Environmental Studies Concentration Guidelines

ABOUT ENVIRONMENTAL STUDIES

Environmental Studies is the interdisciplinary academic field that focuses on human interactions with the natural environment. Concentrations with Interdisciplinary and Multidisciplinary designs contain more than one academic discipline focused on a theme, question, problem, or issue. A concentration in Environmental Studies has natural sciences as one of its foundation academic fields to provide the student with a broad perspective on the complex dynamics of natural environmental systems. If you are interested in this area, you are encouraged to think broadly about how you would like to explore human-environmental interactions.

To more fully understand human interactions with the natural environment, you have the opportunity to integrate natural science with any number of other disciplines, depending on your goals and interests. For example, you might choose education, art, history, business, the social sciences (anthropology, economics, political science, psychology, sociology, law, public affairs), and/or cultural studies (philosophy, religious studies, communications, media studies, literature) in order to study human relationships with nature.

If your primary interest is studying the environment from a scientific perspective, you would be best served by designing a concentration in Environmental Science http://www.esc.edu/degrees-programs/undergraduate-aos/science-math-technology/detailed-guidelines/smt-concentration/environmental-science/ .

If your primary interests in human-environmental interactions fall outside the sciences, you can design a concentration with a title other than Environmental Studies in Interdisciplinary Studies or any other Area of Study. Examples of possible concentration titles include: Environment and Culture, Business and the Environment, Environmental Policies.

If you are interested in integrating the study of the environment with studies in business, you could consider incorporating Empire State College's Business and Environmental Sustainability certificate (http://www.esc.edu/degrees-programs/undergraduate-certificates/ug-cert-business-environmental-sustainability/) into your degree plan.

LEARNING OUTCOMES

After completing a concentration in Environmental Studies, you will be able to:

- Apply multiple modes of inquiry to analyze human interactions with the natural environment
- Demonstrate a foundation in the Natural Sciences
- Demonstrate an advanced understanding of systems in the natural environment

- Demonstrate a foundation in one or more additional disciplines
- Demonstrate advanced level understanding in your selected disciplines
- Acquire skills necessary to your individual inquiry which will vary by discipline (for example, specialized skills in mathematics, technology, literary analysis, media analysis, social science, and research methods)
- Analyze a specific individualized inquiry about an environmental problem, theme, or issue through a multidisciplinary or interdisciplinary approach (see paragraph below for more information)
- Apply understanding of the ethical relationship between people and the natural environment to your individualized inquiry.

For a full explanation of these terms and outcomes, see the guidelines below.

GUIDELINES

You should explain in your rationale essay what elements in your degree plan, including past learning experiences, meet each of these guidelines.

I. Natural Sciences Foundation

At the introductory level, learning experiences should focus on physical and biological systems in the natural environment. Learning experiences should include introductory biology, chemistry, and physics. Studies with all three titles are not required, but sources of learning in each of these disciplines should be discussed in the rationale essay. Knowledge in the natural sciences should be sufficient to support the Environmental Science Core. Advanced studies in the natural sciences can be added if they meet your interests and goals. For example, if the plan focuses on chemistry or physics, advanced studies applicable to your research agenda can be included in the concentration.

II. Environmental Science Core

You should include environmental science studies in your degree plan that cover the breadth of the discipline and demonstrate progression of learning. At the introductory level, learning experiences should focus on physical and biological systems in the natural environment.

Advanced environmental science studies should build upon introductory studies and can be tailored to your interests and goals. You might be interested in topics such as conservation, environmental mitigation, natural resources, or sustainable development. The advanced studies chosen would allow you to learn about your selected topic in greater depth and could focus on either advanced knowledge in biological systems (examples might include forest ecology, marine biology, ornithology, and wildlife management,) or physical systems (examples might include climate change, hydrology, natural disasters, and soil science).

III. Interdisciplinary Design

Please refer to the Interdisciplinary Studies Area of Study and learn about how to combine disciplines in order to pursue your particular interests. First choose the disciplines that best address your interests. Then, choose between a multidisciplinary or interdisciplinary approach to degree program design. In either case, you will focus through natural science and one or more additional disciplines.

In designing your program, work closely with your mentor to explore and define your interests, to understand multidisciplinary or interdisciplinary design, and to select studies and learning experiences that meet the guidelines and allow you to pursue your interests and goals. A multidisciplinary approach enables you to compare the distinctly different ways that two or more disciplines approach human relationships with the environment. An Interdisciplinary approach takes the additional step of synthesizing two or more disciplines for integrated learning, which reaches new understanding of a theme or issue or suggests new solutions to a problem or question.

For example, a multidisciplinary approach to understanding human interactions with the environment might lead a student to study environmental science and psychology. The focus would be on comparing how each of these disciplines uses different concepts, theories, and methods to consider the theme, problem, or issue of particular interest to you. For example, if your interest was pollution, you might consider how and why humans contribute to pollution from a science perspective and from a psychological perspective and how these approaches differ in understanding this issue.

An interdisciplinary approach using the same fields would focus on synthesizing or integrating the concepts, theories, and methods of both disciplines to arrive at new ideas and knowledge that relate to your focus. Using the above example, an interdisciplinary approach to understanding pollution might focus on how psychological principles can be used to convey scientific ideas in a way that would affect behavior and reduce pollution.

IV. Additional Skills and Knowledge

Environmental Ethics

Environmental ethics is a branch of philosophy that concerns the ethical relationship between people and the natural environment and is a typical knowledge component of a Concentration in Environmental Studies degree program. You should either take an Environmental Ethics course, or identify learning that demonstrates ethical reasoning in the context of the environment.

Mathematics

You will need sufficient quantitative skills to help you understand the natural environment. The amount and level of quantitative studies will depend on your area of

interest, and in many cases, mathematics studies which fulfill the general education requirement will meet this guideline. Knowledge of statistics is recommended because it enables students to analyze environmental data and understand the results of research on environmental issues.

Technology

In addition to the information literacy requirement for an ESC degree, knowledge of specific technology may be appropriate for your Concentration in Environmental Studies. Information about the natural environment is often collected using specialized technology and having skills in the use of such technology could position you for a particular career path.

Research, data collection, and analytic tools

You should understand the research methods and analytic tools associated with the disciplines in your degree plan. For example, if you are combining natural science and social science, you will need to understand research methods for both academic fields and should explain in your rationale how you have acquired that knowledge.

Communication

Communicating information about the environment is an important component of an environmental studies degree. Depending on your interests and goals, skills in public speaking may be appropriate. Being able to communicate in written forms through various modes, such as social media, is also important.

V. Capstone Experience or Study

All Concentrations in Environmental Studies should include a capstone study or experience. You might work with a mentor to design your own research project, identify an internship, fieldwork, or service learning opportunity within the local community

If you choose a multidisciplinary approach, you should identify a capstone that compares your learning from two or more selected disciplines to gain varied perspectives of your theme, question, problem, or issue. If you choose an interdisciplinary approach, you should identify a capstone that synthesizes your learning from two or more selected disciplines to gain an integrated perspective of your theme, question, problem, or issue that can lead to new knowledge. In your rationale essay, you should discuss the way your capstone meets these requirements.

To illustrate: suppose your second field of interest is human behavior; you might design an Environmental Studies concentration which includes studies in environmental science and psychology.

For a multidisciplinary capstone, you might apply your scientific learning to look at how yard fertilizer with phosphorus contributes to runoff, affecting the water quality of streams and rivers. You might apply your learning from psychology to look at how peer pressure related to maintaining a green lawn influences neighborhood lawn maintenance practices. In this multidisciplinary capstone, you would compare two aspects this type of water pollution. You might uncover interesting similarities and differences between the dynamics of the larger natural system and the dynamics of human communities.

In contrast, for an interdisciplinary capstone with the same disciplines and content, you would integrate and apply what you learned about these similarities and differences. Integration typically leads to conclusions beyond both disciplines. You might apply synthesized learning about these two aspects of this particular kind of water pollution to consider how behavioral reinforcement methods might be introduced to shift neighborhood priorities from uniformly green lawns to clean water.