

# ENVIRONMENTAL STUDIES, B.S.

**Begin Campus:** Any Penn State Campus

**End Campus:** Altoona

## Program Description

This interdisciplinary major is designed to provide students with an integrated and critical knowledge of the natural environment and human interactions with it. Students will receive a strong foundation in the natural and physical sciences, but will extend their studies across several disciplines, emphasizing both public policy issues and the role of the natural environment in literature, history, and culture. The goal of the program is "ecological literacy," which means that students will develop a broad-based understanding and awareness of environments and environmental issues, and they will develop the problem-solving and technical skills to address those issues. Program requirements include interdisciplinary courses in environmental studies and a broad array of courses in biology, geology, chemistry, physics, geography, economics, political science, English, history, and philosophy. By selecting appropriate electives to supplement the "additional courses" requirement of the major, students may develop an emphasis in either a specific field (i.e., biology) or in a general area of study (natural science, social science, and humanities).

The B.S. in Environmental Studies will better prepare our graduates for graduate studies and/or employment in the sciences (e.g., ecology, geosciences, environmental sciences, and physical geography). Many graduate programs require at least one semester of calculus, chemistry, and physics. Furthermore, the requirements of additional 400-level courses in the sciences will permit students to target their undergraduate studies in a particular area of science so that they are best prepared for graduate work in their area of choice and/or employment.

## What is Environmental Studies?

Environmental Studies provides a broadly-based liberal arts background for the study of environmental issues, blending the principles of the natural sciences with the intellectual traditions of the humanities and the social sciences. Emphasis is placed on experiential learning, ecological literacy, and problem-solving with a goal towards purposeful action.

MORE INFORMATION ABOUT ENVIRONMENTAL STUDIES (<https://altoona.psu.edu/academics/bachelors-degrees/environmental-studies/>)

## You Might Like This Program If...

You wish to develop the analytical tools for understanding environmental issues while maintaining an emphasis on the role of socio-cultural influences in shaping human behavior towards the environment. Students benefit from working closely with faculty and peers on undergraduate research, community service, and out-of-classroom activities.

MORE INFORMATION ABOUT WHY STUDENTS CHOOSE TO STUDY ENVIRONMENTAL STUDIES (<https://altoona.psu.edu/academics/bachelors-degrees/environmental-studies/degree-options/>)

## Entrance to Major

For entrance into the Environmental Studies B.S. program, students must have completed the following course: ENVST 100N, and have received a grade of C or better in the course.

## Degree Requirements

**For the Bachelor of Science degree in Environmental Studies, a minimum of 121 credits is required:**

| Requirement                | Credits |
|----------------------------|---------|
| General Education          | 45      |
| Electives                  | 12      |
| Requirements for the Major | 88-90   |

**24 of the 45 credits for General Education are included in the Requirements for the Major. This includes: 3 credits of GH courses; 9 credits of GN courses; 6 credits of GQ courses; 6 credits of GS courses.**

## Requirements for the Major

To graduate, a student enrolled in the major must earn a grade of C or better in each course designated by the major as a C-required course, as specified by Senate Policy 82-44 (<https://senate.psu.edu/policies-and-rules-for-undergraduate-students/82-00-and-83-00-degree-requirements/#82-44>).

| Code  | Title  | Credits |
|---|--|---------|
| <b>Prescribed Courses</b>                                 |  |         |
| <i>Prescribed Courses: Require a grade of C or better</i> |  |         |
| BIOL 110  | Biology: Basic Concepts and Biodiversity                                 | 4       |
| BIOL 220W   | Biology: Populations and Communities                                     | 4       |
| CHEM 20   | Environmental Chemistry  | 3       |
| CHEM 21   | Environmental Chemistry Laboratory                                       | 1       |
| CHEM 110  | Chemical Principles I  | 3       |
| CHEM 111  | Experimental Chemistry I   | 1       |
| CHEM 202  | Fundamentals of Organic Chemistry I                                      | 3       |
| ECON 428  | Environmental Economics  | 3       |
| ENGL 180  | Literature and the Natural World   | 3       |
| ENVST 100N  | Visions of Nature  | 3       |
| ENVST 200   | Research Methods in Environmental Studies                                | 3       |
| ENVST 400W  | Senior Seminar in Environmental Studies                                  | 3       |
| GEOG 115  | Landforms of the World   | 3       |
| GEOG 160  | Mapping Our Changing World   | 3       |
| GEOSC 1   | Physical Geology   | 3       |
| HIST 453  | American Environmental History   | 3       |
| PHIL 403  | Seminar in Environmental Ethics  | 3       |
| PHYS 250  | Introductory Physics I   | 4       |
| SOILS 101   | Introductory Soil Science  | 3       |
| <b>Additional Courses</b>                                 |  |         |
| <i>Additional Courses: Require a grade of C or better</i> |  |         |
| ECON 102<br>or ECON 104                                   | Introductory Microeconomic Analysis and Policy                           | 3       |
| MATH 110<br>or MATH 140                                   | Techniques of Calculus I<br>Calculus With Analytic Geometry I            | 4       |
| PLSC 235<br>or PLSC 425                                   | Environmental Politics<br>Government and Politics of the American States | 3       |

|  |  |     |
|--|--|-----|
| STAT 200   | Elementary Statistics                          | 3-4 |
| or STAT 250  | Introduction to Biostatistics                  |     |
| Select one of the following:   |  | 3-4 |
| BIOL 222   | Genetics                                       |     |
| BIOL 230W  | Biology: Molecules and Cells                   |     |
| BIOL 240W  | Biology: Function and Development of Organisms |     |
| Select one of the following:   |  | 4   |
| ENVST 296  | Independent Studies                            |     |
| & ENVST 496  | and Independent Studies                        |     |
| ENVST 395  | Internship                                     |     |
| & INTSP 370  | and Internship Preparation                     |     |
| ENVST 496  | Independent Studies                            |     |
| <b>Supporting Courses and Related Areas</b>  |  |     |
| Select 12 credits (at least 9 credits at the 400-level) from the three departmental lists, in consultation with an academic adviser: |  |     |
| a. Natural Sciences  |  | 6   |
| b. Social Sciences   |  | 3   |
| c. Arts and Humanities   |  | 3   |

## General Education

Connecting career and curiosity, the General Education curriculum provides the opportunity for students to acquire transferable skills necessary to be successful in the future and to thrive while living in interconnected contexts. General Education aids students in developing intellectual curiosity, a strengthened ability to think, and a deeper sense of aesthetic appreciation. These are requirements for all baccalaureate students and are often partially incorporated into the requirements of a program. For additional information, see the General Education Requirements (<https://bulletins.psu.edu/undergraduate/general-education/baccalaureate-degree-general-education-program/>) section of the Bulletin and consult your academic adviser.

The keystone symbol appears next to the title of any course that is designated as a General Education course. Program requirements may also satisfy General Education requirements and vary for each program.

### Foundations (grade of C or better is required and Inter-Domain courses do not meet this requirement.)

- **Quantification (GQ):** 6 credits
- **Writing and Speaking (GWS):** 9 credits

### Breadth in the Knowledge Domains (Inter-Domain courses do not meet this requirement.)

- **Arts (GA):** 3 credits
- **Health and Wellness (GHW):** 3 credits
- **Humanities (GH):** 3 credits
- **Social and Behavioral Sciences (GS):** 3 credits
- **Natural Sciences (GN):** 3 credits

### Integrative Studies

- **Inter-Domain Courses (Inter-Domain):** 6 credits

### Exploration

- **GN**, may be completed with Inter-Domain courses: 3 credits
- **GA, GH, GN, GS, Inter-Domain courses.** This may include 3 credits of World Language course work beyond the 12th credit level or the requirements for the student's degree program, whichever is higher: 6 credits

## University Degree Requirements

### First Year Engagement

All students enrolled in a college or the Division of Undergraduate Studies at University Park, and the World Campus are required to take 1 to 3 credits of the First-Year Seminar, as specified by their college First-Year Engagement Plan.

Other Penn State colleges and campuses may require the First-Year Seminar; colleges and campuses that do not require a First-Year Seminar provide students with a first-year engagement experience.

First-year baccalaureate students entering Penn State should consult their academic adviser for these requirements.

### Cultures Requirement

6 credits are required and may satisfy other requirements

- United States Cultures: 3 credits
- International Cultures: 3 credits

### Writing Across the Curriculum

3 credits required from the college of graduation and likely prescribed as part of major requirements.

### Total Minimum Credits

A minimum of 120 degree credits must be earned for a baccalaureate degree. The requirements for some programs may exceed 120 credits. Students should consult with their college or department adviser for information on specific credit requirements.

### Quality of Work

Candidates must complete the degree requirements for their major and earn at least a 2.00 grade-point average for all courses completed within their degree program.

### Limitations on Source and Time for Credit Acquisition

The college dean or campus chancellor and program faculty may require up to 24 credits of course work in the major to be taken at the location or in the college or program where the degree is earned. Credit used toward degree programs may need to be earned from a particular source or within time constraints (see Senate Policy 83-80 (<https://senate.psu.edu/policies-and-rules-for-undergraduate-students/82-00-and-83-00-degree-requirements/#83-80>)). For more information, check the Suggested Academic Plan for your intended program.

## Program Learning Objectives

- Develop structural knowledge pertaining to an interdisciplinary problem or course theme.
- Integrate and/synthesize information from a variety of contexts or fields of knowledge.
- Apply the knowledge of physical and socio-economic environments in the analysis of multi-dimensional environmental issues.

## Academic Advising

The objectives of the university's academic advising program are to help advisees identify and achieve their academic goals, to promote their intellectual discovery, and to encourage students to take advantage of both in-and out-of class educational opportunities in order that they become self-directed learners and decision makers.

Both advisers and advisees share responsibility for making the advising relationship succeed. By encouraging their advisees to become engaged

in their education, to meet their educational goals, and to develop the habit of learning, advisers assume a significant educational role. The advisee's unit of enrollment will provide each advisee with a primary academic adviser, the information needed to plan the chosen program of study, and referrals to other specialized resources.

READ SENATE POLICY 32-00: ADVISING POLICY (<https://senate.psu.edu/policies-and-rules-for-undergraduate-students/32-00-advising-policy/>)

## Altoona

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## Suggested Academic Plan

The suggested academic plan(s) listed on this page are the plan(s) that are in effect during the 2023-24 academic year. To access previous years' suggested academic plans, please visit the archive (<https://bulletins.psu.edu/undergraduate/archive/>) to view the appropriate Undergraduate Bulletin edition (*Note: the archive only contains suggested academic plans beginning with the 2018-19 edition of the Undergraduate Bulletin*).

## Environmental Studies, B.S. at Altoona Campus

The course series listed below provides **only one** of the many possible ways to move through this curriculum. The University may make changes in policies, procedures, educational offerings, and requirements at any time. This plan should be used in conjunction with your degree audit (accessible in LionPATH as either an **Academic Requirements** or **What If** report). Please consult with a Penn State academic adviser on a regular basis to develop and refine an academic plan that is appropriate for you.

### First Year

| Fall                                 | Credits Spring                 | Credits   |
|--------------------------------------|--------------------------------|-----------|
| ENGL 15, 30H, or ESL 15 <sup>‡</sup> | 3 ENGL 180 <sup>†</sup>        | 3         |
| BIOL 110 <sup>†</sup>                | 4 BIOL 220W <sup>*</sup>       | 4         |
| CHEM 20 <sup>*</sup>                 | 3 MATH 22 or 40 <sup>*</sup>   | 3         |
| CHEM 21 <sup>*</sup>                 | 1 CAS 100 <sup>‡</sup>         | 3         |
| ENVST 100N <sup>*‡#†</sup>           | 3 ECON 102 or 104 <sup>*</sup> | 3         |
| PSU 3                                | 1                              |           |
| General Education (GHW)              | 1.5                            |           |
|                                      | <b>16.5</b>                    | <b>16</b> |

### Second Year

| Fall                                 | Credits Spring                         | Credits      |
|--------------------------------------|--|--------------|
| CHEM 110 <sup>*</sup>                | 3 PHYS 250 <sup>*</sup>                | 4            |
| CHEM 111 <sup>*</sup>                | 1 General Education                    | 3            |
| MATH 110 or 140 <sup>*</sup>         | 4 General Education (GS) <sup>*</sup>  | 3            |
| SOILS 101 <sup>†</sup>               | 3 BIOL 230W, 240W, or 222 <sup>*</sup> | 3 or 4       |
| GEOSC 1 <sup>†</sup>                 | 3 General Education (GN) <sup>*</sup>  | 3            |
| General Education (GHW) <sup>†</sup> | 1.5                                    |              |
|                                      | <b>15.5</b>                            | <b>16-17</b> |

### Third Year

| Fall                                  | Credits Spring                      | Credits   |
|---------------------------------------|-------------------------------------|-----------|
| STAT 200 or 250 <sup>*</sup>          | 4 ENVST 200 <sup>*</sup>            | 3         |
| CHEM 202 <sup>*</sup>                 | 3 GEOG 115 <sup>†</sup>             | 3         |
| GEOG 160 <sup>*</sup>                 | 3 ENVST 428 <sup>*</sup>            | 3         |
| ENGL 202A, 202B, or 202C <sup>‡</sup> | 3 Elective                          | 3         |
| General Education Course              | 3 PLSC 235 or 425 <sup>*</sup>      | 3         |
|                                       | INTSP 370 or ENVST 296 <sup>*</sup> | 1         |
|                                       | <b>16</b>                           | <b>16</b> |

### Fourth Year

| Fall                                    | Credits Spring                                 | Credits   |
|---|--|-----------|
| Arts and Humanities Course <sup>*</sup> | 3 ENVST 400W <sup>*</sup>                      | 3         |
| HIST 453 <sup>*</sup>                   | 3 PHIL 403 <sup>*</sup>                        | 3         |
| ENVST 395 or 496 <sup>*</sup>           | 3 Elective                                     | 3         |
| General Education Course                | 3 Elective                                     | 3         |
|   | Natural Sciences 400-level Course <sup>*</sup> | 3         |
|   | <b>12</b>                                      | <b>15</b> |

### Total Credits 123-124

\* Course requires a grade of C or better for the major

‡ Course requires a grade of C or better for General Education

# Course is an Entrance to Major requirement

† Course satisfies General Education and degree requirement

### University Requirements and General Education Notes:

US and IL are abbreviations used to designate courses that satisfy Cultural Diversity Requirements (United States and International Cultures).

W, M, X, and Y are the suffixes at the end of a course number used to designate courses that satisfy University Writing Across the Curriculum requirement.

General Education includes Foundations (GWS and GQ), Knowledge Domains (GHW, GN, GA, GH, GS) and Integrative Studies (Inter-domain) requirements. N or Q (Honors) is the suffix at the end of a course number used to help identify an Inter-domain course, but the inter-domain attribute is used to fill audit requirements. Foundations courses (GWS and GQ) require a grade of 'C' or better.

## Career Paths

This degree prepares students for graduate studies, and/or employment in the sciences such as environmental science, conservation biology, earth science, geology, and physical geography.

MORE INFORMATION ABOUT POTENTIAL CAREER OPTIONS FOR GRADUATES OF THE ENVIRONMENTAL STUDIES PROGRAM (<https://altoona.psu.edu/academics/bachelors-degrees/environmental-studies/career-opportunities/>)

MORE INFORMATION ABOUT OPPORTUNITIES FOR GRADUATE STUDIES (<https://altoona.psu.edu/academics/bachelors-degrees/environmental-studies/career-opportunities/>)

## Contact

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