

Global Environmental Studies Minor Proposal

Overview:

Brigham Young University has never offered an interdisciplinary approach to the study of the environment that cuts across the sciences, social sciences, and the humanities. Other universities have offered such programs for many years, including Utah State University, University of Utah, Utah Valley University, and other schools elsewhere such as University of Southern California, University of Oregon, University of Oklahoma, Rutgers University, and University of Connecticut. Environmental problems are increasingly requiring multi-disciplinary solutions and call for broad thinkers, effective communicators, and practitioners who understand the science and the political and cultural implications that underlie environmental problems.

Despite the absence of such a program, BYU has seen a growth in student interest. To meet this interest, BYU has enjoyed the benefits of an ad hoc effort on the part of various faculty from the colleges of Humanities, Life Sciences, Family, Home and Social Sciences, Physical and Mathematical Sciences, and the Law School. These efforts have resulted in several highly successful events including a symposium in 2012, several lectures and lecture series organized in collaboration with the Kennedy Center, and various study abroad programs in the Caribbean, Europe, Africa, and the Pacific Islands that have focused on interdisciplinary approaches to the environment. There is already a strong collaborative spirit among interested faculty, but there has never been a proper focal point institutionally or in the curriculum to help maximize the offerings of a BYU education to students interested in the environment.

This proposal for a Global Environmental Studies Minor draws upon courses and faculty resources already available in various colleges and the support of the Kennedy Center for International Studies. It will require one faculty program coordinator to be able to administer the program and advise students housed at the Kennedy Center. The minor would be an attractive complement to a variety of undergraduate majors and is agile enough in its design that it would provide a formal setting for what is already a considerable informal interest among students seeking such learning opportunities.

Resources:

This minor draws heavily on distributed, existing coursework, and because there are so many options, it is not anticipated that enrollment will increase significantly in any one class. Additionally, support will be provided from the Kennedy Center which will:

- Provide a one course buy-out for the program coordinator both fall and winter semesters;
- Provide a budget of \$12,000 annually, which can be used to pay for student assistant, invite guest speakers, give student aid, purchase supplies, etc.
- Provide office space for the program coordinator.

This financial backing will be used to support additional expenses in teaching the newly proposed class, GES 200. Furthermore, the Colleges of Life Sciences and Humanities have pledged support for the new GES 490 out of existing teaching resources. (See attached Memorandum of Understanding.)

Proposed Learning Outcomes for the Global Environmental Studies Minor:

Global Environmental Issues

Students will be able to articulate the cultural and scientific underpinnings of prevailing global environmental issues and evaluate effective policy proposals.

Critical Reasoning

Students will understand principles of cause and effect and be able to synthesize key findings from academic research on environmental issues from multiple disciplines.

Scientific Principles and Methods

Students will effectively use the scientific method to interpret data from experimental observations and communicate discoveries in written and verbal formats.

The Environment and Culture

Students will develop competencies to work sensitively across cultural contexts in order to find local cultural solutions to environmental challenges.

Environmental Stewardship and Civic Involvement

Students will foster and promote environmental stewardship within their own communities through thoughtful reflection, empathy, and community service.

Course of Study

Global Environmental Studies Minor: 18 credits

Note: A maximum of 3 credit hours can double count toward any major. Some courses may also fulfill GE requirements. Some optional courses to complete the major may have prerequisites.

Requirement 1. Introduction

Introduction to Global Environmental Studies. Global Environmental Studies (GES) 200: Introduction to Global Environmental Studies 3.0 (New Course).

This course introduces students to foundational topics and disciplinary approaches to environmental studies through lecture, reading, and class discussion. Students will engage with one or more central concerns of environmental studies throughout the semester, exploring their scientific foundations, human impact, and policy options.

Requirement 2. Disciplinary Foundations

Students must take a total of 9 credits from the SCIENCE (2.1) and HUMAN DIMENSION (2.2) categories combined. At least 3 credits must come from each category.

2.1 SCIENCE COURSES. Students must complete at least 3 credits from the following list:

- BIO 235: Field Botany
- BIO 350/PWS 350: Ecology/Rangeland Ecology
- CHEM 285: Introductory Bio-Organic Chemistry
- GEOG 101: Global Environment: Understanding Physical Geography
- GEOG 303: Biogeography
- GEOG 307: Landscape Ecology
- GEOL 101: Introductory Geology
- GEOL 108: Climate and the Earth System
- HLTH 322: Environmental Health
- PHSC 137: Energy, Ecology, Weather, and the Environment
- PWS 150: Environmental Biology
- PWS 180: Climate Change Science and Solutions
- PWS 220: Trees
- PWS 282: Soil Science
- PWS 320: Sustainable Food Systems
- PWS 420: International Agricultural Development

2.2 HUMAN DIMENSION COURSES. Students must complete at least 3 credits from the following list:

- BIO 370: Bioethics
- ENGL 306: Travel Writing
- ENGL 367R: American Regional Literature
- GEOG 110: Landscapes of Disaster: An Introduction to Natural Hazards
- GEOG 120: Geography and World Affairs
- HIST 290: Nature and History: The Earth's Environmental Past
- HIST 361: The American West Since 1900
- IHUM 280R: Humanities and the Environment
- POLI 325: Politics of Wilderness, National Parks and Public Lands
- PWS 375: Environmental Law and Policy

Requirement 3: Elective Course

Students must complete 3 credits from the following list. Courses taken on this list cannot also be used to meet requirement 2.

- BIO 430: Plant Classification and Identification

- BIO 441: Entomology
- BIO 450: Capstone in Biodiversity and Conservation
- BIO 452: Marine Biology
- BIO 455: Plant Ecology
- CCE 201: Sustainable Infrastructure
- CE 451: Environmental Engineering Processes
- CH EN 311: Chemical Engineering and Society--Health, Safety, and the Environment
- CH EN 433: Energy Engineering
- ECON 440: Natural Resources and Environmental Economics
- ENGL 317R: Writing Creative Nonfiction*
- GEOG 212: Intro to Geographic Information Systems (GIS)
- GEOG 304: Geography of Climates
- GEOG 306: Global Conservations Designations
- GEOG 423: Planning for Unique and Sensitive Lands
- GEOL 411: Geomorphology and Remote Sensing
- GEOL 550: Environmental Soil Chemistry
- IHUM 490R: Seminar in the Humanities*
- ME EN 321: Engineering Thermodynamics
- PHIL 413R: Environmental Ethics
- PWS 365/6: Environmental Microbiology and Biogeochemistry + Laboratory
- PWS 405: Environmental Chemistry
- PWS 419: Forest Management and Ecology
- PWS 480: Environmental Capstone: Advanced data analysis and writing

*As the topics of these courses are variable, students should approve the section topic of these courses with the program director before enrollment.

Requirement 4: Capstone

Prior to taking this course, a student should take at least one 300-level course or higher among the options in requirement 2 or 3.

- **GES 490: Capstone for Global Environmental Studies 3.0 (New Course).** This is a culminating course for the Global Environmental Studies minor focusing on interdisciplinary and experiential research and writing on contemporary environmental challenges. The course may be cross-listed with other research seminars in related disciplines.