

# The Department of Geography and the Environment

## Environmental Science Major

Chair: Nathaniel Weston, Ph.D.

Program Director: Kabindra Shakya, Ph.D.

Office Location: Suite G61, Mendel Science Center

Telephone: 610-519-3336

[Website](#)

## About

The Department of Geography and the Environment offers B.A. degrees in Geography and Environmental Studies, and a B.S. in Environmental Science. The department also offers a minor in Geography and supports the Sustainability Studies minor. The department's overarching objective is to integrate the disciplines of geography and environmental science to seek an understanding of human and environmental patterns, the processes that produce those spatial patterns, and salient human and environmental problems that face modern society. The department has two teaching and five research labs; and the department has a full suite of state-of-the-art geospatial software and scientific research equipment.

## Require Major Courses (70 credits)

The B.S. in Environmental Science Program provides the technical background necessary for understanding the biological, chemical, and physical aspects of the environment. It focuses on the application of biological, chemical and physical principals to understanding the natural and physical environments of the Earth. Towards this end, the program's graduates will have an understanding of and appreciation for the processes and interactions that occur both within and between the atmosphere, the biosphere, the lithosphere, and the hydrosphere. The program is founded on the principle that science – both as a body of knowledge and as a process that is grounded in intellectual inquiry and the scientific method – must be applied to assess the direct and indirect influences of human activities on the integrity of the Earth's systems.

### *Program Notes:*

- Consider course offerings with environmental content when selecting free electives.
- MAT 1310 may fulfill the MAT 1500 requirement.
- GEV 6006 must be taken a total of 3 times prior to graduation.

| <b>Course</b> | <b>Title</b>                         | <b>Credits</b> |
|---------------|--------------------------------------|----------------|
| GEV 1050      | Environmental Science I              | 4              |
| GEV 1051      | Environmental Science II             | 4              |
| GEV 1750      | Geo-Techniques                       | 4              |
| GEV 2001      | Prof Dev in Geo and Env              | 1              |
| GEV 2310      | Environmental Chemistry              | 4              |
|               | Statistics for Environmental Science | 3              |
| GEV 4310      | Environmental Issues Seminar         | 3              |
| GEV 4700      | Geographic Information Systems       | 4              |
| CHM 1151      | General Chemistry I                  | 4              |
| CHM 1103      | General Chemistry Lab I              | 1              |
| PHY 1100      | General Physics I                    | 3              |
| PHY 1101      | General Physics I Lab                | 1              |
| MAT 1500      | Calculus I                           | 4              |
| GEV 6005      | Senior Research Seminar              | 1              |
| GEV 6006      | Research Colloquium                  |                |
| GEV 6006      | Research Colloquium                  |                |
| GEV 6006      | Research Colloquium                  |                |
|               | GEV Independent Study Requirement    | 3-6            |
|               | GEV Lab Elective                     | 8              |
|               | GEV Science and Technology Electives | 12             |
|               | GEV Policy and Management Electives  | 6              |

## Core Curriculum Requirements (33 credits)

Environmental Science Majors meet the following core requirements in the major and therefore are omitted from the summary below:

- Core Math (3 cr)
- Natural Science (8 cr)
- Depending upon the courses chosen by the student, the Social Sciences (6 cr) core requirement may also be fulfilled through the major.

| Course   | Title                                     | Credits |
|----------|---|---------|
| ACS 1000 | Ancients                                  | 3       |
| ACS 1001 | Moderns                                   | 3       |
| THL 1000 | Faith, Reason, and Culture                | 3       |
| PHI 1000 | Knowledge, Reality, Self                  | 3       |
| ETH 2050 | The Good Life:Eth & Cont Prob             | 3       |
|          | Literature and Writing Seminar (1 course) | 3       |
|          | History (1 course)                        | 3       |
|          | Social Sciences (2 courses)               | 6       |
|          | Fine Arts (1 course)                      | 3       |
|          | Upper-Level Theology (1 course)           | 3       |
|          | Language Requirement (Proficiency)        |         |
|          | Diversity Requirement (2 courses)         |         |

## Free Elective Requirement (19 credits)

Students with an Environmental Science primary major have nineteen (19) required free elective credits.

## Degree Credit Summary

- **Major Credits:** 70 credits
- **Core Credits:** 33 credits
- **Free Electives Credits:** 19 credits
- **Total Required Credits:** 122 Credits

*Note: The above credit totals are based on the minimum number of required credits in each degree area. The minimum number of required credits in each area listed above must be met. Credits taken beyond the required minimum for one area may not be applied to another area.*

## SECONDARY MAJOR

Students who declare Environmental Science as a **secondary major** must complete the Required Major Courses to achieve this major. Students are able to count any eligible course taken in their primary major, the core curriculum, minors, concentrations, or free electives toward these requirements.