

# ENS

## Environmental Studies

### ENS 101: Prospects for Planet Earth

An introduction for non-science majors to global environmental change. Exploration of the natural science of Earth's environment; the scientific, socioeconomic, and political issues that influence human impact on the global environment and responses to environmental changes; the strategies for humans to live in greater harmony with planet Earth. Global issues are related to the particular issues of the United States, the Northeast, and the greater metropolitan New York City-Long Island area.

**DEC:** E  
**SBC:** SNW

3 credits

### ENS 119: Physics for Environmental Studies

The principles of physics as they apply to environmental issues. A review of mathematics is followed by a discussion of Newton's laws, conservation principles, topics in fluids and wave motion, optical instruments, and radioactivity. Three lectures and one laboratory session per week. This course is offered as both ENS 119 and PHY 119.

*Prerequisites:* MAT 123; CHE 131

**DEC:** E  
**SBC:** SNW

4 credits

### ENS 301: Contemporary Environmental Issues and Policies

The scientific, socioeconomic, legal and legislative aspects of current environmental issues and policies. Invited experts address current environmental issues and policies of local, regional and global significance. Topics may include: land use practices and reform, farmland and open space preservation; soil and water conservation; wetlands protection and rehabilitation; waste management and reduction, recycling and composting; air pollution, global warming and sea level rise; and marine wilderness areas.

*Prerequisite:* U3 or U4 status; ENS major or minor or permission of instructor

**DEC:** H  
**SBC:** STAS

3 credits

### ENS 311: Ecosystem Ecology and the Global Environment

Ecosystem ecology with an emphasis on biogeochemical cycling in oceans and on

land, as well as on biosphere-atmosphere interactions. Topics include earth system processes such as climate and atmospheric composition, the hydrological cycle, cycling of chemicals such as nutrients and metals in the oceans, the soil cycle, and the fate and transport of materials in the atmosphere. Natural and perturbed systems are discussed. This course is offered as both BIO 386 and ENS 311.

*Prerequisites:* C or higher in BIO 201; CHE 129 or CHE 131 or CHE 141 or CHE 152  
*Advisory Prerequisite:* MAR 104

**DEC:** H  
**SBC:** STEM+

3 credits

### ENS 312: Population, Technology, and the Environment

A study of the biological, social, and economic factors that influence population growth. The development of new technologies and their influence on resource use and the effects that increasing population and changing technologies have on the environment are explored.

*Prerequisites:* MAR 340; one semester of BIO

**DEC:** H  
**SBC:** STAS

3 credits

### ENS 333: Environmental Law

Survey of the origins of environmental law and the major legislation enacted by Congress and the state of New York. Special emphasis is placed on the application of environmental law to the problem of solid waste management on Long Island. This course is offered as both ENS 333 and POL 333.

*Prerequisites:* ECO 108; POL 102

3 credits

### ENS 339: Economics of Coastal and Marine Ecosystems

This course will view human interactions with coastal and marine ecosystems through the lens of economics. Consideration of the socioeconomic implications of policy decisions involving environmental and natural resources has become increasingly important for ecosystem management. Topics will include the basics of welfare analysis, the concept of ecosystem services, the challenges associated with public goods, methods for economic valuation of non-market goods and services, strategies for sustainable use of coastal and marine resources, and case studies of the application of fundamental principles of environmental economics to national and

international policy. This course is offered as both ENS 339 and ENV 339.

*Prerequisite:* U3/U4 status; ENS 101 or SBC 111 or MAR 104

**DEC:** H  
**SBC:** STAS

3 credits

### ENS 395: Topics in Environmental Sciences

May be repeated as the topic changes.

*Prerequisite:* one upper division ENS course  
3 credits

### ENS 443: Environmental Problem Solving

The integration of information and skills from the natural sciences, social sciences, engineering and the humanities to address important environmental problems. An environmental problem of current interest is presented. Working in small groups, students develop a proposal to solve the problem, collect and analyze data, and present results. Data collection may include field and laboratory work outside of scheduled class meetings.

*Prerequisites:* U3 or U4 standing; ENS major or minor

2 credits

### ENS 447: Readings in Environmental Studies

Tutorial readings in the environmental sciences. This course may be repeated but no more than 3 credits may be used toward Environmental Studies major requirements.

*Prerequisite:* Permission of instructor and SoMAS undergraduate director

1-3 credits, S/U grading

### ENS 459: Write Effectively in Environmental Studies

A zero credit course that may be taken in conjunction with any 300- or 400-level ENS course, with permission of the instructor. The course provides opportunity to practice the skills and techniques of effective academic writing and satisfies the learning outcomes of the Stony Brook Curriculum's WRTD learning objective.

*Prerequisite:* WRT 102; permission of the instructor

**SBC:** WRTD

S/U grading

### ENS 487: Independent Research in Environmental Studies

An independent project, developed out of advanced coursework in environmental studies, designed in consultation with and supervised by a faculty member. The project should be formulated before the start of the semester in which the research will be done and should culminate in a substantial written paper. May be repeated.

*Prerequisites: Permission of a supervising faculty member and SoMAS Undergraduate Programs Director*

**SBC:** EXP+

*0-6 credits*

### **ENS 488: Internship in Environmental Studies**

Internships provide students with an opportunity of gaining experience working in the community at government agencies, environmental groups, aquaria, summer camps, field studies, etc. A suitable proposal must be presented by the student and approved by the Director of Undergraduate Studies before the internship begins. May be repeated for a maximum of 6 credits for the ENS major, 3 credits for the ENS minor.

*Prerequisite: Permission of the SoMAS Undergraduate Programs Director*

**SBC:** EXP+

*0-6 credits, S/U grading*