Environmental Studies

MAJOR, MINOR

PROFESSORS: Renee Godard (biology) (director), Bansi Kalra (chemistry), William P. Nye (sociology)
ASSOCIATE PROFESSORS: Joseph Ametepe (physics), LeeRay Costa (anthropology and gender and women's studies)
ASSISTANT PROFESSORS: Jeanette Barbieri (political science), Marshall Bartlett (physics), Jon Donald Bohland (international studies), Pablo Hernandez (economics), Ryan Huish (biology), Thorpe Moeckel (English)
AFFILIATED FACULTY: Rebecca Beach (biology), Sandy Boatman (chemistry), Julie M. Clark (mathematics and statistics), Casimir Dadak (business), Jim Downey (philosophy), Juergen Fleck (economics), Lori J. Joseph (communication studies), Edward A. Lynch (political science), Jong Oh Ra (political science), Annette Sampon-Nicolas (French and international studies), Darla Schumm (religious studies), Susan L. Thomas (political science), C. Morgan Wilson (biology)

The field of environmental studies (ES) explores the relationship between humans and the environment. To fully understand the causes and consequences of environmental problems and to acquire skills for developing potential solutions requires an interdisciplinary approach that draws on the natural and social sciences and the humanities. The goal of the ES program is to provide students with a holistic understanding of environmental issues of local, national, and global importance.

The core courses offered in the ES major will ground all students in the study of the environment from scientific, cultural, historical, and societal perspectives. The broad distribution of elective courses will offer the ES major the opportunity to explore a wide range of interdisciplinary approaches to environmental concerns. In addition, a student may also choose to focus her elective studies. For example, a student interested in environmental science may choose to center her electives courses in biology, chemistry, and economics, while a student interested in global environmental issues may choose elective courses in international studies, political science, and anthropology. The Hollins program is distinguished by its experiential component, which requires all majors to be involved in an internship or service project that pertains to their field of interest within the interdisciplinary approach of environmental studies.

REQUIREMENTS FOR A MAJOR IN ENVIRONMENTAL STUDIES:

12 courses (minimum of 44 credits)

- Six core courses in environmental studies.
- Six additional courses from the list of environmental studies elective courses or affiliates. At least three of these courses should be at the 200 level or above, and an additional course at the 300 level or above.
- Experiential component, which consists of a related internship, service project, or certification in Hollins' Wilderness Education Association's National Standards Program (NSP). For more information regarding the NSP, contact Jon Guy Owens, Hollins Outdoor Program director.

CORE COURSES:

- ES 117: Environmental Science (4)
- ES 207: Ecology (4)
- ES 207L: Ecology Lab (2)
- ES 210: World Geography, ES 230: Economics and the Environment, **or**
- ES 259: Environment and Society (4)
- ES 357: Conservation Biology (4)
- ES 470: Seminar in Environmental Studies (2)

SIX ADDITIONAL COURSES FROM THE LIST OF ENVIRONMENTAL STUDIES OR AFFILIATED COURSES:

ENVIRONMENTAL STUDIES COURSES:

- ES 112: Environmental Analysis (4)
- ES 121: Introduction to Oceanography and Hydrogeology (4)
- ES 182: Environmental Ethics (4)
- ES 197F: First-year Seminar - The Nature and Culture of Water (4)
- ES 197F: First-year Seminar - You Are What You Eat: Making Good Food Choices For Your Health and the Environment (4)
- ES 210: World Geography (4)
- ES 219: Food, Culture, and Social Justice (4)
- ES 220: Global Systems (4)
- ES 221: Survey of Physics and the Environment (4)
- ES 230: Economics and the Environment (4)
- ES 234: Global Warming: Environmental Politics and Policy (4)
- ES 235: Feeding Frenzy (4)
- ES 250: Special Topic in Environmental Studies (2–4) (may be taken more than once for credit)
- ES 259: Environment and Society (4)
- ES 304: Geography of Global Environment (4)
- ES 305: Cultural Geography and Landscape Studies (4)
- ES 352: Topics in Human Geography (4)
- ES 390: Independent Study (2 or 4)*
- ES 480: Senior Thesis *
- ES 490: Senior Honors Thesis *
- Four elective courses are also available through the Hollins affiliated School for Field Studies. For more information see page 20 or contact Renee Godard.

*A student may apply up to two semesters of ES 390, ES 480, and ES 490 toward her elective courses.

AFFILIATED COURSES:

DIVISION I

- PHIL 181: Contemporary Moral Issues (4)
- PHIL 252: Ethics (4)
- REL 109: Introduction to World Religions I (4)
- REL 110: Introduction to World Religions II (4)

DIVISION II

- ANTH 145: Introduction to Anthropology (4)
- ANTH 312: Women and Social Movements Around the Globe (4)
- BUS 224: Business Ethics (4)
- BUS 320: Managing Nonprofit Organizations (4)
- COMM 231: Writing for the Print Media I (4)

ENVIRONMENTAL STUDIES continued

- COMM 322: Public Relations Principles (4)
- ECON 157: Microeconomics (4)
- ECON 241: Economics of Social Issues (4)
- ECON/INTL 259: International Political Economy (4)
- ECON 265: International Trade (4)
- ECON 312: Economics of the Third World (4)
- GWS/INTL 252: Gender and Globalization (4)
- GWS/POLS 213: Globalization and Poverty (4)
- INTL 120: Introduction to International Studies (4)
- INTL 302: Comparative Urbanism (4)
- INTL 303: Geopolitics (4)
- POLS 118: Controversial Issues in American Politics (4)
- POLS 226: International Law (4)
- POLS 363: Constitutional Law (4)
- SOC 133: Social Problems in Global Perspectives (4)

DIVISION III

- BIOL 121: Plants and People (4)
- BIOL 236: Cell and Molecular Biology (6)
- BIOL 241: Plant Biology (6)
- BIOL 312: Microbiology (6)
- BIOL 322: Developmental Biology (6)
- BIOL 323: Animal Behavior (6)
- BIOL 361: Physiological Ecology (6)
- CHEM 214: Analytical Chemistry (6)
- CHEM 221: Organic Chemistry I (6)
- CHEM 222: Organic Chemistry II (6)
- STAT 251: Statistical Methods I (4)

REQUIREMENTS FOR A MINOR IN ENVIRONMENTAL STUDIES:

7 courses (26 credits)

- ES 117: Introduction to Environmental Studies (4)
- ES 207: Ecology (4)
- ES 207L: Ecology Lab (2)
- ES 210: World Geography, ES 230: Economics and the Environment, **or** ES 259: Environment and Society (4)
- ES 357: Conservation Biology (4)
- Two additional courses from the list of environmental studies elective courses or affiliates (minors are strongly encouraged to enroll in ES 470)

COURSES IN ENVIRONMENTAL STUDIES:

ES 112: ENVIRONMENTAL ANALYSIS (4) **Kalra**

Also listed and described as CHEM 112. Prerequisite: *q*, one to two years of high school chemistry. Not offered in 2009–10. (*Q*, SCI)

ES 117: ENVIRONMENTAL SCIENCE (4) **Godard**

This lecture/laboratory core course for ES majors explores how organisms, communities, and ecosystems function under natural conditions, as well as how they function under human influence. We will cover a variety of current environmental concerns in both the classroom and laboratory, including the patterns of human population growth, the extinction crisis, global warming, acid rain, water pollution, solid waste management, sustainable agriculture, and renewable energy. Also listed as BIOL 117. Open to first-year students. No prerequisite. Offered Term 2. (SCI)

ES 121: INTRODUCTION TO OCEANOGRAPHY/HYDROGEOLOGY (4) **Ametepe**

Also listed and described as PHYS 121. Open to first-year students. Offered Term 2.

ES 182: ENVIRONMENTAL ETHICS (4) **Department**

Also listed and described as PHIL 182. Open to first-year students. No prerequisite. Not offered in 2009–10.

ES 197F: FIRST-YEAR SEMINAR - THE NATURE AND CULTURE OF WATER (4) **Moeckel**

An exploration of the ways water runs through American nature writing. By close reading, writing, and fieldwork, we examine and experience how authors integrate this "element" into their work, as well as the way water functions as myth, metaphor, ritual, resource, image, and form. The natural and cultural realities of our local and home watersheds will remain in focus as we consider how characters and authors reckon with the presence of water in their worlds. Placement to be determined during the summer. Also listed as ENG 197F. Offered Term 1. (*f*, *x*, *r*, AES)

ES 197F: FIRST-YEAR SEMINAR - YOU ARE WHAT YOU EAT: MAKING GOOD FOOD CHOICES FOR YOUR HEALTH AND THE ENVIRONMENT (4) **Beach**

Why do we make the food choices we make? Do we choose food mainly out of habit, or do we consider what is in it and how it was grown? How does the media and advertising influence our diet? In this course students learn to critically evaluate the foods they eat and the messages food choices send to our bodies and the environment. We will examine where our foods come from, how food production and transportation impact the environment, why excessive use of pesticides has become problematic, and why *trans* fats and genetically modified foods (GMOs) may pose health risks. We will also investigate the energy footprints of processed foods and whole foods, and learn why some scholars advocate locally produced food and plant-based diets as the solution to the many environmental and health issues that surround food. Laboratory investigations will include testing for GMOs in foods, producing cultured and fermented foods, and analyzing our diets for nutritional content. Placement to be determined during the summer. Also listed as BIOL 197F. Offered Term 1. (*r*, SCI)

ES 207: ECOLOGY (4) **Godard**

As one of the core courses for the environmental studies major, we will explore the structure and function of the natural world. We will examine the relationships between organisms and their physical and biological environment, global patterns of climate and biological life, patterns in population dynamics, as well as structure and change in communities of organisms. Also listed as BIOL 207. Open to first-year students. No prerequisite. Offered Term 1. (SCI; must take lab to fulfill SCI)

ES 207L: ECOLOGY LAB (2) **Godard**

We will explore local aquatic and terrestrial ecosystems as well as gain hands-on experience carrying out ecological research in this field laboratory course. Students will also have several opportunities to carry out their own independent research. Also listed as BIOL 207L. Corequisite: ES 207. Offered Term 1. (SCI)

ES 210: WORLD GEOGRAPHY (4) **Bohland**

This course examines the methods of geography applied to global issues, patterns and linkages in the arrangement of human physical resources, mapping

and elements of spatial analysis, and area studies. Also listed as INTL 210. Open to first-year students with permission. Offered Term 1. (GLO, MOD)

ES 219: FOOD, CULTURE, AND SOCIAL JUSTICE (4) **Costa**
Also listed and described as ANTH/GWS 219. No prerequisite. Open to first-year students. Not offered in 2009–10.

ES 220: GLOBAL SYSTEMS (4) **Bohland**
Also listed and described as INTL 220. Open to first-year students. Prerequisite: *q*. Offered Term 2. (*Q*, GLO)

ES 221: SURVEY OF PHYSICS AND THE ENVIRONMENT (4) **Bartlett**
Also listed and described as PHYS 221. Prerequisite: ES 117. Open to first-year students. Offered Term 1.

ES 230: ECONOMICS AND THE ENVIRONMENT (4) **Hernandez**
This ES core course examines the relationship between environmental quality and the economic behavior of individuals, businesses, and government. Also, it examines the way in which economic activity gives rise to environmental problems and suggests possible solutions. Topics include global warming, acid rain, energy, waste disposal, and biodiversity. Also listed as ECON 230. Open to first-year students. Prerequisite: ECON 157. Not offered in 2009–10.

ES 234: GLOBAL WARMING - ENVIRONMENTAL POLITICS AND POLICY (4) **Barbieri**
Also listed and described as POLS 234. Prerequisite: *q*. Open to first-year students. Offered Term 2. (*o*, *Q*, GLO)

ES 235: FEEDING FRENZY - GLOBAL FOOD POLITICS, SECURITY, AND SUSTAINABILITY (4) **Barbieri**
Also listed and described as POLS 235. Prerequisite: *q*. Open to first-year students. Offered Term 1. (*o*, *Q*, GLO)

ES 259: ENVIRONMENT AND SOCIETY (4) **Nye**
Current environmental problems are primarily the result of human activity, intentional or otherwise, and any solutions to these problems will necessarily require concerted and cooperative human effort as well. This ES core course investigates the complex interactions between human beings and their natural environment from a sociological point of view with an eye toward averting ecocatastrophe in the not-too-distant future. A rudimentary knowledge of biology and chemistry is recommended. Also listed as SOC 259. No prerequisite. Offered Term 1. (MOD)

ES 304: GEOGRAPHY OF GLOBAL ENVIRONMENT (4) **Bohland**
Also listed and described as INTL 304. Open to first-year students with permission. No prerequisite. Not offered in 2009–10.

ES 305: CULTURAL GEOGRAPHY AND LANDSCAPE STUDIES (4) **Bohland**
Also listed and described as INTL 305. Open to first-year students with permission. No prerequisite. Offered Term 2.

ES 357: CONSERVATION BIOLOGY (4) **Huish**
In this ES core course we attempt to synthesize studies of ecology, natural resource management, politics, economics, and ethics so that we may define for ourselves the meaning of conservation biology. Our discussions are intended to lead us through a reappraisal of what constitutes a sustainable

relationship between that which is wild and that considered tame. Also listed as BIOL 357. Prerequisites: ES 207 and 207L. Offered Term 2.

ES 357L: CONSERVATION BIOLOGY LAB (4) **Huish**

Laboratory activities will cultivate an understanding of real-world, hands-on conservation biology through field trips, active discussions, and training on the use of professional tools used by conservation biologists, such as GIS (Geographic Information Systems), which significantly aid in the decision-making process for the management and preservation of biodiversity. ES majors are strongly encouraged to take this laboratory course. Also listed as BIOL 357L. Corequisite: ES 357. Offered Term 2.

ES 390: INDEPENDENT STUDY (2 or 4) **Department**

Independent study conducted at the advanced level. Application must be made with faculty prior to registration. Offered any term.

ES 470: SEMINAR IN ENVIRONMENTAL STUDIES (2) **Godard**

The ES major is informed by a wide array of academic disciplines. In this capstone seminar we will try to tie together these academic disciplines as we examine significant environmental challenges facing our world today. In addition, each student will also prepare a portfolio summarizing her academic experiences. This course is intended for senior ES majors but junior ES majors are also invited to enroll. May be taken more than once for credit. Offered Term 1.

ES 480: SENIOR THESIS (4) **Department**

Students must undertake a research project investigating a specific aspect of environmental studies. Students must consult with the ES director in the spring semester of junior year and if approved, research would traditionally be carried out during Fall and Short Terms.

ES 490: SENIOR HONORS THESIS (4, 4) **Department**

Offered to qualified ES majors. Students must consult with the ES director in the spring semester of the junior year. If approved, the research project is completed over Fall, Short, and Spring Terms. Departmental honors will be awarded only if the research project is successfully defended to a panel of ES faculty members.