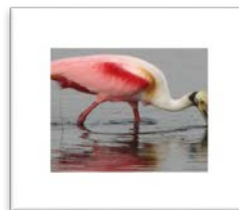
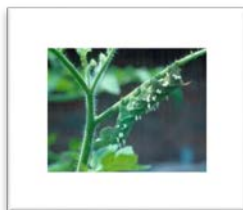
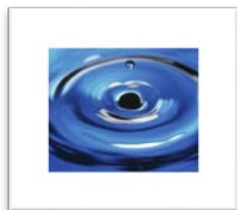


2016 Fall Course Offerings

Environmental Studies

Graduate Director: Professor Donald Morris
Undergraduate Director: Professor Al Wurth



Major and minor declaration forms are available in the Office of Interdisciplinary Programs, 31 Williams Hall, Suite 101

ES, EES 002-10 Introduction to Environmental Science CRN 41677 (NS) 3 credits

Focuses on natural and human-induced drivers and consequences of environmental change. Exploring options for mitigating and adapting to environmental change in ecosystems, physical and social systems, we will examine such topics as biogeochemical cycles, population pressure, ecosystem diversity, productivity and food security, energy, water resources, climate change, pollution, ozone, urban issues and sustainability. Stresses interactions and interrelationships, using a series of case studies. **Professor Sahagian**
T, R; 10:45 - 12:00 p.m.

ES, EES 004 The Science of Environmental Issues CRN 44142 (NS) 1 credits

Analysis of current environmental issues from a scientific perspective. The focus of the course will be weekly discussions based on assigned readings. Pre- or co-requisite: introductory-level course in EES. **Professor Kodama**
Section 10, CRN 44140, M; 11:10 - 12:25 p.m.
Section 11, CRN 44141, W; 11:10 - 12:25 p.m.
Section 12, CRN 44142 F; 1:10 - 2:25 p.m.

SDEV 010-10 Challenges of Sustainable Development CRN 42649 (SS) CBE Global 4 credits

History and principles of sustainable development, including their application to projects in both rich and poor countries. Survey of current environmental, social and economic challenges to sustainable development. Philosophy and ethics of external intervention for poverty alleviation and green development, especially in poor societies. Integrated approaches to sustainable development practice, including the inter-relationship of the health sciences, natural sciences, social sciences and management. *Open only to freshmen, sophomores and juniors.* **Professor Orrs**
T, R; 1:10 - 2:25 p.m.

ES 093 Freshmen Supervised Internship in the Environmental Initiative (SS, HU, NS) 1-2 credits

Experiential learning opportunities supervised by EI faculty including fieldwork, data collection or analysis, literature review, and information management. Consent of supervising faculty is required. The experience may be related to either environmental studies or environmental science depending upon the discipline of supervising faculty member. *Instructor permission required.*

ES, POLS 105-10 Environmental Policy and Planning CRN 43981 (SS) 4 credits

Analysis of the framework that has been established to protect the environment and promote sustainable growth. Focus on the roles of the different branches of the U.S. government and the relative responsibilities of state and local governments within this framework. Consideration of the political nature of environmental issues and the social forces influencing environmental protection in different areas of domestic environmental policy, such as climate change, toxic waste disposal and natural resources conservation. *Open only to Environmental Studies Majors.* **Professor Procyk**
T, R; 2:35 - 3:50 p.m.

ES, POLS 107-10 The Politics of the Environment CRN 43226 (SS) 4 credits

A survey of the major environmental, resource, energy and population problems of modern society, focusing on the United States. The politics of people's relationship with nature, the political problems of ecological scarcity and public goods, and the response of the American political system to environmental issues. **Professor Wurth**
T, R; 9:20 - 10:35 a.m.

ES, ANTH 121-10 Environment and Culture CRN 42264 (SS) CBE Global 4 credits

Impact of environment upon cultural variability and change. Comparative study of modern and past cultures and their environments as well as current theories of human/environmental interaction. **Professor Casagrande**
T, R; 10:45 - 12:00 p.m.

ES 123-10 Sustainability in Action I CRN 42647 1-4 credits

First half of a year-long experiential learning program for students to engage with sustainability in both general theory and applied practices. Students will learn the political, economic and social effects of changing earth systems through a global, national and local lens. Students will explore the multitude of challenges posed by increasing natural resource consumption, inequitable distribution of wealth and rapid uneven globalization. Most importantly, students will engage the Lehigh community and broader community in developing and implementing practical solutions to creating a more sustainable and just world. Offered in coordination with the Campus Eco-Reps program. May be repeated for credit. *Instructor Permission Required.* **Professor Wurth**

JOUR, ES 125-10 Environment, the Public and the Mass Media CRN 41821 (SS) (*Writing Intensive*) 4 credits

Extensive exploration of local, national and international environmental problems and their social, political and economic impacts. Analysis of mass media coverage of complex environmental issues and the media's effects on public opinion and government environmental policies. Examination of environmental journalism principles and practices in the United States and around the world. *Instructor permission required.* **Professor Friedman**
T, R; 1:10 - 2:25 p.m.

ES 131 Internship 1-2 credits

Practical experience in the application of environmental studies for both on- and off-campus organizations. Course is designed to provide credit for supervised experiential learning experiences. May be repeated for credit up to four credits. *Instructor permission required.*

ES 181 Independent Study (HU, SS) 1-4 credits

Directed readings or research on an Environmental Studies topic. May be repeated for credit up to four credits. *Instructor permission required.*

ES 195-10 Practicum in Environmental Studies CRN 43482 1-4 credits

Supervised collaborative work on local, state or national environmental issues. *Instructor permission required.* **Professor Wurth**

SDEV 202-10 Sustainable Development Solutions, II CRN 42650 (SS) 2-4 credits

Continuation and extension of projects begun in SDEV 201. Refine implementation strategies and develop project evaluation protocol. Oral presentations and written reports. Prerequisite: SDEV 201. **Professor Orrs**

SDEV 203-10 Research in Sustainable Development CRN 42651 (SS) 2-4 credits

Students will work on sustainable development research projects not involving field work. May be repeatable for a maximum of 4 credits. Prerequisite: SDEV 010. *Instructor permission required.* **Professor Orrs**

ES 223-10 Advanced Sustainability in Action I CRN 42648 1-4 credits

Leadership and coordination of Sustainability in Action projects and activities for students in ES 123. Experienced students who have completed the year-long Sustainability in Action sequence (ES 123 and ES 124) continue in course coordination role. Prerequisites, ES 123 and ES 124. Offered in coordination with the Campus Eco-Reps Program. *Instructor permission required.* May be repeated for credit. *Instructor Permission Required.* **Professor Wurth**

ES 293 Supervised Internship in Environmental Initiative (HU, NS, SS) 1-4 credits

Experiential learning opportunities supervised by EI faculty including fieldwork, data collection or analysis, literature review, and information management. The experience may be related to either environmental studies or environmental science depending upon the discipline of supervising faculty member. The students should collaborate with faculty to develop a work plan that describes the credits requested as well as the activities included in the internship and expected outcomes. *Instructor permission required.*

ECO 303-10 Economic Development CRN 41692 (SS) 3 credits

Economic development, economic growth and their political environment are discussed in detail. The principal economic development theories are examined. These theories are used to examine a variety of development issues including planning, poverty, rural-urban relationships, physical and human capital accumulation, international trade, and the environment. Emphasis on institutions and development policy. **Professor Gunter**
T, R; 1:10 - 2:25 p.m.

ANTH 305-10 Anthropology of Fishing CRN 43660 (SS) 4 credits

Comparative study of fishing peoples and their technologies. Fishing strategies, control of information, and social organization of marine exploitation in subsistence and modern industrial contexts. Theory of common property resources and the role of social science in commercial fisheries management. **Professor Gatewood**
M, W, F; 10:10 - 11:00 a.m.

ES, POLS 305-10 Seminar: Urban Policy and Planning CRN 43504 (SS) 4 credits

This course is an introductory planning course, with an emphasis on housing and community development policy. It will examine historical and contemporary aspects of urban politics; the economic, demographic, and spatial evolution of American cities; and various urban problems, such as the spatial mismatch between people and jobs, housing quality and affordability, and residential segregation. Finally, the course will review how planners have addressed conditions in cities and regions over time. *Open only to Environmental Studies Majors.* **Professor Beck-Pooley**
M, W; 12:45 - 2:00 p.m.

POLS, ENTP 310-10 Social Entrepreneurship: How to Change the World CRN 42099 (SS) 4 credits

The marketplace does not always have to be harsh. Social entrepreneurship uses market-based approaches to address needs and solve problems in our society. Students in this seminar-style course will learn how to identify community problems, convince the community that it is a problem worth solving, design the response, and implement it. Hands-on projects. Must have at least junior standing or consent of the ENTP minor director. **Professor Jennings**
T, 7:10 - 10:00 p.m.

ES, SDEV 310-10/ES 410-10 Foundations of Sustainable Development Practice CRN 43508 (SS) 4 credits

The broad goal of this course is to introduce students to the foundations of key sectoral and thematic knowledge for important challenges to sustainable development: food and nutritional security, social service delivery, energy policy, water resource management, urbanization, infrastructure, human rights, biodiversity, adaption to climate change, mitigating GHGs, sustainable business, good governance, and more. Through the Global Classroom, an approach pioneered by Columbia University and the Global Masters of Development Practice Association (<http://globalmdp.org/>), we will do this together virtually with academic partners from around the world. **Staff**
T; 7:45 - 10:35 a.m.

EES 325-10 Remote Sensing of Terrestrial and Aquatic Environments CRN 43670 (NS) 4 credits

EES 325-11 Remote Sensing of Terrestrial and Aquatic Environments CRN 43671 3 credits

Techniques of observing the Earth from air- and space-borne instruments, including issues of geometry and scale associated with making measurements, electromagnetic properties of Earth surface materials, the range of instruments used to observe the Earth, image interpretation, and applications of satellite remote sensing to geological, ecological, and environmental questions. Lecture and lab. **Professor Ramage McDonald**
M,W; 11:10 -12:25 and W; 1:10 - 4:00 p.m.

ES 371 Special Topics (HU, SS) 1-4 credits

Intensive, research-oriented study of a subject or issue in Environmental Studies not covered in other courses. For students of demonstrated ability and adequate preparation. May be repeated for credit up to four credits. *Instructor permission required.*

SDEV 372-10 Independent Study in Sustainable Development CRN 42652 (HU, SS) 1-4 credits

Opportunity for students to pursue individual sustainable development projects or continue work begin in SDEV 201/202. May not count towards minor's credit requirements. Prerequisite: SDEV 010. *Instructor permission required.* **Professor Orrs**

EES, CEE 379-10 Environmental Case Studies CRN 41858 (NS) 3-4 credits

Case studies will be used to explore the impact of politics, economics, society, technology, and ethics on environmental projects and preferences. Environmental issues in both affluent and developing countries will be analyzed. Multidisciplinary student teams will investigate site characterization; environmental remediation design; environmental policy; and political, financial, social, and ethical implications of environmental projects. **Professor Fox**
M, W; 1:10 - 2:25 p.m.

ES 391 Honors Thesis (HU,SS) 1-4 credits

Directed undergraduate research thesis required of students who apply and qualify for graduation with program honors. *Instructor permission required.*

****CANCELLED** ES, PSYC 398-10 Psychology of Environmental Issues** CRN 44188 (SS) 4 credits

Environmental problems and solutions begin with the thoughts, feelings, and behaviors of individual people. We will examine Western ways of relating to nature and the beliefs people hold about it, how they reason about environmental issues, and how they perceive environmental risk and make decisions. We will also consider environmental communication and attitude and behavior change, exploring arenas ranging from patterns of consumption and recycling to climate change. Research methods for investigating these issues will be introduced. *Department permission required.* **Professor Malt**
M, W; 2:35 - 3:50 p.m.

ES 401-10 Philosophical-Policy and Environmental Legal Design CRN 44139 3 credits

A basic class for graduate students on the idea of policy design, as opposed to standard economic analysis of public policy and its application to various domestic and international environmental dilemmas. The course will also introduce the idea of Philosophical-Policy, or the use of integrated philosophical systems to justify specific policy design arguments, through the use of two distinct theoretical paradigms that focus on, specifically, the integrity of the natural environment and the capabilities of humans in relation to ecosystems. *Department permission required.* **Professor Gillroy**
M; 4:10 - 7:00 p.m.

ES, EES 402-10 Scientific Foundations for Environmental Policy Design CRN 44189 3 credits

This course explores the science behind the environmental issues that bear on the policy process at local, national and global scales. It delves into the science of selected environmental issues that have either arisen from anthropogenic activities, or that impact social systems, or that help policy makers understand the consequences of different policy options. The course will consist of readings and discussions of timely topics and one major project. **Professor Sahagian**
R; 4:10 - 7:00 p.m.

ES, POLS 405-10 Seminar: Urban Policy and Planning CRN 43506 3 credits

This course is an introductory planning course, with an emphasis on housing and community development policy. It will examine historical and contemporary aspects of urban politics; the economic, demographic, and spatial evolution of American cities; and various urban problems, such as the spatial mismatch between people and jobs, housing quality and affordability, and residential segregation. Finally, the course will review how planners have addressed conditions in cities and regions over time. *Open only to EPD graduate students.* **Professor Beck-Pooley**
M, W; 12:45 - 2:00 p.m.

ES 480 Internship in Environmental Policy 3 credits

Students will gain practical experience working with governmental or non-governmental organizations or public officials formulating and/or implementing environmental policies at local, regional, national or international levels. Requires submission of a formal proposal drafted in collaboration with a faculty advisor and the professional mentor who will oversee the student's internship. Upon completion of the internship, students will report project outcomes in oral presentation, written, or digital media format. (May be repeated for credit with program approval) *Instructor permission required.*

ES 483 Independent Study 1-3 credits

Instructor permission required.

ES 490 Thesis CRN 42142 1-6 credits

Instructor permission required.