

ENVIRONMENTAL STUDIES (ENVS)

ENVS105Z Plant Communities of New England

Students will become familiar with diverse plant communities of various New England ecosystems. Fundamentals of plant structure, physiology, reproduction, ecology, and evolution will be applied to studies of key native species. We will also explore community interactions, the role and impact of disturbance, invasive species and strategies in conservation. The course will provide students with foundational information traditionally associated with introductory botany courses. Specific New England plant communities and species will be cited as exemplars, with an emphasis on terrestrial angiosperms. Species and communities will generally be from four New England ecosystems of interest: Northern Mountains, Temperate Deciduous Forest (of S. New England), Atlantic Pine Barrens region (Outer Cape Cod), and natural and managed early succession habitats throughout. While this is a lecture course and there is no formal lab, you will still have some field and lab activities to provide hands-on observation and application of information. In addition to individual work, there is one group project and group activities during class.

Over break, students will plant seeds and observe and record their germination. Seeds, directions, and access to an online journal will be provided by the instructor before the end of fall term. Students must procure a magnifying glass or hand lens for this work and for additional work throughout the class (capable of 10x).

Offering: **Host**

Grading: **OPT**

Credits: **1.00**

Gen Ed Area: **NSM-ENVS**

Prereq: **None**

ENVS125F Community Gardening (FYS)

This course will provide students with skills and hands-on training so they can garden and grow food for themselves and their community.

Students will participate in UConn's Master Gardener Program, which has been offered to members of the community for 40 years and is well-respected in the gardening and farming community. Course topics will include: "botany, plant pathology, soils, entomology, pesticide safety, integrated pest management (IPM), woody ornamentals, herbaceous ornamentals, vegetables, trees and small fruits, turf grass, invasive plants, weeds, water quality, environmental factors affecting plant growth, and diagnostic techniques for the home gardener."

Hands-on training and application of the skills learned from the UConn Master Gardener Program will take place at Long Lane Farm on Wesleyan University's campus or at home for students learning remotely.

Students who complete this course will receive a certificate and name badge designating them as a University of Connecticut Certified Master Gardener.

This course is offered in partnership by the College of the Environment, Allbritton Center for the Study of Public Life, and UConn Extension Master Gardener Program.

Offering: **Host**

Grading: **OPT**

Credits: **1.00**

Gen Ed Area: **NSM-ENVS**

Prereq: **None**

ENVS130F Thinking Animals: An Introduction to Animal Studies (FYS)

In 1789, British philosopher Jeremy Bentham wrote: "The question is not, 'Can they reason?' nor, 'Can they talk?' but, 'Can they suffer?'" This question, which challenged the social and legal norms of the 18th century that denied sentience to non-human animals, has influenced disciplines across the social sciences and humanities to focus on what has more recently become known as, "the question of the animal." Bentham's question has sparked centuries of debate about the sentience of non-human animals and our relationship to them. In this course, we will examine a range of theories and representations of "the animal" to understand the desire to tame or objectify animals (through zoos, factory farming, and taxidermy), as well as why they are often conceived of as guardians of inaccessible experience and knowledge, and how the human and its various gendered, classed, and racial manifestations have been conceived of through and against notions of animality. Readings may include Poe, Kafka, Derrida, Bataille, Haraway, and Coetzee (among others).

Offering: **Crosslisting**

Grading: **OPT**

Credits: **1.00**

Gen Ed Area: **HA-COL**

Identical With: **COL130F, FGSS130F**

Prereq: **None**

ENVS135 American Food

This course investigates topics in the history of food production from the colonial period to the present, with emphasis on the American contribution to the development of world food systems and cultures of consumption. Topics to be addressed include the production of agricultural commodities, development of national markets, mass production of food, industrialization of agriculture, and the recent emergence of organics, slow food, and local movements.

Offering: **Crosslisting**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **SBS-HIST**

Identical With: **HIST135**

Prereq: **None**

ENVS186 Justifying Space: The History and Future of Space Exploration Visions

This will be a seminar class about the changing visions and motivations for space exploration, historically and to the present day. Readings will include historical perspectives such as those of K. Tsiolkovsky, H.G. Wells, Arthur C. Clarke, Gerard O'Neil, and Carl Sagan, the poetry of Diane Ackerman, the newsletters of space enthusiast organizations such as the National Space Society, the L5 society, and the Planetary Society, as well as more current readings from the popular and space policy literature. Perspectives will also include other cultural reference frames through readings from the literatures of Afrofuturism and Chinese science fiction. Through selected readings from both the fiction and nonfiction literature, students will become familiar with the history of space advocacy, and the various idealistic and utopian predictions and visions that have been associated over time with ideas of human crewed and uncrewed space exploration. We will look critically at how past visions and promises have measured up against the reality of space exploration and also, through this lens, critically examine the visions and motivations being espoused by today's range of government and corporate space organizations and enthusiasts.

Offering: **Host**

Grading: **OPT**

Credits: **1.00**

Gen Ed Area: **SBS-ENVS**

Prereq: **None**

ENVS188 Neotropical Aquatic Ecosystems: Their Importance, Sustainable Use, and Conservation (CLAC 1.0)

(English translation below Spanish text) El curso de Ecosistemas Acuáticos Neotropicales permitirá a los estudiantes buscar información y discusión sobre la diversidad y complejidad de los ambientes acuáticos en la América tropical. Comenzaremos a aprender definiciones, características, distribución y ejemplos de humedales, lagos, ríos y muchos otros hábitats acuáticos en todo el neotrópico. El origen del sistema hidrológico. Evolución de las principales cuencas: Amazonas, Magdalena, Orinoco y Paraná. El Paleo Orinoco-Amazonia: Importancia geológica y biótica. Dinámica geológica. Evidencia geológica y biológica. Hipótesis evolutivas de la fauna piscícola. Evolución del paisaje amazónico como parte del conocimiento para comprender los diversos procesos y patrones de riqueza y distribución de la biodiversidad. Los humedales (sabanas inundadas) de Colombia-Venezuela como ejemplo de humedales neotropicales. El Pantanal brasileño y las llanuras colombo-venezolanas como "áreas de criadero" para la biota acuática y terrestre y su importancia para el mantenimiento de la biodiversidad. Los estudiantes también leerán y buscarán información sobre el Sistema Fluvial Orinoco como ejemplo de estudio. La importancia biótica, el desarrollo sostenible y la conservación. Identificar los factores antrópicos que afectan al sistema. El desarrollo social y económico, y las contribuciones a través de los Programas de Evaluaciones Acuáticas Rápidas (RAP's) como metodología para producir información que permitió proponer áreas para la conservación de la biodiversidad. Terminamos con un análisis de los recursos y la importancia pesquera de las principales cuencas neotropicales: Amazonas, Orinoco y Paraná-Paraguay. Seguridad alimentaria. Ejemplos de ríos en riesgo.

This course will examine why the Orinoco and Amazon basins in South America harbor a biological richness much larger than other river basins around the world. About 50% of all higher plant species of the world are included in these basins. Data on vertebrates showed that about 3,000 freshwater fish species, thousands of birds (migratory and local), and hundreds of amphibians, reptiles, and mammals have been found so far in those basins geographically included in six countries: Bolivia, Brazil, Colombia, Ecuador, Peru, and Venezuela. We will examine the key factors that have affected their historical-geological development, the actual richness, and the threats to sustainable development and conservation. We will ask questions about the nature and interactions of the key factors and agents that harbor and transformed the high ichthyological and other aquatic biota diversity, reflected by the wide range of landscapes and aquatic ecosystems included in those basins. We will try to identify fragile aquatic ecosystems depending upon the biological richness, endemism, importance for local communities, and potential threats. We will examine the current trends in the fisheries, forest exploitation, and agriculture for human consumption, noting that stocks of many species of fish are in steep decline, and that current fishing practices are not sustainable. Finally, the major impacts and threats faced by the fishes and aquatic ecosystems of the Orinoco River Basin are discussed with the purpose of studying potential plans for sustainable development. The course is presented in a reading/discussion format in which all readings, writings, and discussions will be in Spanish.

Offering: **Host**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **NSM-ENVS**

Identical With: **CGST266, LAST260**

Prereq: **SPAN221**

ENVS195 Environment and Society: Introduction to Environmental Studies through the Social Sciences

The environmental social sciences (ESS) examines how humans interact with their surroundings and the contexts for their behaviors that have impacts across local, regional, and global scales. ESS draws from multiple disciplines that address various aspects of environmental experience including, but not limited to anthropology, geography, psychology, public health, and sociology.

This course utilizes ESS as a framework to explore the interdisciplinary field of environmental studies to better understand the characteristics of human interaction with, and dependence on, the environment and the causes and consequences of environmental degradation at local and global scales. We will explore the disciplinary frameworks in ESS, as well as touch on key elements of related research approaches commonly utilized across this interdisciplinary field.

This is a fundamental, introductory, survey course. In addition to providing the opportunity to apply and synthesize material, the course will likely fill in knowledge gaps. Many students will find that some information will be a review--but what that information is, will vary with the student!

Offering: **Host**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **SBS-ENVS**

Prereq: **None**

ENVS197 Introduction to Environmental Studies

This course explores the interdisciplinary field of environmental studies to better understand the characteristics of human interaction with and dependence on the environment, and the causes and consequences of environmental degradation at local and global scales. We will explore key processes, characteristics, and phenomena of the natural world, and relevant human system and social dynamics. We will apply this information to identifying important issues and trends of global climate change and sustainability. Projects facilitate synthesis and application, skill development, reflection, and independent exploration.

Offering: **Host**

Grading: **OPT**

Credits: **1.00**

Gen Ed Area: **NSM-EES**

Identical With: **BIOL197, E&ES197**

Prereq: **None**

ENVS201 Body and Earth: Emergent Strategies for Reimagining the Human-Environment Relationship

We live in a world in which humans are inextricably connected to nature, humanity's life support system. Yet at the same time we live on a planet in peril, in which environmentalists across the globe are working to catalyze societal transformation for sustainable living on Earth. This course explores these themes by 1) analyzing how social and ecological systems are intertwined, 2) exploring diverse ways of knowing nature through movement and mindfulness exercises, and 3) investigating and communicating mechanisms of sustainable environmental practice. The course will introduce conceptual frameworks and methodologies to explore the embeddedness of humans in nature--a task that remains critical for addressing today's environmental challenges. Students will engage with interdisciplinary frameworks engaging in environmental problem solving, as well as movement and place-based approaches for experiential learning. Through case studies and individual storytelling projects, we will examine how embeddedness in nature, interdisciplinary perspectives, and human agency provide sustainable pathways for both people and planet.

Offering: **Host**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **SBS-ENVS**

Identical With: **DANC203**

Prereq: **BIOL182 OR BIOL216 OR ENVS197 OR EES199**

ENVS202 Constructing the Human: Humans and Animals in the Hebrew Bible

How do we define "humanness" and what assumptions do we make about our own distinctions between "humans" and "animals" through this definition? This course will look at the process of constructing the human category in the ancient world and Hebrew Bible and then compare that process to our own modern conceptions of humanness. In what ways are they similar and in what ways are they different? How can ancient examples of the human category inform our own ethical understandings of what it means to be human?

Offering: **Crosslisting**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **SBS-RELI**

Identical With: **RELI202, CJST202**

Prereq: **None**

ENVS203 The Secrets of Ancient Bones: Discovering Ancient DNA and Archaeology

New analyses of ancient DNA preserved for millennia in bones and soils have revolutionized the field of archaeology. Suddenly, archaeologists have gained new insight into human origins, past population migrations, ancient diseases, plant and animal domestication, and even the factors that contributed to the extinctions of megafauna such as woolly mammoths. Recent genetic case studies will provide a lens for learning about the archaeology of diverse world regions and time periods, from Oceania to Mesoamerica and from the Paleolithic through recent history. Topics will include: human evolution and genetic relationships between humans, Neanderthals, and Denisovans; the peopling of the globe; extinction and de-extinction; domestication and the origins of agriculture; paleodiseases and paleodiets; and ethics in genetic research.

Offering: **Crosslisting**

Grading: **OPT**

Credits: **1.00**

Gen Ed Area: **SBS-ARCP**

Identical With: **ARCP203, ANTH212, STS203, IDEA203**

Prereq: **None**

ENVS204 Extreme Landscapes of the Anthropocene

The "Anthropocene," a term coined to categorize the current geological epoch, has become a way in which social scientists can critically and creatively engage with the impact of humanity on the ecological well-being of the Earth. The interdisciplinary and uncertain nature of this subject matter provides space for experimental writing styles, innovative approaches to storytelling, and critical discussion and debate. This course is designed to explore and challenge the term "Anthropocene," questioning how narrative and drama are entangled in the dissemination of complex truths, for better or worse.

In this course, we will consider texts, short films, and other mixed media that investigate the everydayness of extreme landscapes, from "capitalist ruins" to the depleting seas. We will dive into the social, political, economic, and scientific power-scapes that influence narratives about the environment, from late liberal ideology to corporate influence on science and the news. Through the course materials and activities, we will question how to communicate complex information with a broad range of people, particularly surrounding issues of climate change, sustainability, and environmental justice. Each student will build their own writing portfolio of short essays for specific audiences. The class will collectively build and design a storytelling website where they can share their

work. Students are encouraged to apply an ethics of care and the art of "non-judgmental attention" to their critical engagement with the Anthropocene.

Offering: **Crosslisting**

Grading: **OPT**

Credits: **1.00**

Gen Ed Area: **SBS-SISP**

Identical With: **SISP204, WRCT204, ANTH204**

Prereq: **None**

ENVS206 Public Policy

"Public policy" describes the patterns of actions employed by the government to achieve a variety of social goals. Some of these actions may be of great consequence (e.g., incarcerating prisoners, providing income maintenance to the poor, preventing deaths from pollution or workplace hazards). This course provides a survey of several key public policies in the United States. It will begin with an exploration of the policy-making process, policy design, and policy evaluation. The remainder of the course will be devoted to the examination of several key public policy areas including criminal justice, education, social welfare, economic management, health care, and environmental protection regulation. By integrating theoretical debates and the historical evolution of core public policies, the course aims to develop analytical skills as well as an appreciation for the technical and political complexities of policy-making.

Offering: **Crosslisting**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **SBS-GOVT**

Identical With: **GOVT206**

Prereq: **None**

ENVS207 Introduction to Archaeology

What can fragments of pottery, stones, and bones reveal about the lives of people who lived thousands or even millions of years ago? What does the archaeological record reveal about human evolution, past human diets and health, ancient socioeconomic systems, and the emergence of early cities? And how can we preserve archaeological sites and artifacts for future generations? This course will introduce students to the interdisciplinary field of archaeology. We will discuss key methods and principles that archaeologists use to study the human past while covering a survey of world prehistory from the earliest stone tools to the archaeology of contemporary material culture. Students will have the opportunity to examine real archaeological artifacts—including artifacts excavated from historic Middletown—and will be encouraged to think critically about the ways that archaeology informs our understanding of both the past and the present.

Offering: **Crosslisting**

Grading: **OPT**

Credits: **1.00**

Gen Ed Area: **SBS-ARCP**

Identical With: **ARCP204, ANTH214, IDEA204**

Prereq: **None**

ENVS208 System Mapping for Social and Environmental Impact

In recent years, growing interest in social entrepreneurship has pushed students to "solve" complex social and environmental problems with new ventures of their own design. Unfortunately, this approach often overlooks a critical foundation of social change: understanding the root causes of problems and the contexts that surround them before seeking solutions.

In this six-week, half-credit class, students will study a problem and the systems that surround it. By the end of the course, students will create a "systems map" that documents the economic, political, and cultural factors behind their problem, as well as the current "solutions landscape."

Offering: **Crosslisting**

Grading: **Cr/U**

Credits: **0.50**

Gen Ed Area: **SBS-ALLB**

Identical With: **CSPL257, AFAM257**

Prereq: **None**

ENVS209F Interrogating Sustainability (FYS)

In 1987, the United Nations' publication "Our Common Future" -- also known as the "Brundtland Report" -- elevated sustainability as a central concern in international policymaking. The report focused on sustainable development as an essential method for achieving sustainability, defining it as development that "meets the needs of the present without compromising the ability of future generations to meet their own needs." Since then, sustainable development and other methods for fostering sustainability have played an important role in debates related to environmental, economic, and social policies at multiple scales around the world. In this course, we will interrogate the concept of sustainability, examining its history, its impact on environmental policies and social and economic development, critiques of the sustainability concept, and alternative visions for securing equity between current and future inhabitants of the earth. As a first year seminar, the course will use a variety of scaffolded writing assignments along with readings, discussions, and films to explore concepts including the commons, climate change, water scarcity, petrochemical and plastic pollution, land use, biodiversity loss, industrial agriculture, One Health, degrowth, ethical consumers, and circular economies.

Offering: **Host**

Grading: **OPT**

Credits: **1.00**

Gen Ed Area: **NSM-ENVS**

Prereq: **None**

ENVS210 Evolution in Human-Altered Environments

Human activities have altered natural environments and, indeed, have created entirely novel ecosystems such as cities and high-input farms. This course examines how these human alterations to the environment affect the evolution and coevolution of diverse organisms. Starting with an intensive overview of microevolutionary processes, we will consider a number of contemporary scenarios: evolutionary response to environmental contaminants, exploitation of natural populations, and global climate change; evolution in urban and agricultural ecosystems; and the evolutionary impact of nonnative, invasive, and genetically modified organisms.

Offering: **Crosslisting**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **NSM-BIOL**

Identical With: **BIOL215, BIOL515**

Prereq: **[BIOL182 or MB&B182]**

ENVS211 History of Ecology

The word "ecology" has come to have many meanings and connotations: a scientific field dealing with the relation of organisms and the environment, a way of thinking about the world emphasizing holism and interconnection, a handmaiden of the environmental movement, to name a few. This course covers the history of ecology as a scientific discipline from the 18th-century natural history tradition to the development of population, ecosystem, and evolutionary ecology in the 20th century, situating the science in its cultural, political, and social contexts. Along the way, it traces the connections between ecology and economic development, political theory, ideas about society, the management of natural resources, the preservation of wilderness, and environmental politics. How have scientists, citizens, and activists made use of ecological ideas, and to what ends? How have they understood and envisioned the human place in nature? How have the landscapes and places in which ecologists have done their work shaped their ideas? Other major themes include the relationship between theories of nature and theories of society, ecology and empire, the

relationship between place and knowledge about nature, the development of ecology as a professional discipline, the role of ecologists as environmental experts, the relationship between the state and the development of ecological knowledge, and the relationships among ecology, conservation, agriculture, and environmentalism.

Offering: **Crosslisting**

Grading: **OPT**

Credits: **1.00**

Gen Ed Area: **SBS-HIST**

Identical With: **HIST221, STS221**

Prereq: **None**

ENVS212 Introduction to Ethics

This course will begin with some ancient questions about values. We find that two ancient approaches to right living (Platonic-Stoic and Aristotelian) differ radically over how much experience or society can teach us about what is good. Yet both insist that moral life is essentially connected to individual happiness.

Turning next to modern ideas of moral action (Kantian and utilitarian), we find that they both emphasize a potential gulf between individual happiness and moral rightness. Yet, like the ancients, they disagree over whether morality's basic insights derive from experience.

The last third of the course explores more recent preoccupations with ideas about moral difference, moral change, and the relation between morality and power. Especially since Marx and Nietzsche, moral theory faces a sustained challenge from social theorists who allege moral norms and judgments serve hidden ideological purposes. Some have sought to repair universal ethics by giving an account of progress or the overcoming of bias, while others have argued for plural or relative ethics. Ecological critics have challenged moral theorists to overcome their preoccupation with exclusively human interests and ideals. What kinds of moral reflection might be adequate to problems of global interdependence?

Students will come to understand the distinctive insights and arguments behind all of the positions considered, to recognize more and less cogent lines of response to them, and to shape their own patterns of moral reasoning through careful reflection.

Offering: **Crosslisting**

Grading: **OPT**

Credits: **1.00**

Gen Ed Area: **HA-PHIL**

Identical With: **PHIL212**

Prereq: **None**

ENVS213 Invoking the Earth Mother: Ecofeminisms and Indigenous Spiritual Ecologies

Over the past 50 years, a radical reshaping of our relationship to the organic world has infused national economic strategies, United Nations discourses, indigenous land rights movements, environmental legal frameworks, and a subtle mainstreaming of neopagan ritual practices and goddess worship in the Americas. This seminar will explore the social, legal and metaphysical aspects of myriad eco-feminist and indigenous spiritual ecologies. We will explore these worldviews and ritual practices from animist, pantheist, monist, and panentheist perspectives, with a particular focus on gender constructs, implicit and explicit, within these movements. What is the relationship between the

1970s environmental movement and the rise of Goddess worship in the U.S.? Between the United Nations and Amazonian ayahuasca practitioners? Legally, Should Trees Have Standing (Stone 1972)? Politically, Is the Goddess a Feminist (Hiltebeitel & Erndl 2000)? Is Mother Earth, ultimately, empowering for LGBTQ2S folks? Engaging emerging podcasts, shamanic documentaries, social manifestos, and provocative religious studies texts, students will wrestle with a profound set of humanistic questions that may prove crucial to our survival as a species, namely: under what circumstances do we successfully invoke the gods to self-regulate the ecologically destructive practices of our late-stage capitalism? Who invokes who, how and when, shared where? To whom do we tend to listen on these matters, and why are they quaked to speak?

Offering: **Crosslisting**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **SBS-RELI**

Identical With: **RELI204, FGSS204**

Prereq: **None**

ENVS214 Climate Change Economics and Policy

This course introduces students to the role of applied economics in climate change policy and analysis. Students will learn how economists view climate change causes, mitigation, adaptation, and policy challenges. Key topics include: economics of market failures, socially optimal greenhouse gas emissions, overview of theoretical and real-world policies to reduce emissions, evaluating the relative abatement costs of command and control versus market-based policies, valuing climate change impacts, evidence of adaptation strategies in the economy, discounting costs and benefits across multiple generations, impacts of uncertainty on optimal policy design, the role of international cooperation and consequences of unilateral action, and distributional effects.

Offering: **Crosslisting**

Grading: **OPT**

Credits: **1.00**

Gen Ed Area: **SBS-ECON**

Identical With: **ECON210**

Prereq: **ECON110 OR ECON101**

ENVS215 Humans, Animals, and Nature

A variety of important issues are central to understanding the complexity of relationships between humans, nonhumans, and the rest of nature. The goals of the course are to help students to think critically, to read carefully, to argue well, and to defend their own reasoned views about the moral relations between humans, animals, and nature.

Offering: **Crosslisting**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **SBS-PHIL**

Identical With: **PHIL215, STS214**

Prereq: **None**

ENVS216 Ecology

Ecology is the scientific study of interactions between organisms and their environment, both biotic and abiotic. We will look at how these interactions shape fundamental characteristics of populations, communities, and ecosystems. Topics will include predation, competition, symbioses, and effects of stress and resource limitation in diverse environments. We will cover important consequences of interactions such as coevolution, population outbreaks, ecological coexistence, patterns of biodiversity, ecological succession, species invasions, food web dynamics, nutrient and energy cycling, variation in ecosystem goods and services, and global change.

This course emphasizes several learning goals in biology, including skill in formulating original ideas and experiments, using quantitative and graphical tools and interpreting quantitative information, and scientific writing.

Offering: **Crosslisting**

Grading: **OPT**

Credits: **1.00**

Gen Ed Area: **NSM-BIOL**

Identical With: **BIOL216**

Prereq: **[BIOL182 or MB&B182]**

ENVS217 The Environment, The Bible, and Moral Debate

The environment is a pressing concern for many people and is the center of much modern debate. Within this debate, many people draw on biblical texts for a source of religious or moral superiority. These biblical texts have been used to support many different, and often contradictory, arguments within the environmental debate. So what does the bible actually say about the environment? Is there a singular "biblical" view about what the environment is and how one should treat it? This course aims to look at how the bible has been used in environmental debate and then look at the texts cited, analyzing both in a modern and ancient context.

Offering: **Crosslisting**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **SBS-RELI**

Identical With: **RELI217, CJST219**

Prereq: **None**

ENVS218 Nature/Culture

In this course, we are going to explore--and problematize--the boundary between the so-called "natural" world and human social and cultural life. Rather than assuming that "nature" is something that already exists in the world that humans have systematically excoriated and transformed, we consider instead the idea that nature and culture are fundamentally co-constitutive concepts--that is to say, that one cannot exist without the other. As we go, we will explore pressing concerns such as the boundaries between human and non-human, the nature of the Anthropocene, the question of what it means to be "modern," and the power of ecological politics in our contemporary orders of global capitalism.

Offering: **Crosslisting**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **SBS-ANTH**

Identical With: **ANTH215, STS255**

Prereq: **None**

ENVS219F Knowing the Natural World (FYS)

As humans we interact with the natural world through a wide array of perspectives. Nature is an adversary, a food pantry and medicine cabinet, a force to be reckoned with, mimicked, managed and revered. This course will explore various ways that humans experience and understand the natural world through a series of sensory, scientific, intellectual and creative investigations (some outdoors), and reflection and synthesis. Topics include the human biology that shapes our views (e.g., sensory systems), ecological interactions, land development and conservation, environmental assessment, biomimicry, food production and diversity, wildlife interactions, aesthetic and spiritual appreciation, and sustainability.

Offering: **Host**

Grading: **OPT**

Credits: **1.00**

Gen Ed Area: **NSM-ENVS**

Prereq: **None**

ENVS220 Conservation Biology

This course will focus on the biology of conservation rather than cultural aspects of conservation. However, conservation issues will be placed in the context of

ethics, economics, and politics. We will cover the fundamental processes that threaten wild populations, structure ecological communities, and determine the functioning of ecosystems. From this basis, we will explore important conservation issues such as habitat loss and alteration, overharvesting, food web alteration, invasive species, and climate change. We will use readings from the primary literature and field projects to learn about current research methods used in conservation biology. This course emphasizes reading and interpreting primary scientific literature and quantitative information, thinking critically about morals and ethics in society, and includes some hands-on research methods.

Offering: **Crosslisting**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **NSM-BIOL**

Identical With: **BIOL220**

Prereq: **BIOL182 OR MB&B182 OR BIOL182Z**

ENVS221 Environmental Policy

Arguably, environmental protection is the most complex and fascinating regulatory policy area. This course explores U.S. environmental regulation. We will examine the key features of policy and administration in each major area of environmental policy. Moreover, we will place regulation in a larger context and examine the factors that shape the environmental decisions of various economic actors. Although the course focuses primarily on domestic policy, at various points in the course we will draw both on comparative examples and the challenges associated with coordinating national policies and practices on an international level.

Offering: **Crosslisting**

Grading: **OPT**

Credits: **1.00**

Gen Ed Area: **SBS-GOVT**

Identical With: **GOVT221**

Prereq: **None**

ENVS222 Metabolism and Technoscience

This course will investigate the scientific idea of metabolism through the lens of technoscience. Metabolism is a flexible and mobile scientific idea, one that has been applied at the micro-level of analysis within biological organisms, at the meso-level of social collectivities, and at the macro-level of global ecologies. Metabolism encompasses all of the biological and technosocial processes through which bodies (both human and not human) and societies (again, human and not) create and use nutrients, medicines, toxins, and fuels. The lens of technoscience enables us to investigate the technological and scientific practices that define and drive metabolic processes within sciences, cultures, and political economies. These processes implicate forces of production, consumption, labor, absorption, medicalization, appropriation, expansion, growth, surveillance, regulation, and enumeration. Accordingly, as we will learn, metabolism is also a profoundly political process that is inextricably linked to systems that create structural and symbolic violence as well as modes of resistance and struggle. In these contexts, we will interpret some of the most pressing metabolic crises facing human societies, including ecological disaster, industrial food regimes, metabolic health problems, and industrial-scale pollution.

Offering: **Crosslisting**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **SBS-SISP**

Identical With: **SISP215**

Prereq: **None**

ENVS223 Chinese Eco-Civilization: History, Experience, and Myths

The course traces the historical roots of the ideas of eco-civilization, a policy platform that appeared in the twenty-first century by examining how Chinese agrarian civilizations and their nomadic neighbors transformed the bio-physical environment over the course of 3,000 years of history.

We will draw on translations of Chinese literary texts including poetry, classical prose, and novels to explore the relationship between power and social inequities as we explore the everyday politics of agrarian civilizations through China's transformation from feudal ages to the modern period. How did Confucian, Legalist, Buddhist, and Daoist teachings alter the dynamics of production and consumption? To what extent did traditional Chinese philosophies promote the ethos of ecojustice? Did competing regimes/dynasties create a sustainable political and economic system? Did bureaucrats improve the well-being of the population and maintain the balance of the ecosystem? Or did they deplete natural resources to meet their short-term needs?

Offering: **Crosslisting**

Grading: **OPT**

Credits: **1.00**

Gen Ed Area: **SBS-HIST**

Identical With: **HIST223, CEAS223, STS284**

Prereq: **None**

ENVS224 Intro to History: Biodiversity and its Histories

Biodiversity loss may portend the next mass extinction, but what is biodiversity? Euro-American concepts of biodiversity have become a category of policy and politics at local, regional, national, and international levels. This course will track the development of these concepts from the 18th century to the present, paying special attention to the growth of natural history collections to document taxonomy, evolution, biogeography and ecology of species. How does the idea of living variation in genes, traits, species, and ecosystems relate to human and non-human beings?

Offering: **Crosslisting**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **SBS-HIST**

Identical With: **HIST179**

Prereq: **None**

ENVS225 Liminal Animals: Animals in Urban Spaces

This course examines the major ways in which nonhuman animals influence and are influenced by human-built environments, with specific attention to the ethical, political, and social dimensions of human-animal interactions in these spaces. Discussions, films, readings, and an independent research project will introduce students to key concepts related to urban/suburban animal life. Specifically, it will focus on topics including the use of animals for food, the use of animals as spectacle or entertainment, animals as human companions, urban wildlife, "invasive" species, "vermin" and "problem" animals, animals and the law, ecological webs, and human encroachment in animal spaces.

Offering: **Host**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **None**

Identical With: **STS223**

Prereq: **None**

ENVS226 Invasive Species: Biology, Policy, and Management

Invasive species account for 39 percent of the known species extinctions on Earth, and they are responsible for environmental damages totaling greater than \$138 billion per year. However, the general population has little knowledge of what invasive species are or what threats they pose to society. In this course, we will explore the biological, economic, political, and social impacts of invasive species. We will begin by exploring a definition of an invasive species and looking at the life history characteristics that make them likely to become pests. Then we will consider the effects of invasive species expansion on the conservation of biodiversity and ecosystem function, as well as their global environmental and

political impacts. Finally, we will explore the potential future changes in invasive species distributions under a changing climate.

Offering: **Crosslisting**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **NSM-BIOL**

Identical With: **BIOL226, E&ES240**

Prereq: **[E&ES197 or BIOL197 or ENV5197] OR [BIOL182 or MB&B182] OR EES199**

ENVS227 A Thousand Years of Iteration: Design for an Uncertain Future

The climate emergency is a product of design. Centuries worth of aesthetic and industrial innovation have created extractive infrastructure, efficient machines, and disposable products that make it increasingly easy to consume energy and resources on a global scale. As new conversations about just transitions, a circular economy, and a Green New Deal have begun to proliferate among designers, the discipline's troubled relationship to notions of "progress" remains largely unquestioned.

This reading- and research-intensive studio asks students to examine this history of technology and to critically evaluate shifting theoretical perspectives on nature and human development as they relate to design. Topics will include the lifespan of buildings and products, relationships with and obligations to materials and resources, and strategies for de-growth in indigenous and vernacular design precedents. These will be studied through assigned readings and in-class discussion, a series of design exercises, and the production of a final project from materials immediately at hand in Middletown.

Offering: **Crosslisting**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **HA-ART**

Identical With: **ARST221, IDEA221**

Prereq: **None**

ENVS228 Going Green, German-Style: The Relationship to Nature, 1800--Today

Few countries display as active a commitment to protect natural resources and the environment as Germany. Its focus on renewable energies, recycling, and conservation in general is unique even by European standards, and in the U.S., Germany's policies on sustainability and environmental preservation are often held up as models. It is important to recognize, however, that Germans did not achieve this degree of environmental awareness overnight. Rather, it represents the result of centuries of contemplating, controlling, and conserving nature and cannot simply be transferred to other cultures. In this course, we will examine the German (and European) cultural tradition by analyzing artworks and texts from the past two centuries that have both expressed and shaped salient attitudes and emotional responses. The goals of the course are to provide insight into Germany's long and complicated history of defining and relating to nature and to allow you to reflect critically on your own attitudes toward nature and the environment.

Offering: **Crosslisting**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **HA-GRST**

Identical With: **GRST228, GELT228**

Prereq: **None**

ENVS229 What Can the Middle Ages Teach Us About Nature?

Today nature is at the center of our preoccupations. This course will go back to a time before human beings thought they were the masters of nature, when nature was at the same time teaching and allegory, metaphor and science. We will explore the different functions of nature in bestiaries, poems, romances,

and herbaria from the Middle Ages to the beginning of the Early-Modern period (in modern French translation). We will be able to see a real herbarium in the Special Collections & Archives. Students will also visit the Davison Center for the Arts and the Joe Webb Peoples Museum to explore visual representations of nature as well as scientific displays. During the semester, students will put together a herbarium that will be displayed in an exhibition at the end of the semester.

Offering: **Crosslisting**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **HA-RLAN**

Identical With: **FREN229, MDST227**

Prereq: **None**

ENVS230F The Simple Life (FYS)

As the human population grows toward nine billion and our planet's carrying capacity comes under increasing pressure, many observers believe the human project itself is at risk. What human beings have accomplished is probably unique in the history of the universe; once lost to war, famine, and ecological collapse, the understandings and physical creations of our cultures will be irrecoverable. We must ask ourselves, with considerable urgency, the following questions: How do our values, our economic systems, and our behaviors--as individuals, groups, societies, and cultures--affect the conditions under which we, future generations, and the plants and animals with which we share the earth might live in the future? To what extent and at what cost can technology enable us to adapt to changes already under way? Should we take an "après moi, le déluge" attitude or try to prolong the life of our species, and if so, in what form? Does the so-called simple life, as conceptualized in different times and places, offer any useful models? Does living "green" make sense? What about environmental (in)justice? This course will draw on texts from a variety of periods and disciplines, written in a range of styles and from many perspectives, to examine how these questions and others can be approached. Creative thinking will be strongly encouraged. We will pay particular attention to contemporary sustainability initiatives and threats to the environment in the present moment.

Offering: **Crosslisting**

Grading: **OPT**

Credits: **1.00**

Gen Ed Area: **HA-GRST**

Identical With: **GRST230F, GELT230F**

Prereq: **None**

ENVS232 Ecological Design I: Being at Home in the World

Being at Home in the World is an introduction to the skills and thinking involved in the ecologically responsible creation of objects. This course is intended to provide a foundational understanding of the language of design, sources of materials, and energy systems. The studio encourages students to develop a rigorous, iterative working method to deeply analyze the nature of land and resources, explore options, and test ideas. This process of making is complemented and supported by an introduction to the history and theory of design, training with techniques and equipment, and active practice in keeping a sketchbook. Early exercises and projects in the course build familiarity and confidence with analytical drawing, making, and modeling techniques, which build toward the creation of a novel piece of design work presented at the final review.

Offering: **Crosslisting**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **HA-ART**

Identical With: **ARST220, IDEA120**

Prereq: **None**

ENVS233 Geobiology

Fossils provide a glimpse into the form and structure of ancient ecosystems. Geobiology is the study of the two-way interactions between life (biology) and

rocks (geology). Typically, this involves studying fossils within the context of their sedimentary setting. In this course, we will explore the geologic record of these interactions, including the fundamentals of evolutionary patterns, the origins and evolution of early life, mass extinctions, and the history of the impact of life on the climate.

Offering: **Crosslisting**

Grading: **OPT**

Credits: **1.00**

Gen Ed Area: **NSM-EES**

Identical With: **E&ES234, BIOL233**

Prereq: **E&ES101 OR E&ES115 OR E&ES155 OR EES199 OR [ENVS197 or BIOL197 or E&ES197]**

ENVS234 A Tale of Three Food Systems: Accessing Food in the US

The US food system is complex and characterized by both abundance and scarcity. In this course we will investigate the three main streams of the food system (conventional, alternative, and emergency) to understand the various ways food is procured in everyday life. We will utilize interdisciplinary food studies and health equity approach to explore the social, ecological, and health implications of these various streams and the impacts on different communities, with a focus on populations experiencing food insecurity. The course is intended as an introductory foundation in food systems and will include historical background and ongoing policies that have shaped the current food landscape, access, and inequities. We will also explore alternatives and actions in the ongoing struggle for food justice. We will use a range of texts from a variety of disciplines, as well as materials from popular culture including films, TV, and podcasts.

Offering: **Host**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **NSM-ENVS**

Prereq: **None**

ENVS235 Calderwood Seminar in Public Writing: Radical Sustainability

The environmental challenges widely known and discussed for the past 50 years not only remain: they have grown. Maybe we haven't worked hard enough, or maybe we've been going about sustainability the wrong way. Radical sustainability explores the intersection of these now-critical challenges--extinction, climate change, and many others--as well as the physical and social constraints on action to address them. Our aim is to identify the pressure points for an effective response within the geo-ecosystem and the human systems embedded within it, and then to focus on making change through writing.

Calderwood Seminars in Public Writing are writing-intensive courses that emphasize writing for general audiences about expert subject matters. Students work with their peers to hone the skills that enable them to translate scientific understanding of sustainability for the public. Using an intensive author/editor model, students will explore public communication in a variety of forms, including news articles, radio features, and editorials. The goal is prose that is polished and persuasive. Course readings are chosen to highlight the physical nature of human systems as they relate to natural systems. While there is no prerequisite, the course is intended for upper-level students with experience in environmental and sustainability studies.

Offering: **Crosslisting**

Grading: **OPT**

Credits: **1.00**

Gen Ed Area: **NSM-PHYS**

Identical With: **PHYS105, WRCT235**

Prereq: **None**

ENVS236 Nuclear Power Plant Design and the Three Mile Island, Chernobyl and Fukushima Accidents

This course provides an introduction to radiation, nuclear physics, and nuclear power plant design. It will trace the steps that led to the three most well-known nuclear power plant accidents: Three Mile Island, Chernobyl, and Fukushima. It provides information useful for evaluating the impact of nuclear power on environmental decision-making.

Starting with a history of the atomic discoveries and fundamental physics that led to the atomic bomb production at the end of WWII, the course will then trace the design steps that allowed commercial nuclear power plants to evolve from those weapon-making discoveries. Finally it will trace the accidents and the aftermath from the Three Mile Island, Chernobyl, and Fukushima nuclear power accidents.

Offering: **Crosslisting**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **NSM-EES**

Identical With: **E&ES236**

Prereq: **None**

ENVS237 Introduction to History: Environment

Humans have profoundly altered the character of Earth's environment since the advent of agriculture and settled societies some 10,000 years ago. This course is a study of the historical relationship between human beings and their habitats, with additional attention to arid lands as places of settlement, cultivation, and development. We explore how global problems such as climate change, biodiversity attenuation, and depletion of fossil soils, fuels, and water are linked to social problems such as economic inequality, food insecurity, conflict, and declining public health. The course reviews evidence of major environmental problems; considers how varied academic disciplines address them; and models a historical approach to understanding environmental change.

The course is divided into two parts: "Environmental Concepts," and "Case Studies." In Spring 2022, the case studies will be devoted to biodiversity.

Offering: **Crosslisting**

Grading: **OPT**

Credits: **1.00**

Gen Ed Area: **SBS-HIST**

Identical With: **HIST190, STS190**

Prereq: **None**

ENVS237Z Forests: Ecology, Conservation and Futures

Forests are critical to the survival of humans and their fauna. Tropical and temperate forests, by their structure and composition, contain extraordinarily high biological diversity and provide critical ecosystem services with complex interactions with humans. This course will examine the structure, function, and diversity of tropical and temperate forests, with an emphasis on the ecological processes that shape plant and animal communities within these unique and diverse ecosystems. The class will examine major threats to the global forests and measures that may be put in place to allow for their recovery post disturbance. The course will be delivered through lectures, student-led discussions and debates and other in-class activities.

Offering: **Crosslisting**

Grading: **OPT**

Credits: **1.00**

Gen Ed Area: **NSM-ENVS**

Identical With: **E&ES237Z**

Prereq: **None**

ENVS238 Bioethics and the Animal/Human Boundary

In this course, we will explore the construction of the animal/human boundary through the lens of bioethics. We will define bioethics as the study of the ethical consideration of medical, scientific, and technological advances and their effects on living beings. At the same time, we will pay close attention to the cultural contexts in which these advances emerge, imagining the realms of scientific progress and popular culture as mutually constitutive. We will consider topics such as cloning, organ transplantation, pharmaceutical testing, and gestational surrogacy, with a focus on the late 20th and early 21st centuries. We will begin by interrogating how ideas of the "animal" and the "human" are constructed through biomedical and cultural discourses. We will ask, How is the human defined? By intelligence or consciousness levels? By physical capabilities or esoteric qualities? Similarly, how has the human been defined against ideas of the animal? Or, what ethical justifications have been cited in the use of animals in biomedicine? What makes certain species "proper" research subjects and others not? What do these formulations tell us about our valuation of animal and human life, and what kinds of relationships exist between the two? To answer these questions, we will consult a wide range of interdisciplinary scholarship, from authors in the fields of animal/ity studies, bioethics and medicine/science history, sociology, anthropology, and philosophy. Students will also be exposed to the basics of biopolitical theory.

Offering: **Crosslisting**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **SBS-AMST**

Identical With: **AMST260, STS260**

Prereq: **None**

ENVS239 Renewable Energy

This course is an introduction to renewable energy from an Earth science perspective, covering the physical principles of power generation from natural energy flows and the transformation, transmission, and storage of energy on the electrical grid, as well as topics from energy markets and utilization. We focus on hydroelectric, wind, solar, geothermal, wave, and tidal energy, along with modern bioenergy. For comparison, we also briefly cover the conventional energy technology of fossil fuels and nuclear power. We discuss each renewable-energy resource, including the advantages, disadvantages, and environmental impacts of its accompanying technology. The course is quantitative with bi-weekly problem sets. Students are expected to gain theoretical and practical knowledge of renewable energy.

Offering: **Crosslisting**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **NSM-EES**

Identical With: **E&ES254**

Prereq: **None**

ENVS240 Abolition Geographies

"Space always matters, and what we make of it in thought and practice determines, and it is determined by, how we mix our creativity with the external world to change it and ourselves in the process. In other words, one need not be a nationalist nor imagine self-determination to be fixed in modern definitions of states and sovereignty, to conclude that at the end of the day, freedom is a place. How do we find the place of freedom? More precisely, how do we make such a place over and over again?"

--Ruth Wilson Gilmore, "Abolition Geographies"

This course is not only an introduction to the burgeoning field of abolition geographies, introduced through the work of Ruth Wilson Gilmore, but invites students to engage with abolition geography as an intellectual and political practice. In this seminar, we will consider the relationship between freedom and place-making (the production of places) by examining Ruth Wilson Gilmore's analytics and by also engaging in a range of geographic struggles. For example, students will consider the extent to which enslaved rebellions, not limited to the Haitian Revolution, remade what we envision today as the Atlantic. Students will also have the opportunity to apply an abolitionist framework to their own research.

Offering: **Crosslisting**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **SBS-AFAM**

Identical With: **AFAM213**

Prereq: **None**

ENVS242 Quantitative Methods for the Biological and Environmental Sciences

This course offers an applied approach to statistics used in the biological, environmental, and earth sciences. Statistics will be taught from a geometric perspective so that students can more easily understand the derivations of formulae. We will learn about deduction and hypothesis testing as well as the assumptions that methods make and how violations affect applied outcomes. Emphasis will be on analysis of data, and there will be many problem sets to solve to help students become fluent with the methods. The course will focus on data and methods for continuous variables. In addition to basic statistics, we will cover regression, ANOVA, and contingency tables.

Offering: **Crosslisting**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **NSM-BIOL**

Identical With: **BIOL242, BIOL542, E&ES270, E&ES570**

Prereq: **None**

ENVS243 Averting Catastrophe: Public Policy and Risk Management

COVID-19 revealed the weaknesses of the federal government's capacity to manage the risk of pandemics and the tragic ramifications. The U.S. faces several significant risks that, if poorly managed, could have significant implications for the economy, the environment, and public health. This course focuses on the government's role as risk manager. We will explore how public policies can be used to manage risk, mitigate the extent of damages to the environment, the economy, and public health, and avert catastrophic outcomes. After examining the concept of risk, decision-making under conditions of uncertainty, and competing policy instruments, we will turn to a number of case studies, including offshore oil spills, nuclear accidents, financial crises, the COVID-19 pandemic, and climate change. In each case, we will seek to better understand the factors that shaped performance and consider the implications for strengthening the government's role as risk manager.

Offering: **Crosslisting**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **SBS-GOVT**

Identical With: **GOVT222**

Prereq: **None**

ENVS244 Strategies in Conservation and Environmental Action

This course is only open to Wesleyan sophomores and above, with permission of instructor during pre-registration. This course provides students with a framework for better understanding how environmental policy, programs, and change goals are developed and actions are taken. Content will provide students with information from different disciplines in order to better understand the context, challenges, and intent of a specific environmental project to be addressed by the class over the course of the semester. The class project will have a land or material management focus and be developed with an

environmental partner. Content topics may include logistics and impacts of various management systems; ecosystem function and landscape ecology; environmental policy and stakeholder dynamics; data collection and analysis; and communications and education. Project work will include research, meetings, and field work, including service work that contributes to short-term goals and tests protocol. Time required may vary by week. Class periods, assessments, and readings will be right-sized to facilitate this time commitment. Students will be assigned project tasks according to their major and skills. The class will collectively produce and present finished products to the environmental partner. Projects change with each semester and vary in emphasis and ecological vs. social components.

Offering: **Host**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **NSM-ENVS**

Identical With: **E&ES274**

Prereq: **None**

ENVS246 People and Places: An Introduction to Environmental Psychology

This course explores human-environment interactions and the relationships between natural, social, and built environments in shaping people as individuals, and in turn, how people shape their environment(s). This course will critically explore theories and research that serve as the foundation of the field, as well as examine applications to real-world problems. This course will incorporate inquiry-based approaches to environmental psychology including the methods of participant observation and PhotoVoice. This course will engage ecological approaches and multi-level concepts in understanding human-environment dynamics and interactions from the home/personal space, community, and urban life, among others, as well as reflect on students' experience of their physical and social environments. As a survey course, this course will cover myriad topics with consideration to social justice, and varying conceptualizations and experiences addressing gender, race, class, age and people with disabilities. Considering the COVID-19 pandemic, this course will give special consideration to public space and home environments. As a discussion-based seminar, topics will ultimately be driven by student interest. Several films and podcasts may be incorporated into class. This course counts as an elective towards the psychology major.

Offering: **Host**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **NSM-ENVS**

Identical With: **PSYC282**

Prereq: **None**

ENVS247 Ecologies of Attention: Biosemiosis, Attunement, and Ethics

We consider variants on biosemiotic accounts of meaning, following one thread through Emerson to Nietzsche, another from Peirce and James to Bateson (*Ecology of Mind*, 1972) and Gibson (*Ecological Approach to Visual Perception*, 1979), and a third through contemporary indigenous thinkers and anthropologists attempting to bridge scientific ecology and animist panpsychism--Kimmerer, Whyte, Kohn, Ingold, Strathern. While most of the texts here focus on the nature of meaning as a living process, they are also in constant dialogue with normative concerns, being both motivated by subversive or non-humanist ecological values and inspiring distinctive insights about how to lead meaningfully connected lives.

Offering: **Crosslisting**

Grading: **OPT**

Credits: **1.00**

Gen Ed Area: **HA-CHUM**

Identical With: **CHUM366, PHIL354**

Prereq: **None**

ENVS248 Environmental Investigation and Remediation

This course will cover environmental investigation and remediation methods in varying geologic settings and how they have changed over time due to regulatory changes and advances in technology. An introduction to various aspects of environmental consulting will be incorporated throughout the term using case studies, guest lecturers, and emerging trends and research from online sources.

Offering: **Crosslisting**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **NSM-EES**

Identical With: **E&ES248**

Prereq: **E&ES101 OR E&ES115 OR EES199 OR E&ES197**

ENVS249 Energy Legacies and Ecological Futures: Manresa Island

Manresa Island, on the coast of South Norwalk, Connecticut, was the site of an NRG coal-fired power plant (and later oil). The plant, slated for decommission, was shuttered overnight after heavy flooding during Hurricane Sandy. Its planned transformation, funded by a 501(c)3 non-profit corporation, includes the remaking of its massive turbine hall as a community space and the remediation of the entire peninsula for use as a public park. The 125-acre site includes a birch forest on a coal ash dump, salt marsh, and other coastal wetland habitats that currently harbor populations turkey, osprey, and deer. Casual observers liken Manresa's abandoned spaces to those of Chernobyl, with the detritus of human settlement engulfed by resurgent vegetation and wildlife. This flawed analogy obscures as much as it reveals, conjuring ethically compromised aesthetics of post-industrial ruin photography and associated practices of dark tourism. But there is a parallel history of energy, hazard, and aftermath with which we have yet to reckon locally or globally. The objective of this course is to produce histories of energy transition calling on (1) records of Manresa Island recently acquired by the 501(c)3, and (2) the testimonies of NRG workers present during Hurricane Sandy. The course will train students in modalities of archival and oral history with reference to these untapped resources.

Offering: **Crosslisting**

Grading: **OPT**

Credits: **1.00**

Gen Ed Area: **SBS-HIST**

Identical With: **HIST161**

Prereq: **None**

ENVS250Z Pandemic and the Environment

The COVID-19 pandemic is a global disturbance with important environmental causes, effects, and interactions. We will explore four key topics, evaluating what occurred and implications for future policy and practice. Wildlife: SARS-CoV-2 is a zoonotic disease, facilitated by "bush meat" markets and development of habitat that bring wildlife in close proximity to each other and humans. Stay-at-home orders, and temporary abandonment of human spaces released wildlife from constraints, while exposing the nature of our interdependence. Air pollution: Rates of hospitalization and mortality are greatest for those living with chronically high levels of air pollution, particularly PM

We will examine these themes through readings and apply our understanding of scientific process, peer-review, sources of data, context, voice, and audience.

Offering: **Host**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **NSM-ENVS**

Prereq: **None**

ENVS251 Genes to Greens: The Biology of Food Production

Climate change and rapid advances in biological technology are shifting the ways humans grow food. We can now produce food more efficiently than ever, but are losing arable land to harsh and unforgiving climates. We also must grapple with

ethical questions about which natural resources we should sacrifice for the good of the global food supply. In this course, students will gain an understanding of plant physiology, traditional agricultural techniques, and traditional and modern crop breeding strategies. Students will engage in the current debates surrounding food production.

Offering: **Crosslisting**

Grading: **OPT**

Credits: **1.00**

Gen Ed Area: **NSM-BIOL**

Identical With: **BIOL259**

Prereq: **None**

ENVS253 Energy Sustainability: An examination of US, New England and Connecticut Energy

This course will survey the state of energy generation and use in Connecticut, New England, and the U.S. It will include fundamental characteristics of fossil, nuclear, and renewable energy, plus their impact on the local and national energy grid. It will examine how utilities maintain power, including the variable nature of many renewable sources. The course will also examine fuel reliability and impact on local and global air pollution. The course will examine pathways forward for the local and national energy grid. One to two site visits may be incorporated as part of the class, with potential sites including: ISO New England (Holyoke, Mass.), Trash-to-Energy (Hartford, Conn.), combined cycle plant, Kleen Energy plant (Middletown, Conn.), and Combined Heat & Power (UConn Cogen).

Offering: **Crosslisting**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **NSM-EES**

Identical With: **E&ES253**

Prereq: **None**

ENVS254 Architecture of the 20th Century

The course considers influential works in architecture, its theory and criticism, and ideas for urbanism, mostly in Europe and the United States, from about 1900 to the present. Early parts of the semester focus on the origin and development of the modern movement in Europe to 1940, with attention given to selected American developments before World War II. Later parts of the course deal with Western architecture from 1945 to the present, including later modernist, postmodernist, and deconstructivist work, urbanism and housing, computer-aided design, green buildings, and postwar architecture in Latin America and Japan and in postcolonial India and Africa. Major movements and architects considered include the Viennese Secession, the Bauhaus, Le Corbusier, Mies van der Rohe, Frank Lloyd Wright, Alvar Aalto, and Louis Kahn, among many others.

Offering: **Crosslisting**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **HA-ART**

Identical With: **ARHA254**

Prereq: **None**

ENVS256 A Celebration of Women in Jazz: A Critical Analysis of Gender

How can we take the lessons of Jazz with us into other spaces? In this course, students will study Women in Jazz and examine the broad impact of our social structures and power systems to consider how the lessons of Jazz can help us navigate our future. How can we take the values of Jazz, such as improvisation, listening skills, democracy, a celebration of diversity, and equity work, and use our agency to effect change for the better in our communities? This course will examine the traditionally male-dominated nature of Jazz, its history of misogyny, and underrepresentation of women and other gender expressions. Students will learn in general about the musical art form of Jazz, its history as Black American music, and its unique qualities including improvisation, the blues, and swing. There will be a strong focus on listening to music from women musicians, and students will learn how to actively listen to jazz and all music. Together, we will look at case studies of successful women musicians and composers from

the history of Jazz through the present, reading biographical information and reviewing their performance and compositional contributions. Musicians may include Mary Lou Williams, Carla Bley, Terri Lynn Carrington, Esperanza Spalding, Nina Simone, Billie Holiday, Ella Fitzgerald, Melba Liston, Lil' Hardin Armstrong, Dinah Washington, Abbey Lincoln, Toshiko Akiyoshi, and Marian McPartland.

Offering: **Host**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **HA-ENVS**

Identical With: **AFAM256, MUSC256, FGSS258**

Prereq: **None**

ENVS257 Environmental Archaeology

Archaeological materials provide long-term records of how humans have modified past environments and how human societies respond to environmental change. In this course, students will learn how data from ancient plants, animals, and soils can be analyzed in order to draw interpretations about past human-environmental interactions. We will also discuss key topics in environmental archaeology, including the long-term environmental impacts of plant and animal domestication and debates over environmental causes for the "collapse" of civilizations such as the ancient Maya. The course will involve hands-on preparation and cataloging of plant and animal specimens to add to the Wesleyan Environmental Archaeology Laboratory comparative collections. Students must be available for one weekend class meeting to complete the first stage of animal skeleton preparation.

Offering: **Crosslisting**

Grading: **OPT**

Credits: **1.00**

Gen Ed Area: **NSM-ARCP, SBS-ARCP**

Identical With: **ARCP257, ANTH257, E&ES257**

Prereq: **None**

ENVS258 Remote Sensing for Natural Hazards

This course explores the role of remote sensing in monitoring and mitigating natural hazards. Students will learn how to acquire, process, and analyze remote sensing data, with a specific focus on both optical and radar satellite data. These technologies will be applied to assess the spatial extent, severity, and risk of natural hazards such as earthquakes, landslides, floods, hurricanes, wildfires, and volcanic activity. Emphasis will be placed on understanding how different types of remotely sensed data interact with various environmental features, such as landforms, vegetation, and water bodies. Through a combination of lectures, data analysis exercises, and practical applications, students will gain hands-on experience in using remote sensing tools to develop hazard models and response strategies. Case studies from recent natural disasters will be used to illustrate key concepts. Prior knowledge of GIS or geospatial analysis is recommended.

Offering: **Crosslisting**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **NSM-EES**

Identical With: **E&ES275**

Prereq: **None**

ENVS259 Development, Disasters, and Beyond: The Global Politics of Aid

Development is one of the most important ideas of our times. It is a powerful way of reorganizing the world into the Global South and the Global North (or the Third and First Worlds) and promising modernity to "backward" places and people. It is an equally powerful way of intervening in "underdeveloped" regions in the name of progress and beneficence through aid programs. Our purpose in this course is to use the spy lens of anthropology to critically examine the global politics of development aid, whether given for poverty alleviation, infrastructure projects, disease and healthcare, or disaster relief. While development aid is certainly a potent way to exert power over and regulate Third World Others, it is also a fiercely contested space of struggle. This course approaches it as a "problematic"--an unsettled, contentious, and unpredictable formation.

Offering: **Crosslisting**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **SBS-ANTH**

Identical With: **ANTH259**

Prereq: **None**

ENVS260 Global Change and Infectious Disease

This course will cover how human demands upon the environment have come back to bite us through infectious diseases. The most devastating infections, now and in the past, have spilled into humanity from other animals through our quest for food, either through hunting and trade of wild animals (COVID-19 and HIV) or through agriculture (smallpox and measles). Additionally, taking over huge swaths of land has fragmented natural habitats, with the result that some pathogens have increased in abundance (Lyme disease) and some pathogens have moved closer to humanity when humans have encroached on natural lands (Ebola). Living at high density in interconnected cities has sustained the severe infections that became humanity's childhood diseases (mumps, measles, smallpox); high densities have also brought us diseases brought by fecally contaminated water, as well as those diseases brought by the animals that cohabit our cities and suburbs (rats, robins). Our demand on energy has brought us global warming, which is transporting tropical diseases, such as malaria, poleward from the tropics; the extreme weather events of a changed world are leading to outbreaks of zoonotic diseases (hantaviruses). Moreover, our penchant for transporting wild animals and ourselves has had the potential to spread any local flare-up of any novel disease to the whole world (plague, COVID-19). We will discuss how, even if we mitigate every existing human infection, we should expect an unending stream of new pathogens. We will discuss technological solutions to infectious diseases, as well as how changes in our ethics might help contain existing pathogens and avoid future spillovers. Lectures will cover these and other topics. There will be two 65-minute lectures each week, with frequent opportunities for students to break out into smaller sections to figure out interesting biological challenges. There will also be a 30-minute discussion each week for each of 11 discussion sections (probably about 15 students each). These discussions will focus mostly on how policy changes might best mitigate the environmental disturbances that are bringing us infections. The course has no formal prerequisites and will introduce material from ecology and microbiology, as needed, to allow students to read and interpret the recent literature on global change and infectious disease.

Offering: **Crosslisting**

Grading: **OPT**

Credits: **1.00**

Gen Ed Area: **NSM-BIOL**

Identical With: **BIOL173**

Prereq: **None**

ENVS261 Science Materials For a Malagasy Classroom

Students will design and produce a variety of educational science materials to be used in a fifth grade classroom in Madagascar. These items include a science logo, bookmarks, educational science games, posters, and a comic book with conservation themes for children. Students who are interested in design and natural history as a means through which to communicate science themes on wildlife endemism, evolution, and climate change would be appropriate for this course. All students will need to conduct independent research into science topics, distill down the salient features, and use that information to design elementary school materials. Working both individually and in teams, students will conceive, design, critique, and move into product production (MakerSpace). In addition, prototypes of the materials will be reviewed and rated by fifth graders in a Middletown elementary school for feedback.

Offering: **Crosslisting**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **NSM-BIOL**

Identical With: **BIOL161, IDEA261**

Prereq: **None**

ENVS262 Archaeology of Food, Trade, and Power in South India

This course examines patterns of life in premodern South India, focusing on the millennium from about AD 600 to 1600. It explores the persistent practices and institutions that structured social life--agricultural regimes of food production, patterns of local and long-distance trade, and elite discourses of power and authority--as well as historical events and processes that brought change to those patterns. The course capitalizes on South India's rich array of archaeological evidence, from surface remains and excavated finds to standing architectural monuments, donative inscriptions on stone and copper plates, and various forms of coinage and coin hoards informing on economic life. Specific topics investigated include the articulation of cultural space and landscapes; food, subsistence, and modes of agricultural production; domestic architecture and habitation; trade, markets, and monetary systems; and the roles of religion and ritual in legitimating political power. There is an explicit emphasis on methods and their application, including those of epigraphy (the analysis of inscriptions), numismatics (the materially based study of coinage and monetary systems), surface archaeology (survey, documentation, and analysis of exposed surface remains), and the archaeology of buildings. Many class sessions will be devoted to active discussion and analysis of data.

Offering: **Crosslisting**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **HA-ART, SBS-ART**

Identical With: **ARHA292, ARCP292**

Prereq: **None**

ENVS263 Botanizing Worlds

What can plants tell us about the human condition, and more broadly about the rapidly changing conditions on Earth? In recent years, scholars, writers, and artists have been calling for new ways to address "plant blindness"; finally, it appears that plants are having a moment. Plants are crucial to the survival of human life. From the food we eat to the air we breathe to the clothes we wear, plant bodies are used to build homes, cure our ailments, and feed our addictions. Putting plants to use is tantamount to survival, but this course aims for a less extractive relationship with plants. This course explores what we might gain by learning from plants -- to know them, think with them, and attune our senses to their liveliness -- raising fundamental questions about human-plant relations to reconsider what it means to be human. This course aims to gather the lively energies surrounding plants today and the expertise of scholars and regional collaborators, and direct them toward the development of a cutting-edge, interdisciplinary curriculum by bringing together researchers, artists, and curators from multiple institutions to read and discuss key works in the botanical humanities and connect with related sites (botanic gardens, greenhouses, laboratories, archives, special collections, etc.) at our campuses. This course will showcase exercises, assignments, and reading lists that can promote humanistic research and thinking with and about plants.

Offering: **Crosslisting**

Grading: **OPT**

Credits: **1.00**

Gen Ed Area: **SBS-HIST**

Identical With: **HIST252**

Prereq: **None**

ENVS263B Curatorial Workshop: Art and the Ecological Imagination, 1840-1870

This course examines the emergence of an "ecological consciousness" in art during the mid-19th century through readings, discussion, and firsthand study of works in the Davison Art Center print collection. Although the term "ecology" was first coined in 1866, 19th-century thinkers had long been concerned with the interrelationship of organisms, including humans' place and impact on nature. This class examines how visual artists before Impressionism contributed to the 19th century's "ecological imagination" through their representations

of landscapes. Known as the "Barbizon School," this group of artists left the metropolis of Paris to immerse themselves in the wild and rugged terrain of the Fontainebleau Forest while also embarking on journeys to remote regions of France. These members of the first artists' colony seceded from the French Academy of Fine Arts and pursued strategies of independence that were allied at the time with radical politics. In their works they experimented with new materials and approaches to composition that included but no longer prioritized humans, in order to foreground processes of transformation internal to nature itself. The consciousness that artists forged through painting and printmaking led them to become among the world's first conservationists; they successfully petitioned the French government to protect parts of the Forest of Fontainebleau some 20 years before the creation of the first National Park in the United States.

The first half of the course will be devoted to reading and discussion; the second half will center on the study of works in the Davison Art Collection, which includes a superb collection of original and experimental prints by Barbizon School artists. The final project will be the curation of a temporary exhibition of works from the collection, including a selection and arrangement of works, explanatory texts, and a public gallery talk.

Offering: **Crosslisting**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **HA-ART**

Identical With: **ARHA263B, RL&L235B**

Prereq: **None**

ENVS264 Waterways: Maritime World History

Human history has been shaped by the sea. Whether as a source of food, a frontier, a boundary, or a bridge, the sea has represented a site of both opportunity and danger. This course will examine the way humans have responded to their marine and maritime environments, both in terms of the technologies they have developed to navigate and exploit them but also insofar as the sea has shaped the way humans think about themselves. While our inquiry will extend into the deep past and the early development of human culture and civilization, we will focus on maritime history over the past millennium, the development of oceanic worlds, the rise of the "age of sail" between the 16th and 19th centuries, and the transformation of global navigation and politics with the rise of steam, diesel, and nuclear power.

Offering: **Crosslisting**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **SBS-GOVT**

Identical With: **HIST264**

Prereq: **None**

ENVS265 Environmental Justice & Health Equity

The environmental justice movement (EJM) has evolved over the last several decades, both in the US and globally. The EJM seeks to respond to environmental inequalities that directly impact human health and safety, particularly among people who live or work in settings that put them at higher risk of exposure to environmental hazards. The Agency for Toxic Substances and Disease Registry (ATSDR, part of the Centers for Disease Control and Prevention) describes the goal of environmental justice as "...when everyone enjoys the same degree of protection from environmental and health hazards, and equal access to the decision-making process to live, learn, and work in a healthy environment." In this course we recognize the current environmental crisis as rooted in systemic inequities that are implicated in social determinants of health (SDOH) and have major implications for health outcomes of affected populations. Therefore, we will explore the EJM from a health equity lens, including racial capitalism, intersectionality, and other forms of structural violence that serve as SDOH,

to explore the implications of environmental injustices on health equity. In addition, we will examine how academics, nonprofit/community-based organizations, community members, and government agencies collaborate to address environmental justice-related health equity. Finally, we will look at the notion of "just sustainabilities" to investigate and imagine solutions to these ongoing challenges that build community power to advance sustainable communities and health equity.

Offering: **Host**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **NSM-ENVS**

Prereq: **BIOL197 OR E&ES197 OR ENVS197 OR ENVS219F OR E&ES155 OR EES199**

ENVS266 Free the Land: Histories of Environmental Racism

This course will introduce students to the study and discussion of environmental racism and environmental justice in the United States that centers the histories and experiences of communities of color. Environmental racism is defined by Dr. Robert Bullard ("the Father of Environmental Justice") as "any policy, practice or directive that differentially affects or disadvantages (where intended or unintended) individuals, groups or communities based on race." This course expands and illuminates this definition through examinations of watershed moments--from the Transatlantic Slave Trade to struggles in the greater Connecticut River Valley today--in which communities of color in the United States bear the deadly brunt of toxic fumes, poisoned groundwater, nuclear waste, perilous disaster work, land theft, and the slow violence of biological extermination. Throughout the semester, we will read scholarly texts, engage primary sources, analyze popular and independent media, and study testimony and self-published materials from activists and eyewitnesses.

Offering: **Crosslisting**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **SBS-HIST**

Identical With: **HIST271**

Prereq: **None**

ENVS267 Development in Question: Conservation in Africa

"Why not plant trees?" In 1977 Wangari Maathai started the Green Belt Movement, a popular environmental revolution, in Kenya. Then in the 1990s Nigeria Ken Saro-Wiwa fought for the rights of local communities against the multi-national oil industry. Like many African activists, scientists, and farmers, they placed African experiences at the center of environmental policy and conservation. Yet, popular images of the continent's environment in perpetual crisis blame African practices or disregard African efforts. Such depictions of "desertification" or "over grazing" have impacted international and governmental policy. Recent scholarship suggests that such common perceptions of the environment in Africa and conservation policy are misleading. This course will allow students to critically study the history of environmental management on the continent and the development of the idea of conservation. We will examine game park politics, the history of resource extraction, climate change, and other pressing environmental concerns. We will also study diverse African environmental perspectives from the guardians of sacred forests to activists such as Wangari Maathai and Ken Saro-Wiwa.

Offering: **Crosslisting**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **SBS-HIST**

Identical With: **HIST267, STS267**

Prereq: **None**

ENVS268Z Environmental Justice Advocacy: Assessing Law, Community-Based Engagement, and More

ONLINE COURSE: Synchronous class meetings via Zoom, 10am-noon and 2-5pm. Classes held Jan 4, 6, 8, 10, 12, 14, 16, 18. (Please note: Students should expect

some readings and assignments to be due during winter break, prior to the beginning of Winter Session class meetings.) The concept of "environmental justice" focuses on the equitable distribution of pollution and health burdens--such as the siting of fossil fuel infrastructure and pollution-emitting facilities--as well as benefits such as clean air and clean water. Procedural justice and restorative justice are also key demands of the environmental justice movement. In addition, as communities of color and low-income communities disproportionately bear the burdens of climate change and resulting "climate gentrification," the overlap between environmental injustice and climate change is becoming increasingly apparent. After a brief introduction to the concept of environmental justice, this course will focus on advocacy efforts to promote environmental justice and, in particular, the benefits and limitations of various tools including the law, grassroots organizing, and policy work. For their final project, students will use what they learn in the course to design and propose their own environmental justice intervention. By the end of the course, students will understand the history, foundational theory, and key case studies of environmental justice as well as the tools and strategies that environmental justice advocates use. Syllabi for Winter Session courses will be posted to <https://www.wesleyan.edu/wintersession/courses.html> as soon as they are available.

Offering: **Crosslisting**

Grading: **OPT**

Credits: **1.00**

Gen Ed Area: **SBS-ALLB**

Identical With: **CSPL309Z**

Prereq: **None**

ENVS269 Drones and Change

Civilian use of unoccupied aerial vehicles or drones to capture data and measure change can enhance our understanding of the natural and built environments. While drones are increasingly available for entry-level to professional level adoption, there remains value in understanding how the infrastructure for their development and deployment have evolved and what is required to ensure their continued safe and ethical utility of these devices. In this class, we will explore the legal and infrastructure elements of drone development and deployment for civilian utility of drones, while working on data collection, analysis, and interpretation that will allow students to better appreciate the value and utility of drones. Over the course of the semester, students will work on understanding and building drones, collecting data with small drones, examining the commercial versus open-source platforms for drones, and preparing to take the Federal Aviation Authority Part 107 license to allow them to fly drones safely.

Offering: **Crosslisting**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **NSM-EES**

Identical With: **E&ES283**

Prereq: **E&ES101 OR E&ES115 OR E&ES155 OR E&ES197**

ENVS270 Environmental Philosophy

This course offers philosophical resources for understanding and addressing environmental concerns. At the same time, we will recognize how ecological insights challenge some of the most influential ideas in the European philosophical tradition--human-centered and individualist accounts of existence, agency, knowledge, and value.

Shared questions may include:

Is there a coherent way of distinguishing "nature" from the non-natural?

What can we understand about non-human experience and value?

How do people become motivated to recognize and respond to problems whose effects play out in far-away or unfamiliar bodies?

How do concepts of moral responsibility apply to climate change?

How does environmentally directed action relate to social justice?

When there are ecological impacts attached to choices that are conventionally seen as matters of personal liberty (such as food choices, living arrangements, reproductive choices), how do we constructively engage with one another?

Despite near consensus about our times being rife with environmental crises, concepts like "environment" and "nature" defy any straightforward account. Similarly, it seems even when people come together around problems of injustice and unsustainability, they may not share any clear positive account of justice or of sustainability.

Rather than be defeated by the lack of shared foundational concepts, students will become familiar with at least three patterns of critique--each of these being not a theory or kind of information but a set of skills with perceptual, conceptual, and dialogical aspects. These three patterns of critique are ecological critique, standpoint critique, and sustainability critiques, and they correspond roughly to three traditional domains of philosophy: inquiry into being (metaphysics), inquiry into knowledge and understanding (epistemology), and inquiry into norms and ideals for action (ethics).

Understanding these three patterns of critique allows students to address emerging environmental problems more effectively, recognizing the intertwined relations among empirical inquiry, moral accountability, and social justice.

Offering: **Crosslisting**

Grading: **OPT**

Credits: **1.00**

Gen Ed Area: **SBS-PHIL**

Identical With: **PHIL270**

Prereq: **None**

ENVS271 Biodegradable Design: Soft and Hairy

In this part seminar, part studio course, students will go on field trips and read extensively to develop an understanding of mycelium and how it is explored in design. We will explore temporality in design with particular focus on how biodegradable materials such as mycelium can form our experience of an object. We will study how mycelium can be utilized as a living material to form a built ecology. In particular, we will study how to design for impermanence -- sometimes using waste materials -- and develop an understanding for material recovery. Students will work both individually and collaboratively in a studio environment. Field trips to New York City museums, fabricators, and galleries, as well as around CT may be expected as part of this course.

Offering: **Crosslisting**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **HA-ART**

Identical With: **ARST271, IDEA271**

Prereq: **ARST131 OR IDEA110 OR IDEA180**

ENVS272 Knowing Their Place: Two Centuries of Women Generating Wonder in the Natural World

This seminar will examine the intersection of natural science, women's history, and poetic prose through the writings of Rachel Carson and the female nature writers who both preceded and succeeded her, including Mary Treat, Anna Botsford Comstock, Mabel Osgood Wright, Annie Dillard, Terry Tempest Williams, Robin Wall Kimmerer, Camille Dungy, and others. These women looked closely at the natural world and wrote intimately on botany, birdwatching, and the ecology of their local landscapes, teaching their readers to feel wonder and a sense of connection with place. What does it mean to know a landscape or an ecosystem intimately? How does a sense of place become political? How does gender affect perspective on the natural world and environmental stewardship? Each student will put these ideas into play in a portfolio of place-based personal essays.

Offering: **Host**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **NSM-ENVS**

Identical With: **FGSS272, WRCT272**

Prereq: **None**

ENVS273 Environmental Politics in East Asia

This is an upper-division course on the environmental politics of East Asia. It will focus on the major environmental issues of our time (pollution, conservation, energy, waste, environmental justice, etc.), and how East Asian countries are coping with them from both policy and politics perspectives. It will cover both transnational and international efforts, as well as national and local initiatives. The course will require that students "do" environmental politics as well as study environmental politics through a civic engagement component.

Offering: **Crosslisting**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **SBS-GOVT**

Identical With: **GOVT273, CEAS273**

Prereq: **None**

ENVS276 Law and Policy of Natural Resources: Water, Air, Biodiversity, and Climate Change

How do we protect our environmental and natural resources, and why have we chosen this path? When and how do the public, NGOs, and regulated industries have a voice? When is an environmental impact statement required and which alternatives must be considered? When and how are environmental considerations part of the decision-making process? Is there a path forward to better address greenhouse gases and climate change? How can we protect endangered and threatened species and preserve their habitats? Where do we go from here as we confront the more complex issues associated with greenhouse gases/climate? How do our energy sources impact our environment?

This highly interactive course will examine the source of environmental and natural resource law, its evolution, and boundaries. It will explore how and when we have access to the process and then turn attention to the programs most central to natural resource and environmental protection: the National Environmental Policy Act, The Clean Water Act, The Clean Air Act, as well as certain land-focused state and municipal programs. Given renewed commitments to alternative energy and environmental justice (EJ), the course devotes time to considering both through the lens of environmental law and policy. The course concludes with a capstone project in which students are assigned to a team as either proponent or opponent. Each team is then provided an information packet setting a scenario, setting, certain facts, and any legal information beyond course coverage. Following this, each team prepares for and advances technical, legal, and policy arguments in support of its goals and is afforded the opportunity to cross-examine the opposition.

Offering: **Host**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **NSM-ENVS**

Prereq: **ENVS195 OR ENVS197 OR ENVS219F OR EES199 OR E&ES155**

ENVS277 Law and Policy of Contamination, Cleanups, Communities (Environmental Justice), and Chemicals

How do we protect our environment and ourselves from wastes and chemicals? Why have we chosen this path? When and how do the public, NGOs, and regulated industries have a voice? When is something that is not used considered waste, and when is that waste a hazardous waste? When does someone need to clean up the contaminated environment? Who is that someone? How clean is clean? How have chemicals ended up in commerce? When and under what circumstances can new chemicals enter our lives? When and how are environmental and health considerations part of the decision-making process? How do we avoid environmental disasters? What is required in terms of thinking about and planning for the "unthinkable"? What drives sustainability initiatives, beneficial reuse, and life cycle analysis? This highly interactive course will examine the source of environmental law, its evolution, and boundaries. Students will explore how and when we have access to the process and examine: (i) the Resource Conservation Recovery Act, Superfund, and related brownfield initiatives; (ii) the Toxic Substances Control Act and international counterparts; (iii) the Emergency Planning and Community Right To Know Act; (iv) environmental justice in the context of waste and chemical management; and (v) sustainability, product stewardship, and related initiatives. The course concludes with a capstone project in which students are assigned to a team as either proponent or opponent. Each team is then provided an information packet setting a scenario, setting, certain facts, and any legal information beyond course coverage. Following this, each team prepares for and advances technical, legal, and policy arguments in support of its goals and is afforded the opportunity to cross-examine the opposition.

Offering: **Host**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **NSM-ENVS**

Prereq: **ENVS195 OR ENVS197 OR ENVS219F OR EES199 OR E&ES155**

ENVS278 Introduction to GIS

Geographical information systems (GIS) are powerful tools for organizing, analyzing, and displaying spatial data. GIS has applications in a wide variety of fields including the natural sciences, public policy, business, and the humanities; literally any field that uses spatially distributed information. In this course, we will explore the fundamentals of GIS with an emphasis on practical application of GIS to problems from a range of disciplines. The course will cover the basic theory of GIS, data collection and input, data management, spatial analysis, visualization, and map preparation. Coursework will include lectures, discussions, and hands-on activities.

Offering: **Crosslisting**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **NSM-EES**

Identical With: **E&ES280, E&ES580**

Prereq: **None**

ENVS279 Eating Others: Histories and Cultures of Animal Edibility

For many people, animals form a significant and cherished part of their diet. Indeed, humans have used other animals as sources of nutrients for hundreds of thousands of years. What can these animal-based dietary practices tell us about humans and their relationships with other animals? Of course, these inter-species relationships have varied as radically across time and cultures as the dietary practices that have shaped them. To better understand some of these practices and the relationships they generate, this course will explore the following questions: How did animal-based food practices develop from pre-

domestication to the contemporary era of industrialized animal agriculture? How have cultural categories of "edibility" developed in different cultural contexts? What is meat, and how does it differ from inedible flesh? How have gender, class, race, sexuality, and other categories of difference intersected with and shaped animal consumption practices in different times and contexts? How has animal consumption shaped and been shaped by animal ethics, philosophy, and scientific knowledge production? How has large-scale animal consumption contributed to the ecological crises of the Anthropocene, and how have these in turn affected animal consumption practices? What is the future of animal-based food? This course will use ethnographies, historical and legal analyses, and philosophical inquiries to examine the histories and cultures of animal edibility. Specifically, it will focus on topics including human evolution, animal domestication, slaughter practices, industrialized animal agriculture, indigenous ecological ontologies, hunting, dairy and egg consumption, cannibalism, cultural conflicts over the edibility of specific species, and recent technological innovations that can produce animal products without animals.

Offering: **Crosslisting**

Grading: **OPT**

Credits: **1.00**

Gen Ed Area: **SBS-SISP**

Identical With: **STS266, ANTH279**

Prereq: **None**

ENVS280 Environmental Geochemistry

This course is a qualitative and quantitative treatment of chemical processes in natural systems such as lakes, rivers, groundwater, oceans, and the atmosphere. General topics include equilibrium thermodynamics, acid-base equilibria, the carbonic acid system, oxidation-reduction reactions in nature, and isotope geochemistry. The associated lab course (E&ES 251) must be taken concurrently if offered. The lab course will be a service-learning course in which students work with a community organization to solve an environmental problem or a semester-long research project.

There are no official prerequisite classes, but students should be comfortable with chemical concepts or should have taken introductory college chemistry or advanced high school chemistry courses.

Offering: **Crosslisting**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **NSM-EES**

Identical With: **E&ES250**

Prereq: **None**

ENVS281 Environmental Geochemistry Laboratory

This course will supplement E&ES 250 by providing students with hands-on experience of the concepts taught in E&ES 250. Students must enroll in E&ES 250 at the same time. This course will emphasize the field collection, chemical analysis, and data analysis of environmental water, air, and rock samples. This course will be taught as a service-learning course where the class works with a community organization to solve an environmental problem or will work on a semester-long research project. The subject of this class will be announced on the first day of class.

Offering: **Crosslisting**

Grading: **A-F**

Credits: **0.50**

Gen Ed Area: **NSM-EES**

Identical With: **E&ES251**

Prereq: **None**

ENVS282 Sustainable Agriculture and Food Systems

This course explores strategies to create a sustainable agriculture and food system. The course will begin with an overview of the environmental issues associated with our agriculture and food system along with current production and consumption trends. Other topics covered in the course will include: environmental certification, starting and managing a farm, organic versus conventional farming, and the impact of diet choice on the environment.

Offering: **Host**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **NSM-ENVS**

Prereq: **None**

ENVS283 Venezuela: The Effect of Oil Discovery on People, the Environment, and on Democracy (CLAC 1.0)

(English translation follows below) Este curso examinará los factores clave que han afectado el desarrollo de Venezuela y su entorno desde el período precolonial hasta el presente. Dividiremos la historia de Venezuela en dos períodos críticos: antes y después del descubrimiento de petróleo. Haremos preguntas sobre la naturaleza y las interacciones de los factores y agentes clave que transformaron a Venezuela de una colonia a la de un país económicamente independiente. Al examinar los períodos económicos anteriores y posteriores al petróleo por separado, aprenderemos que los factores clave, como la agricultura, el uso de la tierra y la influencia colonial europea, cambiaron drásticamente, transformando así muchas instituciones sociopolíticas. Los contrastes incluirán la resiliencia y la erradicación de enfermedades, los derechos humanos y la esclavitud, la propiedad de la tierra, la salud humana, los impactos en la biodiversidad y la salud humana, y la protección de las culturas indígenas. En última instancia, examinaremos los factores que han llevado al colapso de la democracia. Leeremos una literatura interdisciplinaria que incluye antropología, religión, sociología, ciencias ambientales, derecho e historia. El curso se presenta en un formato de lectura / discusión en el que todas las lecturas, escritos y discusiones serán en español.

This course will examine the key factors that have affected the development of Venezuela and its environment from the pre-colonial period to the present. We will divide the history of Venezuela into two critical periods: before and after the discovery of oil. We will ask questions about the nature and interactions of the key factors and agents that transformed Venezuela from a colony to that of an economically independent country. By examining the pre- and post-oil economic periods separately, we will learn that the key factors, such as agriculture, land use, and European colonial influence, changed dramatically, thereby transforming many sociopolitical institutions. The contrasts will include resilience to and eradication of diseases, human rights and slavery, land ownership, human health, impacts on biodiversity and human health, and protections of indigenous cultures. Ultimately we will examine the factors that have led to the collapse of democracy. We will read an interdisciplinary literature that includes anthropology, religion, sociology, environmental sciences, law, and history. The course is presented in a reading/discussion format in which all readings, writings, and discussions will be in Spanish.

Offering: **Host**

Grading: **OPT**

Credits: **1.00**

Gen Ed Area: **SBS-ENVS**

Identical With: **LAST383, CGST283**

Prereq: **SPAN221**

ENVS284 Animal Law and Policy

This course will provide an overview of law and public policy as they apply to non-human animals. The course will explore the historical and philosophical treatment of animals; discuss how such treatment impacts the way judges,

policymakers, lawyers, legal scholars, and lay people see, speak about, and use animals; survey current animal protection laws and regulations, including overlap with such policy issues as food and agriculture, climate change, and biodiversity protection; consider recent political and legal campaigns to reform animal protection laws; examine the concept of "standing" and the problems of litigating on behalf of animals; interrogate the current classification of animals as "property" and the impacts of that classification; and debate the carceral turn in animal legal advocacy.

Offering: **Crosslisting**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **SBS-SISP**

Identical With: **STS293, PHIL283**

Prereq: **None**

ENVS285 Environmental Law and Policy

If you are interested in the environment and want some perspective on where our environmental law and policy came from, how it works, where it has succeeded and failed, what the unresolved issues have been and which remain, where the emerging topics (e.g. climate, PFAS, Environmental Justice) may take us, and a sense of the past and present battlegrounds of environmental law, then Environmental Law and Policy is for you. This course is taught using the Socratic (highly interactive) method, includes a "brownfield" negotiation, and culminates in student run hearings in which you will prepare, present, and argue about issues from what is a "water" of the U.S. to recycling and reclamation to what is solid and hazardous waste?

Offering: **Host**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **SBS-ENVS**

Prereq: **[ENVS197 or BIOL197 or E&ES197] OR EES199**

ENVS286 Plant Form and Diversity

The course begins with an overview of plant evolutionary history, then covers the basic structure and function of the plant body, the plant life cycle in nature, including interactions with animals, and ecological diversity of plants in contrasting habitats. Special events include a field trip to the Smith College Botanic Garden, two hands-on days for working with living specimens, and a special guest lecture by a local plant biologist.

Offering: **Crosslisting**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **NSM-BIOL**

Identical With: **BIOL290, BIOL590**

Prereq: **BIOL182 OR MB&B182 OR BIOL182Z**

ENVS288 Community Paleocology

The study of community paleocology seeks to derive ecological meaning from the reconstruction of ancient ecosystems. From this vantage point, fossil assemblages are used to observe long-term patterns in biogeography, evolution, and organism-environment interactions. The overarching themes in this course will emphasize theoretical frameworks in community ecology and stratigraphic paleobiology that advance the collective understanding of how to read and interpret the fossil record to document ecosystem interactions over geologic history. Case studies from across Earth's history will underscore the necessity of examining past ecosystems to contextualize modern and future ecosystem structure. We will accomplish these aims with lectures, readings and discussion of the primary literature, and student presentations. Pre/co-requisites: BIOL182, E&ES101, E&ES115, E&ES155, E&ES197, or E&ES199.

Offering: **Crosslisting**

Grading: **OPT**

Credits: **1.00**

Gen Ed Area: **NSM-EES**

Identical With: **E&ES258**

Prereq: **E&ES101 OR E&ES115 OR E&ES155 OR ENVS197 OR EES199 OR BIOL182**

ENVS289 Introductory Ecological Methods in R

This lab class is required of students enrolled in the accompanying lecture (EES 258). We will learn to use R to analyze paleontological records with multivariate methods and specifically become familiar with the vegan package for interpreting large ecological datasets such as species abundance data. Prior knowledge of or experience with R is not a prerequisite and beginners are especially encouraged to enroll in this course. Students with intermediate and advanced R skills are still welcome to enroll, but should recognize that much of this course will focus on the beginner experience. Assignments and projects will be collaborative, such that students across experience levels will work together to complete the course material. Pre/co-requisites: BIOL181/BIOL182, E&ES101, E&ES115, E&ES155, E&ES197, or E&ES199.

Offering: **Crosslisting**

Grading: **OPT**

Credits: **0.50**

Gen Ed Area: **None**

Identical With: **E&ES259**

Prereq: **E&ES101 OR E&ES115 OR EES155OR ENVS197 OR EES199 OR BIOL182**

ENVS290 Oceans and Climate

Earth's climate is not static. Even without human intervention, the climate has changed, but mostly at a slower rate. In this course we will study the major properties of the ocean and its circulation and changes in climate during the Cenozoic Era (the past 66 million years). We will examine the effects of variations in greenhouse gas concentrations, the locations of continents, and the circulation patterns of oceans and atmosphere. Once a basic understanding of the climate system is attained, the focus will be on how we know about past climates. Through reading and in-class exercises students will look at data from sediment cores, ice cores, and tree rings to learn about past climates. The final project will investigate measures humans can take to slow the rate of climate change. It is possible and must be done.

Offering: **Crosslisting**

Grading: **Cr/U**

Credits: **1.00**

Gen Ed Area: **NSM-EES**

Identical With: **E&ES260, E&ES560**

Prereq: **E&ES101 OR E&ES115 OR E&ES155 OR E&ES197**

ENVS291 East Asian Archaeology

This course will introduce students to remarkable archaeological discoveries from East Asia, focusing on the archaeology of ancient China, but also including finds from Japan, Korea, and Mongolia. Beginning with "Peking Man" and Asia's earliest hominin inhabitants, we will explore the lives of Paleolithic hunter gatherers, the origins of domestic rice and pigs, the emergence of early villages and cities, the origins of writing, ancient ritual systems, long-distance interactions through land and maritime Silk Roads, and the archaeology of Chinese diaspora populations living in the 19th-century United States. We will also consider the current state of archaeological research in East Asia, focusing on site preservation, cultural heritage management, and the political roles of archaeology.

Offering: **Crosslisting**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **SBS-ARCP**

Identical With: **ARCP291, ANTH291, CEAS291, IDEA291**

Prereq: **None**

ENVS292 Techniques in Ocean and Climate Investigations

Weekly and biweekly field trips, and computer and/or laboratory exercises will allow us to see how climate and oceans function today and in the past. In addition to our data, we will most likely use the Goddard Institute for Space Studies climate model to test climate questions and data from major core

(ocean, lake, and ice) repositories to investigate how oceans and climate function and have changed.

Offering: **Crosslisting**

Grading: **A-F**

Credits: **0.50**

Gen Ed Area: **NSM-EES**

Identical With: **E&ES261**

Prereq: **E&ES101 OR E&ES115 OR [ENVS197 or BIOL197 or E&ES197] OR EES199**

ENVS293 Environmental Justice: Community-based Participatory Research

This course provides a foundation for addressing environmental and food justice through community-based participatory research (CBPR). Students will develop competencies to prepare them to work with communities to identify and understand environmental, food security, health, and social conditions that impact their communities and organizations. We will be drawing on theoretical and practical approaches from across the environmental social sciences (ESS) including psychology, anthropology, sociology, community health, and geography to help us frame ways of looking at critical community issues. Specifically, we will discuss a wide range of mixed methods with an emphasis on participatory approaches to developing research questions and hypotheses, community-engaged evaluation planning, needs assessments, and landscape scans. Students will also learn about ethical issues in research, particularly as pertaining to working with community stakeholders. Over the course of the semester, students complete a variety of practical exercises designed to gain experience with qualitative and quantitative data collection, analysis, and community learning.

Offering: **Host**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **NSM-ENVS**

Prereq: **BIOL197 OR E&ES197 OR ENVS197 OR ENVS219F OR E&ES155 OR EES199**

ENVS294 Current Environmental Issues in Latin America (CLAC 1.0)

(English translation below Spanish text) Este curso proporcionará información histórica y actual sobre el desarrollo de temas ambientales en América Latina. La información se dividirá en la evaluación del uso del medio ambiente durante los períodos precolombino y colonial (a); y b) período moderno. Se discutirá la organización, estructura y gobernanza del medio ambiente. El desarrollo de políticas públicas, planes de gestión, factores que se deterioran y los posibles usos sostenibles del medio ambiente y sus recursos. Leeremos literatura interdisciplinaria incluyendo: académica, informes, documentos oficiales gubernamentales y proyectos de ONG dedicados al diagnóstico, desarrollo y uso o nuestros recursos en América Latina. Por último, se estudiarán casos particulares de países latinoamericanos como Argentina, Brasil, México, Costa Rica, Perú y Venezuela. El curso se presenta en un formato de lectura/discusión en el que todas las lecturas, escritos y discusiones estarán en español.

This course will provide historical and current information on the development of environmental issues in Latin America. The information will be divided into assessing the use of the environment during (a) pre-Columbian and colonial periods and (b) the modern period. The organization, structure, and governance of the environment will be discussed, as will the development of public policies, management plans, factors that deteriorate, and the potential sustainable uses of the environment and its resources. We will be reading interdisciplinary literature including academic, reports, official governmental documents, and NGOs' projects dedicated to the diagnostic, development, and use of resources in Latin America. Finally, particular cases of Latin American countries such as Argentina, Brazil, Mexico, Costa Rica, Peru, and Venezuela will be studied. The course is presented in a reading/discussion format in which all readings, writings, and discussions will be in Spanish.

Offering: **Host**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **NSM-ENVS**

Identical With: **CGST267, LAST290**

Prereq: **SPAN221**

ENVS295 Saving Animals: The Politics of Rescue, Captivity, and Care

This course examines the major issues related to captive animal care and rescue across a wide variety of contexts, especially the current global extinction crisis, with specific attention to the ethical, political, and social dimensions of human-animal interactions. Discussions, films, readings, and an independent research project will introduce students to key concepts related to animal care and rescue. Specifically, the course will focus on topics including the ethical dilemmas of care, the politics of extinction and conservation, animal trafficking, wildlife rehabilitation efforts, wildlife refuges, captive animal sanctuaries, and zoos.

Offering: **Host**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **NSM-ENVS**

Identical With: **STS294**

Prereq: **None**

ENVS297 Food Security and Environmental Conservation (CLAC 1.0)

(English translation below Spanish text) En este curso los estudiantes investigarán información y discusión sobre la seguridad alimentaria y el uso del medio ambiente en una selección de países de América Latina. Haremos preguntas sobre la base de la producción y disponibilidad de alimentos. También examinaremos la información disponible de las agencias públicas y privadas sobre los programas establecidos por los países para garantizar la seguridad alimentaria de sus habitantes y el uso sostenible y la conservación del medio ambiente. Discutiremos conceptos como: La soberanía alimentaria y la seguridad como un sistema alimentario en el que las personas que producen, distribuyen y consumen alimentos también controlan los mecanismos y políticas de producción y distribución de alimentos; La nutrición como normas mundiales y particulares de consumo de alimentos; La Justicia social relacionada con la accesibilidad de los alimentos; y el derecho humano a una alimentación adecuada y a la libertad del hambre como uno de los objetivos del milenio de las Naciones Unidas. El estudiante revisará casos particulares en América Latina. El curso se presenta en un formato de lectura/discusión en el que todas las lecturas, escritos y discusiones estarán en español.

In this course students will research and discuss food security and the use of the environment in a selection of Latin American countries. We will ask questions about the basis of food production and availability. We will also examine the available information from public and private agencies about programs established by countries to ensure the food security of their inhabitants and the sustainable use and conservation of the environment. We will discuss concepts such as: food sovereignty and security as a food system in which the people who produce, distribute, and consume food also control the mechanisms and policies of food production and distribution; nutrition as a global and particular standard of food consumption; social justice related to the accessibility of food; and the human right to adequate food and freedom from hunger as one of the United Nations' objectives of the millennium. Students will look at particular cases in Latin America. The course is presented in a reading/discussion format in which all readings, writings, and discussions will be in Spanish.

Offering: **Host**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **NSM-ENVS**

Identical With: **CGST268, LAST298**

Prereq: **SPAN221**

ENVS298 Earthwatch: Satellite Data Storytelling for Science Communication

The fingerprint of human activity on planet Earth continues to magnify as we move deeper and deeper into the Anthropocene. Satellite remote sensing is a rapidly developing field for monitoring and visualizing planetary change in real time. Vast amounts of satellite data are now freely available for documenting, mapping, and communicating the impacts of natural and human disturbances on the Earth system. Students in this course will learn how to 1) analyze remotely sensed imagery using open-source software, 2) make high-quality maps documenting planetary change, and 3) communicate satellite data patterns to broad audiences using data storytelling. Students will master a wide range of techniques for detecting and articulating the stories behind satellite images and data sets through visual, oral, and written assignments aimed at diverse public audiences.

Offering: **Crosslisting**

Grading: **A-F**

Credits: **1.50**

Gen Ed Area: **None**

Identical With: **E&ES282**

Prereq: **E&ES115 OR E&ES101 OR E&ES155 OR E&ES197 OR ENVS197**

ENVS299 Drones and Change Lab

Civilian use of unoccupied aerial vehicles or drones to capture data and measure change can enhance our understanding of the natural and built environments. While drones are increasingly available for entry-level to professional level adoption, there remains value in understanding how the infrastructure for their development and deployment have evolved and what is required to ensure their continued safe and ethical utility of these devices. In this class, we will explore the legal and infrastructure elements of drone development and deployment for civilian utility of drones, while working on data collection, analysis, and interpretation that will allow students to better appreciate the value and utility of drones. Over the course of the semester, students will work on understanding and building drones, collecting data with small drones, examining the commercial versus open-source platforms for drones, and preparing to take the Federal Aviation Authority Part 107 license to allow them to fly drones safely.

Offering: **Crosslisting**

Grading: **A-F**

Credits: **0.50**

Gen Ed Area: **NSM-EES**

Identical With: **E&ES284**

Prereq: **E&ES101 OR E&ES115 OR E&ES155 OR E&ES197**

ENVS301 The Art of Narrative Science

There is neither conflict nor antagonism between the realms of art and science. Indeed, the two infinitely complement and complete one another in ways so intimate, intricate, and oft-times invisible that only great storytelling, artful narrative, can fully reveal them. A poet, through metaphor, builds bridges from entangled inscapes of thought and emotion to a place of shared understanding. A good narrative science writer must do the equivalent with the often recondite minutia of modern scientific exploration, and do so with ever-increasing urgency as new discoveries and insights mount daily across a broad array of disciplines.

As we'll be highlighting in our course readings, writing assignments, and class discussion, all the key tenets of good storytelling are at play in effective narrative science writing: voice, point of view, narrative arc, dramatic tension, setting and scenes, characters, action, and dialogue. Science, in this sense, is incidental to this course's primary concern. The singular challenge that science does pose to writers, however, is how not to be cowed and/or overwhelmed by the daunting complexities of the subject matter; how to, through your own powers

of observation, accrued research, and fearless, persistent questioning, own the material in such a way that frees you to imaginatively represent it again to the lay reader as story.

In this course students will learn:

- 1) How to read effective creative nonfiction about scientific subjects and understand what techniques different writers use to achieve both clear and compelling narratives.
- 2) How to choose the subjects they'd like to write a story about and how to compose a proposal describing that story to prospective editors at a variety of different publications.
- 3) How to compile research and conduct interviews for their stories.
- 4) How to construct the story itself using all the techniques of effective storytelling in feature-length narratives.

Offering: **Host**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **HA-ENVS**

Prereq: **None**

ENVS302 Extinction/Rebellion: Christianity and the Climate Crisis

Although this course is not devoted specifically to the subject of "XR"--the decentralized environmental activist organization and global campaign of civil disobedience--it borrows the movement's self-designation as a point of departure for an exploration of the historical, conceptual, and geopolitical significance of Christianity to the "Anthropocene." How is Christianity entangled among the "historical roots of our ecologic crisis"? What is "eco-theology"? How do ancient narratives of creation and traditional Christian teachings regarding the origin of humankind continue to shape modern, scientific, and popular assumptions about the natural world and our place in it? What does the book of Genesis have to say about commercial agriculture, ethical veganism, and the relation of divinity with the more-than-human, animal-vegetal-mineral web of life? Whence this "planet of slums" and whither Paradise or the Promised Land? Which elements of the Christian imagination enabled colonization of the New World, indigenous displacement and genocide, the transatlantic slave trade, and capitalist globalization? Is another world still possible, and could Christian thought and practice play a pivotal part in actualizing an alternative planetarity today? We will pursue these questions together by way of readings in theology, philosophy, critical science studies, ecology, geography, political economy, Black feminism, queer theory, and Indigenous studies. Ultimately, the course analyzes aspects of Christianity's intimate involvement in the history of climate change and considers how critical attention to this history may contribute to collective acts of rebellion against mass extinction.

Offering: **Crosslisting**

Grading: **OPT**

Credits: **1.00**

Gen Ed Area: **SBS-RELI**

Identical With: **RELI303, STS313**

Prereq: **None**

ENVS303 Ukraine and Its Environment

International perspectives on environmental issues are critical in order to address the challenges facing the world. Developing an international perspective requires more than learning from printed literature--it requires in-country

experience and the desire to be able to view issues through different cultural lenses. This course will provide such experience by learning about the diversity of Ukrainian environments, people, and cultures both in the classroom at Wesleyan and by traveling to Ukraine during Spring Break. During our time in Ukraine we will receive lectures in English from noted scholars, politicians, professors and scientists on topics such as environmental law, global environmental security, urban environment, environmental policy in developing states, and sustainable development for the developing world. We will travel and learn from scientists at Chernobyl about the regeneration of forest ecosystems, learn from agronomists about agriculture on the steppes, and learn from politicians and scholars about Ukrainian environmental policy and their views of U.S. policies. We will also enter into round table discussions with university students to exchange ideas about potential international solutions and approaches to environmental problems. These are just some of the experiences that are planned for our visit. Ukraine, as a pivotal democracy of the former Soviet Bloc, is an amazing place to witness how a nation wrestles with dramatic changes in policy. At the same time Ukraine is culturally diverse, which presents interesting challenges to formulating fair and cohesive policies.

Offering: **Host**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **NSM-ENVS**

Identical With: **CGST303**

Prereq: **ENVS197 OR EES199**

ENVS306 Ecology and Natural History of Freshwater Fishes of South America

South America has the highest diversity of freshwater fishes anywhere in the world. In fact, there are more than twice the number of mammals and about the same number of birds in the world. Why has this remarkable radiation occurred in a relatively short period of time? How can so many fishes coexist in the same rivers, utilizing the same resources? In this intensive course, we will travel to Colombia during spring break (March 7-21) in order to gain firsthand knowledge about the ecology and natural history of freshwater fishes in South America. We will learn about the ecological and environmental factors that contribute to perhaps the largest biological radiation on the planet.

Students will obtain firsthand experience with the South American tropics, freshwater fishes, and with doing experiments in the field. Each day there will be a combination of lectures and field or laboratory exercises. We will travel to and explore fish ecology in different types of rivers at different elevations. Students will gather and analyze data about biological, physical, and environmental issues that are covered in the lectures. The habitats that we explore will be both terrestrial and freshwater rivers. Our base will be at the Instituto Humboldt in Villa de Leyva, Colombia. We will interact with Colombian students who are studying ecology and biodiversity at the Institute in order to exchange ideas about current environmental issues.

All the costs of travel, lodging, and meals will be covered by the course.

Offering: **Host**

Grading: **A-F**

Credits: **1.50**

Gen Ed Area: **NSM-BIOL**

Identical With: **BIOL306, E&ES306**

Prereq: **None**

ENVS307 The Economy of Nature and Nations

On many of the key environmental problems of the 21st century, from climate change to biodiversity conservation, the perspectives of ecology and economics often seem poles apart. Ecology is typically associated with a skeptical stance

toward economic growth and human intervention in the environment, while economics focuses on understanding (and often, celebrating) human activities of production, consumption, and growth. At the same time, ecology and economics share a common etymology: both words spring from the Greek *oikos*, or household. They also share much common history. This course thus explores the parallel histories of economics and ecology from the 18th century to the present, focusing on changing conceptions of the *oikos* over this period, from cameralism's vision of the household as a princely estate or kingdom, continuing through the emergence of ideas about national or imperial economic development, and culminating in the dominant 20th-century recasting of economics as being centrally concerned with problems of resource allocation. Simultaneously, the course explores connections between changes in economics and the emergence of ecological science over this period, from Enlightenment natural history and early musings on the "economy of nature," to the design of markets for carbon credits today.

Offering: **Crosslisting**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **SBS-HIST**

Identical With: **HIST307, STS307**

Prereq: **None**

ENVS308 Comparative Urban Policy

Cities are home to more than half of the world's population, generate more than 80% of world GDP, and are responsible for 75% of global CO2 emissions. Once viewed as minor political players with parochial concerns, they are now--individually and collectively--major players on the global stage. This course will examine how cities are coping with the major policy issues governing our lives--from waste management and public safety to energy and housing policy. We will be examining how policies differ between big cities and small cities, what cities in the global north are learning from the cities in the global south, and how cities are bypassing toxic partisan politics in their nations' capitals to form global networks promoting positive change. The class will involve local field trips and participant observation to see how some of these urban issues are playing out in the city of Middletown.

Offering: **Crosslisting**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **SBS-GOVT**

Identical With: **GOVT308, CEAS308, IDEA308**

Prereq: **None**

ENVS309 Animate Landscapes: Spirits and Sovereignty in Indigenous Religions

Scientific understandings of the world are grounded in a distinction between animate beings and inanimate matter, but people all over the world have understood land and landscapes as alive and filled with agency. Indigenous religious practices often include relationships with mountains, rivers, glaciers, and other "other-than-human persons." Using case studies drawn from North America, Siberia, and Mongolia, and the instructor's fieldwork materials with place beings in Buryatia, we will explore the different relationships human beings have with animate and sacred landscapes and think about the ramifications these relationships have for thinking about sovereignty over and in the "natural" world. The course may involve a 4 day/3 night trip to Penikese Island off Cape Cod for an immersive learning experience with the Gull Island Institute during fall break (details tbd). The trip will be fully funded with no cost to the students (hence why it is still tbd). Although the trip is not yet confirmed, please be aware that the trip will be required, and in order to take the class you must be available to participate in this travel during fall break (10/19-10/22).

Offering: **Crosslisting**

Grading: **OPT**

Credits: **1.00**

Gen Ed Area: **SBS-RELI**

Identical With: **RELI306, REES306**

Prereq: **None**

ENVS311 Global Change Biogeography

On our home planet, Earth, the current geologic epoch is characterized by rapid changes to the environment due to human behavior. Biogeography examines the spatiotemporal distribution of life on Earth, from species to ecosystems and from landscapes to continents. How is anthropogenic climate change modifying the distribution and function of organisms and ecosystems? What can we learn from the evolutionary history of the life-planet system that can help us understand the possible impacts of future climates on the biosphere? To address these questions rigorously, we will explore primary literature from a wide range of theoretical and empirical studies. The course emphasizes inquiry, contact with primary literature, discussion, statistical and spatial coding, learning to obtain data, and visualization. The beginning of the semester provides an overview of physical geography and the Earth System, with field and data experiences that build remote sensing and spatial analysis skills. The second half of the semester is focused on the exploration of relevant scientific literature based on student interests and recent papers, as well as independent research projects.

Offering: **Crosslisting**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **NSM-EES**

Identical With: **E&ES312, BIOL312**

Prereq: **None**

ENVS312 Economics of the Environment and Climate

This course introduces environmental economics: we begin with the theory, including cost-benefit analysis, externalities, and concepts of economic efficiency that combine standard economic consumption with environmental benefits. We then turn to practical applications of the theory to policy questions: for example, in the contexts of air and water pollution, energy use, the economics of the climate, and sustainability. These topics will be treated mathematically using formal economic models and also acknowledge that the field is heavily influenced by the natural sciences and policy constraints.

Offering: **Crosslisting**

Grading: **OPT**

Credits: **1.00**

Gen Ed Area: **SBS-ECON**

Identical With: **ECON310**

Prereq: **ECON301**

ENVS314 The Environmental Crisis and Nuclear Testing Narratives in Global Francophone and Arabic Cultures

This interdisciplinary course examines nuclear themes, with a particular focus on nuclear testing as depicted in novels, film documentaries, and poetry within Francophone and Arabic cultures. It emphasizes the profound impact of nuclear testing on human life and the environment. The course analyzes literature in French and English as well as visual materials (photography and films), archival materials, political writings, news articles, and websites. Students must possess reading ability in French and an interest in North African culture.

Offering: **Crosslisting**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **HA-CHUM**

Identical With: **CHUM360, CGST316**

Prereq: **None**

ENVS315 Eat, Grow, Heal: The Anthropology of Food and Justice

This course uses the lens of justice to examine the politics of food. We will look at the cultural and political-economic dynamics of food production and consumption, considering questions of taste, class, labor, marketing, and food sovereignty. We will also examine the environmental and social impact of food production and the consumption choices we make, from organic, to vegan, to animal proteins, to foraging and hunting. We will use a range of texts, including

ethnographies, theory, film/documentary/TV shows, creative nonfiction, fiction, cookbooks, blogs, and magazine articles.

Offering: **Crosslisting**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **SBS-ANTH**

Identical With: **ANTH312**

Prereq: **None**

ENVS316 Community Research Seminar

Small teams of students will carry out research projects submitted by local community groups and agencies. These may involve social science, natural science, or arts and humanities themes. The first two weeks of the course will be spent studying the theory and practice of community research. Working with the community groups themselves, the teams will then design and implement the research projects.

Offering: **Crosslisting**

Grading: **A-F**

Credits: **1.50**

Gen Ed Area: **SBS-SOC**

Identical With: **SOC316**

Prereq: **None**

ENVS317 Colonizing Space: Exploration, Extraction, and Inhabitation

Under its "Artemis Mission," NASA plans to put "the first woman and first person of color" on the Moon to build a permanent outpost. This lunar base will allow NASA to mine the Moon, extract precious metals from asteroids, and eventually colonize Mars--hopefully before China and Russia do the same. Thanks to recent legislation, NASA will rely throughout this mission on the rocket and extractive technologies of private corporations like SpaceX, Blue Origin, Moon Express, and Deep Space Industries, whose CEOs proclaim they are saving the human race by expanding it into space. It will also rely on the backing of the newly-created sixth branch of the U.S. military: the Space Force.

This course will track the ideological and colonial history of the Apollo era before approaching the scientific, corporate, and legislative landscape of "NewSpace." It will explore the mythological underpinnings, narrative imaginings, and theological justifications for the unfettered exploitation and inhabitation of the Earth and its cosmic neighbors. Finally, it will ask whether an ethically and ecologically sustainable space program is possible.

Offering: **Crosslisting**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **SBS-RELI**

Identical With: **RELI317, STS327**

Prereq: **None**

ENVS317F Colonizing Space: Exploration, Extraction, and Inhabitation (FYS)

Under its "Artemis Mission," NASA plans to put "the first woman and first person of color" on the Moon to build a permanent outpost. This lunar base will allow NASA to mine the Moon, extract precious metals from asteroids, and eventually colonize Mars--hopefully before China and Russia do the same. Thanks to recent legislation, NASA will rely throughout this mission on the rocket and extractive technologies of private corporations like SpaceX, Blue Origin, Moon Express, and Deep Space Industries, whose CEOs proclaim they are saving the human race by expanding it into space. It will also rely on the backing of the newly-created sixth branch of the U.S. military: the Space Force.

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Offering: **Crosslisting**

Grading: **OPT**

Credits: **1.00**

Gen Ed Area: **SBS-RELI**

Identical With: **RELI317F, STS327F**

Prereq: **None**

ENVS318 The Politics of Death: The Living, the Dead, and the State

This course will explore the intersections between the living, the dead, and the state, focusing on the ways that death and the dead body raise particular questions and problems for different kinds of political regimes. The course will examine the collisions between the state and the dead, both symbolic and material, by investigating spaces where the state and death intersect in revealing ways: cemeteries, cremation, monuments, rituals, and religious institutions and cultures. The course will also follow, borrowing anthropologist Katherine Verdery's term, "the political lives of dead bodies," the ways in which states mobilize dead bodies to reconfigure the political order.

Offering: **Crosslisting**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **HA-CHUM**

Identical With: **HIST318, REES318**

Prereq: **None**

ENVS319 Animals in Film

Some of the oldest known visual art--the paintings on the walls of Chauvet Cave--appear to depict animals in motion. Today, 36,000 years later, humans are still deeply fascinated with depictions of animals and their actions, from television documentaries to animated films to viral Internet videos. John Berger argues in his famous essay "Why Look at Animals?," "animals are always the observed," while the "fact that they can observe us has lost all significance. They are the objects of our ever-extending knowledge." The history of film provides many examples to support Berger's claim. But can film also help us understand how animals see us, or the rest of the world? And what can film tell us about how we see and attempt to understand other animals? Through an examination of the history of animal depictions in documentary, animated, and live-action fictional films, this course will explore these questions and provide a deeper understanding of how the cinematic medium shapes our relationships with other species. Films may include *Electrocuting an Elephant*, *The Hunters*, *Babe*, *The Bear*, *White God*, *Kedi*, *Stray*, *Gunda*, and *Zootopia*.

Readings will include: John Berger, "Why Look at Animals?"; Andre Bazin, "What is Cinema?"; Anat Pick, "Vegan Cinema"; Anat Pick and Guinevere Narraway, "Screening Nature: Cinema Beyond the Human"; Gregg Mitman, "Reel Nature: America's Romance with Wildlife on Film"; Cynthia Chris, "Watching Wildlife"; Helen Hughes, "The Contemplative Response"; and Akira Mizuta Lippit, "Electric Animal: Toward A Rhetoric of Wildlife."

Examination and Assignments: A final project, film review paper, and weekly reflection papers.

Consent: No special consent required.

Offering: **Host**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **NSM-ENVS**

Prereq: **None**

ENVS319Z Animals in Film

Some of the oldest known visual art--the paintings on the walls of Chauvet Cave--appear to depict animals in motion. Today, 36,000 years later, humans are still deeply fascinated with depictions of animals and their actions, from television documentaries to animated films to viral internet videos. In his famous essay, "Why Look at Animals?," John Berger argues that "animals are always the observed," while the "fact that they can observe us has lost all significance. They are the objects of our ever-extending knowledge." The history of film provides many examples to support Berger's claim. But can film also help us understand how animals see us, or the rest of the world? And what can film tell us about how we see and attempt to understand other animals? Through an examination of the history of animal depictions in documentary, animated, and live-action fictional films, this course will explore these questions and provide a deeper understanding of how the cinematic medium shapes our relationships with other species.

Offering: **Host**

Grading: **OPT**

Credits: **1.00**

Gen Ed Area: **SBS-ENVS**

Prereq: **None**

ENVS320 More-Than-Human-Worlds: Theories and Fictions

How do we imagine the worlds of other life forms: what they know, what is meaningful to them, their ways of communicating? Which senses must we use and what forms of translation are necessary (if impossible) to turn their languages, their thoughts, their desires into our fictions or poetry or theory? What stories have been told and what stories could or should we tell in order to inspire more responsive and responsible relations between the diverse yet enmeshed worlds of human and non-human lives? These are some of the questions we will be asking as we move through a diverse range of writings about relations to other animals and to other worlds that are both within and beyond our own.

Offering: **Crosslisting**

Grading: **OPT**

Credits: **1.00**

Gen Ed Area: **HA-COL**

Identical With: **COL310**

Prereq: **None**

ENVS321 Ecological Design II: Worn Out/Broken In

This course will function as a design studio that examines the afterlife of material production. While designers have traditionally focused their attention on the creation, distribution, and consumption of new products, this course asks students to carefully consider everything that follows those acts. By scrutinizing the use, care, maintenance, repair, and eventual demise of designed objects, students come to understand the intended and unintended consequences of making. Rigorous observation and research lead to the creation of analytic drawings and models for presentation at project reviews.

Offering: **Crosslisting**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **HA-ART**

Identical With: **ARST320, IDEA320**

Prereq: **ARST270 OR ARST235 OR ARST220**

ENVS323 It's All Happening in the Cafeteria: The (In)Justice of School Food

The National School Lunch Program (NSLP) is a federally-assisted meal program operating in public and nonprofit private schools across the US. In FY 2022, the NSLP provided nearly 5 billion meals to children in preK-12th grade. Given the scale of this operation, school food serves as an important lever for food systems change and a window into food justice through examining production, procurement, distribution, and consumption. This course will look at school feeding programs to explore a variety of facets of the food system including school food policy (with state-level advocacy for universal free meals), farm-to-school, food service workers, and child and household food security. This course is intended as an advanced seminar for students with a background and interest in the related areas of food systems and social justice.

Offering: **Host**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **SBS-SISP**

Prereq: **ENVS197 OR ENVS219F OR E&ES155 OR EES199**

ENVS324 Wood: Building with the Forest

This studio introduces students to full-scale design and construction through the production of a single, collaborative project over the course of the semester. Working from land-based research and precedent analysis, students develop a detailed design for a structure on a specific site in Middletown, then build it together in the field. Materials will be sourced from the northern hardwood forest and the design crafted to suit its ecosystem.

Offering: **Crosslisting**

Grading: **A-F**

Credits: **1.50**

Gen Ed Area: **HA-ART**

Identical With: **ARST321, IDEA321**

Prereq: **ARST270 OR ARST235 OR ARST220**

ENVS325 Biocapital and the Commodification of Life

Karl Marx described capital as "dead labour, that, vampire-like, only lives by sucking living labour." But what happens when capital itself is alive? Biotechnological and scientific advancements have enabled the commodification and exploitation of living organisms and tissue at a scale barely imaginable in Marx's time, opening new global markets for the circulation of "biocapital." What is biocapital, and how might it transform our understandings of labor, value, property, and even life itself? Drawing on a variety of course material -- including critical theory, ethnography, literature, and films -- the seminar seeks to answer these questions by exploring the historical, socio-cultural, and political-economic dimensions of biocapital and the technoscientific processes employed to extract value from living things.

Offering: **Crosslisting**

Grading: **OPT**

Credits: **1.00**

Gen Ed Area: **SBS-ST5**

Identical With: **STS323**

Prereq: **None**

ENVS327 The Microbial Fossil Record

This course invites students to investigate the fossil record of microbial life to reveal the outsized impact microbes have on Earth and environmental systems. We will explore topics such as the origin of life, micropaleontology, marine biogeochemistry, biological oceanography, environmental microbiology, and astrobiology. This course will present students with the opportunity to engage with primary literature, write integrative narratives, and craft microbially inspired creative works.

Offering: **Crosslisting**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **NSM-EES**

Identical With: **E&ES327, E&ES527**

Prereq: **None**

ENVS328 Human Rights and Spiritual Ecologies of Indigenous Peoples

This seminar will explore the social, legal, and metaphysical aspects of indigenous spiritual ecologies and their relation to United Nations discourses, indigenous community media production, and land rights movements. We will consider how indigenous peoples both respond to legal frameworks and press their positions into national and international human rights standards, on issues ranging from governance to cultural survival, from environmental management to language policy.

A particular emphasis will be put on the Andean and Amazonian regions of South America, the Mesoamerican highlands (Chiapas, Guatemala), the United States, and the United Nations Permanent Forum on Indigenous Issues, but students are encouraged to pursue their research projects across Abya Yala (the Americas).

This course focuses on developing critical thinking skills and places a special emphasis on writing and thoughtfully responding to the materials presented in class. Classes will not only consist of framework lectures and discussion questions, but also a combination of student panel presentations and writing in a collaborative environment. Participation in these activities is crucial to success in this course. Opportunities for student engagement in Manhattan at the April 2024 United Permanent Forum on Indigenous Issues are currently in development.

Offering: **Crosslisting**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **SBS-RELI**

Identical With: **RELI316, AMST317**

Prereq: **None**

ENVS329 Fire Ecology and Management

Fire is a fundamental ecological disturbance process that regulates the structure and function of plant communities worldwide. However, increasing aridity under climate change and shifting human land use in recent centuries have altered fire behavior, imperiling many species. This course explores the ecological and social aspects of fire and sustainable fire management on planet Earth. Students examine shifting fire regimes over time, from indigenous use of fire prior to European colonization of the globe, to contemporary fire management. Class participants study the effects of global climate change on fire regimes and how such changes influence contemporary fire regimes and human livelihoods. The course format consists of a mixture of lectures, field exercises, active class discussions, student presentations, and research papers.

Offering: **Host**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **NSM-ENVS**

Identical With: **E&ES329**

Prereq: **BIOL182 or ENVS197 or BIOL216 or EES199**

ENVS330 Special Topics: Eco-poetics - Experimental Poetry in the Anthropocene

How do poets speak for and from a world in flux and crisis? How do poets register and attempt to restore the degradation of the planet through language? How might altering the boundaries of conventional language use "through poetry" alter the bounds of conventional thinking and behaving, thus leading to more engaged and sustainable modes of living? This course, in part, will serve as a tour of contemporary eco-poets invested in looking at and caring for the current state of our planet through poetry. We will read poems that reflect the most critical environmental concerns of our time, and we will learn to see how these poems resist closure and are instead guided by exploration

and interrogation in an attempt at reorienting our attention and intention as inheritors of this planet.

This is an advanced workshop for students committed to developing an understanding of eco-poetry's place in the more-than-literary world, as well as developing a personal eco-poetics from which to write. Students will choose an environmental topic to research and write in service of for the semester and, by the end of the semester, will have a project-centered collection of poems. There will be bi-weekly presentations on the poetry collections we read, in-class writing experiments, in-the-field experiments, and intensive workshops of participants' work. The class will culminate in an eco-book arts project and a reflective essay.

Special attention will also be given to cultivating community and the benefits of sustaining an embodied artistic practice during extreme times and how doing so may benefit the health of the whole artist.

Offering: **Crosslisting**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **HA-ENGL**

Identical With: **ENGL340**

Prereq: **(ENGL216 AND ENGL336) OR ENGL337**

ENVS331 Race, Colonialism, and the Nonhuman

This course responds to growing scholarly attention to the entwinement of racial slavery and settler colonialism as foundational forces in U.S. society as well as to the relationships between colonial, racial, and ecological violence. Through materials from anthropology, Black studies, Indigenous studies, environmental history, and critical animal studies, this class will explore the entanglement of human and nonhuman difference--primarily in North America--both historically and in the present. Students will become familiar with conversations about racialization, settler colonialism, and the figures of the human/nonhuman that are increasingly prominent in anthropology as well as adjacent fields in the humanities and humanistic social sciences.

Offering: **Crosslisting**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **None**

Identical With: **ANTH331, AMST333**

Prereq: **None**

ENVS332 Botanical STS: Plants as Nature, Capital, Empire

Interest in the social and technoscientific lives of plants has been rising. Described as the Plant Turn or Critical/Transnational Plant Studies, this multidisciplinary field of study encompasses the social and environmental sciences, experimental humanities, and visual/sonic/literary arts. In this course, we will delve into contemporary works that situate the relationship between plants and botanical studies at the center of critical analysis and creative practice. What happens to notions of agency/intelligence, property/exchange, and power/knowledge when we think with and about plants? We will explore answers to these questions by engaging in three types of activities: readings and film screenings, field visits to botanical collections and agricultural stations, and online use of global plant databases.

Offering: **Crosslisting**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **SBS-SISP**

Identical With: **STS310**

Prereq: **None**

ENVS333 Media and Environment: In/Sensible Worlds

In this seminar, we will examine the relationship between media technologies, sensory apparatuses, and changing environments. How do various kinds of media shape perceptions and interactions with our surroundings, multispecies ecologies, and planet Earth? How might we study the environment AS media? These seemingly simple questions matter because, like never before, media and environment co-produce who/what becomes sensible or insensible--and, ultimately, available or not available for life. This seminar will include readings from the fields of Critical Media and Communication Studies, Feminist/Postcolonial Science, and Technology Studies, Environmental/Digital Arts, and Humanities. Importantly, we will examine a range of creative media projects that explore ecology, environment, and earthly survival: films, games, sensors, and web projects.

Offering: **Crosslisting**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **SBS-SISP**

Identical With: **STS311, IDEA311**

Prereq: **None**

ENVS337 The Origins of Bacterial Diversity

Wherever there is life, there are bacteria. Free-living bacteria are found in every environment that supports eukaryotes, and no animal or plant is known to be free of bacteria. There are most likely a billion or more species of bacteria, each living in its unique ecological niche. This course will explore the origins of bacterial biodiversity: how bacteria evolve to form new species that inhabit new ecological niches. We will focus on how the peculiarities of bacterial sex and genetics facilitate bacterial speciation. Topics will include the characteristics of bacterial sex, why barriers to genetic exchange are not necessary for speciation in bacteria, the great potential for formation of new bacterial species, the evolutionary role of genetic gifts from other species, and the use of genomics to identify ecologically distinct populations of bacteria.

Offering: **Crosslisting**

Grading: **A-F**

Credits: **0.50**

Gen Ed Area: **NSM-BIOL**

Identical With: **BIOL337, BIOL537**

Prereq: **[BIOL182 or MB&B182]**

ENVS338 Nature and Nurture: The Interplay of Genes and Environment

Ever since Watson and Crick proposed the DNA molecule as a heritable genetic "code," biology has emphasized genes ("nature") rather than environmental influences ("nurture") as the primary agents of biological causation. This genetic determinism continues to shape perspectives beyond research, including such critical concerns as public health and human diversity. Recent insights to environmental and inherited epigenetic factors demand that we rethink this established view to build a more integrated understanding. In this advanced seminar, we consider how genetic and environmental factors jointly determine the development and behavior of organisms, including ourselves. After an initial series of lecture/discussion sessions on foundational concepts, this seminar course will consist of student-led discussions of scientific articles on genetic and environmental causes of specific diseases, capacities, and behaviors. Subject to class choice, possible topics will include: causes of lung cancer and of asthma; variation in IQ; the Human Genome Project; and "personalized medicine." Any 200-level course in genetics, development, or neuroscience can fulfill the required prereq; interested COE or other students without this background are encouraged to directly contact Prof Sultan to request a prerequisite override. Students gain understanding of scientific inquiry and interpretation, as well as specific knowledge of a range of human health issues and behavioral capacities. Through reading recent data papers, participating actively in small-class discussions, and giving short oral presentations, students will build their skills in critical thinking about biological and environmental questions and related ethical issues, scientific scholarship, and oral communication of scientific information.

Offering: **Crosslisting**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **NSM-BIOL**

Identical With: **BIOL318, BIOL518**

Prereq: **BIOL214 OR BIOL218 OR [BIOL210 or MB&B210] OR [BIOL224 or NS&B224]**

ENVS340 The Forest Ecosystem

This course examines basic ecological principles through the lens of forest ecosystems, exploring the theory and practice of forest ecology at various levels of organization from individuals to populations, communities, and ecosystems. Lectures, lab exercises, and writing-intensive assignments will emphasize the quantification of spatial and temporal patterns of forest change at stand, landscape, and global scales.

Offering: **Crosslisting**

Grading: **A-F**

Credits: **1.50**

Gen Ed Area: **NSM-BIOL**

Identical With: **BIOL346, BIOL546, E&ES238, E&ES538**

Prereq: **[BIOL182 or MB&B182] OR [ENVS197 or BIOL197 or E&ES197] OR EES199**

ENVS344 Renewable Energy and Negative Emission Technologies

This course explores renewable energy solutions society must transition to in order to mitigate global climate change. The course will focus on renewable energy technologies such as solar, wind (onshore and offshore), geothermal, biofuels, hydro, and wave power. It will also cover negative emission technologies including soil carbon sequestration, reforestation, and carbon capture and storage (CCS).

Offering: **Host**

Grading: **OPT**

Credits: **1.00**

Gen Ed Area: **NSM-ENVS, SBS-ENVS**

Prereq: **None**

ENVS347 Ethics, Ecology, and Moral Change

People commonly recognize that in facing global climate crises, we need to change our habits and practices. Yet our activities are bound up with our perceptions and with our embodied experience of value and possibility. This seminar dives into recent attempts to radically rework our ways of understanding and inhabiting the world. As the flip-side of environmental alienation is alienation from our embodiment, our sessions will incorporate movement and other challenges to sedentary classroom habits.

Given an account of thinking and action as always actively embodied and embedded in our surroundings, we will consider the hypothesis that shifts in action emerge together with shifts in perception. Radical accounts of metaphor and its uptake will help us develop accounts of perceptual change. Our readings will follow a variety of metaphorical directions, including animism and animacies, affordance and hyperobject, process, event and intra-action, native and other, inflammation and balance, dwelling and death, consumption and sustainability. How -- and with what risks and unexpected outcomes -- can these patterns of recognition help in orienting us to the challenges of environmental interdependence and volatility?

This course benefits from collaborative visits with philosopher-dancer Jill Sigman, via Wesleyan's Creative Campus Initiative. Sigman will co-shape discussion and activities during at least two of our sessions.

Offering: **Crosslisting**

Grading: **OPT**

Credits: **1.00**

Gen Ed Area: **SBS-PHIL**

Identical With: **PHIL347**

Prereq: **None**

ENVS348 Animals in Archaeology

This laboratory course will explore how zooarchaeological methods for analyzing animal bones and teeth excavated from archaeological sites allow us to reconstruct ancient human-animal-environmental interactions. We will cover a range of topics and techniques, including hands-on sessions for the identification and quantification of faunal remains. By the end of the course, students will be able to identify every bone in the mammalian skeleton and distinguish between the bones of common non-mammalian taxa. Additional topics will include ancient DNA in zooarchaeology, bone stable isotope analyses, human-caused extinctions, animal domestication, bone artifact production, and animal sacrifice.

Offering: **Crosslisting**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **NSM-ARCP, SBS-ARCP**

Identical With: **ARCP350, E&ES350**

Prereq: **None**

ENVS350 Environmental Justice and Sustainability

The US Environmental Protection Agency defines environmental justice as "the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies." Although we still have a long way to go in achieving this goal, over the last fifty years a vibrant environmental justice movement of racially-diverse activists and international coalitions has struggled to create a more equitable and sustainable world. Specifically, they have worked to expose and end the vastly disproportionate impacts of environmental degradation, climate change, air and water pollution, waste disposal, draught, wild fires, and famine on Black communities, Indigenous communities, and other communities of color around the globe. In this course, students will examine the environmental justice movement, its historical development, its strategies and tactics, and the many contemporary environmental harms it strives to eliminate. Discussions, films, readings, and an independent research project will introduce students to topics including environmental racism, environmental health, (un)natural disasters, climate refugees, agricultural and industrial pollution, international waste export, seed imperialism, food sovereignty, water contamination, reproductive justice, environmental reparations, the extinction crisis, and just forms of sustainability.

Offering: **Host**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **SBS-ENVS**

Identical With: **STS349**

Prereq: **ENVS197 OR EES199**

ENVS350Z Environmental Justice and Sustainability

The United States Environmental Protection Agency defines environmental justice as "the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies." Although we still have a long way to go in achieving this goal, over the last fifty years a vibrant environmental justice movement of racially diverse activists and international coalitions has struggled to create a more equitable and sustainable world. Specifically, they have worked to expose and end the vastly disproportionate impacts of environmental degradation, climate change, air and water pollution, waste disposal, drought, wildfires, and

famine on Black communities, Indigenous communities, and other communities of color around the globe.

In this course, students will examine the environmental justice movement, its historical development, its strategies and tactics, and the many contemporary environmental harms it strives to eliminate. Following a four-day-per-week Summer Session immersion schedule, daily readings and discussions, weekly films, and an independent research project will introduce students to topics including environmental racism, environmental health, (un)natural disasters, climate refugees, agricultural and industrial pollution, international waste export, seed imperialism, food sovereignty, water contamination, reproductive justice, environmental reparations, the extinction crisis, and just forms of sustainability.

Note: This course is being offered as a blend of synchronous class meetings and asynchronous work involving small group discussions.

Offering: **Host**

Grading: **OPT**

Credits: **1.00**

Gen Ed Area: **NSM-ENVS**

Identical With: **STS349Z**

Prereq: **None**

ENVS352 Energy and Modern Architecture, 1850-2020

This seminar explores the evolution of mechanical systems for heating, ventilating, and cooling in modern architecture from the mid-19th century to the present. The aim is to show how architects, engineers, fabricators, and urban governments worked to develop modern systems of environmental controls, including lighting, as means of improving both the habitability of buildings and health of their occupants. The course will trace the adaptation of technical innovations in these fields to the built environment and how those responsible for it sought to manage energy and other resources, such as funds and labor, to create optimal solutions for different building types, such as factories, theaters, assembly halls, office buildings, laboratories, art museums, libraries, and housing of various kinds, including apartment buildings for higher- and lower-income residents. An important theme will be the relationship of energy systems for individual buildings and urban infrastructure, including water systems, electrical, and other utilities. The last part of the course focuses on contemporary green, or sustainable, architecture, including passive and active solar heating, photovoltaics, energy-efficient cooling, LEED certification, wind and geo-exchange energy, green skyscrapers, net-zero energy buildings, vertical farming, and zero-carbon cities in the United States, Europe, and Asia.

Offering: **Host**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **HA-ART**

Identical With: **ARHA352**

Prereq: **None**

ENVS358 Post-Animal Agriculture: Biotechnology, Alternative Proteins, and the Future of Food

The burgeoning alternative protein industry seeks to use biotechnological innovations to produce animal products outside the bodies of animals. With the long-term potential to entirely remove animals from the industrial food system, the successful implementation of these new technologies could ameliorate many of the negative impacts of animal agriculture on the environment, human health, and animal welfare. But what are the social, political-economic, and ontological implications of a post-animal food system, and how might they transform human relations with animals currently used for agriculture? How might these innovations transform understandings of food categories like meat

and dairy, and how likely is their commercial success? This seminar will draw on ethnographies, legal analyses, design theory, media coverage, techno-economic analyses, and speculative fiction to examine the recent historical development of the alternative protein industry and its potential impacts on the futures of both food production and interspecies relations.

Offering: **Crosslisting**

Grading: **OPT**

Credits: **1.00**

Gen Ed Area: **SBS-STS**

Identical With: **STS358**

Prereq: **None**

ENVS359 Space Design for Performance

In this course, students will study, construct, and deconstruct the performative space, whether in the theater or site-based, by analyzing the space as a context to be activated by the body of the performer and witnessed by an audience. Through practical assignments, the class will learn the aesthetic history of the theatrical event (considering plays, rituals, street parades, and digital performances, among others), while developing and discovering the student's own creative process (visual, kinetic, textual, etc.). Students will be guided through each step of the design process, including close reading, concept development, visual research, renderings or drawings, model making and drafting.

In this course, special emphasis is given to contemporary performance as a mode of understanding cultural processes as a relational system of engagement within our ecosystem, while looking at environmental and sustainable design, materials, and the environmental impacts of processing. Students will create and design performance spaces, while realizing scale models and drawings and integrating the notions of design and environmental principles and elements.

Students will have the opportunity to develop skills using 3D-drafting and 3D-modeling software.

This course counts towards the Theater Arts category for the THEA major.

Offering: **Crosslisting**

Grading: **OPT**

Credits: **1.00**

Gen Ed Area: **HA-THEA**

Identical With: **THEA359, DANC359, IDEA359**

Prereq: **THEA105 OR THEA150 OR THEA185 OR ARST131 OR ARST190**

ENVS360 Art and Political Ecology

How have artists confronted ecological destruction and climate emergency? This course examines a series of contextualized case studies set in relation to the growing environmental movement and the ever-expanding crisis within which it formed. Projects of activist immediacy will be considered alongside works of more distanced aesthetic experimentation, across a range of modalities including lens-based media, performance, painting, site-specificity, and sculpture.

Offering: **Crosslisting**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **HA-ART**

Identical With: **ARHA360**

Prereq: **None**

ENVS361 Living in a Polluted World

This course treats the occurrences and origins, natural pathways, toxicologies, and histories of the major environmental contaminants. We all know about lead and its effects on humans, but how about cadmium and hexachromium, or the many unpronounceable organic contaminants, usually referred to by some acronym (e.g., DDT, POPs)? We also deal with the larger topics of CO₂/climate change, the environmental nitrogen-oxide balance, and eutrophication of coastal waters (the "dead zones"). To be effective in this course, students will need basic high school/college-level proficiency in chemistry and math as we will delve into aspects of geochemistry, geology, toxicology, environmental law, and some simple modeling. The class consists of lectures, one problem set, one Hg-in-hair class study, and a class project on lead in drinking water in the Middletown area. This is also a service-learning course, providing environmental outreach to the larger Middletown community on local pollution.

Offering: **Host**

Grading: **OPT**

Credits: **1.00**

Gen Ed Area: **NSM-ENVS**

Identical With: **E&ES361**

Prereq: **None**

ENVS369 Ecological Resilience: The Good, the Bad, and the Mindful

This course will examine the concepts of resilience, fragility, and adaptive cycles in the context of ecosystem and social-ecological-system (SES) structures. These concepts have been developed to explain abrupt and often surprising changes in complex ecosystems and SES that are prone to disturbances. We will also include nonhierarchical interactions among components of systems (termed panarchy) to compare the interactions and dependencies of ecological and human community systems. A systems approach will be applied to thinking about restoration ecology, community reconstruction, and adaptive management theory.

All of the terms--resilience, fragility, adaptation, restoration, reconstruction--are fraught with subjectivity and valuation. We will use mindfulness and meditation techniques (including breathing and yoga) to more objectively and dynamically engage in the subject matter, leaving behind prejudice or bias. Students will be expected to approach these techniques with an open mind and practice them throughout the semester. The objective is to provide students with a more comprehensive framework with which to gain deeper understanding and integration of the science with the social issues.

Offering: **Host**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **NSM-ENVS**

Identical With: **E&ES342, BIOL368**

Prereq: **[E&ES197 or BIOL197] OR [BIOL182 or MB&B182]**

ENVS374 Food Security: History of an Idea

The Food and Agricultural Organization of the United Nations has held that "food security exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life." This course is a history of food insecurity as a material condition and a geopolitical concept for explaining uneven access to provisions. Although we begin with the emergence of food security as a concept during World War II, we will spend the majority of the course studying other ways of organizing access to the means of subsistence. Topics discussed will include why human beings share food, the invention of agriculture, transportation infrastructure, international trade, food aid, agricultural research and development, poverty, conflict, and famine.

Offering: **Crosslisting**

Grading: **OPT**

Credits: **1.00**

Gen Ed Area: **SBS-HIST**

Identical With: **HIST374, STS374**

Prereq: **None**

ENVS376 The Artist in the Community: Civic Engagement and Collaborative Dancemaking

Through both theoretical analysis and practical application, students will grow their understanding of community-based performance and collaborative art-making. Grounded in readings and seminar discussions about the practice and process of community-based art, students will apply their learning through community-engaged research. Through direct practice, students in the course will explore how collaborative performance can address local issues, spark community dialogue, and encourage civic participation--whether on a college campus, in a neighborhood, or across a city.

Class meetings will take place virtually during the semester. Student research and project development will be conducted in person. Note: This course includes required Spring Break travel to work on a Forklift Danceworks project. Travel expenses for the trip are paid by the University.

Offering: **Host**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **HA-ENVS**

Identical With: **DANC376, THEA376**

Prereq: **None**

ENVS377 Perspectives in Arts as Culture: Ukrainian Arts and Language as Resistance

Throughout history, arts and language have been central to Ukrainian resilience. This course will introduce students to basic elements of the Ukrainian language as well as the rich tradition of Ukrainian arts--dance, theater, poetry, literature, visual arts and crafts--and the way they have survived and thrived despite 400 years of censorship and persecution. Each week, one class will focus on the basics of the Ukrainian language, its history as a vital element of the Ukrainian culture, as well as current national language policy and practice. The second class will explore the ways that arts in Ukraine foster psychosocial, physical, and political resilience in the face of crisis. Students will engage with traditional arts and crafts, learn about leading experimental artists (1700s-present) and their role in major art movements in history, hear from an array of guest artists from Ukraine, and complete a final creative project that explores the current political moment and conflict in Ukraine.

Offering: **Crosslisting**

Grading: **OPT**

Credits: **1.00**

Gen Ed Area: **HA-DANC**

Identical With: **DANC377, CSPL367, REES377**

Prereq: **None**

ENVS382 Physical Chemistry for the Life Sciences

The course is concerned with the basic physicochemical principles and model systems essential to understanding, explaining, and predicting the behavior of biological systems in terms of molecular forces. The course integrates fundamental concepts in thermodynamics, kinetics, and molecular spectroscopy with the structures, functions, and molecular mechanisms of biological processes. The objectives of the course are to (1) familiarize life science students at the advanced undergraduate and beginning graduate level with basic physicochemical laws, theories, and concepts important to the life sciences; (2) provide a working knowledge of mathematical methods useful in life science research; (3) develop a critical perspective on explanation of biological processes and understanding biological systems; and (4) survey the main applications of

physical chemistry in the life sciences. Theory, methodology, and biophysical concepts are distributed throughout the course.

Offering: **Crosslisting**

Grading: **OPT**

Credits: **1.00**

Gen Ed Area: **NSM-MBB**

Identical With: **MB&B381, CHEM381, MB&B581**

Prereq: **(CHEM251 AND MATH120) OR (CHEM251 AND MATH121)**

ENVS383 Anthropocene as Modern Grand Narrative

The Anthropocene refers to the new age in which humankind started to have a significant impact in altering or rupturing the Earth's systems, where the Earth is now moving out of its current geological epoch (the Holocene) and into "a less biologically diverse, less forested, much warmer, and probably wetter and stormier state." (Steffen, Crutzen, and McNeill 2007, Sciences Module, 614). This course begins by examining the debates on the definition and periodization. It then explores precursors to the concept of the Anthropocene, such as Confucian and Daoist writings on the taming of the natural environment for human needs, the catastrophism versus uniformitarianism debate, and contesting definitions of sustainability. Finally, it looks at how recent works of environmental history engaged with the concept of the Anthropocene and brought our attention to the impact of the transition from organic economy to carbon economy. Is the Anthropocene a new meta-narrative that professes to be the theory that explains all human activity? Is the Anthropocene a call to arms for environmental justice? Is the Anthropocene just a declensionist fairy tale—one that leads us down a dead end, throwing up our arms in resignation over the irreversible destruction of the natural environment?

Offering: **Crosslisting**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **SBS-HIST**

Identical With: **HIST382, STS382**

Prereq: **None**

ENVS387 History of the End

How will it end? Scientific hubris, a nuclear event, an asteroid, environmental disaster, overpollution, resource scarcity, commodity price spikes, riots, social chaos, social control? This seminar investigates how people have imagined apocalypse and post-apocalypse over time, on the premise that fantasies of the end provide a window into the anxieties of the societies that produce them.

Offering: **Crosslisting**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **SBS-HIST**

Identical With: **HIST387, STS387**

Prereq: **None**

ENVS388 Beyond Growth: Agrarian Visions

The era of endless growth has reached a point of crisis. In the face of climate catastrophe and widening inequality, of the proliferation of pointless work and spiraling burnout, it has become increasingly common to question the idea that human progress comprises ever-increasing levels of production and consumption. And yet in spite of a slew of attempts to transform the situation, from the Occupy movement to the recent mainstreaming of degrowth economics, it seems that things are only intensifying. How did we come to inhabit this world in which labor and economic growth are seen as ends in themselves? And how might we begin not just to refuse such understandings of labor and growth, but to imagine different forms that they might take? In this course we will confront these questions, exploring the relationship between labor, production, and human flourishing. We will begin by studying foundational articulations of this relationship from thinkers like Max Weber, Karl Marx, and Hannah Arendt, looking as well at the unique place that agricultural production, cultivation, has been understood to occupy therein. We will then turn to the agrarian realm as a particularly potent site from which to trouble and extend our

conceptions of labor and growth, examining visions of spiritual labor, anticolonial resistance, and more-than-human entanglement in theoretical and literary texts from Leo Tolstoy, M.K. Gandhi, Mahasweta Devi, J.M. Coetzee, and others.

Through our readings and discussions, we will learn to identify and critique the normative claims on which our current energy-intensive, exhaustion-inducing circumstances are based. At the same time, we will cultivate the skills required to seek out and imagine alternative forms of work, community, and the good life.

Offering: **Crosslisting**

Grading: **OPT**

Credits: **1.00**

Gen Ed Area: **HA-CHUM**

Identical With: **CHUM388, COL387, ENGL334**

Prereq: **None**

ENVS391 Senior Colloquium: Environmental Studies

This course provides an opportunity for students to share and workshop their environmental studies senior capstone projects. Each student will present a live or videorecorded report to the class once during each semester. Before their presentation, the student will make available readings and questions they have regarding the most challenging issues about their research project. Classmates will prepare for each student's presentation by reviewing the materials made available before class. During class, students will discuss and critique each project with the goal of 1) improving the depth and content of senior capstone research projects and 2) sharing project content and goals among the wide range of student interests across the environmental studies major.

Offering: **Host**

Grading: **Cr/U**

Credits: **0.50**

Gen Ed Area: **None**

Prereq: **None**

ENVS392 Senior Colloquium: Environmental Studies

This course provides an opportunity for students to share and workshop their environmental studies senior capstone projects. Each student will present a live or videorecorded report to the class once during each semester. Before their presentation, the student will make available readings and questions they have regarding the most challenging issues about their research project. Classmates will prepare for each student's presentation by reviewing the materials made available before class. During class, students will discuss and critique each project with the goal of 1) improving the depth and content of senior capstone research projects and 2) sharing project content and goals among the wide range of student interests across the environmental studies major.

Offering: **Host**

Grading: **Cr/U**

Credits: **0.50**

Gen Ed Area: **None**

Prereq: **None**

ENVS398 Burnout

Moderns have excelled at exhausting themselves, their others, and the planet. In this seminar we will explore the disposition toward depletion as a constitutive problem of life and thought in the twentieth and twenty-first centuries. Why do we wear the world out and who do we become in so doing? We will examine "burnout" as a condition connecting psychic, political, aesthetic, and ecological distress in the simultaneously listless and overexcited present. Convening resources from philosophy, history, anthropology, political theory, literary studies, and contemporary art, we will consider, among other things: fossil fuels, neoliberal economic thought, enervation and nervous over-animation, stimulants, thermodynamics, empty calories, extravagant gift-giving, geological science, secular finitude, the "End of History," the loss of utopias, and deficits of attention.

Offering: **Crosslisting**

Grading: **OPT**

Credits: **1.00**

Gen Ed Area: **HA-CHUM**

Identical With: **CHUM399, COL399**

Prereq: **None**

ENVS401 Individual Tutorial, Undergraduate

Topic to be arranged in consultation with the tutor.

Offering: **Host**

Grading: **OPT**

ENVS402 Individual Tutorial, Undergrad

Topic to be arranged in consultation with the tutor.

Offering: **Host**

Grading: **OPT**

ENVS403 Senior Essay: Environmental Studies

All ENVS majors are required to complete a senior capstone project in a form that is approved by their primary major with a topic that is approved by the student's ENVS advisor. In the event that the student cannot find a mentor for their capstone project, the student may complete a special written research project to meet the research requirement. The topic must be approved by the ENVS advisor and progress must be reported to both the ENVS advisor and the Program Director during the fall semester. The written project is a senior essay, using primary sources and must concern an environmental topic from the perspective of the student's primary major. The senior project is due at the senior thesis deadline. It will be the responsibility of the ENVS Program Director to find a suitable reader to evaluate the written work.

Offering: **Host**

Grading: **OPT**

ENVS404 Senior Essay: Environmental Studies

All ENVS majors are required to complete a senior capstone project in a form that is approved by their primary major with a topic that is approved by the student's ENVS advisor. In the event that the student cannot find a mentor for their capstone project, the student may complete a special written research project to meet the research requirement. The topic must be approved by the ENVS advisor and progress must be reported to both the ENVS advisor and the Program Director during the fall semester. The written project is a senior essay, using primary sources and must concern an environmental topic from the perspective of the student's primary major. The senior project is due at the senior thesis deadline. It will be the responsibility of the ENVS Program Director to find a suitable reader or to evaluate the written work.

Offering: **Host**

Grading: **OPT**

ENVS408 Senior Tutorial (downgraded thesis)

Downgraded Senior Thesis Tutorial - Project to be arranged in consultation with the tutor. Only enrolled in through the Honors Coordinator.

Offering: **Host**

Grading: **A-F**

ENVS409 Senior Thesis Tutorial

Topic to be arranged in consultation with the tutor.

Offering: **Host**

Grading: **A-F**

ENVS410 Senior Thesis Tutorial

Topic to be arranged in consultation with the tutor.

Offering: **Host**

Grading: **A-F**

ENVS411 Group Tutorial, Undergraduate

Topic to be arranged in consultation with the tutor.

Offering: **Host**

Grading: **OPT**

ENVS412 Group Tutorial, Undergraduate

Topic to be arranged in consultation with the tutor.

Offering: **Host**

Grading: **OPT**

ENVS419 Student Forum

Student-run group tutorial, sponsored by a faculty member and approved by the chair of a department or program.

Offering: **Host**

Grading: **Cr/U**

ENVS420 Student Forum

Student-run group tutorial, sponsored by a faculty member and approved by the chair of a department or program.

Offering: **Host**

Grading: **Cr/U**

ENVS465 Education in the Field, Undergraduate

Students must consult with the department and class dean in advance of undertaking education in the field for approval of the nature of the responsibilities and method of evaluation.

Offering: **Host**

Grading: **A-F**

ENVS467 Independent Study, Undergraduate

Credit may be earned for an independent study during a summer or authorized leave of absence provided that (1) plans have been approved in advance, and (2) all specified requirements have been satisfied.

Offering: **Host**

Grading: **A-F**

Credits: **1.00**

Gen Ed Area: **None**

Prereq: **None**

ENVS469 Education in the Field, Undergraduate

Students must consult with the department and class dean in advance of undertaking education in the field for approval of the nature of the responsibilities and method of evaluation.

Offering: **Host**

Grading: **OPT**

Credits: **1.00**

Gen Ed Area: **None**

Prereq: **None**

ENVS491 Teaching Apprentice Tutorial

The teaching apprentice program offers undergraduate students the opportunity to assist in teaching a faculty member's course for academic credit.

Offering: **Host**

Grading: **OPT**

ENVS492 Teaching Apprentice Tutorial

The teaching apprentice program offers undergraduate students the opportunity to assist in teaching a faculty member's course for academic credit.

Offering: **Host**

Grading: **OPT**