Oceanography and Climate
ATOC 4750 (3) Desert Meteorology**
ATOC 4770 (3) Renewable Energy Meteorology
ATOC 4800 (3) Policy Implications of Climate Controversies

CVEN 4404 (3) Water Chemistry**
CVEN 4414 (1) Water Chemistry Laboratory**

EBIO 3190 (3) Tropical Marine Ecology
EBIO 3270 (3) Ecosystem Ecology
EBIO/APRD 3523 (3) The Art and Strategy of Science Communication: Branding Climate Change
EBIO 3590 (3) Plants and Society
EBIO 4020 (3) Stream Biology
EBIO 4030 (3) Limnology
EBIO 4060 (3) Landscape Ecology
EBIO 4140 (3) Plant Ecology
EBIO 4800 (3) Critical Thinking in Biology:

- Conservation Medicine
- Ecosystem Management
- Intervention Ecology
- Land Use Sustainability
- Microbial Ecology
- Novel Ecosystems
- Soil Ecology

ECON 3403 (3) International Economics & Policy**
ECON 3784 (3) Economic Development & Policy**

ENVD 4023 (3) Environmental Impact Assessment**

FILM 3041 (3) Environmental Cinema

GEOG 3053 (4) Cartography: Visualization & Information Design
GEOG 3251 (3) Mountain Geography
GEOG 3351 (3) Biogeography
GEOG 3402 (3) Natural Hazards
GEOG 3412 (3) Conservation Practice
GEOG 3422 (3) Political Ecology
GEOG 3511 (4) Introduction to Hydrology with lab
GEOG 3612 (3) Geography of American Cities
GEOG 3622 (3) Cities of the Global South
GEOG 3682 (3) Geography of International Development
GEOG 3812 (3) Mexico, Central America, & the Caribbean

GEOG 3822 (3) Geography of China
GEOG 3832 (3) Geographies of South Asia
GEOG 3862 (3) Geography of Africa
GEOG/GEOL 4093 (4) Remote Sensing of the Environment
GEOG/GEOL 4241 (4) Principles of Geomorphology
GEOG 4271 (3) The Arctic Climate
GEOG 4321 (3-4) Snow Hydrology
GEOG 4371 (3) Forest Geography: Principles & Dynamics
GEOG 4401 (3) Soils Geography
GEOG 4501 (3) Water Resources & Water Management of Western US
GEOG 4632 (3) Development Geography
GEOG 4712 (3) Political Geography
GEOG 4732 (3) Population Geography
GEOG 4742 (3) Topics in Environment and Society:

- Hazard & Risk Assessment
- Landscape, Society & Meaning

GEOG 4772 (3) The Geography of Food and Agriculture
GEOG 4812 (3) Environment and Development in South America
GEOG 4852 (3) Health and Medical Geography
GEOL 3030 (3) Introduction to Hydrogeology
GEOL 3040 (3) Global Change: The Recent Geological Record
GEOL 3130 (3) Global Warming, Understanding the Forecast
GEOL 3320 (3) Introduction to Geochemistry**
GEOL 3820 (3) The Fluid Earth
GEOL 3950 (3) Natural Catastrophes and Geologic Hazards
GEOL 4060 (4) Oceanography

HIST 4416 (3) Environmental History of North America

PSCI 3206 (3) The Environment & Public Policy

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Additional Notes

1. These major requirements apply to students who declared the major between Fall 2013 and Spring 2017..
2. If you took a course not listed as a specialization but would like to see if it can be applied, please consult your advisor.
3. Topics courses may apply to the ENVs specialization requirement, although offerings will vary semester by semester. The current semester course list includes topics classes, look at <http://www.colorado.edu/envs/current-students/undergraduate-students/curriculum/current-courses> to see applicable subtopics. Topics course numbers that may apply to the ENVs major, depending upon course content, include:

- ANTH 4020 - Explorations in Anthropology* Special topics in cultural and physical anthropology, as well as archaeology. Check with the department for semester offerings. May be repeated up to 9 total credit hours.
- ATOC 4500 - Special Topics in Atmospheric and Oceanic Sciences Acquaints students with current research in atmospheres, oceans, and climate. Topics may vary each semester. May be repeated for a total of 9 total credit hours within the degree. Students may register for more than one section of this course in the same semester.
- EBIO 4460 - Special Topics Familiarizes students with specialized areas of biology. May be repeated up to 9 total credit hours. Prereqs., EBIO 1210, 1220, 1230, and 1240, or equivalent. Same as EBIO 5460.
- GEOG 4001 - Topics in Physical Geography
- GEOG 4002 - Topics in Human and Environment/Society Geography
- GEOG 4003 - Topics in Geographic Skills