Environmental Studies (ENS)  
Interdisciplinary Major and Living Learning Center Minor in Environmental Studies  

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Environmental Studies (ENS)  
The Environmental Studies major, leading to a Bachelor of Arts degree, is designed to provide students with the analytical and communication skills and the broad background necessary to understand and address complex environmental issues. The major also offers the opportunity for students to carry out focused study within a specific area of interest. Environmental issues are not resolved in the scientific, technological, social, or political arenas alone. The curriculum is, therefore, interdisciplinary and integrates principles and methodologies from the social sciences, engineering, the natural sciences, and humanities. The goal is to address the complex scientific, legal, political, socioeconomic and ethical issues that define and surround environmental issues.  

The major in Environmental Studies prepares the student for further education and entry-level employment in areas such as public interest science and advocacy, environmental conservation, law, journalism, management, television documentary production, ecotourism, population studies, and public service including public health.  

To demonstrate depth of learning, an area of concentration is required of all students in the major. Additionally, a research course, an internship, or field study is an essential part of the curriculum to provide real-world experience in an appropriate subject area.  

The Environmental Studies major is administered by the School of Marine and Atmospheric Sciences. A Living Learning Center and a minor, with a residential component, are also available. A lounge and study area are also available within the Living Learning Center for commuter students enrolled in the major or minor. The Living Learning Center, which is part of the Science and Society College, offers special programs, such as a seminar series showcasing faculty research and selected courses in the major and minor. Students may not pursue the minor in conjunction with the major.  

Students should contact the director of undergraduate studies to design and approve an acceptable course of study before declaring the major.  

Students may learn more about the School of Marine and Atmospheric Sciences by visiting http://www.somas.stonybrook.edu.  

Requirements for the Major and Minor in Environmental Studies (ENS)  
Requirements for the Major  
The major in Environmental Studies leads to the Bachelor of Arts degree. No more than one course required for the major can receive a letter grade less than C.  

Completion of the major requires approximately 66 credits.  

A. Foundation Courses (34 credits)  
1. Natural Sciences  
BIO 201 Fundamentals of Biology: Organisms to Ecosystems  
BIO 204 Fundamentals of Scientific Inquiry in the Biological Sciences I  
CHE 131, CHE 133 General Chemistry and Lab (See Note 1)  
MAT 125 or MAT 131 or MAT 141 Calculus  
PHY 119/ENS 119 Physics for Environmental Studies (See Note 2)  
One of the following: GEO 101 Environmental Geology or MAR 104 Oceanography or ATM 102 Weather and Climate or ENS 101 Prospects for Planet Earth  
2. Social Sciences  
ANP 120 Introduction to Physical Anthropology or ANT 104 Introduction to Archaeology (by permission)  
ECO 108 Introduction to Economic Analysis  
POL 102 Introduction to American Government  
3. Humanities  
PHI 104 Moral Reasoning or PHI 105 Politics and Society
4. Communications
Proficiency in writing, oral communication, and computer literacy will be encouraged in all students. These skills will be developed within the context of formal coursework and no additional credits are required.

5. Upper-Division Writing Requirement
All students in the major must submit two papers from any upper division course in the major to the Director of Undergraduate Programs for evaluation by the end of the junior year.

B. Core Courses (20 credits)
1. One of the following statistics courses:
   - AMS 102, AMS 110, AMS 310, ECO 320, POL 201, PSY 201, or SOC 202
   - MAR 340 Environmental Problems and Solutions
2. ENS 301 Contemporary Environmental Issues and Policies
3. ENS 311/BIO 386 Ecosystem Ecology and the Global Environment
4. ENS 312 Population, Technology, and the Environment
5. One of the following (2 credits):
   - ENS 443 Environmental Problem Solving#Independent Research (See Note 3)
   - or 487 Research or 488 Internship (See Note 4)

C. Concentration (12 credits)
Students should select four upper division courses in a thematic area in consultation with the undergraduate director. Some sample concentrations are listed below, but other possibilities may be approved if discussed in advance with the departmental advisor. For all concentrations, appropriate substitutions will be permitted with approval of the undergraduate director.

1. Atmospheric Studies
   - ATM 205 Introduction to Atmospheric Science
   - ATM 237 Global Atmospheric Change
   - ATM 397 Air Pollution and its Control
   - MAR 334 Remote Sensing in the Environment
   - Other upper-division ATM courses (ATM 345, ATM 346, or ATM 348) may be substituted with permission of the undergraduate program director.

2. Conservation Biology/Physical Anthropology
   - Four courses from the following:
     - ANP 321 Primate Evolution
     - ANP 350 Methods in Studying Primates
     - ANP 360 Primate Conservation
     - MAR 315 Conservation Biology and Marine Biodiversity
     - BIO 336 Conservation Biology
     - BIO 356 Applied Ecology and Conservation Biology

3. Marine Science, Marine or Terrestrial Ecology
   - A variety of courses focusing on different aspects of ecology and marine sciences are available in both MAR and BIO. Students should choose four related courses from those below in consultation with the undergraduate director or departmental advisor.
   - The following courses are biological in nature: BIO 351, BIO 352, BIO 353, BIO 354 or BIO 385, BIO 319, BIO 356, BIO 359, MAR 301, MAR 302, MAR 305, MAR 315, MAR 349, MAR 366, MAR 370, MAR 371, MAR 375, MAR 380, MAR 385, MAR 388
   - The following courses are cover aspects of marine science other than biology:
     - MAR 303, MAR 304, MAR 320, MAR 333, MAR 334, MAR 336, MAR 346, MAR 351, MAR 352+MAR 353 (other courses may be substituted with permission)

4. Environmental Economics
   - ECO 303 Intermediate Microeconomic Theory
   - ECO 305 Intermediate Macroeconomic Theory
   - ECO 373 Economics of the Environment and Natural Resources
   - One of ECO 335, ECO 301; ENP/POL 333, HIS 365, AAS/HIS 352, EDP 303 Spatial Economics, or EDP 305 Risk Assessment and Sustainable Development.

5. Environmental History
   - HIS 103 American History to 1877 or HIS 104 United States since 1877
   - Plus three additional courses from the following:
     - HIS 281, HIS 365, AAS/HIS 352.

   - Four courses from among the following:
     - POL 320, POL 329, POL 351, PHI 364, PHI 366, PHI 375, POL 359, POL 364, HIS 365, AAS/HIS 352, HIS 302, MAR 392, MAR 393, MAR 394/BCP 394, ENS 333/POL 333.

Notes:
1. CHE 141, CHE 143 Honors Chemistry and Lab may be substituted for CHE 131, CHE 133
2. PHY 121/PHY 123, PHY 122/PHY 124 or PHY 125, PHY 126, PHY 127 or PHY 131/PHY 133, PHY 132/PHY 134 or PHY 141, PHY 142 may be substituted for PHY 119/ENS 119.
3. Two credits of any course numbered 487 or equivalent with one of the following designators: ANP, ANT, ATM, BCP, BIO, CHE, ECO, ENS, EST, GEO, MAR, PHY, POL. In addition to other prerequisites, credit toward the major requires approval of the research topic by the Director of Undergraduate Studies of the Marine Sciences Research Center.

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4. Two credits of any course numbered 488 or equivalent with one of the following designators: ANP, ANT, ATM, BCP, BIO, CHE, ECO, ENS, EST, GEO, MAR, PHY, POL. In addition to other prerequisites, credit toward the major requires approval of the internship by the Director of Undergraduate Studies.

Honors Program in Environmental Studies

Graduation with departmental honors in Environmental Studies requires the following:

1. Students are eligible to participate in the Honors Program if they have a 3.50 GPA in all courses for the major by the end of the junior year. Students should apply to the SoMAS undergraduate director for permission to participate.
2. Students must prepare an honors thesis based on a research project written in the form of a paper for a scientific journal. A student interested in becoming a candidate for honors should submit an outline of the proposed thesis research project to the SoMAS undergraduate director as early as possible, but no later than the second week of classes in the last semester. The student will be given an oral examination in May on his or her research by his or her research supervisor and the undergraduate research committee. The awarding of honors requires the recommendation of this committee and recognizes superior performance in research and scholarly endeavors. The written thesis must be submitted before the end of the semester in which the student is graduating.
3. If the student maintains a GPA of 3.5 in all courses in their major through senior year and receives a recommendation by the undergraduate research committee, he or she will receive departmental honors.

Living Learning Center Interdisciplinary Minor in Environmental Studies

The Environmental Studies Living Learning Center, housed in the Science and Society College, offers a minor in Environmental Studies as well as activities that emphasize both scientific and social issues encompassed by the broad field of environmental studies. Through this program, motivated natural science and social science students are able to apply their other coursework specifically to the study of the environment. In addition, participation in the program adds a rewarding academic component to each student's residential experience. The minor in Environmental Studies provides enhanced exposure to one subfield of environmental studies, the natural science of the environment.

Requirements for the Minor

No more than one three-credit course in the minor may be taken under the Pass/No Credit option. All upper-division courses offered for the minor must be passed with a letter grade of C or higher.
Completion of the minor requires 18 credits.
1. One introductory course chosen from the following:
   ATM 102/EST 102 Weather and Climate
   BIO 113 General Ecology
   BIO 201 Principles of Biology: From Organisms to Ecosystems
   GEO 101 Environmental Geology
   MAR 101 Long Island Sound: Science and Use
   MAR 104 Oceanography
2. ENS 101 Prospects for Planet Earth
3. ENS 301 Contemporary Environmental Issues and Policies
4. Two advanced courses chosen from the following:
   ANP 360 Primate Conservation
   ANT 420 Environmental Analysis Using Remote Sensing and Geographic Information Systems
   ATM 397 Air Pollution and Its Control
   BIO 351 Ecology
   BIO 352 Ecology Laboratory
   BIO 353/GEO 353 Marine Ecology
   CHE 310 Chemistry in Technology and the Environment
   GEO 304 Energy, Mineral Resources, and the Environment
   GEO 315 Groundwater Hydrology
   MAR 320 Limnology
   MAR 333 Coastal Oceanography
   MAR 340 Environmental Problems and Solutions
5. At least three credits of independent study or research in any department, approved by the minor coordinator or undergraduate director.

Declaration of the Minor

Students should declare the Environmental Studies minor no later than the middle of their junior year, at which time they should consult with the minor coordinator or undergraduate director and plan their course of study for fulfillment of the requirements.

Sample Course Sequence for the Major in Environmental Studies

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<td>ENS 101, MAR 104, GEO 101, or ATM 102</td>
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<td>CHE 131</td>
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<td>MAT 125</td>
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**Sophomore Fall**

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**Senior Fall**

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