

# Environmental Studies (ENVS)

Environmental Studies is an interdisciplinary major in which students may earn a Bachelor of Art (BA) or Bachelor of Science (BS) degree. The BA serves students whose main interests lie in humanistic or social elements of the environment. For example, students who are interested in pursuing a career in law, policy, or environmental education will find the most appropriate courses for those interests in the BA. The BS serves student who are leaning toward a career in environmental science or who seek deeper grounding the sciences. It is well suited for students with interests in food systems, water resources, ecology, energy, or geospatial analysis, among other fields.

## Honors Courses and In-Course Honors

The Department of Environmental Studies encourages its students to undertake honors work. Additional information can be found in the Honors Courses and In-Course Honors (<http://catalog.wofford.edu/archive/2020-2021/academics/academic-honors/honors-courses/>) in the *Catalog*.

## Chair

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## Professors

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A student must complete the seven core Environmental Studies requirements (below), select and fulfill the requirements for a BA or BS track, and complete an individualized focus of ENVS study for a total of 30-41 semester hours depending on the student's track and ENVS focus.

## Requirements for the Bachelor of Science with a Major in Environmental Studies

Course	Title	Hours
<b>Prerequisite</b>		
Select one course from the following:		
MATH 140	Statistics	
MATH 160	Calculus for the Social Sciences	
MATH 181	Calculus I	
<b>Required Major Courses</b>		<b>35</b>
ENVS 101	Introductory Seminar in Environmental Studies (with lab)	
ENVS 150	Introduction to Earth System Science (with lab)	
ENVS 160	Introduction to Sustainability Science (with lab)	
ENVS 201	Introduction to Environmental Social Science	
ENVS 202	Introduction to Environmental Humanities	
ENVS 203	Introduction to Environmental Science (with lab)	

ENVS 240	Quantitative Environmental Methods & Models (with lab)	
ENVS 349	Developing the Capstone Proposal	
ENVS 449	Senior Capstone Project	
ENVS 450	Environmental Studies Senior Seminar	
<b>Environmental Studies Lab Elective</b>		<b>8</b>
Select two courses from the following:		
ENVS 330	Art & Earth: Materials, Processes, and Perceptions (with lab)	
ENVS 332	Hydrology & Water Resources (with lab)	
ENVS 333	Environmental Geology (with lab)	
ENVS 334	Theory & Practice of Sustainable Agriculture (with lab)	
ENVS 336	Climate Change (with lab)	
ENVS 338	Terrestrial Ecology (with lab)	
ENVS 400	Regional Environmental Problems (with lab)	
<b>Science Elective</b>		<b>4</b>
Select one course from the following:		
BIO 150	Biological Inquiry (with lab)	
CHEM 123	General Chemistry I (with lab)	
COSC 150	Scientific Investigations Using Computation (with lab)	
PHY 121	General Physics I (with lab)	
PHY 141	Physics for Science & Engineering I (with lab)	
Total Hours		47

## Requirements for the Bachelor of Art with a Major in Environmental Studies

Course	Title	Hours
<b>Required Major Courses</b>		<b>27</b>
ENVS 101	Introductory Seminar in Environmental Studies (with lab)	
ENVS 150	Introduction to Earth System Science (with lab)	
or ENVS 160	Introduction to Sustainability Science (with lab)	
ENVS 201	Introduction to Environmental Social Science	
ENVS 202	Introduction to Environmental Humanities	
ENVS 203	Introduction to Environmental Science (with lab)	
ENVS 349	Developing the Capstone Proposal	
ENVS 449	Senior Capstone Project	
ENVS 450	Environmental Studies Senior Seminar	
<b>Focus Courses</b> <sup>1</sup>		<b>9</b>
Select 9 credit hours from the list of approved list of Focus Courses (see footnote for details)		
Total Hours		36

<sup>1</sup> Two of the three focus courses must be at the 300-level or higher and two of the three focus courses must be ENVS courses. Exceptions may be made in close consultation with the student's academic advisor.

## Environmental Studies Focus Courses

Course	Title	Hours
ANTH 225	Human Ecology	3
ANTH 311	Ecological Anthropology	3
ANTH 314	Prehistory and History of Native American Culture in the Southeast	3
ARTS 357	Installation Art	3
BIO 241	Introduction to Biostatistics	3
BIO 305	Conservation Biology	3
BIO 313	Plants & Ecosystems	3
BIO 314	Plant & Ecosystems (with lab)	4
BIO 370	Field Biology (with lab)	4
BIO 372	Field Botany (with lab)	4
BIO 382	Ecology (with lab)	4
BIO 383	Ecotoxicology	3
BIO 385	Marine Biology	3
BIO 386	Freshwater Biology (with lab)	4
BIO 399	Evolution	3
BIO 497	Case Studies in Environmental Issues	3
BUS 350	Business and the Environment: The Sustainable Enterprise	3
CHEM 224	Environmental Chemistry (with lab)	4
ECO 333	Environmental Economics	3
ECO 334	Economics of Property Rights	3
ECO 338	Water: Law, Economics and Policy	3
ENVS 240	Quantitative Environmental Methods & Models (with lab)	4
ENVS 312	Problems in US Environmental Policy	3
ENVS 313	Sustainable Food Systems	3
ENVS 317	US Environmental History	3
ENVS 320	Field Experience: Environmental Humanities & Social Sciences	1
ENVS 326	Introduction to Environmental and Nature Writing	3
ENVS 327	Major Themes in Environmental Writing	3
ENVS 330	Art & Earth: Materials, Processes, and Perceptions (with lab)	4
ENVS 332	Hydrology & Water Resources (with lab)	4
ENVS 333	Environmental Geology (with lab)	4
ENVS 334	Theory & Practice of Sustainable Agriculture (with lab)	4
ENVS 336	Climate Change (with lab)	4
ENVS 338	Terrestrial Ecology (with lab)	4
ENVS 341	Health & the Environment	3
ENVS 400	Regional Environmental Problems (with lab)	4
ENVS 480	Advanced Topics in Environmental Studies	0 to 4
HIST 317	American Wests, 1750-1940	3

HIST 386	History of Science	3
INTL 382	Global Issues	3
INTL 423	NGOs in World Politics	3
PHIL 215	Environmental Ethics	3
PHIL 222	Human Nature	3
PHIL 302	Philosophy of Science	3
PHY 202	Energy	3
PSY 300	Learning & Adaptive Behavior (with lab)	4
SOC 302	Environmental Sociology	3

## Requirements for the Minor

Course	Title	Hours
<b>Required Minor Courses</b>		<b>17</b>
ENVS 101	Introductory Seminar in Environmental Studies (with lab)	
ENVS 201	Introduction to Environmental Social Science	
ENVS 202	Introduction to Environmental Humanities	
ENVS 203	Introduction to Environmental Science (with lab)	
ENVS 450	Environmental Studies Senior Seminar	
Total Hours		17

## Environmental Studies

### ENVS 101. Introductory Seminar in Environmental Studies (with lab). 4 Hours.

This foundational seminar introduces students to interdisciplinary approaches in contemporary environmental issues. The seminar considers key environmental issues, bringing cultural, scientific, historical, political, social, and economic perspectives to bear on each. The course is arranged thematically, with units on topics such as tropical deforestation, global warming, energy use, and resource depletion. This course will also investigate local environmental issues, study relevant scientific findings, explore the interactions of human communities with non-human nature, and probe the ecological, cultural, and ethical implications of these interactions.

### ENVS 103. Environmental Studies: Science in Context. 3 Hours.

Students will explore the features that make science an important way of understanding the natural world. This exploration will focus on science-based topics and issues important in our contemporary world.

### ENVS 150. Introduction to Earth System Science (with lab). 4 Hours.

Students will develop knowledge of Earth system components -- atmosphere, hydrosphere, lithosphere, biosphere, and exosphere -- with emphasis on their connections and interactions. They will use and integrate approaches of disciplinary sciences and mathematics to investigate physical and behavioral properties of Earth system components, as well as considering the human and social context (anthroposphere) in which environmental problems develop as the system is stressed. Students will develop skills in observation, investigation, analysis, team interaction and communication through field and laboratory experiences.

**ENVS 160. Introduction to Sustainability Science (with lab). 4 Hours.**

Examine the dynamic interactions between social and ecological systems. Study of theories, concepts, analytical frameworks, and research designs that develop an understanding of the dynamic relationships between complex social and environmental systems. A solutions-oriented introduction to basic quantitative analysis methods and builds these skills by investigating the sustainability of campus systems (e.g., energy, food system, grounds, waste management).

**ENVS 201. Introduction to Environmental Social Science. 3 Hours.**

Environmental Social Science is an interdisciplinary and cross-cultural investigation into the impact of society on the environment and the environment's impact on society. The class will be organized around case studies from Asia, Oceania, Africa, Europe and the Americas. It will look at local, national and international environmental issues ranging from the ecological toll of regional industries and agricultural practices to the environmental costs of economic globalization, from water pollution and soil depletion in communities to global warming.

**Prerequisite:** ENVS 101 with a minimum grade of D.

**ENVS 202. Introduction to Environmental Humanities. 3 Hours.**

This course is an introduction to the interdisciplinary study of environmental issues in the humanities, including philosophy, art history, literature, film, history and religion. Through the study of the ways in which the environment is represented in literature, art, and film, we will attempt to understand the central role that human environmental perceptions have played and continue to play in creation of both sustainable and unsustainable relations with nature.

**Prerequisite:** ENVS 101 with a minimum grade of D.

**ENVS 203. Introduction to Environmental Science (with lab). 4 Hours.**

This course will be an introduction to the application of the scientific method to the study of the environment. It will focus on the interdependence of ecological systems, the sources of energy and cycles of resources in a variety of environments, and the forces affecting environmental change.

**Prerequisite:** ENVS 101 with a minimum grade of D.

**ENVS 240. Quantitative Environmental Methods & Models (with lab). 4 Hours.**

Students will develop quantitative and environmental literacy by analyzing real-world environmental situations and problems with the use of mathematics and statistics. Students will learn how to use dynamic systems models and geographical information systems to gain insight into natural and social processes relevant to environmental issues and policy decisions.

**Prerequisite:** ENVS 101 with a minimum grade of D and MATH 181 with a minimum grade of D.

**ENVS 280. Selected Topics in Environmental Studies. 0 to 4 Hours.**

Selected topics in Environmental Studies at the introductory or intermediate level.

**ENVS 312. Problems in US Environmental Policy. 3 Hours.**

Engage with the major problems of environmental politics and policy in the United States, study the approaches that have been and are being used to deal with these problems, and assess the effectiveness of these approaches. Explore public policy structures and concepts, and discuss how their application impacts environmental quality. Gain an understanding of American environmental issues, the American political and policy system, and what possibilities lie ahead in American environmental policy.

**Prerequisite:** ENVS 201 with a minimum grade of D or GOV 202 with a minimum grade of D.

**ENVS 313. Sustainable Food Systems. 3 Hours.**

An overview of the US food system while focusing on interrelationships with the environment, society, public health, and equity, this course will examine the major driving forces shaping our modern US food system and possible alternatives. Through a semester-long project, students will contribute to a community-wide effort by collecting original data for the Spartanburg Food Policy Council Food System Assessment and Plan.

**Prerequisite:** ENVS 101 with a minimum grade of D or ENVS 150 with a minimum grade of D.

**ENVS 317. US Environmental History. 3 Hours.**

An overview of environmental history, focusing on the United States analyzing how Americans have shaped nature and been shaped by nature and how this relationship changed over time. Students will engage with key historical themes and perspectives, their roles in various eras of American history, and how they have shaped the world in which we now live. Required readings will support the understanding of different interpretations of historic events and environmental problems.

**Prerequisite:** ENVS 201 with a minimum grade of D.

**ENVS 320. Field Experience: Environmental Humanities & Social Sciences. 1 Hour.**

Conjoining two focus courses in Environmental Studies into a learning community, this course engages students with central issues in American environmental history and literature. The learning community will embrace multiple perspectives on literature and the environment and examine how themes have changed and endured over time. It includes a weekly day-long field experience through various locales in the Carolinas.

**Prerequisite:** ENVS 201 with a minimum grade of D and ENVS 202 with a minimum grade of D.

**Corequisite:** ENVS 327 AND ENVS 317.

**ENVS 326. Introduction to Environmental and Nature Writing. 3 Hours.**

Serves as an introduction to the canon of American environmental/nature writing and will also develop in beginning students the practice of reflective writing. The course will introduce a familiarity with common themes, motifs, and characteristics of the genre. Readings will include short excerpts and a detailed study of a book-length work of environmental/nature writing.

**Prerequisite:** ENVS 101 with a minimum grade of D.

**ENVS 327. Major Themes in Environmental Writing. 3 Hours.**

This course examines major themes/metaphors (such as ecology, holiness, food chains etc.) in full texts from the important texts in the tradition of environmental writing.

**Prerequisite:** ENVS 202 with a minimum grade of D.

**ENVS 330. Art & Earth: Materials, Processes, and Perceptions (with lab). 4 Hours.**

Students will learn about geological and botanical origins of art materials through lecture, experimentation, and field experiences. Perceptions of nature will be addressed through review of artistic works. Students will present an artistic work of their own in a public forum.

**Prerequisite:** ENVS 203 with a minimum grade of D.

**ENVS 332. Hydrology & Water Resources (with lab). 4 Hours.**

A survey of water resource sciences including introductions to surface water (hydrology), ground water (hydrogeology), aquatic chemistry, and fresh water ecology. Use of quantitative models to describe and predict surface and ground water flow. Field and laboratory investigation of water distribution and quality.

**Prerequisite:** ENVS 203 with a minimum grade of D.

**ENVS 333. Environmental Geology (with lab). 4 Hours.**

The application of geological principles to understanding and solving problems associated with environment. Major environmental problems are associated with humankind's relationships with mineral and energy resources, water resources and geologic hazards. Laboratories will focus on small-scale research projects and field investigations.

**Prerequisite:** ENVS 203 with a minimum grade of D.

**ENVS 334. Theory & Practice of Sustainable Agriculture (with lab). 4 Hours.**

This course is dedicated to understanding the structure and function of agroecosystems including the use of land, water, energy, and biological resources in agriculture. We will learn how to assess the sustainability of agroecosystems, examine the relationship between a sustainable agroecosystem and a sustainable food system and consider the barriers and opportunities for developing a sustainable world food system.

**Prerequisite:** ENVS 150 with a minimum grade of D or ENVS 203 with a minimum grade of D.

**ENVS 336. Climate Change (with lab). 4 Hours.**

Climate change examines the past, present, and future from an earth systems perspective. The scientific evidence of climate change will be examined along with dynamic models of climate systems. Scientific predictions of climate change will also be examined in addition to social, political, and economic perspectives on global warming.

**Prerequisite:** ENVS 203 with a minimum grade of D.

**ENVS 338. Terrestrial Ecology (with lab). 4 Hours.**

Examination of the range of the world's terrestrial ecosystems and practical field experience with major terrestrial ecosystems in the southeastern US. An analytical field-based approach to understanding basic ecological principles including population dynamics, interspecific interactions, and biodiversity. Exploration of global change issues in the context of landscape-level dynamics in space and time. Utilization of the R programming language to model ecological interactions and investigate how ecological states are altered by direct and indirect anthropogenic interactions.

**ENVS 341. Health & the Environment. 3 Hours.**

Students will demonstrate knowledge and understanding of the relationship between the environment and humans along with the impact each has on the health of the other. Human health as impacted by the environment will be the main focus. This focus will include primarily physical health but will also address psychological, emotional and spiritual health. Human activities that result in environmental factors that in turn affect human health will be addressed. Junior or senior class standing required.

**ENVS 349. Developing the Capstone Proposal. 3 Hours.**

A seminar course required for all Environmental Studies majors in either the fall or spring semester of their junior year. Class meetings will guide students through a survey of qualitative, quantitative, and mixed research methods as well as the process of research design and capstone proposal development. By the end of the seminar, each student will have a finished proposal for the capstone project that they will execute in ENVS 449.

**ENVS 400. Regional Environmental Problems (with lab). 4 Hours.**

An interdisciplinary elective in which advanced students blend knowledge and interest from their major fields with the methodology and perspectives of earth science to understand regional environmental systems and problems. The course is designed as a bridge between the cultures of the scientist and the humanist.

**ENVS 449. Senior Capstone Project. 3 Hours.**

This course will require students to complete a substantial project in Environmental Studies.

**Prerequisite:** ENVS 349 with a minimum grade of C.

**ENVS 450. Environmental Studies Senior Seminar. 3 Hours.**

The final course required for majors and minors will focus on a particular environmental problem or topic. Guest speakers will address facets of the assigned problem or topic over the course of the semester. The seminar will meet for discussion on days when speakers are not scheduled.

**Prerequisite:** ENVS 201 with a minimum grade of D and ENVS 202 with a minimum grade of D and ENVS 203 with a minimum grade of D and ENVS 449 with a minimum grade of D.

**ENVS 470. Independent Study. 1 to 3 Hours.**

Study of a specific topic in environmental studies under the direction of a departmental faculty member. The readings, program of research, and written work to be undertaken by the student will be determined in consultation with the instructor.

**ENVS 480. Advanced Topics in Environmental Studies. 0 to 4 Hours.**

Selected topics in Environmental Studies at an advanced level.

## Geography

**GEOG 201. Introduction to Geography. 3 Hours.**

A study of the fundamental concepts of geography and of how the natural environment (where people live) affects how people live.

**Prerequisite:** EDUC 200 with a minimum grade of D.

**GEOG 280. Selected Topics in Geography. 1 to 4 Hours.**

Selected topics in Geography at the introductory or intermediate level.

**GEOG 480. Advanced Topics in Geography. 1 to 4 Hours.**

Selected topics in Geography at the advanced level.