Sustainability Focused Classes

32 Offerings of 28 Courses in the last two years.

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ANTH 253 Environmental Anthropology

Art History

ARTH 290A Topics: Ecology Medieval Art

Biology

BIO 145 Ecology and Evolution

BIO 190 Environmental Biology
BIO 342 Ecology

BIO 345 Conservation Biology

Conflict Studies

CFT 290A Environmental Conflict and Conflict Resolution

CLST 300A Topics: Airs, Waters, Places

Economics

ECON 290A Topics: Environmental Econ

English

ENG 155B Topics: American Lit of Place

ENG 255 Wilderness Tales.

ENG 390 Advanced Topics: Women & Lit: Science, Nature, Environment
Geosciences

GEOS 107 Weather, Climate, and Change

GEOS 110 Earth and the Environment

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GEOS 230 Environmental Geology

GEO 370 Applied Hydrogeology

History

HIST 290 Topics: Latin American Environmental History

HIST 300B Topics: Environmental History of North America

Political Science

POLS 290B Topics: Intro to Global Environmental Policy

POLS 290: Topics: Introduction to Environmental Policy

POLS 390B Topics: Political Economy of the Global Environment

Philosophy

PHIL 232 Environmental Ethics

PHIL 309A Topics: Environmental Philosophy

PHIL 469A Environmentalism: Ancient-Modern
Physics

PHYS 110A Physics and Society

University Studies

UNIV 170 Environmental Science Seminar

ANTH 253 Environmental Anthropology

A study of the relationships between humans and their environment, with special emphasis on how human lifestyles may be understood as responses to environmental challenges.

ARTH 290A Topics: Ecology Medieval Art

This course examines the rapidly shifting period from 1200-1500 in Western European culture when the first urban explosions since the fall of the Roman Empire in the 5th century occurred, altering both the environment and its human subjects; when key inventions and advances such as the plow and the windmill changed the working relationship between nature and humanity; and when texts and images were first dedicated to try to understand the meaning and purpose of nature and the natural, and the relationship of humanity to both. In treating the ecology of medieval art, we will study not only art objects produced by and of the natural environment, but also the interaction of living beings to and within that environment produced by those objects. Three primary natural phenomena will guide our work: I list them and some examples of what we will study: landscape (garden (of Eden and beyond), forest, Holy Land), rocks (magical and real, gems and Stonehenge in the medieval imagination) and animals (dragons that soar, pelicans that symbolize Christ, pigs that go on trial). At stake in this course are the conceptualizations of nature and the natural, the role of memory and primitivism in articulating nature in conjunction with culture, and the symbiotic agency that nature and humanity have to each other.

BIO 145 Ecology and Evolution

This course examines the principles and practice of evolutionary biology, Mendelian and population genetics, and ecology at the individual, population, community, and ecosystem levels.

BIO 190 Environmental Biology
Students interested in environmental science and environmental studies need to have an understanding of the ways that the biosphere functions. How are the populations regulated? How can interspecies interactions maintain the integrity of biological communities? What factors control energy flow through ecosystems? The answers to all of these ecological questions are important to anyone wanting to understand and regulate the effects that human activities have on ecosystems. The goal of Environmental Biology is to give students a basic understanding of the field of ecology as well as some hands-on experience at field biology research. There are no prerequisites other than a desire to explore and understand the biosphere.

BIO 342 Ecology

Includes laboratory. The study of interrelationships between organisms and their environment, emphasizing fundamental concepts in ecology, natural history of local habitats and organisms, the process of ecological research, and current issues of interest in ecology.

BIO 345 Conservation Biology

Includes laboratory. This course will address the impacts of humans on Earth's biodiversity, and strategies taken to conserve and protect global natural resources. Topics covered may include global patterns of biodiversity, ecological community structure, habitat exploitation and restoration by humans, genetics of small populations, design of nature reserves, problems associated with invasive species.

CFT 290A Environmental Conflict and Conflict Resolution
Environmental conflict, as it relates to public policy, is relatively new, an explicit focus of concern in the U.S. for only the last few decades (for instance the EPA first opened its doors in 1970). Environmental conflict resolution also began in the 70’s. This class will introduce students to the sector of the conflict resolution field often called EPP or Environmental/Public Policy conflict resolution, as well as the broader conflicts to which it responds. EPP conflicts offer challenges that are different from other kinds of conflicts in that they usually involved multiple parties, multiple levels of government, deeply held values, and take place in the public arena.
This class will help students understand both the sources of environmental conflict and different ways to address it, including an understanding of why and how some of the classic approaches do not work, as well as strategies that do. Students will also learn processes and skills that can positively engage these kinds of conflicts. Students will engage the complexity of balancing human and environmental needs through a study of key environmental issues, and apply them to real world solutions focusing on the Greencastle or Indianapolis area.

CLST 300A Topics: Airs, Waters, Places

The course title, “Airs Waters Places: Classics and the Environment,” repurposes the title of a Hippocratic treatise on the influence of place upon human health. In line with the Hippocratic investigation into the relationship between environment and human health, this course explores how ancient Greek and Roman thinkers and poets conceive of the environment and its role in shaping human culture and how the environment, in turn, informs the ideas and art of ancient Greek and Roman writers. The course begins with an overview of the environmental history of ancient Greece and Rome, then moves through a series of topics—cosmos (ecology), wilderness, farming, and pastoral–that progresses both from macro to micro perspectives of the environment and through time from ancient Greece, to ancient Rome, to modern receptions of ancient environmental literature. The course will be highly interdisciplinary, integrating consideration of philosophical texts, literary texts, material culture, economics, and a subfield of Classical Studies called Classical Reception, which investigates how, and why, ancient Greek and Roman literature and art has influenced the history of literature, art, and ideas since antiquity.

ECON 290A Topics: Environmental Econ

Is zero water pollution better than a low level of pollution, from society’s standpoint? How do economists put a dollar value on national parks and other resources that don’t have price tags? If the government wants to reduce air pollution, what policy instruments can it use? Is “sustainable development” an oxymoron? Can you ever have too much recycling? How can market mechanisms improve environmental outcomes, and when do they make sense? These are just a few questions we can explore using a basic toolbox of economic methods and concepts. Environmental and natural resource economics consists primarily of using economics to make, understand, and inform decisions about our natural resources and the environment around us. In this course we will first hone our skills by reviewing and learning economic concepts at the core of environmental and natural resource economics, then apply these concepts to a range of cases, questions and topics. The course emphasizes the role of economics as a key analytical tool, but also incorporates scientific, political, and cultural aspects of environmental problems and policies.

ENG 155B Topics: American Lit of Place

*“Over time I have come to think of these three qualities--paying intimate attention; a storied relationship to a place rather than a solely sensory awareness of it; and living in some sort of ethical unity with a place--as a fundamental human defense against loneliness. If you're intimate with a place, a place with whose history you're familiar, and you establish an ethical conversation with it, the implication that follows is this: the place knows you're there. It feels you. You will not be forgotten, cut off, abandoned.”*

--Barry Lopez, “A Literature of Place”

In this course, we will explore the role of place, or environment, in American literature.

Narratives don’t develop in a vacuum—they expand across time and space, whether real or imagined. This course takes as its core assumption that these places matter, that they perform a specific and unique function in the text. A focus on place doesn’t exclude conversations about other important topics, such as race, class, and gender, and, in fact, it can open up new dimensions of these traditional lenses. As Lopez notes, a “specific and particular setting for human experience and endeavor is…. critical to the development of a sense of morality and human identity.” As a guiding principle, we will use Barry Lopez’s claim that we should “talk about geography as a shaping force, not a subject” as a means for asking questions about how our environment can shape our personal beliefs and experiences as we investigate the power of place in American fiction, poetry, nonfiction and film. Three broad categories of place will structure the course: urban, rural, and wild. While we will examine texts that generally speak to these locations, the course also asks us to consider the ways in which some texts escape such rigid markers of place. The literature will serve as the foundation of the course, but it will also open up opportunities to explore and develop our own relationships to a specific place.

ENG 255 Wilderness Tales
“Wilderness was the basic ingredient of American Culture. From the raw materials of the physical wilderness, Americans built a civilization. With the idea of wilderness they sought to give their civilization identity and meaning.” –Roderick Frazier Nash
In this course, we will examine the conception of “wilderness” in the American imagination through an exploration of a wide variety of literary texts. By investigating human relationships to and representations of the non-human world, in a range of genres and time periods, we will seek to understand the social, political, cultural, and personal contexts that shaped, and continue to shape, a distinctly American conception of wilderness. How do we define “wilderness,” and how has Americans’ understanding of its significance changed? Who goes into the wilderness, and to what end? Do we, as Henry David Thoreau suggests, “need the tonic of wildness?” We will investigate these and other questions as we read works in which humans feel compelled to enter the “wild” and to share that story with others; such texts might include Cheryl Strayed’s Wild; Jon Krakauer’s Into the Wild; Eddy Harris’s Mississippi Solo; Linda Hogan’s Solar Storms; or Annie Dillard’s Pilgrim at Tinker Creek. In addition to these longer texts, we will read relevant shorter pieces of fiction and non-fiction. The course will also give you the opportunity to explore your own relationship with and attitude toward the natural world. Given that this is a W course, you will develop essays across several genres in response to course texts and themes and practice writing as a process by devoting a significant portion of your energy toward drafting, revising, and polishing your work.

ENG 390 Advanced Topics: Women & Lit: Science, Nature, Environment
In this Women and Literature class, we will investigate what women writers have to say about science, scientists, and the natural environment. We will focus primarily on poetry and fiction, with some excursions into critical theory and creative nonfiction. Preliminary list of readings for the course includes works by poets Mary Oliver, Elizabeth Bishop, Marianne Moore, Gjertrud Schnackenberg, and Anne Carson; novels and short stories by Sarah Orne Jewett, Barbara Kingsolver, and Andrea Barrett; and nonfiction by Rachel Carson and Sandra Steingraber.

GEOS 107 Weather, Climate, and Change

This course is designed to provide an overview of the behavior of the Earth’s atmosphere. The course is divided into three areas; weather, climate and climate change. Weather, the natural variability of atmospheric conditions locally, regionally and globally over periods of time ranging from hours, days, years, and even decades provides the foundational data necessary to determine longer term atmospheric conditions that scientists use to define climate. To provide a foundation for the study of climate, students will need to understand just what elements define weather (e.g., atmospheric pressure, temperature, and moisture) and what types of weather systems develop from these elements (e.g., extratropical cyclones, fronts, storms, etc.).  \_\_In this course, students will carefully investigate what phenomena constitute weather and what phenomena constitute climate. To understand climate, students will examine how long-term atmospheric characteristics are measured and how statistics are used to understand atmospheric conditions. In addition, students will look at whether biota (including humans) can change short-term and long-term atmospheric phenomena. Ultimately, the class will learn how has climate changed over both short and long periods of the Earth’s history, and, what evidence exists for these periods of climatic change.  \_\_Currently, the climate of Earth is undergoing rapid change. To understand the origin and effects of this rapid climatic change, students will need to investigate and understand how the scientific community measures the elements and characteristics of climate (past and present), what evidence exists that the climate is rapidly changing, and whether this period of climate change is natural and/or human-induced. \_\_Finally, students will examine the societal response to rapid climate change, what the consequences of rapid climate change are, and what the models predict will occur in the future (short and long term).

GEOS 110 Earth and the Environment

An introduction to the materials that make up the earth and the interplay between constructive and destructive processes that shape the earth, including plate tectonics. Laboratories include mineral and rock identification, field trips, and topographic map interpretation.

GEOS 125 Introduction to Environmental Science

An introduction to the study of environmental science. Topics include matter, energy, ecosystems, human populations, natural resources, and the impact of human activity on the natural environment. Special attention is given to current environmental problems including air and water pollution, acid rain, stratospheric ozone depletion, climate change, deforestation, and species extinctions.

GEOS 190 Energy and the Environment
An introduction to energy resources and the environmental impacts of their use. The

importance of nonrenewable fossil fuels in modern industrialized societies is examined and the effects of changing rates and costs of energy production on modern lifestyles are explored. The potential economic costs and societal impacts of transitioning to renewable and sustainable sources of energy are discussed.

GEOS 230 Environmental Geology

An intermediate examination of the processes that influence the physical and chemical nature of the Earth's surface with special attention given to the influence of human actions on the lithosphere, hydrosphere, and atmosphere. Students learn how the risks from natural hazards are assessed and minimized; understand the consequences of natural resource extraction; and consider the sources, transportation, fate, and remediation of waste and pollution in the environment. Real-world examples emphasize the importance of these topics for solving environmental problems.

GEO 370 Applied Hydrogeology

Includes laboratory. An investigation of the occurrence and movement of water within the hydrologic cycle. Special attention is given to water quality and water supply concerns. Lab and field work develop skills to apply course concepts to real world problems.

HIST 290 Topics: Latin American Environmental History

The diversity of people, geography, and ecology in Latin America combine to make it one of the most diverse environments on the planet. Complementing the diversity is a rich history of human interactions with the environment. Knowing this history informs us about indigenous economic and cultural practices that offer alternative ways of thinking about how people relate to their environment. The history of conquest and colonization illustrate the dramatic, if not catastrophic, impact of European environmental practices, which helps us to further understand how modernity attempted to control nature, as well as the consequences of this effort. Learning the history also shows the troubled relationship between capitalism and the planet's resources, and how the troubles were important in shaping Latin America's social, political, economic, and cultural landscapes. The history is important for our thinking about the contemporary and future challenges we face, especially in the areas of climate change, resource extraction, food sovereignty, and disease, and energy. This course is discussion based, and will emphasize short analytical writing (take home essays) for evaluation. Students can expect between 50-75 pages of reading per class session.

HIST 300B Topics: Environmental History of North America

Throughout this course, we will examine various ways in which humans have interacted with the natural environment in North America. From initial human contact with the continent to environmental justice movements, this class will give you a survey of the major themes in the field of environmental history. The course will also provide you with some insight into emerging topics of interest among environmental historians. In addition to studying the role of nature in North American history, we will examine the history of conservation, environmentalism, and the complicated relationship between science and society in the twentieth century. Each week we will discuss primary and secondary source material while exploring diverse perceptions of nature, wilderness, and ecology.

Students will develop their written and oral skills through participation in class discussions, essays, an oral presentation, and a final research paper.

PHIL 232 Environmental Ethics

An examination of the extent of, limits to, and grounds for individual and collective moral obligations with respect to the 'more-than-human world.' Discusses anthropocentric, zoocentric, biocentric and ecocentric value theories; ecofeminist, deep ecology, and environmental justice perspectives; and/or such topics as biodiversity, climate change, sustainable agriculture, and/or ethics of consumption. This course may include a community engagement/service learning project and required field trips.

PHIL 309A Topics: Environmental Philosophy

We shall examine what we might mean by 'nature' or 'the natural' and our relation to it. We shall then explore whether and how we have obligations to non-humans such as animals, plants, and ecosystems. In doing so we shall consider moral theories such as utilitarianism, deontology, biocentrism, ecocentrism, deep ecology, and ecofeminism. We shall also critically consider specific current environmental issues, such as climate change, population, consumption, environmental justice, environmental racism, and resource ethics.

PHIL 469A Environmentalism: Ancient-Modern
It is widely thought that the history of philosophy, particularly the classical period, is responsible for the intellectual justification of the degradation of nature. We will challenge this widespread assumption. We will explore classic and contemporary philosophical thought on issues pertaining to the environment and our relation to it. We will examine various views of nature and we shall try to determine what attitudes the ancients may have had given their philosophies of nature. We shall engage specific environmental concerns and conceptual problems from the perspective of ancient thinkers.

POLS 290: Topics: Introduction to Environmental Policy

This course provides a brief introduction to the public policy process, as well as an overview of environmental policymaking. Our focus will be on the history and evolution of environmental policy in the United States, though at the end of the semester we will turn our attention to emerging problems of international and global environmental policy. There are no prerequisites for enrolling in this course. This course does not take the place of U.S. Public Policy or Global Environmental Politics, both of which I will offer separately in the future. Our discussion of the policy process, American politics, and international politics will serve mainly to guide group discussion of an extensive range of case studies in environmental policy. Although there will be background information provided in readings and in lectures, these case discussions will be the primary pedagogical tool that we will use in this course. Cases range in scope from community activism in response to local environmental conditions, and threats, state-level environmental policy, federal environmental policy, and international policy coordination concerning transboundary resources and global environmental issues (e.g., climate).

POLS 290B Topics: Intro to Global Environmental Policy

This course introduces students to the international politics of the global environment. It advances a social science framework for analyzing global environmental politics and then applies that framework to examine a number of specific environmental issues. Analytic topics include: (1) making and defending causal claims in political science, (2) defining global environmental problems, (3) sources of global environmental problems, (4) the international policy process, (5) the design and effectiveness of global institutions, and (6) ongoing challenges in global environmental governance. The course has no formal prerequisites, though previous coursework in international politics, international organization/law, and environmental politics may be helpful. Preference will be given to third- and fourth-year political science majors.

POLS 390B Topics: Political Economy of the Global Environment

This seminar focuses on the ways in which international economic processes shape global environmental governance. The first half of the course is a survey of global political economy, with a specific focus on the environment. Topics will include (1) the environmental consequences of current patterns of consumption, (2) the effect of international trade on global environmental issues, (3) the influence of foreign direct investment on environmental regulation (is there a "race to the bottom" in environmental regulation?), (4) the compatibility of environmental protection and economic growth, (5) whether current understandings of sustainable development are tenable, and (6) the effect of development finance on the environment.

We then examine a number of specific topics in greater detail, including (1) the political economy of the international climate regime, (2) the effectiveness of corporate selfgovernance (e.g., corporate social responsibility), (3) the use of market mechanisms to promote environmentally-beneficial behavior (e.g., eco-labelling), and (4) the conditions under which corporate interests can or cannot be harnessed to promote environmentally beneficial outcomes. This course has no formal prerequisites, though previous coursework in international politics, international trade, international development, and environmental politics may be helpful. Preference will be given to third- and fourth-year political science majors.

PHYS 110A Physics and Society

The fundamental concepts of classical and modern physics presented with particular attention to their application to questions of importance to members of technological society (such as energy and energy policy). Topics may include Newtonian mechanics, special and general relativity, quantum and nuclear physics and modern cosmology. Prerequisite: high school algebra and trigonometry. Note: This course does not fulfill the prerequisites for advanced courses in physics, nor the requirements for medicine, engineering or secondary teaching.

UNIV 170 Environmental Science Seminar

In this discussion-based course, students learn the interdisciplinary science behind environmental problems by reading current and classic papers from a variety of scientific journals. The specific topic or topics are chosen by the class during the first session and then are explored over the course of the semester. Scientific writing and speaking skills are developed throughout the semester. The following are additional recommended courses that would be helpful for a graduate going on to an environmental career, but do not count toward the seven course requirement for the program.