

The Environmental Studies (ENS) Department at Elon University embodies a transdisciplinary vision grounded in the ethical integration of the natural world and human systems. The primary purpose is to prepare future environmental professionals and to graduate environmentally-engaged and sustainability-minded citizens. Students participate in a wide range of courses across the university with opportunities to engage in local, regional, and global environmental issues. In the ENS programs, students take a balanced, interdisciplinary core of classes grounded in ecological understanding. The strength of the program is from the emphasis placed on considering the environment from many perspectives – for example, discussing water resources in science, social science and humanities classes.

Environmental Studies graduates (B.S., A.B.) should demonstrate knowledge and understanding of the following core concepts (Goals 1-3) and competency in the following core technical/intellectual/ cognitive skills (Goals 4-8).

Goal 1: Ecological, Scientific, and Sustainability Literacy

Students completing the major in Environmental Studies will understand basic scientific concepts, with a particular emphasis on the following: energy flow, biogeochemical processes, biodiversity and evolution, and ecological processes and services. They will develop knowledge of how natural systems function and how humans interact with and influence the sustainability of those systems including an understanding of the spatial and temporal dimensions of the environment. They will demonstrate a holistic understanding of sustainability through an appreciation of the complexity of environmental, social and economic systems. They will be able to use systematic, non-linear and quantitative approaches to analyzing sustainability issues.

Goal 2: Political and Economic Literacy

Environmental Studies majors will understand the complex interaction of economic and political systems in addressing environmental issues and resource/environmental management. They will understand the transnational character of environmental problems and ways of addressing these challenges across all scales.

Goal 3: Ethical and Cultural Literacy

The major will appreciate the role of ethical and cultural values and assumptions in shaping the human relation to the natural world, including environmental science and policy as well as everyday practice; understanding these values and assumptions in and through a range of cultural forms, including philosophy, religious thought, literature, music, and art; ability to critically and constructively bring basic ethical distinctions and systems to bear in addressing environmental issues.

Goal 4: Effective Use of Literature

All students will be able to locate, read, analyze, interpret and appropriately use primary literature (including public data bases), secondary literature, and popular information sources to write a critical, analytical literature review of appropriate focus and scope. They will be able to discern unbiased, objective environmental scholarship from material promoting special interests and critically analyze all types of information: primary/secondary literature, “grey” literature, web sites, etc.

Goal 5: Experience with Scientific Methods and Instrumentation.

Students will be able to apply a systematic approach to the investigation of research questions that develop knowledge across disciplines. When appropriate, they will demonstrate the ability to apply the scientific method and demonstrate proficiency with appropriate techniques and instrumentation.

Goal 6: Effective Communication Skills

Environmental Studies students will be able to effectively communicate environmental information through writing, presentations, and the use of electronic media. They will be able to actively participate and critically engage in extemporaneous settings (e.g., planning sessions, meetings, interacting with stakeholders, etc.).

Goal 7: Integrative and Critical Approach to Defining, Understanding and Addressing Environmental Controversies

Students will be able to critically analyze various components of environmental controversies (rhetorical, empirical, ethical, social justice). They will use an integrative approach to study the environment and be capable of developing multi-perspective strategies for addressing and communicating environmental issues.

Goal 8: Community Engagement and Complex Project Development

Environmental Studies majors will understand the importance of community participation in developing and implementing environmental projects and apply integrative/interdisciplinary analysis to environmental issues. They will be able identify community partners/stakeholders and their perspectives. They will appreciate the spatial dimensions of environmental issues, from local to global scales. The project they develop will involve an interdisciplinary group collaboration characterized by open communication among all participants, development of time management skills and the application of conflict management strategies.

Environmental Studies graduates in the Environmental and Ecological Sciences B.S. degree program should demonstrate knowledge and understanding of the following core concepts (Goals 1-2) and competency in the following core technical/intellectual/cognitive skills (Goals 3-6).

Goal 1: Environmental and Ecological Literacy

Understanding of basic scientific concepts, with a particular emphasis on the following: energy flow, biogeochemical processes, biodiversity and evolution, and ecological processes and services. Understanding of natural systems and how humans interact with and influence the sustainability of those systems including knowledge of the spatial and temporal dimensions of the environment. Holistic understanding of sustainability through an appreciation of the complexity of environmental, social and economic systems with an appreciation for systematic, non-linear and quantitative approaches to analyzing sustainability issues.

Goal 2: Applied Management and Conservation

Understand the practices and theories that support decisions regarding resource management for the purposes of conservation and/or sustained use. This includes comprehension of how to apply information from social, political, and scientific arenas in a way that promotes biotic and abiotic resource conservation in a manner that works towards healthy ecosystem function.

Goal 3: Ability to use the scientific literature for ecological and environmental research.

Ability to locate, read, analyze, interpret and appropriately use primary literature (including public data), secondary literature, and popular information sources, and write a critical, analytical literature review of appropriate focus and scope. Ability to discern unbiased, objective environmental scholarship from material promoting special interests. Ability to critically analyze all types of information: primary/secondary literature, “grey” literature, etc.

Goal 4: Ability to use standard methodology and instrumentation in field and laboratory settings

Ability to apply standardized ecological and environmental methodologies and instrumentation to study individual organisms, populations, communities, and ecosystem functions in the field. Ability to utilize a variety of physical, chemical, and biological laboratory procedures and instrumentation to analyze environmental samples. Ability to analyze and interpret the results of laboratory and field collected data using computational or statistical analysis methodology.

Goal 5: Effective Communication Skills

Ability to effectively communicate environmental information through writing, presentations, and the use of electronic media. They will be able to actively participate and critically engage in extemporaneous settings (e.g., planning sessions, meetings, interacting with stakeholders, etc.).

Goal 6: Community Engagement and Complex Project Development

Understand the importance of community participation in developing and implementing environmental projects and apply integrative/interdisciplinary analysis to environmental issues. They will be able identify community partners/stakeholders and their perspectives. They will appreciate the spatial dimensions of environmental issues, from local to global scales. The project they develop will involve an interdisciplinary group collaboration characterized by open communication among all participants, development of time management skills and the application of conflict management strategies.