University of Colorado Boulder
Environmental Studies Major Requirements
for Students Declaring Fall 2013 or Later

**Natural Sciences Requirements**

**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)

AТОС 1050 (3) and AТОС 1060 (3) + AТОС 1070 (1)  *Weather and the Atmosphere/ Our Changing Environment, and lab*
GEOG 1001 (4) and GEOG 1011 (4)  *Environmental Systems with labs*
GEOG 1010 (3) + GEOG 1030 (1) and choice of: GEOG 1020 (3), GEOG 1040 (3), or GEOG 1060 (3)  *Introduction to Geology and lab and choice of: Introduction to Earth History, Geology of Colorado, or Global Change-An Earth Science Perspective*
GEOG 1010 (3) and choice of: GEOG 2001 (4) or GEOG 2005 (4)  *Introduction to Geology and choice of: Planet Earth or Introduction to Earth Materials*
GEOG 2001 (4) and GEOG 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*
ENVS 3600/ATOC 3600/GEOG 3601 (3)  *Principles of Climate**

CVEN 3434 (3)  *Introduction to Applied Ecology*
EBIO 2040 (4)  *Principles of Ecology with lab*
GEOG 3511 (4)  *Introduction to Hydrology with lab*

**Social Sciences Requirement**

**Intermediate Social Science** Complete one course

ENVS 3030 (3)  *Topics in Environmental Social Sciences*
ENVS 3031 (3)  *Energy and Human Behavior*
ENVS 3032 (3)  *Environment, Media and Society*

*Contact host department to enroll.  **Students are responsible for knowing and abiding by co- and prerequisites. Read course descriptions.  +Applies to Specialization hours if Application requirement already fulfilled.  ++Applies to Specialization hours if Cornerstone requirement already fulfilled.  Please Note: The number of credits are listed in parenthesis after the course number.*
Values Requirements

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

Policy Requirement

Intermediate Policy Complete one course
PSCI 2106 (3) Introduction to Public Policy Analysis
PSCI 2116 (3) Introduction to Environmental Policy
PSCI 3206 (3) The Environment & Public Policy

Math Requirement

Choose between statistics or calculus 1 and complete one course

Statistics:
EBIO 1010 (3) Introduction to Quantitative Thinking for Biologists
EBIO 4410 (4) Biometry**
GEOG/GEOL 3023 (4) Statistics for Geography
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, Systems, and Modeling

Writing Requirement

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

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.

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.

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

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.

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**Application Requirement**

Complete one course

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>ENVS 2100</td>
<td>Topics in Applied Environmental Studies</td>
</tr>
<tr>
<td>ENVS 3100</td>
<td>Topics in Applied Environmental Studies+</td>
</tr>
<tr>
<td>ENVS 3103</td>
<td>Mining 4 Corners+</td>
</tr>
<tr>
<td>ENVS 3173/THTR 4173</td>
<td>Creative Climate Communication+</td>
</tr>
<tr>
<td>ENVS/IAFS 3640</td>
<td>Global Data Analysis+</td>
</tr>
<tr>
<td>ENVS 3930</td>
<td>Internship*+</td>
</tr>
<tr>
<td>ENVS 4050</td>
<td>Field Studies in Environmental Sciences+</td>
</tr>
<tr>
<td>ARTS 4444</td>
<td>Art and Rural Environments+</td>
</tr>
<tr>
<td>CVEN 3434</td>
<td>Introduction to Applied Ecology*+</td>
</tr>
<tr>
<td>EBIO 4090</td>
<td>Coral Reef Ecology*+</td>
</tr>
<tr>
<td>EBIO 4100</td>
<td>Mountain Research Station field course*+</td>
</tr>
<tr>
<td>EBIO/ENVS/MUSM 4795</td>
<td>Museum Field Methods/Zoology and Botany+</td>
</tr>
<tr>
<td>EDUC 4833</td>
<td>Teaching and Learning Earth Systems+</td>
</tr>
<tr>
<td>EVEN 4100</td>
<td>Environmental Sampling and Analysis*++</td>
</tr>
<tr>
<td>GEOL 2700</td>
<td>Introduction to Field Geology**</td>
</tr>
</tbody>
</table>

**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.

**Cornerstone Requirement**

Complete one course

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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</thead>
<tbody>
<tr>
<td>ENVS 3520</td>
<td>Energy &amp; Climate Change</td>
</tr>
<tr>
<td>ENVS 3521</td>
<td>Climate Politics and Policy++</td>
</tr>
<tr>
<td>ENVS 3525</td>
<td>Intermediate Environmental Problem Analysis: Topical Cornerstones++</td>
</tr>
<tr>
<td>ENVS 3621</td>
<td>Energy, Policy &amp; Society++</td>
</tr>
</tbody>
</table>

**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.

**Specialization Requirement (continued on next two pages)**

Complete a minimum of 12 credits from the following list

<table>
<thead>
<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>ENVS/EBIO 3040</td>
<td>Conservation Biology</td>
</tr>
<tr>
<td>ENVS/PHYS 3070</td>
<td>Energy &amp; the Environment</td>
</tr>
<tr>
<td>ENVS/GEOL 3520</td>
<td>Energy &amp; Climate Change</td>
</tr>
<tr>
<td>ENVS 3521</td>
<td>Climate, Politics &amp; Policy</td>
</tr>
<tr>
<td>ENVS/SOCY 4027</td>
<td>Inequality, Democracy, &amp; the Environment</td>
</tr>
<tr>
<td>ENVS 4100</td>
<td>Special Topics in Environmental Studies</td>
</tr>
<tr>
<td>ENVS 4120</td>
<td>Special Topics in Environmental Studies</td>
</tr>
<tr>
<td>ENVS/EBIO/GEOL 4160</td>
<td>Introduction to Biogeochemistry**</td>
</tr>
<tr>
<td>ENVS/GEOL 4201</td>
<td>Biometeorology</td>
</tr>
<tr>
<td>ATOC 3050</td>
<td>Principles of Weather**</td>
</tr>
<tr>
<td>ATOC 3070/GEOL 3070</td>
<td>Introduction to Oceanography**</td>
</tr>
<tr>
<td>ATOC 3300/GEOL 3301/3</td>
<td>Analysis of Climate &amp; Weather Observations**</td>
</tr>
<tr>
<td>ATOC 3500/ CHEM 3151</td>
<td>Air Chemistry &amp; Pollution**</td>
</tr>
<tr>
<td>ATOC 4200</td>
<td>Biogeochemical Oceanography</td>
</tr>
<tr>
<td>ATOC 4215</td>
<td>Descriptive Physical Oceanography</td>
</tr>
<tr>
<td>ATOC 4550</td>
<td>Mountain Meteorology</td>
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<tr>
<td>ATOC 4700</td>
<td>Weather Analysis &amp; Forecasting**</td>
</tr>
<tr>
<td>ATOC 4720</td>
<td>Introduction to Atmospheric Physics &amp; Dynamics**</td>
</tr>
</tbody>
</table>

**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
<table>
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<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>ATOC 4750</td>
<td>Desert Meteorology &amp; Climate**</td>
</tr>
<tr>
<td>ATOC 4770</td>
<td>Wind Energy Meteorology</td>
</tr>
<tr>
<td>CVEN 4404</td>
<td>Water Chemistry**</td>
</tr>
<tr>
<td>CVEN 4414</td>
<td>Water Chemistry Laboratory**</td>
</tr>
<tr>
<td>EBIO 3190</td>
<td>Tropical Marine Ecology</td>
</tr>
<tr>
<td>EBIO 3270</td>
<td>Ecosystem Ecology</td>
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<tr>
<td>EBIO 4020</td>
<td>Stream Biology</td>
</tr>
<tr>
<td>EBIO 4030</td>
<td>Limnology</td>
</tr>
<tr>
<td>EBIO 4060</td>
<td>Landscape Ecology</td>
</tr>
<tr>
<td>EBIO 4140</td>
<td>Plant Ecology</td>
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</tbody>
</table>
| EBIO 4800   | Critical Thinking in Biology:  
                          Conservation Medicine  
                          Ecosystem Management  
                          Intervention Ecology  
                          Land Use Sustainability  
                          Microbial Ecology  
                          Novel Ecosystems  
                          Soil Ecology                                      |
| ECON 3403   | International Economics & Policy**                                          |
| ECON 3784   | Economic Development & Policy**                                              |
| ENVD 4023   | Environmental Impact Assessment**                                            |
| FILM 3041   | Environmental Cinema                                                         |
| GEOG 3053   | Cartography: Visualization & Information Design                              |
| GEOG 3251   | Mountain Geography                                                           |
| GEOG 3351   | Biogeography                                                                 |
| GEOG 3402   | Natural Hazards                                                              |
| GEOG 3412   | Conservation Practice                                                        |
| GEOG 3422   | Political Ecology                                                            |
| GEOG 3682   | Geography of International Development                                      |
| GEOG 3812   | Mexico, Central America, & the Caribbean                                     |
| GEOG 3822   | Geography of China                                                           |
| GEOG 3832   | Geographies of South Asia                                                    |
| GEOG 3862   | Geography of Africa                                                          |
| GEOG/GEOL 4093 | Remote Sensing of the Environment                                          |
| GEOG/GEOL 4241 | Principles of Geomorphology                                                 |
| GEOG 4271   | The Arctic Climate System                                                    |
| GEOG 4321   | Snow Hydrology                                                               |
| GEOG 4371   | Forest Geography: Principles & Dynamics                                      |
| GEOG 4401   | Soils Geography                                                              |
| GEOG 4430   | Conservation Trends                                                          |
| GEOG 4501   | Water Resources & Water Management of Western US                             |
| GEOG 4632   | Development Geography                                                        |
| GEOG 4712   | Political Geography                                                          |
| GEOG 4732   | Population Geography                                                         |
| GEOG 4742   | Topics in Environment and Society:  
                          Food  
                          Hazard & Risk Assessment  
                          Landscape, Society & Meaning                                      |
| GEOG 4812   | Environment and Development in South America                                |
| GEOG 4852   | Health and Medical Geography                                                 |
| GEOL 3030   | Introduction to Hydrogeology                                                 |
| GEOL 3040   | Global Change: The Recent Geological Record                                 |
| GEOL 3130   | Global Warming, Understanding the Forecast                                   |

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+Applies to Specialization hours if Application requirement already fulfilled. ++Applies to Specialization hours if Cornerstone requirement already fulfilled. Please Note: The number of credits are listed in parenthesis after the course number.
GEOL 320 (3)  Introduction to Geochemistry**  
GEOL 3820 (3)  The Fluid Earth  
GEOL 3950 (3)  Natural Catastrophes and Geologic Hazards  
GEOL 4060 (4)  Oceanography  
HIST 4417 (3)  Environmental History of North America  
PSCI 3206 (3)  The Environment & Public Policy  
PSCI 4012 (3)  Global Development  
PSCI 4732 (3)  Critical Thinking in Development  
SOCY 3002 (3)  Population & Society  
SOCY 3012 (3)  Women & Development*  
SOCY 4007 (3)  Global Human Ecology*  
SOCY 4037 (3)  Hazards, Disasters & Society*  
SOCY 4047 (3)  Topics in Environment and Society  

**Capstone Requirement**

Complete one course  

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENVS 3800 (3)</td>
<td>The Art of Research</td>
</tr>
<tr>
<td>ENVS 4800 (3)</td>
<td>Capstone: Critical Thinking in Environmental Studies</td>
</tr>
<tr>
<td>ENVS 4990 (3)</td>
<td>Senior Thesis</td>
</tr>
<tr>
<td>ENST 4150 (3)</td>
<td>Energy Policy Project</td>
</tr>
</tbody>
</table>

*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.*

**Additional Notes**

1. These major requirements apply to students who declared the major in Fall 2013 or later.  
2. Current students who wish to change to these requirements should schedule an advising appointment or visit advisor drop-in hours.  
3. If you took a course not listed as a specialization but would like to see if it can be applied, please consult your advisor.  
4. 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](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. Prereq., EBIO 1210, 1220, 1230, and 1240, or equivalent. Same as EBIO 5460.

   **GEOG 4100 - Special Topics in Geography**
   **GEOG 4110 - Special Topics in Geography**
   **GEOG 4120 - Special Topics in Geography**
   Various topics not normally covered in the curriculum; offered intermittently depending on student demand and availability of instructors. Prereq., instructor consent.

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