ENVIRONMENTAL STUDIES (ENVS)

ACCT 160 — Sustainability and Citizenship Course count: 1
This course will examine what it means to practice good organizational citizenship and how the introduction of sustainable practices can create value. We will explore how organizations make sound ethical decisions and how these decisions can bring about positive changes to address social and environmental concerns. The recognition of the need to be fiscally responsible and balance profit against these other factors including risk to achieve sustainable future growth will be discussed. The use of outside readings, real-world examples and a project with a sustainability focus will put the course material into practice.

Enrollment limited to NON-Accounting majors only
GPA units: 1
Typically Offered: Alternate Years

BIOL 163 — Introduction to Biol Diversity and Ecology Course count: 1
An introduction to evolution, ecology and the diversity of life: plants, animals, fungi, protists and prokaryotes. Intended for all biology and environmental studies majors.

GPA units: 1.25
Common Area: Natural Science
Typically Offered: Fall, Spring

BIOL 201 — Microbiology of a Hurricane Course count: 1
This course will introduce students to scientific thinking and give a brief introduction to the biology of bacteria, viruses and fungi. Emphasis will then shift to examining the role of microbes within hurricanes and environments affected by hurricanes through review of scientific literature. Topics will include, outbreaks of infectious diseases, spread of antibiotic resistance, bioremediation of contaminated sites and bioenergy.

GPA units: 1
Common Area: Natural Science

BIOL 233 — Freshwater Ecology Course count: 1
An extensive exploration into the hydrology, chemistry, and ecology of freshwater ecosystems. Covering stream ecology and limnology from natural pristine settings to urban environments, we aim to understand the basic functioning as well as the impact of current threats on freshwater systems. Ecological and evolutionary biology.

Prerequisite: BIOL 163
GPA units: 1
Typically Offered: Annually

BIOL 234 — Freshwater Ecology Lab Course count: 0
Field-based study of New England's diverse freshwater habitats, encompassing lakes, streams, reservoirs, rivers, and wetlands. Laboratory work will focus on characterizing the chemistry and biology of these ecosystems. Students will undertake an independent lab project, collecting and analyzing data to produce a comprehensive lab report. Field activities may occur in strenuous conditions at various off-campus locations.

Corequisite: BIOL 233.
GPA units: 0.5
Typically Offered: Annually

BIOL 235 — Marine Biology Course count: 1
This course presents a survey of the organisms that live in the sea and their adaptations to the marine environment. The course covers the major divisions of marine life and their diversity of form, as well as common ecological patterns, physiological processes and evolutionary strategies. The function and role of coastal, open-ocean, and deep sea ecosystems are also considered, as is the relevance of marine biology to current scientific, social, health, and economic affairs. Includes laboratory. Ecological and evolutionary biology.

Prerequisite: BIOL 163
GPA units: 1.25
Common Area: Natural Science
Typically Offered: Annually

BIOL 237 — Plant Ecology Course count: 1
The study of the distribution and abundance of plants and their interactions with the abiotic environment and other organisms. In this course, we will investigate these interactions over a range of scales, from the physiological to the community, landscape, and global. Further, we will examine how plant ecological principles apply to the fields of agriculture, conservation biology, and environmental science. Classes will be a mix of lecture on general principles plus discussion of primary literature and writings by scientists historically underrepresented in the field of ecology. Laboratory exercises will introduce students to standard lab, field, and data analysis techniques used by plant ecologists, as well as provide an opportunity to learn about the natural history of various Massachusetts ecosystems. Students will conduct an independent research project. Ecological and evolutionary biology.

Prerequisite: BIOL 163
GPA units: 1.25
Common Area: Natural Science
Typically Offered: Spring

BIOL 275 — Biological Statistics Course count: 1
An introduction to the handling, analysis, and interpretation of biological data. Topics include descriptive statistics, probability distributions, goodness of fit tests, hypothesis testing, analysis of variance, regression, and correlation.

Prerequisite: BIOL 161 or BIOL 162 or BIOL 163. Students who have taken ECON 249, MATH 220, PSYC 200 or SOCL 226 may not enroll in the class.
GPA units: 1
Typically Offered: Fall, Spring

BIOL 280 — Ecology Course count: 1
A comprehensive introduction to the study of relationships between organisms and their environments, including individual organisms, populations, communities, and ecosystems, alongside the natural history of New England. Through exploration of classic and contemporary ecological literature, we delve into the evolution of the field and current ideas. This course emphasizes ecological and evolutionary biology.

Prerequisite: BIOL 163.
GPA units: 1
Typically Offered: Annually

BIOL 281 — Conservation Biology Course count: 1
A study of the effects of human activity on biological diversity at the population and system levels. Topics include the underlying philosophical approaches to conservation, techniques for measuring biological diversity, for assessing and predicting changes, the principles of management and restoration and the use of mathematical models in management. Classes will be a mix of lecture on general principles plus student-led discussion of case studies and of the recent conservation literature. Ecological and evolutionary biology.

Prerequisite: BIOL 163.
GPA units: 1
Typically Offered: Alternate Years

BIOL 282 — Ecology Lab Course count: 0
This lab introduces techniques for field and laboratory settings, exploring basic and advanced methods to understand ecological patterns and processes across all levels. Activities will cover terrestrial and aquatic ecosystems, as well as computational methods for analyzing ecological data. Students will conduct an independent lab project, culminating in a comprehensive lab presentation. Fieldwork may involve strenuous conditions and visits to off-campus locations.

Corequisite: BIOL 280.
GPA units: 0.5
Typically Offered: Annually

BIOL 285 — Invertebrate Biology Course count: 1
Invertebrate Biology presents a survey of the diversity in animal body designs. The course emphasizes the form, function, behavior, ecology, and evolutionary relationships of major invertebrate taxa. The course will also cover historical and modern interactions between invertebrates and humans, e.g. as food, parasites, model systems for biological and medical research, as well as being general sources of fascination.

Prerequisite: BIOL 163.
GPA units: 1.25
Typically Offered: Alternate Years

BIOL 299-99 — Biology of Urban Ecosystems Course count: 1
As humans living in a time of rapid urbanization, where the vast majority of human population expansion is predicted to occur within cities, it is important to assess and understand the interface of human expansion and transforming natural landscapes. The Urban Ecology course will explore the interactions of the human species with our increasingly urbanized landscapes. Through a series of lectures, discussions, and independent projects, students in this course will examine the ecology within and around cities. In particular, this course will focus on the role of humans and human societies with nature in urbanized environments, the impact of urbanized spaces on organisms and their interactions, and the importance of urban planning for the health of humans and nature alike.

Prerequisite: BIOL 163.
GPA units: 1
Common Area: Natural Science

BIOL 331 — Ecosystem Ecology Course count: 1
The course covers the history of ecosystem ecology, biogeochemical cycles and budgets, ecosystem energetics and trophic structure, and the response of ecosystems to disturbance and human-accelerated environmental change. The latter part of the course emphasizes discussion of recent primary literature that contributes to the conceptual framework underlying the management and conservation of diverse ecosystems. Ecological and evolutionary biology.

Prerequisite: BIOL 163
GPA units: 1
Typically Offered: Alternate Years

CHEM 141 — Environmental Chemistry Course count: 1
Investigates the chemistry of the Earth's environment through systematic studies of our atmosphere, hydrosphere and lithosphere and the exchange and interplay between them. The primary focus of the course will be environmental change taking place today including those that threaten plant and animal habitats and pose hazards to human health. Understanding of our environment and current threats to it will be gained through a combination of readings, lectures, discussions, demonstrations, and problem sets.

Antirequisite: Students who have taken CHEM 181 may not enroll in this course.
GPA units: 1
Common Area: Natural Science
Typically Offered: Every Third Year

CHEM 181 — Atoms & Molecules Course count: 1
This introductory general chemistry course leads students to explore in-depth the scientific method through the formulation and testing of hypotheses in the laboratory. Laboratory experiments lead students to discover basic principles, i.e., stoichiometric relationships, electronic configuration and molecular structure. Lectures will explain and expand upon laboratory results. This is first course in the Discovery Chemistry Core sequence for science majors and students interested in health professions. This course includes both lecture and a weekly "Discovery Lab" session.

GPA units: 1.5
Common Area: Natural Science
Typically Offered: Annually Fall

CHEM 231 — Equilibrium & Reactivity Course count: 1
Focuses on studying and understanding the role equilibrium, thermodynamics and kinetics play in chemical systems. Specific topics include phase and chemical equilibria, colligative properties of solutions, acid/base equilibria, chemical kinetics, electrochemistry, thermodynamics including enthalpy, entropy and free energy, and gas laws. Laboratory focused, this general chemistry course also introduces students to modern analytical instrumentation while developing critical wet chemical analytical techniques. One four-hour discovery laboratory session per week is included.

Prerequisite: CHEM 181.
GPA units: 1.5
Typically Offered: Spring

CHEM 325 — Environmental Forensics Course count: 1
This course will focus on the measurement of chemical contaminants and their origins. You will investigate methods and instrumentation employed in the fields of environmental, forensic and environmental forensic chemistry. Primary literature will guide our discussion of various techniques and applications. Understanding of the details of these advanced instrumental techniques and applications will be gained through a combination of reading, lectures, discussions, and integrated lab experiences. This course will meet two days per week. About six weeks during the semester, a 2.5 hour lab will be integrated into the course.

Prerequisite: CHEM 300
GPA units: 1
Typically Offered: Every Third Year

CLAS 233 — Nature in the Classical World Course count: 1
In this course, we will explore how the ancient Greeks and Romans engaged with the natural world surrounding them. Our course will consider several themes, including the relationship between city and country; philosophical treatments of the natural world; the role of the environment in literature; and the conceptualization of the universe and its origins. We will base our discussion of these themes on our analysis of evidence from antiquity, which will span both material remains like Greek temples and Roman villas as well as literary and philosophical works central to western civilization. Looking back at ancient philosophy, pastoral poems, and early epics, we will read selections from authors such as the pre-Socratic philosophers, Homer, Hesiod, Plato, Aristotle, Lucretius, and Seneca. Alongside our study of the ancient world, we will glance ahead to consider the reception of the Greeks and Romans' treatment of nature, with our contemporary readings including selections from Pope Francis' encyclical Laudato Si'.

GPA units: 1
Common Area: Literature, Philosophical Studies
Typically Offered: Alternate Years

ECON 110 — Principles of Economics Course count: 1
Economics is the study of the allocation of scarce resources among competing uses. This course is an introduction to economic issues and the tools that economists use to study those issues: supply and demand, decision making by consumers and firms, market failures, economic output and growth, fiscal and monetary policy in relation to unemployment and inflation, interest rates, technological progress, and international economics. Topics include both the study of markets and the need for public policy/government action to address market failures. Course is intended for students who are considering all majors or concentrations which require an introductory economics course. Course makes use of graphing and algebra, and meets for four hours per week.

Antirequisite: Students who have taken either ECON 111 or ECON 112 may not enroll in this course.
GPA units: 1.25
Common Area: Social Science
Typically Offered: Fall, Spring

ECON 224 — Environmental Economics Course count: 1
Shows how natural resource usage and environmental issues can be analyzed from an economic perspective. Presents the basic concepts of environmental economics and develops the analytical and policy tools used in environmental economics. Considers the problems of air pollution, water pollution and solid and hazardous waste management, their causes and how they can be reduced. Other topics such as global warming, amendments to the Clean Air Act and international environmental issues will be discussed.

Prerequisite: ECON 110 or ECON 111 and ECON 112 or ENVS major and ECON 112.
GPA units: 1
Common Area: Social Science
Typically Offered: Annually

ECON 236 — Economics of Climate Change Course count: 1
There is a continued trend in the accumulation of carbon dioxide emissions causing rapid global warming with impacts on the environment, species, the economy, and society. This course explores the economic causes and consequences of climate change and potential solutions to reduce its impacts. We will assess climate change policies in the U.S and globally. We will also use economic theories and models to evaluate their costs and benefits and distributional effects between poor and rich countries.

Prerequisite: ECON 110 or equivalent.
GPA units: 1
Common Area: Social Science
Typically Offered: Annually

ENGL 332 — Reading Nature Course count: 1
Designed for English majors, non-English majors and Environmental Studies Concentrators this course offers students an overview of writing in response to nature in American literature with an emphasis upon environmental history, narratives of eco-criticism and the role of literature in the formation of the American environmental movement from the 19th century onward. The course begins with the writings of Thoreau and Emerson , then moves to consider works by writers such as Aldo Leopold, Rachel Carson, John McPhee, Bill McKibben, Lauret Savoy, Elizabeth Kolbert and others. The course finishes with the study of contemporary writing that challenges ways we view the environment in the face of climate change and climate instability in the 21st century. No previous study in environmental history or American literature is required -- all students are welcome. This course will challenge you with new ideas and lots of reading, but it will incorporate creative approaches to writing assignments.

GPA units: 1
Common Area: Literature
Typically Offered: Every Third Year, Spring

ENGL 344 — The Romantic Revolution Course count: 1
A study of the major writers of the Romantic movement -- Edmund Burke, Mary Wollstonecraft, William Wordsworth, Dorothy Wordsworth, Coleridge, Mary Shelley, Percy Bysshe Shelley, Byron, Keats, Hazlitt, Lamb, and De Quincey. One unit.

GPA units: 1
Common Area: Literature
Typically Offered: Alternate Years

ENGL 348 — Reality Hunger Course count: 1
A study of the evolution of contemporary American non-fiction narrative, which traces its roots to the 19th-century writing of Emerson and Thoreau.

GPA units: 1
Common Area: Literature
Typically Offered: Every Third Year

ENGL 350 — Early American Colonialism Course count: 1
A study of the development of cultural contact between Native Americans and Europeans, the Puritan experiment, and the founding of the nation from 1600 - 1830.

GPA units: 1
Common Area: Literature
Typically Offered: Every Third Year

ENGL 351 — Thoreau: Then and Now Course count: 1
We will study Thoreau's works and their legacy today. The first half of the semester will focus on Thoreau's most influential texts from the more literary (his wonderful Journals, Walden, and Civil Disobedience), to the more scientific (Dispersion of Seeds and his land and river surveys). The second half of the course will explore how people use Thoreau's ideas today including the Tiny House movement, and the writings of Wendell Berry, Annie Dillard, Barbara Kingsolver, and more recent examples. To contrast Thoreau's own non-survivalist approach to nature, we will read Christopher MacCandless's experiment in Alaska as reported by Jon Krakauer in Into the Wild. To inscribe Thoreau more deeply in our own experience, we will make several field trips to Thoreau sites (up to 3 required, beyond that the trips are optional). We will read from Walden at Walden Pond, from his Week on the Concord and Merrimack Rivers while we canoe the Concord River, and perhaps hike Mt. Wachusett after reading Thoreau's A Walk to Wachusett.

GPA units: 1
Common Area: Literature
Typically Offered: Every Third Year

ENGL 377 — Environmental Poetics Course count: 1
Rather than provide a survey of environmental literature, this course will explore how various literary texts imagine a relation (or non-relation) between the human being and the non-human world. We will consider works from multiple genres and time periods alongside longstanding and recent theoretical approaches to the question of nature. How do imaginative writers represent the place of the human being in the larger, "natural" world? Do their texts have an ethical or political valence? What kind of local and global environments do they represent, or attempt to bring into being? What place does human labor, or human indolence, have in shaping the world? What role does the animal take in human imagining? Assignments are designed to help students frame these and other questions for themselves while attending closely to questions of literary form.

GPA units: 1
Common Area: Literature
Typically Offered: Every Third Year

ENGL 399-S12 — Climate Change and the Contemporary Novel Course count: 1
In our contemporary world of exacerbated anthropogenic climate change, storytelling offers one method of navigating and addressing the complexities of global crisis. Climate change has been called a super wicked problem due to its having no single solution, several social and political impediments to addressing it, and an increasingly evident time deadline; but this does not mean there is nothing to be done. As we come to terms with worsening environmental disasters, rising temperatures, coastal flooding, the growing number of climate refugees, and the widening divide between the ultra-wealthy and the impoverished classes, storytelling remains one of the most effective ways of coordinating our position (individually and collectively) within this host of emerging conditions. This course explores the modern novel (especially in its more contemporary form) as one genre of storytellingor narrativethat can help us conduct ourselves ethically, morally, civically, and politically within the super wicked problem of climate change. We will consider the modern novel in its historical and literary context, as a genre that responds to worsening environmental crises at a time when knowledge of these crises is coming into clearer social and scientific focus. As a work informed by social history, the modern novel explores not simply humanitys responsibilities and risks, but the risks posed to specific peoples, and the obligations of those most responsible. It expresses ethical concerns about environmental and climate justice and the challenges or shortcomings of scientific communication. As a literary form, the modern novel attempts to narrate our experience of global climate change, and to plot human life within the longer chronological outlook of geological change. This course observes multiple examples of modern climate narratives, from the twentieth and twenty-first centuries, to track their achievements and difficulties, and to learn how literature meets the formal challenge of making climate change representable.

GPA units: 1
Common Area: Literature

ENVS 117 — Environmental Science Course count: 1
The goal of this course is to provide an understanding of major environmental problems by studying their biological bases. Applied and basic material will be integrated in most sections. Basic topics include ecosystem structure, energy flow, biogeochemical cycles, population growth and regulation and environmental policy. Applied topics include human population growth, agriculture and food production, pest control, conservation of forests and wildlife, preservation of biological diversity, energy use, water and air pollution and atmospheric climate change.

GPA units: 1
Common Area: Natural Science
Typically Offered: Fall, Spring

ENVS 118 — Environmental Perspectives Course count: 1
This course introduces students to the interdisciplinary field of environmental studies, which examines the diverse relationships between humans and the natural and constructed worlds in which they live. This course will examine the complex ways that we think about what constitutes nature and environment and how humans do and should relate to these categories. It will then provide an overview of the emergence of environmental challenges as a topic of concern in the United States and globally as well as encourage students to engage with contemporary environmental challenges. We will place special emphasis on questions of how axes of difference (class, race, ethnicity, nationality, etc.) intersect with environmental change, using social justice as a core lens through which we will define, describe, and analyze impacts of and solutions to environmental challenges. Integrating approaches from the social sciences and humanities, the course will provide students with essential background for engaging in subsequent Environmental Studies courses and for living in a rapidly changing world.

GPA units: 1
Common Area: Social Science
Typically Offered: Annually

ENVS 119 — Introduction to Environmental Studies: Environmental Narratives Course count: 1
Environmental narratives are stories told by different people and cultures around the world that shape our ideas and values about how we relate to our surroundings. Some very famous and important storiesbeginning even with the story of Genesis in the Old Testamenthave served to emphasize both the separation of humans from nature, and also the superiority of humans to nature. Why have these stories encouraged us to think in this way, and how might we rethink these narratives to develop new and more informed understandings of how humans interact with the world? By using the methods and approaches of humanist scholarship, this class engages in the broader movement of the environmental humanities, and explores the ways that political, social, and cultural values shape how we understand our responsibilities to the natural world and to each other.

GPA units: 1
Typically Offered: Annually

ENVS 125 — Introduction to Climate Change Course count: 1
Climate change is the most pressing problem facing humanity and is already impacting every aspect of society. This course will cover the irrefutable scientific evidence on how humans are causing global warming and the current and projected impacts of climate change. The political and social science aspects of the climate debate will be explored, as well as science-informed policies that provide viable solutions to limit climate impacts. Pathways toward a more climate resilient and sustainable future that also address longstanding environmental justice issues will also be covered.

GPA units: 1
Common Area: Natural Science
Typically Offered: Fall, Spring

ENVS 200 — Environmental Law Course count: 1
Environmental law is controversial and fascinating. Consider some of these newspaper headlines: "Scientist Say Climate Heating Up," "Pesticides Found in Local Groundwater," "Endangered Salamander Stops Development." Environmental law and policy are a part of everyday life. The challenges to environmental quality have a critical influence on where we live and how well we live and, most important, the kind of world in which our children and their children will live.

GPA units: 1
Typically Offered: Annually

ENVS 220 — Environmental Psychology Course count: 1
This course offers an overview of the interdisciplinary field of environmental psychology. We will explore the dynamic relationships between people and places in order to understand how our behavior and cultural values shape our environment, and how in turn, our surroundings affect us. Using the lens of environments where we live, work and play, we will examine the everyday experience of different types of places including the home, institutional settings, public space, and play spaces. Attention will be placed upon social and spatial inequalities, local and global relations, and intersections of race, gender, sexual orientation, culture, and power. We will explore psychological questions of perception, place identity, restorative environments, pro-environmental behavior, culture, place attachment, cognition, and the meaning of spaces through readings, film, visual exercises, and ethnographic analysis. The course will place emphasis upon the built environment, with a particular focus on addressing the intertwining of social and environmental problems, and the role of design in producing social spaces.

GPA units: 1
Common Area: Social Science
Typically Offered: Spring

ENVS 235 — Climate Science Course count: 1
The Earths climate is changing rapidly and represents the most pressing problem facing humanity. This course examines the science of the Earths climate system and the natural and anthropogenic forcing mechanisms that cause climate variability and change. It covers the mathematical models that describe the Earths energy balance and the sophisticated computer simulations models that allow the sensitivity of the climate system to be explored and for climate change impacts to be projected. Solutions to the climate crisis through science-informed policies covering mitigation and adaptation will also be examined.

GPA units: 1
Common Area: Natural Science
Typically Offered: Annually

ENVS 245 — Sustainable Energy Course count: 1
Minimizing the impacts of global climate change requires society to transition to non-fossil-fuel energy sources as quickly as possible. This course will explore the issues associated with developing our carbon-free energy future through renewable and other sustainable energy sources such as wind, solar, hydropower, and geothermal. Topics will include the use of climatological data to project potential generation from renewables, siting issues, dealing with the variability of wind and cloud cover (and on longer timeframes, the rain needed to maintain hydropower reservoirs), and the complex interplay between generation and storage that need to be addressed to ensure reliable delivery of the energy we need now and in the future. All of this will be framed as part of the larger goal of achieving a more sustainable future.

Prerequisite: ENVS 117 or 125 or 235 or CHEM 181 or PHYS 115 or GEOS 120 or 150 or MATH 133/135.
GPA units: 1
Common Area: Natural Science
Typically Offered: Spring

ENVS 247 — Introduction to Geographic Info Systems Course count: 1
Introduces and explores the fundamental concepts of Geographic Information Systems (GIS), with a focus on how to store, query, and analyze spatial environmental data. While students will gain a working knowledge of specific GIS software, the focus of the course is on concepts that are fundamental to spatial analysis using any GIS software. GIS is used in a diversity of fields ranging from archaeology to zoology, with some specific examples being ecology, geology, environmental hazards, environmental and social justice, and business. This course explains the structure and function of GIS, placing them in the context of computer information systems, cartography, and supporting disciplines such as remote sensing, and shows why and how GIS is important. Covers basic concepts such as map characteristics and projections, relational databases, and spatial analysis. Explores sources of data and the implementation and management of GIS projects to answer important environmental and societal questions.

Prerequisite: Enrollment is limited to ENVS majors or minors only.
GPA units: 1
Typically Offered: Annually

ENVS 252 — Urban Forestry Course count: 1
In this course, you will examine the urban forest ' one of the most important natural systems in cities to increase the quality of life and health of residents. Urban forests are socio-ecological systems; their structure, composition and distribution are the results of biophysical and human factors. For this reason, students will learn how to identify trees, best practices in planting and stewardship and how to model ecosystem services as well as the urban theory that explains the governance and 'rules of the game' behind green space distribution in cities. After completion of the course students should: identify common street trees in the northeast; monitor and model the urban forest and the ecosystem services they provide; be knowledgeable about the social processes and power dynamics that impact the composition and distribution of urban green space; be able to collect and analyze quantitative and qualitative data to answer research questions.

Prerequisite: BIOL 117.
GPA units: 1
Common Area: Natural Science

ENVS 299-F04 — Gender and Climate Justice Course count: 1
This course engages with environmental studies, advances in glaciology and geomorphology, and feminist science and technology studies to explore gender and climate justice in glaciated regions of the globe. Globally, women, trans, and gender-diverse people bear the disproportionate costs of environmental change, but research and media reports often sideline gender and foreground poverty as the main source of environmental ills. As such, this course is focused on the intersection of gender and climate justice, which demands that multi-faceted questions of power and inequity be considered to understand the unequal distribution of climate change burdens and benefits. Students will be asked to engage with both gendered impacts of climate change as well as feminist theory to re-think how climate change knowledge is produced and valued. The class will be focused on three case studies in rapidly de-glaciating regions: the Andes, the Arctic, and Antarctica, and will draw on place-based local knowledge in addition to scientific and social scientific studies. Media analysis will be a critical component of student learning, since climate science is synthesized and communicated to the public in a variety of contested formats. As such, this course will also focus on data ethics and how to critically analyze bias in the medias data interpretations, including newspapers, editorial articles, and nature documentaries. By the end of the course, students will be able to articulate how gender can be better incorporated into climate research and how a focus on both gender and feminist theory could help to re-think human-environment interactions in icy places. Students will produce a variety of creative documents, speeches, or performances to communicate their learning to a broader audience.

GPA units: 1
Common Area: Social Science

ENVS 299-S01 — Contested Waterscapes Course count: 1
Riverine and coastal spaces have gained renewed salience in recent decades due to debates on climate change, globalization, and human and species migration. This course explores the social and cultural dimensions of these waterscapes, focusing on contemporary and historical cultures of management and lifeways. We will examine the worldviews, technologies and cultural specifics that dictate why we manage waterscapes in the way we do. And we will read work by cultural and feminist scholars to learn about imaginaries and meanings of waterscapes, in order to consider agencies and dynamics of socio-ecological life that are well beyond the human/anthropocentric realm. We will use the subdisplines of; cultural and feminist geography, maritime anthropology, critical oceanic studies, decolonial thinking, political ecology, Science and Technology Studies (STS), and Urban Studies to understand how these places produce and are produced by culture on the ground.

GPA units: 1
Common Area: Social Science

ENVS 299-S04 — Urban Ecosystems Course count: 1
This is a seminar-style course exploring interdisciplinary and transdisciplinary approaches to understanding ecosystems in an urban context within Worcester and across the globe. As human populations continue to grow, the greatest expansions are predicted to occur within cities. This means we live in a time of increasingly rapid urbanization. This course aims to explore the shared relationships between human systems and natural systems, focusing on the role of human societies in nature, the role of nature in human societies, and building urban resilience for humans and natural systems alike.

GPA units: 1
Common Area: Natural Science
Typically Offered: Spring

ENVS 299-S06 — Worcester Eats Course count: 1
Climate change will have severe implications for our food system; causing increased flooding, coastal erosion, crop failure, plant migration, species extinction, and habitat destruction. Given this new urgent reality, this course examines resiliency within the Worcester County food system. This is a CBL course.

GPA units: 1
Common Area: Social Science

ENVS 299-S07 — Disturbance Ecology Course count: 1
Disturbance plays an important role in ecosystem processes at multiple spatial and temporal scales, from an individual tree struck by lightning to long-term global climate change. In this seminar-style class, we will examine how disturbance shapes the composition and structure of ecological communities and how communities respond to and recover from various types of disturbances at all scales. Whole-class and group discussions based on the most up-to-date research articles and textbook readings will be complemented by individual projects that delve deeper into specific topics of students choosing.

Prerequisite: BIOL 163
GPA units: 1
Common Area: Natural Science

ENVS 299-S08 — Environmental Justice Course count: 1
Environmental justice is, put simply, the fight and the right for everyone, regardless of identity and geography, to live, work, and play in a clean and healthy environment. While this may seem like an obvious statement (i.e. that everyone deserves to be able to live in a healthy world), it is far from reality. In this course, we will look at what it means to fight for environmental justice across history and the world, and why it is even necessary that this should be a fight at all. We will look at the roots of environmental injustices in the US and across the globe as well as the contemporary issues those injustices have created, including the movement from environmental justice to climate justice. We will also collectively imagine what an environmentally just future might look like. Students will research environmental and climate justice issues in the Worcester area and share their work through entries in the EJ Atlas, a creative project, and a hybrid policy and research document.

GPA units: 1

ENVS 400 — Tutorial Course count: 1
GPA units: 1
Typically Offered: Fall, Spring

ENVS 401 — Directed Readings Course count: 1
A program in reading and research in a specific topic.

GPA units: 1
Typically Offered: Fall, Spring

ENVS 402 — Undergraduate Research Course count: 1
GPA units: 1
Typically Offered: Fall, Spring

ENVS 404 — Capstone Seminar Course count: 1
This capstone seminar is designed for Environmental Studies majors to apply and integrate their knowledge from previous coursework, while introducing the opportunity to conduct independent or collaborative work oriented towards the discovery of new information and/or solving environmental challenges. Seminar topics will vary from year to year and will be organized through an overarching question related to the environment. This question will be explored through a multi- and/or interdisciplinary lens, and in most years will involve community stakeholders, such as the College, the city of Worcester, and/or local organizations. Work will culminate in a final project and presentation.

Prerequisite: 4th year ENVS majors or permission.
GPA units: 1
Typically Offered: Annually Fall

GEOS 120 — Geohazards Course count: 1
This introductory geoscience course will provide an examination of the causes, effects, and options available to mitigate natural disasters, such as hurricanes, floods, sinkholes, earthquakes, volcanoes, tsunami, landslides, and meteorite impacts. While the focus will be on the science, we will also discuss big-picture concepts such as hazard and risk, resilience and recovery, environmental social justice, and the earth as a connected system. This course is appropriate for current or potential geoscience and environmental studies minors, as well as students interested in a natural science course. There will be three exams plus readings from the popular and scientific literature, hands-on data analysis, writing assignments, and a group oral presentation. One Unit.

GPA units: 1
Common Area: Natural Science
Typically Offered: Alternate Years

GEOS 130 — Habitable Planets Course count: 1
Is there life elsewhere in the solar system or in the universe? How and where did life begin? What conditions are required for life? How do geologic processes affect the habitability of planets, moons, and exoplanets? In this class, we will explore theories about the formation of the solar system, evidence for the appearance and evolution of life, and describe how geologic processes and planetary evolution are related to life and habitability. This course will draw on important concepts in biology, geology, astronomy, planetary science, and philosophy.

GPA units: 1
Common Area: Natural Science
Typically Offered: Fall

GEOS 150 — Introduction to Geology Course count: 1
This course covers the physical processes and history of the Earth. Topics typically include the formation of the Earth, physical properties and identification of minerals and rocks, plate tectonics, earthquakes, volcanoes, geologic time, surface processes, the geology of energy resources, and global climate change. Field trips to local geologic sites provide hands-on experience using classic and modern approaches to investigating the Earth and its history. Includes laboratory.

GPA units: 1.25
Common Area: Natural Science
Typically Offered: Annually

GEOS 210 — Geomorphology Course count: 1
Geomorphology is an introduction to landforms and the geological processes that modify Earth's surface. Topics include tectonic, wind, soil, hillslope, glacial, and river processes; modern quantitative methods of investigating landscapes, including numerical modeling and GIS; and the influences of humans, climate, and biologic activity on surface processes and the physical environment. Includes computer and field work in the weekly laboratory.

Prerequisite: BIOL 117 or BIOL 163 or CHEM 181 or PHYS 115 or GEOS 120 or GEOS 150 or by permission.
GPA units: 1.25
Common Area: Natural Science
Typically Offered: Alternate Years

GEOS 270 — Watershed Hydrology Course count: 1
Watershed Hydrology is an introduction to the movement and storage of atmospheric, surface, and ground water within a watershed. This class examines hydrologic processes and the geologic and topographic characteristics that control them, as well as how hydrologic data are collected and analyzed. Topics include the hydrologic cycle, water budgets, precipitation, evaporation, snow hydrology, infiltration, groundwater hydrology and contamination, runoff, stream flow, hydrographs, and flooding. Hydrology is a highly quantitative discipline and math at the pre-calculus level will be used extensively in this course. Prior college math or geoscience coursework is recommended but not required. Includes laboratory.

Prerequisite: BIOL 163 or CHEM 141 or CHEM 181 or ENVS 117 or ENVS 125 or PHYS 115 or GEOS 120 or GEOS 150 or MATH 133 or MATH 135 or permission of the instructor.
GPA units: 1.25
Typically Offered: Alternate Years

GEOS 350 — Oceanography Course count: 1
This course is an introduction to the inter-disciplinary study of the world's oceans, and provides an overview of the main oceanographic sub-disciplines: biological, chemical, geological, and physical oceanography. The course will cover topics related to the science underlying global climate change, ocean acidification, ocean warming, sea level rise, marine pollution, resource extraction, and meteorology. A solid understanding of how the world ocean works and humanity's association with it is fundamental to the appreciation, preservation, utilization, and protection of oceanic environments worldwide.

Enrollment limited to 3rd and 4th year Science Majors or by instructor permission.
GPA units: 1
Typically Offered: Alternate Years

HIST 119 — The Global Environment: Past and Present Course count: 1
Environmental concernsclimate change, as well as sustainability, pollution, invasive species, and moreare among the most pressing challenges facing society today. But todays environmental dynamics have deep historical roots and resonances. This class introduces students to the methodology of environmental history through exploring the relationship between humans and the natural world over the past five hundred years. Key topics include the relationship between colonialism and the environment, the history of (un)sustainability, the historical origins of contemporary climate change, and the emergence of environmentalism as a social and political movement.

GPA units: 1
Common Area: Historical Studies
Typically Offered: Annually

HIST 122 — Food, Power, & Environment Course count: 1
The story of the American food system Is fundamentally an environmental one. Over the past several centuries food production has evolved from a process that was bound by seasonal, regional, and other ecological limitations, to a highly industrialized and astoundingly productive system that defies these earlier limitations. For most Americans, food exists in the abstract. We find it at restaurants and in grocery stores with little sense of how it came from the earth and to our tables. Indeed, we expect to eat whatever we might desire regardless of what time of the year, which is an astoundingly new reality in the grand scope of human history!

GPA units: 1
Common Area: Historical Studies

HIST 258 — Nature, Culture, and Power in Global History, 1500-1850 Course count: 1
From the Scientific Revolution to the origins of industry based on fossil fuel, the early modern period has long been understood as a time of transformation in humans relationship to the natural world. Yet such changes were not limited to Europe alone, but involved every part of the world. This course explores the global history of how people have understood, interacted with, and reshaped nature from the beginning of European colonialism in the Americas around 1500 up to the mid-nineteenth century. Key topics include the role of European colonialism and interactions with indigenous people in the development of science and environmental thought, global systems of categorizing and cataloguing nature, and changing approaches towards natural resources at the dawn of the industrial revolution.

GPA units: 1
Common Area: Historical Studies
Typically Offered: Annually Fall

HIST 275 — U.S. Mexican Border Course count: 1
This course examines the history and culture of the region encompassing the modern American southwest and Mexican north from Spanish imperialism to modern immigration debates. Particular attention is paid to the interaction of Native, Latinx, and Anglo American societies in creating unique borderlands society through the present day. This history offers important insight into processes of religious conflict, political revolution, economic dependency and globalization through Latin American and U.S. history.

GPA units: 1
Common Area: Cross-Cultural Studies, Historical Studies
Typically Offered: Alternate Years

HIST 305 — America's First Global Age Course count: 1
There is great talk about "globalization" and "global economies" during the late 20th and early 21st centuries. However, people living in America were touched by global economic processes as early as the time of Columbus. This course explores North America's first global age beginning in the 1400s and extending through the 1860s. It examines this history thematically by focusing on various kinds of trades and industries such as gold, fish, timber, tobacco, silver, sugar, alcohol, fur, coffee, tea, and cotton. In addition to economic processes, the course addresses the social, cultural, and political implications of these global trade connections for Americans of African, European, and Native descent. Fulfills one pre-modern/pre-industrial requirement for the major.

Prerequisite: HIST 200 or permission of the Instructor. Students who have taken MONT 102G in Fall 2016, or MONT 103G in Spring 2017 are unable to enroll in this course.
GPA units: 1
Common Area: Historical Studies
Typically Offered: Annually

HIST 399-F02 — Disaster History in East Asia Course count: 1
This course examines the social, cultural, and environmental history of early modern and modern China and Japan through the perspective of disaster studies. We will explore the conditions of state-building, economic imperatives, human migration and settlement, climate change, war and revolution as well as relief and reconstruction in the context of a number of natural and human-made disasters such as earthquakes, famines, floods, epidemics, and nuclear disasters. Case studies include the North China Famine of 1876, the Great Manchurian Plague of 1911, the 1923 Kanto Earthquake in Tokyo, wartime floods in 1930s-40s China, the atomic bombing of Hiroshima and Nagasaki in 1945, the Great Leap Famine in 1950-60s China, the SARS outbreak in 2003, the 2008 Sichuan Earthquake, and the 2011 Triple Disaster in Fukushima. While discussion and specific assignments will focus on East Asian experiences, students will have an opportunity to write a research paper focused on any aspect of a disaster event in world history.

Prerequisite: HIST 200 or permission.
GPA units: 1
Common Area: Historical Studies

HIST 399-S16 — Technology, Environment, and Industry in the East Asian Past Course count: 1
Today, East Asia stands out on the world stage for its high tech sector and industrial might. Yet it is also the region that contributes most to global climate change. In the 19th century East Asian societies faced colonial incursions by industrialized Western powers and strove to catch up. Yet East Asia itself has a history of industry that extends back centuries. This course explores the intertwined histories of technology, industry, and the environment in China, Japan, and Korea, beginning in ancient times and focusing on the striking developments of the last four centuries. For students interested in one or more East Asian societies, the course offers a chance to reexamine the region's past through the lenses of environment and technology. For students interested in environmental history and the history of science, a focus on East Asia allows us to challenge narratives that project the idea of Western centrality in these realms onto the deep past and into the future.

Prerequisite: HIST 200
GPA units: 1
Common Area: Historical Studies

MATH 303 — Mathematical Models Course count: 1
Introduction to the role of mathematics as a modeling tool, including the construction, interpretation and application of mathematical models. Applications chosen to illustrate various modeling paradigms such as deterministic, probabilistic, discrete and continuous modeling and may include population dynamics, biomedical applications, stock market analysis, and network and traffic flows.

Prerequisite: MATH 241 and MATH 244 or equivalent or permission from Instructor.
GPA units: 1
Typically Offered: Alternate Years

MONT 199N-F04 — Water and Humans Course count: 1
This course addresses water both across the globe and through time. In it we will examine the hydrological cycle, consider the different types of water sources, and explore how water impacts human populations. We will see that this necessity is not only vital for survival and integral to daily life, but also that it can be destructive. This course includes a mandatory Community Based Learning (CBL) placement.

GPA units: 1
Common Area: Historical Studies

MONT 199N-S04 — Humans and Water Course count: 1
This course addresses water both across the globe and through time. In it we will examine human interactions with water, consider how humans approach different types of water resources, and explore human impacts on waterscapes. We will see how human ingenuity is utilized to exploit this vital necessity, but also how human intervention can be destructive. This course includes mandatory Community Based Learning (CBL) projects.

GPA units: 1
Common Area: Historical Studies

MUSC 399-F01 — Music, Sound, and Ecology Course count: 1
Is climate change audible? What role does music play in environmental conservation? What is sound pollution? Is birdsong music? This course will explore how sound mediates the relationship between humans and the environment, what some researchers describe as an acoustic ecology. Combining interdisciplinary approaches from sound studies, disability studies, environmental studies, and musicology, we will contemplate how we come to know our environment through deep listening, consider how people communicate their relationship to the environment through their musical creations, and reflect on the sound relations between humans, plants, and creatures. Finally, we will ponder the role that music and sound play in our experience of climate change and as a resource for building connection with the natural world.

Enrollment is limited to 3rd and 4th year students only.
GPA units: 1
Common Area: Arts

PHIL 247 — Environmental Political Philosophy Course count: 1
The class begins with a survey of environmental philosophy, exploring anthropocentrism, sentiocentrism, biocentrism, and ecocentrism. With those in hand, we explore the question of what the government ought to do about it. We then study four contemporary political theories: liberalism, libertarianism, conservatism, and capabilities theory. Each of these theories is deeply anthropocentric (human-centered) in its original form, but some are easier to "green" than others and we will test them all to see which can incorporate the values driving the different environmental positions. Throughout we will debate whether we should green the theories (and if so, which way?) and we will repeatedly test our theories against real world issues: what do they tell us the government should do about factory farming, organic food, wilderness restoration, environmental racism, climate change, or anything else?

GPA units: 1
Common Area: Philosophical Studies
Typically Offered: Alternate Years

PHIL 249 — Environmental Ethics Course count: 1
What kind of person should I be? What do I owe to others, and to myself? What, if anything, do I owe to non-human others animals, nature, the environment and what kind of role can those things play in my own moral development? This class will study three different sets of answers to those questions, as represented in the traditions of Utilitarianism, Kantian Ethics, and Virtue Ethics. Each of these theories begins as anthropocentric (human-centered), but we will introduce sentiocentric, biocentric, and ecocentric commitments and see which theories can accommodate those expanded concerns. We will repeatedly test our theories, in both original and modified forms, against real world issues: what do they tell us to do about factory farming, meat consumption, animal use in medical testing, wilderness restoration, climate change, or anything else?

GPA units: 1
Common Area: Philosophical Studies
Typically Offered: Alternate Years

PHYS 146 — The Physics of Energy Course count: 1
How do we get energy from wind? What is the physics behind global warming? What are the potentials and dangers of nuclear power? This course will give you the scientific understanding of energy sources, transformations, and systems. Students will learn how we tap various sources of energy, how energy is used in our everyday lives, and the consequences of our growing demand for energy.

GPA units: 1
Common Area: Natural Science
Typically Offered: Alternate Years

POLS 257 — Politics of Development Course count: 1
How can the world's less developed countries achieve sustainable development (in environmental, economic, and political terms)? This course discusses structural and institutional challenges to sustainable development in the global South, investigates different responses to these challenges (and their different degrees of success), and assesses the impact of development--and underdevelopment--on both societies and the environment.

Prerequisite: POLS 102 or POLS 103.
GPA units: 1
Common Area: Social Science
Typically Offered: Annually

POLS 286 — Comparative Environmental Policy Course count: 1
This course focuses on the explanations for why environmental problems are created, the impacts they have, the difficulties of addressing them, and the government regulatory mechanisms that succeed in mitigating them. These themes are examined through a comparative lens across multiple countries and levels of governance. Key topics include externalities; collective action problems; Kuznet's curve; polycentricity; externalities; social values and norms; international environmental problems; and environmental justice. Also addressed are different policy approaches for addressing environmental problems, including direct regulatory measures, market-based instruments, and information provisioning. Furthermore, the course considers criteria for evaluating environmental policy approaches, such as political feasibility, cost-effectiveness, and social equity.

Prerequisite: POLS 102 or ENVS 118
GPA units: 1
Common Area: Social Science
Typically Offered: Every Third Year

RELS 255 — Ecology & Religion Course count: 1
Explores various perspectives on nature articulated in the history of the world¿s religions beginning with hunter-gatherer and tribal peoples. Distinctive doctrines derived from sacred texts and by philosophers/theologians, as well as the impact of ritual practices, are reviewed to understand the impact of religion on human ecology. After considering the perspective of Enlightenment thought on the natural world, the course surveys early North American exponents of ecological spirituality (Thoreau; Emerson; Muir), the writings of Eco-theologians (Fox; Berry; Schweitzer; McFague), and how cosmologies articulated by modern ecologists (Leopold; Lovelock) and activists (Earth First! And Greenpeace) have sought to define as sacred the human connection with the natural world.

GPA units: 1
Common Area: Cross-Cultural Studies, Studies in Religion
Typically Offered: Alternate Years

RELS 260 — Comparative Mysticism & Human Ecology Course count: 1
A phenomenological analysis of mystical experience, both theory and practice, and an investigation of the epistemological and ontological status of this experience. Approach is pluralistic considering mysticism from the following perspectives: psychological, religious, anthropological, philosophical and scientific. Examines various conceptions of ultimate reality and a variety of practices constituting the mystic path or way. Mystical experience is broadly conceived as a state of consciousness whose dominant symbols and structures of thought, behavior and expression relate to the ultimate transformation of self and world.

GPA units: 1
Common Area: Cross-Cultural Studies, Studies in Religion
Typically Offered: Fall

RELS 304 — Land and Creation Course count: 1
This course explores environmental issues from the religious side, grounded in the Bible and especially the Hebrew Bible. In the Bible, discussions of the environment cannot be disentangled from broader issues of justice, so throughout the semester students will explore the Bibles varied perspectives on the environment within the broader framework of justice. They will also learn to read in light of an "ecological hermeneutics," which means recognizing that the Bible contains neither easy maxims about environmental justice nor explicit strategies, and that bridging the gap between the Bible and present-day concerns involves more than just identifying biblical texts that deal with nature, the environment, or justice more broadly. Rather, what is needed are reading strategies and interpretive perspectives that are attentive to how a wide range of biblical issues and themes intersect with and inform questions of justice. Such an ecological hermeneutic entails not only the creative and nuanced exegesis of specific texts from the perspective of land care, environmental conservation and human rights, but also the cultivation of biblical perspectives and principles that can transform our theological convictions, daily practices, and community leadership.

GPA units: 1
Common Area: Studies in Religion
Typically Offered: Alternate Years, Spring

RELS 340 — Gardens & World Religions Course count: 1
A survey of the historical and cultural backgrounds of the major garden traditions of the world associated with religions. This course moves from considerations of human aesthetic and spiritual experience in the natural world to a survey of the major garden traditions associated with the western Mediterranean and Europe: in classical Greece and Rome, Christianity, and Islam. The course then moves to East Asia and classical traditions of China and Japan. Special focus will be given to elements of the campus Japanese Garden Initiative: teahouse gardens and monastic viewing gardens. Field trips to regional gardens will be made. For the final project, students design small virtual contemplative gardens for possible construction at specific campus sites.

Prerequisite: One previous course in Religion, Asian Studies or Middle East Studies
GPA units: 1
Common Area: Cross-Cultural Studies, Studies in Religion
Typically Offered: Alternate Years

RELS 395 — Nature and Animals in the Bible Course count: 1
In light of current questions about climate change and species extinction, this course considers if and how the Bible relates to questions we may have about nature and animals. To do so, we will pay attention not only to biblical studies and religious ethics but also to ecological and animal studies that have been developed across various disciplines in recent years. In addition to reading and thinking about the Bible with the help of biblical scholars, we will spend time learning and discussing influential ideas about the natural and animal world from a diversity of scholars in other fields, including Carol J. Adams, John Maxwell Coetzee, Jacques Derrida, Pope Francis, Donna Haraway, Emmanuel Levinas, Bill McKibben, and Anna Tsing.

Prerequisite: One previous RELS course.
GPA units: 1
Common Area: Studies in Religion
Typically Offered: Every Third Year

RUSS 253 — Fire & Ice: Siberia In Fiction Course count: 1
This course considers Siberia narrative as a distinct tradition (rather than a motif or sub-genre of Russian literature). Of primary importance to this distinction is a world view that regards nature as intrinsically sacred (a characterization that challenges characterizations of Siberia as a frozen wasteland or vast prison camp). While this perception of the earth as iconic is expressed in various ways from ancient oral tales of indigenous Siberian peoples to twenty-first century novels, important shared aspects of the relationship between the Siberian landscape and the people who inhabit it define, shape, and unite the tradition. In it, for example, we repeatedly see the perception of the natural world as an intentional (if not sentient) creator, whose immanence is experienced in the profound yet revelatory silence of Siberias steppe, taiga, and tundra. At its core, the Siberian narrative tradition describes the perception and experience of Siberia as a transcendent and sacred space which, I believe, may answer the following questions: What makes Siberian space sacred? What does it mean to be Siberian? What does Siberia mean to Russia? Readings, films, and discussions in this course focus on the idea of the sacred that grows out of human relationships of the various peoples of Siberia, non-indigenous natives, and other less willing residents of Siberia with its landmass and natural world. You will learn about the geology, ecology, and human history of Siberia and the belief systems and environmental philosophy that grows out of lived experience there. You explore expression and perceptions of the sacred in the following ways: narrative traditions of indigenous Siberian peoples; the rise of Russian monasticism/colonialism in Siberia starting in the sixteenth century and the development of hesychastic prayer practice in Russian Orthodoxy; the dueling views of Siberia from the nineteenth century as both a miraculous land (heaven) and a land of exile (hell); the representation of Siberia as a magical realm of creative and spiritual transformation and transcendence, which includes the discovery of Siberian shamanism by twentieth-century Russian Avant-garde; the birth of the ecology movement in twentieth-century Siberia in part a response to Soviet-era misperceptions and misuses of the environment and natural resources -- and the role of native Siberian narrative and its ecological values. Topics on nineteenth- and twentieth-century narrative include consideration of narratives about the tsarist and Soviet prison that challenge the idea of the sacred in Siberian space. Invited lectures will combine current trends in Siberian narrative and reconsider the future role of Siberia as it relates to global warming, natural resources, and the political and economic policies of the Russian Federation.

GPA units: 1
Common Area: Cross-Cultural Studies, Studies in Religion
Typically Offered: Alternate Years, Spring

SOCL 210 — Consumer & Corp Sustainability Course count: 1
This course asks what it means to be a good citizen, good consumer, and good corporation in light of contemporary social and environmental problems by focusing on the relationship between democracy and capitalism. It investigates the complexities of understanding and implementing social responsibility on the local, national, and global level.

Prerequisite: SOCL 101
GPA units: 1
Common Area: Social Science
Typically Offered: Alternate Years

SOCL 236 — Environmental Sociology Course count: 1
This course examines the interaction between human society and the natural environment, more specifically, the relationships between various environmental and social problems, as well as emphasizes current theory and research in environmental sociology aimed at understanding and addressing those problems. By discussing issues of science and technology, popular culture, disasters, urbanization, racial and gender relations, domination and violence, as well as social movements, and by engaging in issues from a diversity of disciplines including anthropology, biology, economics, geography, psychology, and history, this course will reach a broad understanding of environmental issues. One unit.

GPA units: 1
Common Area: Social Science

SOCL 238 — Cities and Environment Course count: 1
This course will explore the processes, policies, and programs that have shaped and affected the relationship between cities and the environment in the United States. Students will be exposed to a number of theoretical perspectives and methodological approaches to the study of urban areas and the environment.

GPA units: 1
Common Area: Social Science

SOCL 239 — Environmental Racism Course count: 1
Environmental Racism was coined by environmental justice activists to describe situations where communities of color face disproportionate environmental ills and lack environmental privilege. In this course we look at the history of environmental racism, its relationship with capitalism, and several areas where environmental racism is most obvious, including, but not limited to: food, disasters, and the environmental movement itself.

GPA units: 1
Common Area: Social Science

SOCL 299-S06 — Food Justice - Racial Justice Course count: 1
Our current food system is predicated on food insecurity, rooted in racial capitalism. The most precarious populations have always been the primary producers of Americas food. Our course begins with the agrarian origins of American capitalism which has its origins in slavery and the dispossession of composite farmers in Appalachia. Here we look at how profit seeking behavior and market practices created a dependence on cash and credit and fractured the ecological balance that existed between land, food, and a peasant way of life. We move on to looking at the history of agricultural labor and migrants--including todays processing facilities and slaughter houses. We will also look at the environmental effects of our neoliberal food system, namely how we have created an ecologically and economically unsustainable system; and also, how we relate to nonhumans. Finally, from a community-based perspective we trace the development of food apartheid in the US and its outcomes--racialized health and economic precarity. Using critical race studies, indigenous studies, urban studies, environmental studies, gender studies, community-based studies, and social justice as lenses students will leave the course with a broad understanding of the failure of the American food system. As an activist oriented course, students will work with local organizations on food justice efforts. Food justice is racial justice!

GPA units: 1
Common Area: Social Science
Typically Offered: Spring

SPAN 499-S03 — Ecocritical Approaches to Modern Span Lit Course count: 1
This course considers how writers, reformers, and thinkers in Spain have conceptualized the natural realm in modern and more recent times. Focusing on human relationships with the nonhuman realm, it examines how Enlightenment practices of domination and control developed into more contemporary forms of ecological consciousness, resistance, and ethics. Through readings, visual arts, and film, we will explore how the land and living nature have both shaped human consciousness and been shaped by it, leading us to consider ecological relationships more broadly and inclusively.

Prerequisites: 305 and either 308 or 309
GPA units: 1
Common Area: Literature

STAT 220 — Statistics Course count: 1
This course presents statistics intended for students aspiring to the health professions. Topics include sampling strategies and experimental design, numerical and graphical methods of describing data, basic concepts in probability, discrete and continuous probability distributions, sampling distributions, confidence intervals, hypothesis testing and simple linear regression. Statistics is a part of the health professions curriculum, but some majors at the College offer their own statistics courses that are tailored to their respective disciplines. Students majoring in mathematics, economics, biology, psychology and sociology should take the statistics course within their major. Health profession students are advised to wait and take the statistics course in their major, should it offer one. Otherwise, such students should take STAT 220 sometime after their first year at the College.

Prerequisite: MATH 133, 134, 135, or 136 or equivalent. Students who have taken ECON 249, BIOL 275, PSYC 200 or SOCL 226 or have credit for AP Statistics may not enroll in this course. ACCT, ECON, PSYC or SOCL majors may not enroll in STAT 220.
GPA units: 1
Typically Offered: Fall, Spring

STWL 299-S01 — Ecologies of Collapse Course count: 1
This course studies 19th-century French literary and artistic depictions of environmental disaster as a starting point to explore the evolving dynamics between the human and the non-human world from the Enlightenment to the present day. This period saw new forms of expression from the notion of pathetic fallacy to Science Fictions dystopian worlds emerge alongside the growing presence of news (true and false) of planetary upheaval in the public sphere. We will ask ourselves how representations of volcanic eruption, earthquake, flooding, etc. effect not only the literary, journalistic, and artistic production of the time, but also human wellbeing. How does French societys relationship to nature fluctuate throughout the 19th century? By the fin-de-siècle, does modern France need re-sensitizing to nature? And perhaps most importantly, what can we learn about climate change and our own ecological crisis by uncovering the roots of collapsology and eco-anxiety in these depictions of planetary upheaval?

GPA units: 1
Common Area: Literature

STWL 299-S02 — Environmental Culture and the Early Modern World Course count: 1
In this course we will study how early modern authors and artists tackled questionsof great relevance for today: Does nature have a language and display agency? Do plants think? Should we regard ourselves as an ecosystem interrelated with awider ecosystem? Can women reclaim their association with nature in a non-detrimental manner? We will see how these authors and artists disrupted thehuman/nonhuman and the male/female divides. We will begin with selected mythsfrom Ovids Metamorphoses and explore how Titian, Velazquez, and Rubensdepict transformations of humans into natural entities. We will analyze lyrics byPetrarch Gaspara Stampa, and Mary Wroth; selected cantos from TorquatoTassos epic poem Jerusalem Delivered; passages from ModerataFontes Floridoro; Cervantes short story The Dialogue of the Dogs; Montaignesessay, On Cannibals; William Shakespeares The Tempest. We will also readselected Shakespearean passages to see in what ways the bard associates femalecharacters (Ophelia, Marina, Perdita, Helena) with plants.

GPA units: 1
Common Area: Literature

VAHI 250 — Making the Modern City Course count: 1
This lecture course probes the catalysts and implements of urban change around the globe since the Industrial Revolution. Using case studies of major cities, the course will explore how local political, socio-economic, and technical shifts wrought physical changes at the scale of the city. Our scope includes those figures who were agents of, and targets of, urban change; as well as the layers of water, sewer, electric, and transportation infrastructure that empower modern metropolises. We will also explore polarities of public vs. private and city vs. country. The course engages local examples, and when possible, includes a CBL component.

GPA units: 1
Typically Offered: Annually

VAHI 330 — Designing Green Course count: 1
Green," in color and concept, is a word that has meant many different things to different societies over the centuries. This course will explore the notion of "green" across time and space, focused on the application of this term to the natural and built environment, and mankind's relationship to them. Topics will include color theory, gardens as place-making tools in varying religious and cultural contexts, the protection and commodification of natural landscapes as public parks, the abundance and loss of trees, the history of "the lawn," the birth of modern environmentalism, and recent narratives about sustainable design of products, architecture, and landscapes.

Enrollment limited to 3rd and 4th year students only
GPA units: 1
Common Area: Arts

VAHI 340 — American Art & Ecology Course count: 1
After studying the origins of landscape imagery, this course considers how landscape art was transformed in American culture. Topics include 19th century paintings of the Hudson River school, photographs and paintings of the American west, and the use of landscape motifs by contemporary environmental artists. We will engage in three main activities: 1) reading and discussing scholarly analyses of the history of landscape painting, nature writing and theories of/about the land; 2) working with a range of primary sources, including materials in local archives and museums; 3) trying our hand at creating new accounts of the landscapes around us.

GPA units: 1
Common Area: Arts

VAHI 350 — City Nature Course count: 1
It is a commonplace that the city and nature are in binary opposition, occupying either end of a spectrum that separates human manufacture from the spontaneous creations of an ideal natural world. But the emerging field of the urban environmental humanities complicates these assumptions: as it suggests, the artificial and natural worlds, the city and nature, are much more closely intertwined than we might expect. In this seminar we will explore a series of global examples from across history to explore foundational narratives of buildings, cities, and nature, the meaning of materials, the role of technology, and the ways that architectural and urban history intersect with natural history. The study of the urbanized world around us can also inform how humanists address the challenges and opportunities of the twenty-first century.

GPA units: 1
Common Area: Arts
Typically Offered: Alternate Years

VAST 206 — Drawn to Nature Course count: 1
Drawn to Nature explores the natural world as a source of inspiration, as well as a point of departure to develop artistic investigation. Fundamental drawing skills such as line, texture, value, space, and scale will be practiced through visual engagement with the natural world. Subject matter will include plant and animal forms, trees and landscape, specimens in the studio and science lab, and objects viewed through the microscopic. Students will work with a range of dry and wet media, as well as traditional and experimental approaches to drawing. The practice of observational sketching and field journaling will provide source material to develop larger, resolved works. Numerous site visits to various locales on campus, as well as in the surrounding region will provide a variety of subjects for inspiration. The semester will culminate in a final project that develops personal exploration and builds upon the themes explored in the course.

GPA units: 1
Common Area: Arts
Typically Offered: Every Third Year, Fall