

BACHELOR OF SCIENCE IN ENVIRONMENTAL SCIENCE

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In the Environmental Science (BS) program, students develop a strong foundation in biological and physical sciences as they learn how these processes shape the natural world and what impact humans have on the environment. Students use this foundational knowledge as they examine the effects of human actions on the environment from multiple perspectives, including political, legal, economic, cultural and sociological. The program emphasizes experiential learning in the classroom and in regional, national and international settings. Environmental Science (BS) majors learn how to conduct environmental science research in a variety of subdisciplines and how to critically analyze and evaluate data, as well as integrate basic science principles and apply that knowledge to analysis and solutions of current environmental issues.

The BS in Environmental Science program requires a minimum of 120 credits for degree completion.

Please see footnotes for additional information.

Code	Title	Credits
University Curriculum (http://catalog.qu.edu/academics/university-curriculum/)		46
Modern Language Requirement ¹		3
Select one of the following:		3
MA 275	Biostatistics or MA 27Honors Biostatistics	
MA 285	Applied Statistics	
Environmental Program Shared Core		
ENV 101	Introduction to Environmental Studies	3
ENV 220 & 220L	Environmental Science and Environmental Science Lab	4
ENV 240	Fundamentals of Geographic Information Systems	3
ENV 226	Environmental Ethics	3
ENV 350	Environmental Studies Practicum	1-4
ENV 390	Environmental Writing	3
IDS 400	Transdisciplinary Project	3
Choose one course from the following:		3
AN 101	Local Cultures, Global Issues	
AN 103	Dirt, Artifacts and Ideas	
ENV 230	Sustainable Development	
ENV 282	Global Environmental History	
Cognate Courses ²		
BIO 101 & 101L	General Biology I and General Biology I Lab	4
BIO 102 & 102L	General Biology II and General Biology Lab II	4
CHE 110 & 110L	General Chemistry I and General Chemistry I Lab	4

CHE 111 & 111L	General Chemistry II and General Chemistry II Lab	4
CHE 210 & 210L	Organic Chemistry I and Organic Chemistry I Lab	4
Environmental Electives ³		11
BIO 215	Environmental Biotechnology	
BIO 225	Physiological Diversity	
BIO 252 & 252L	Ecology and Biodiversity and Ecology and Biodiversity Laboratory	
BIO 282 & 282L	Genetics and Genetics Lab	
BIO 300	Special Topics	
BIO 323 & 323L	Invertebrate Zoology and Invertebrate Zoology Lab	
BIO 324 & 324L	Vertebrate Zoology and Vertebrate Zoology Lab	
BIO 352 & 352L	Botany and Botany Lab	
BIO 356 & 356L	Aquatic Ecology and Aquatic Ecology Lab	
BIO 358 & 358L	Conservation Biology and Conservation Biology Lab	
BIO 383	Evolution	
BMS 299	Biomedical Sciences Journal Club	
BMS 373 & 373L	Mycology and Mycology Lab	
BMS 325	Toxicology	
BMS 370	General Microbiology	
CHE 211 & 211L	Organic Chemistry II and Organic Chemistry II Lab	
CHE 215 & 215L	Analytical Chemistry and Analytical Chemistry Lab	
CHE 305 & 305L	Instrumental Analysis and Instrumental Analysis Lab	
CHE 315 & 315L	Biochemistry I and Biochemistry I Lab	
CHE 316	Biochemistry II	
ENV 201	Lessons in Local and Global Sustainability	
ENV 207	Coral Reef Diversity - An Immersive Approach	
ENV 223	Plastics - Miracle Or Curse?	
ENV 225	Water and Human Health	
ENV 245	The Magical Marine Environment	
ENV 280	Environmental Issues Journal Club	
ENV 312	Environmental Physiology	
ENV 325	Environmental Toxicology	
SCI 102 & 102L	Earth Sciences and Earth Sciences Lab	
SCI 261	Natural Disasters	
SCI 270	Environmental Geology	
PHY 107	Introduction to Astronomy	
PHY 110 & 110L	General Physics I and General Physics I Lab	

PHY 111 & 111L	General Physics II and General Physics II Lab	
Free Electives		5-12
Total Credits		120

¹ All CAS students must complete one modern language through the 102 level. Students who have taken a language in high school should take the modern language placement test for that language. Placement scores at the 201 level or higher demonstrate language competency and will place out of the language requirement.

² Required courses that support the Environmental Science major and may be used to fulfill requirements outside the major

³ Environmental electives should be selected in consultation with academic adviser and electives should be intentionally selected to build disciplinary expertise.

Shown below is one of many possible paths through the curriculum. Each student's individual academic plan is crafted in consultation with their academic adviser.

Code	Title	Credits
First Year		
Milestones: Earn 30 credits, meet with your adviser at least once a semester and have a GPA of 2.00 or higher.		
Fall Semester		
ENV 101	Introduction to Environmental Studies	3
CHE 110 & 110L	General Chemistry I and General Chemistry I Lab	4
BIO 101 & 101L	General Biology I and General Biology I Lab	4
EN 101	Introduction to Academic Reading and Writing (UC First Year Writing)	3
FYS 101	First-Year Seminar (UC Foundations Inquiry)	3
Spring Semester		
Environmental Development & Culture Course		3
CHE 111 & 111L	General Chemistry II and General Chemistry II Lab	4
BIO 102 & 102L	General Biology II and General Biology Lab II	4
EN 102	Academic Writing and Research (UC First Year Writing)	3

Second Year

Milestones: Earn 60 credits and a GPA of 2.00 or higher. Meet with your adviser at least once per semester to discuss academic, experiential learning, career and co-curricular opportunities.

Fall Semester		
ENV 220 & 220L	Environmental Science and Environmental Science Lab	4
CHE 210 & 210L	Organic Chemistry I and Organic Chemistry I Lab	4
Science Elective with Lab		3-4
University Curriculum		3
Spring Semester		

GP 240	Fundamentals of Geographic Information Systems	3
PL 226	Environmental Ethics	3
MA 275	Biostatistics (UC Math)	3
Science Elective with Lab		3-4
University Curriculum		3

Third Year

Milestones: Earn 90 credits and a GPA of 2.00 or higher. Meet with your adviser at least once per semester. Participate in study abroad, complete internship or research opportunities.

Fall Semester

Science Elective with lab		3-4
Science Elective with lab		3-4
Language at the 101 level		3
Open Elective		3

Spring Semester

ENV 350	Environmental Studies Practicum	1-4
Language at the 102 level (Satisfies CAS Language Requirement)		3
University Curriculum course		3
Open Elective		3
Open Elective		3

Fourth Year

Milestones: Earn 120 credits and a GPA of 2.00 or higher. Complete possible minor or double major and prepare for graduation.

Fall Semester

ENV 390	Environmental Writing	3
University Curriculum course		3
Open Elective		3
Open Elective		3
Open Elective		3

Spring Semester

IDS 400	Transdisciplinary Project	3
Open Elective		3
Open Elective		3
Open Elective		3
Open Elective		1

Total Credits **113-120**

Student Learning Outcomes

Upon graduation, all Environmental Science majors will be able to demonstrate the following competencies:

- **Interdisciplinary Knowledge:** A broad knowledge#base of principles in natural sciences,#social#sciences,#humanities and fine arts, with cognate knowledge#in mathematics.
- **Critical/Creative Thinking and Problem Solving:** The ability to apply knowledge and#skills to work toward solutions to increasingly complex problems, envision alternative approaches and identify and evaluate potential solutions.
- **Cognitive Complexity:** The ability to draw upon scientific, social scientific, humanistic and artistic methods and thought to envision and develop creative solutions to problems.

- **Analysis and Evaluation:** The ability to analyze and evaluate scientific evidence and assess ideas against available evidence.
- **Experiential Learning:** The ability to apply acquired knowledge and skills to investigate problems by working on domestic and international projects in unscripted, living contexts.
- **Effective Oral/Written Presentation:** The ability to present facts, analysis and arguments effectively to communicate to multiple audiences.
- **Technical Training:** The relevant knowledge and hands-on skills to be able to work safely and independently in laboratory and field settings to collect and record data.
- **Intercultural Awareness:** Global awareness and local sensitivity to different populations, their values and objectives, and the ways in which these populations are affected by environmental phenomena.
- **Career Preparation:** Competitive preparedness for entry-level employment in a changing marketplace or for acceptance into a graduate or professional degree program.

ENV 101. Introduction to Environmental Studies. 3 Credits.

Environmental challenges are perhaps the greatest challenges that society faces today. Decisions made today will have ramifications far into the future. Now is the time to act. This course is inherently interdisciplinary because many disciplines are necessary to address these challenges. In this course we will explore "technology traps"- that is, new technology that solves one problem but creates another unforeseen problem. This course examines environmental justice, freshwater resources, plastics, energy, air pollution, climate change, food systems, and a topic of each student's choice. The course integrates fundamental scientific principles, legal concepts, economic theory, ethical implications of human interactions with the environment, and cultural-historic perspectives. We will also evaluate technical and policy solutions.

Prerequisites: None

Offered: Every year, Fall

UC: Breadth Elective

ENV 102. Intro Environmental Studies in the Community. 1 Credit.

Supplementary course to accompany ENV101 (1 hour). Environmental challenges are perhaps the greatest challenges that society faces today. In order to address these challenges, action must start within our local community. To encourage students to engage with local initiatives, students will be required to attend local environmental and sustainability events. The course will not have a set meeting time, but students will select from a list of events, activities and programming that fits their personal interest and schedule. Must be taken in conjunction with ENV101

Corequisites: Take ENV 101.

Offered: Every year, Fall and Spring

ENV 120. Exploring Your Environment. 3 Credits.

A one-semester introductory course designed to give the student a background of basic concepts in biology and chemistry with emphasis on characteristics of life, structure and function of cells, tissues, organs and organisms, genetics, evolution and ecology, and bonding (ions and molecules), stoichiometry, states of matter, and solutions (solubility, acids, bases, and buffers). These concepts will be applied to upper-level environmental science courses. Minimum grade for majors in Sustainability and Environmental Policy and in the Environmental Studies co-major C-.

Corequisites: Take ENV 120L.

Offered: As needed

UC: Natural Sciences

ENV 120L. Exploring Your Environment Lab. 1 Credit.

This course is designed to accompany the ENV 120 lecture. The purpose of the lab is to acquaint students with biology and chemistry laboratory equipment, procedures, and practices. The course is designed to provide an opportunity for the student to learn sampling and analysis techniques. Must be taken in conjunction with ENV 120. This course is designed for non-science majors. Minimum grade for majors in Sustainability and Environmental Policy and in the Environmental Studies co-major C-.

Corequisites: Take ENV 120.

Offered: As needed

UC: Natural Sciences

ENV 150. Introduction to Geography. 3 Credits.

This course is an introduction to the basic concepts and fundamental issues in geography, focused on global interconnections and the variation in how humans use the Earth's surface. Major topics include the growth and distribution of human population; the localization and spatial characteristics of land use; geopolitics and colonialism; environmental geography; the geography of economic development; the geographic analysis of issues such as gender, racism, poverty, language, and religion.

Prerequisites: None

Offered: Every year, All

ENV 200. Special Topics. 3 Credits.

Prerequisites: Specific prerequisites vary depending on the focus of the course.

Offered: As needed

ENV 201. Lessons in Local and Global Sustainability. 3 Credits.

In this course students will experience and learn what sustainability means on both local and global levels. Such experiential learning is accomplished through a Study Abroad trip to Costa Rica, where students will engage in a series of mini-courses associated with Earth University, a four-year institution whose faculty and students are committed to changing the world through sustainable methodologies. Through these mini-courses and interactions with Earth University students, ENV 201 students will understand the interdisciplinary nature of sustainability (including cultural, historical, sociological, economical and biological), requiring multiple approaches on both local and global levels. Or other suitable and equivalent locations, as opportunity permits.

Prerequisites: Take FYS 101 EN 101 and EN 102 or take FYS 101 and EN 103H

Offered: Every year, Fall

UC: Breadth Elective, Intercultural Understand

ENV 203. Environmental Spanish.**3 Credits.**

This course is taught in Spanish and introduces students to vocabulary related to nature, the environment, protecting the planet, and also to the lexicon necessary to discuss topics in environmental science and policy. Students acquire important historical and cultural environmental perspectives from various Hispanic countries to understand more precisely present-day perceptions and efforts related to conservation and sustainability. Environmental issues and concerns in Spanish-speaking nations are explored. No previous science or environmental studies background is required. It is open to any student who can speak Spanish either as a heritage language speaker or who has had at least three years of Spanish in high school or at least three semesters in college. Students with less than the Spanish minimum prerequisite should contact the professor for permission to join.

Prerequisites: None**Offered:** As needed**UC:** Breadth Elective**ENV 205. Global Environmental Issues.****3 Credits.**

Interdisciplinary study of global environmental issues focusing on major current issues including human overpopulation, biodiversity loss, food and water scarcity, energy resources, atmospheric pollution, environmental justice and climate change. Cause and effects of environmental degradation and the interplay on human welfare will be discussed. Students will learn terminology and concepts to provide a strong knowledge base sufficient to understand everyday environmental issues on a global scale. The ultimate goal is for students to leave this course as environmentally literate citizens of the world who have a better understanding of the impact humans have on the environment and the impact environmental quality has on humans.

Prerequisites: None**UC:** Natural Sciences**ENV 207. Coral Reef Diversity - An Immersive Approach.****3 Credits.**

In this hands-on course, participants focus on a series of topics related to coral reef and marine ecology, with an emphasis on adaptations to underwater life, conspecific and interspecific relationships, and the role conservation and education play in developing responsible tourism practices. Students study the underwater world in a way that relatively few people do: directly via SCUBA diving in Bonaire, Netherlands Antilles. Students are expected to complete multiple dives per day and use their observations to discuss reef structure, animal behavior, conservation and eco-tourism. By the start of the course, students must either possess (at a minimum) Open Water SCUBA certification or have completed the online portion of PADI Open Water Certification with the understanding that they will complete the practicum portion in the first two days on Bonaire.

Prerequisites: None**Offered:** As needed, Spring and Summer**ENV 209. Environmental Politics and Policy.****3 Credits.**

Perhaps no other issue area is as potentially disruptive to stability as that which is defined by the crises in our environment. From the local, to the national and global levels, the exhaustion of natural resources, population growth and threats presented by climate change and the accumulation of toxins and trash in the atmosphere, on land and in the world's oceans, demand the attention of government at every level. In this course, students engage with policy debate around these and other issues, such as the ways environmental issues overlap with issues of local and global justice. They explore the political factors that have influenced environmental policy debates historically and currently, in the U.S. and on comparative and international bases.

Prerequisites: Take PO 101 or FYS 101.**Offered:** Every other year, Fall**UC:** Social Sciences**ENV 210. Nature & Imagination: Environmental Culture in Germany.****3 Credits.**

This course taught in English offers an introduction to important historical events, figures, movements and ideas that have shaped the culture of German-speaking countries. Students learn about aspects of daily life, traditions, philosophical movements, and cultural artifacts in architecture, literature, art, film and music. In the Spring 2025 semester, the course will focus on the beginnings of German environmental culture and its impact across cultures, disciplines, and centuries. Class reading and discussion will center on Andrea Wulf's 2016 NYT bestseller, *The Invention of Nature: Alexander von Humboldt's New World*. Humboldt's discoveries and ideas about the connectedness of all nature radically changed how the world thought about the environment, which for him could not be separated from human morality, including problems such as colonialism and slavery. As we follow Humboldt's travels and work, we'll delve into his intercontinental influence on scientists, politicians, revolutionaries, literary figures, nature writers, visual artists, and environmental activists, and the ripple effects of this influence into fields such as religion, architecture, and design. Through supplementary readings, we will keep an eye on the broader course of Germany's environmental history to provide further context for Humboldt's own intellectual environment and legacy.

Prerequisites: None**Offered:** Every year, Spring**ENV 213. The Nature Essay.****3 Credits.**

This advanced writing course focuses on the history and evolution of human thinking about nature and our relationship to it. Looking first at Biblical, Greek, Roman and Medieval sources, students concentrate on American writers, beginning with Lewis and Clark and ending with a longer reading by a contemporary naturalist writer (e.g., Annie Dillard, Norman Maclean, Terry Tempest Williams, Barry Lopez). In-class journals and formal writing assignments are used to advance discussion and emphasize persuasion and argumentation.

Prerequisites: None**Offered:** Every other year, Fall**UC:** Humanities

ENV 215. Research Methods in Environmental Studies. 3 Credits.

Students will learn in this course how to approach and conduct research in the field of Environmental Studies, an interdisciplinary field that is exceptionally broad in terms of the types of questions posed, the cultural, social, and scientific systems involved, and the myriad methodologies that can be applied to analyzing them. Students will learn about the various types of research methodologies, data collection and analysis, and the literature review process, culminating in a proposal for a viable research project.

Prerequisites: Take ENV 120 and ENV 120L

Offered: As needed

ENV 220. Environmental Science. 3 Credits.

This course explores the natural environment through the lens of biological, chemical, and physical processes to understand pressing environmental challenges including ecology and conservation, biodiversity decline, eutrophication, water resources, energy use and alternative fuels, air quality, and climate change. Must be taken in conjunction with ENV 220L. Majors in Environmental Science, Sustainability and Environmental Policy, and in the Environmental Studies co-major must have a minimum grade of C- in the pre-requisite course(s).

Prerequisites: Take ENV 120 ENV 120L or BIO 102 BIO 102L or BIO 151 and CHE 111 CHE 111L

Corequisites: Take ENV 220L.

Offered: As needed

ENV 220L. Environmental Science Lab. 1 Credit.

This one-credit laboratory course is designed to accompany the ENV 220 lecture. The purpose of the lab is to acquaint students with chemistry and biological laboratory equipment, procedures, and practices used in environmental science. The course is designed to provide an opportunity for the student to develop skills in experimental design, data analysis, and communication of scientific data. Must be taken in conjunction with ENV 220. Majors in Environmental Science, Sustainability and Environmental Policy, and in the Environmental Studies co-major must have a minimum grade of C- in the pre-requisite course(s).

Prerequisites: Take ENV 120 ENV 120L or BIO 102 BIO 102L or BIO 151 and CHE 111 CHE 111L.

Corequisites: Take ENV 220.

Offered: As needed

ENV 221. American Environmental History. 3 Credits.

This course examines American society's interaction with nature since the arrival of Europeans in the 15th century. Students consider the intentions and values that guided the use of America's natural resources and the transformation of its landscape. While this historical legacy is most apparent in America's agricultural, industrial and conservation activities, it has been equally profound in the rise of America's environmental movement, tourism, recreation, ecological research and global environmental awareness. Since we are located in the New England/Mid-Atlantic region, this course occasionally departs from the broad survey of American environmental history and treats issues that are particularly germane to the region.

Prerequisites: None

Offered: Every other year, Fall

UC: Humanities

ENV 222. Environmental Geography and Culture. 3 Credits.

This course provides students with an understanding of the fundamental concepts of environmental geography. It introduces students to ways in which humans affect the environment, the effect our environment has had upon humans, as well as the conceptualization and implementation of sustainability. Students are exposed to the cultures, environments, and peoples of the world.

Prerequisites: None

Offered: As needed, All

ENV 223. Plastics - Miracle Or Curse?. 3 Credits.

In this course, we will attempt to answer the following question: are plastics a miracle or a curse? We will explore the differences between natural and synthetic plastics, and how plastic production (and recycling) has changed since the 19th century. We will also evaluate our individual reliance on synthetic plastics - and consider how it is possible that plastics not only help humanity and the environment but also cause significant harm. Finally, we will study how issues associated with plastic use extend well beyond the solid waste stream in landfills to the Great Garbage Patches of the world's oceans. You will have the opportunity to inventory your plastic use and recycling and share your information and thoughts on this subject through various platforms and reflective writing assignments.

Prerequisites: None

Offered: As needed, January Term

UC: Natural Sciences

ENV 225. Water and Human Health. 3 Credits.

Water is a natural resource that is vital for human survival and health, although only a tiny fraction of the Earth's supply is available to humans and terrestrial animals. This course will focus on water as a global resource and global cycle, as well as investigating the past and current threats to this natural resource.

Prerequisites: None

UC: Natural Sciences

ENV 226. Environmental Ethics. 3 Credits.

In this course, students critically assess environmental ethical issues arising at the intersections of philosophy and the sciences, using relevant ethical theory and evidence. Issues examined include but are not limited to: climate change; climate change denialism and public engagement with scientists and the sciences; the ethics of innovations in the discrete sciences; habitat preservation and loss; resource depletion; rights of humans, non-human animals, and ecosystems; ecocentrism; pollution; health; energy; corporate responsibility; sustainability; climate justice; environmental migration; future generations. Students explore individual, societal, and global perspectives on environmental ethics, and critically assess responses to environmental injustices and inequalities, including those of race, gender, and class.

Prerequisites: None

Offered: Every other year, Spring

UC: Humanities

ENV 230. Sustainable Development. 3 Credits.

The principles of sustainable development currently unify the approach used to mediate the relationship between human societies and the natural environment. In this explicitly interdisciplinary course, students will approach the policy and management challenges associated with the environment from sociocultural, economic, legal, ethical, and political perspectives. They will use this interdisciplinary framework to interrogate and critique policy related to social, economic and political development at the local, regional and global levels.

Prerequisites: None

Offered: As needed

UC: Social Sciences, Intercultural Understand

ENV 233. Practicing Archaeology. 3 Credits.

Archaeology is an exciting multidisciplinary field that combines approaches from the social and natural sciences to reconstruct human behavior. In this course, students explore the theories and methods that guide archaeological inquiry through lectures, class discussions and interactive laboratory and field exercises. Guest lectures will highlight various specializations and applications in the field, including geographic information systems, archaeological chemistry, bioarchaeology, museum curation, public archaeology, and cultural resource management. Archaeological case studies will focus on the Indigenous history and prehistory of southern New England including the Quinipiac land and people.

Prerequisites: None

Offered: Every year, Fall

UC: Social Sciences

ENV 234. Philosophy of Science and Technology. 3 Credits.

Students consider the history and nature of, and assumptions and values involved in, the scientific method; the logic of scientific explanation and theory construction; philosophical and ethical problems in selected natural, social and human sciences.

Prerequisites: Take ENV 101 or FYS 101

Offered: Every other year, Spring

UC: Breadth Elective

ENV 235. Carbon Tales. 3 Credits.

We live at an unprecedented juncture in human and natural history: the burning of greenhouse gases for energy has transformed the world, initiating a period of human abundance and environmental destruction. In this class, students read texts that address the environment, seeking to understand the rhetorical and generic gestures through which we engage our carbon-based realities.

Prerequisites: None

Offered: Every year, Spring

ENV 238. Philosophy of Technology, Environment and Social Transformation. 3 Credits.

What is technology? How do science and technology relate to human values? What role should technology play in our everyday lives? Do technological developments result in greater freedom? How should technology shape our cities and the natural environment, now and in the future? Students in this course critically examine these and other related issues, using a range of philosophical texts, science fiction and film.

Prerequisites: Take one 100-level philosophy course or FYS 101.

Offered: Every other year, Fall

UC: Humanities

ENV 240. Fundamentals of Geographic Information Systems. 3 Credits.

In this course, students will learn the fundamentals of using geographic information systems (GIS) for environmental modeling and decision making.

Prerequisites: Take ENV 101 or DS 110 or GP 101.

Offered: As needed

ENV 243. Ancient Food For Thought. 3 Credits.

In this course, students explore the origins (and consequences) of food production and consumption from an anthropological perspective. Participants examine evidence for ancient diets in a variety of different societies (hunter-gatherer, pastoral and agricultural). They analyze the relationship between our diet and other aspects of culture and explore how these types of societies have changed over the past several thousand years. Students then review contemporary environmental and health problems related to food production and consumption and draw from the past to understand and potentially address these issues.

Prerequisites: None

Offered: Every year, Fall

UC: Social Sciences, Intercultural Understand

ENV 245. The Magical Marine Environment. 3 Credits.

In this course, we will attempt to understand the breadth and depth of the magical marine environment. We will begin with a very brief survey of important pieces of oceanography (the sea floor, the chemistry of sea water, currents, tides and coasts). We will focus on the different critters (microbes, seaweeds, animals without a backbone, fantastic fishes, reptiles, birds and mammals) and the rather unique habitats that they call home (estuaries, continental shelf, coral reefs, near the surface, and great depths). Once we have a firm understanding of what the magical marine environment is, we can conclude by looking at the living and non-living resources humans rely upon, and our impact on this critically important ecosystem. You will have the opportunity to share your information and thoughts on this amazing piece of earth through various platforms and reflective writing assignments.

Prerequisites: Take EN 102

Offered: Every other year, Fall

ENV 270. Global Environmental Change. 3 Credits.

Climate change is one of the most complex, interdisciplinary problems that we all face in our lives today. Every day, we make choices that impact how we can and will mitigate and adapt. Through this course, students will learn the physical, chemical, and geological bases of climate change and understand how humans have altered Earth's equilibrium. This class addresses Earth as a system, while also addressing the components of this system and how they interact. Students will explore climate change from multiple perspectives: the past (paleoclimate), recent variability, and future. While this course will be taught to emphasize the scientific basis of climate change, like all environmental science courses, it will integrate human perspectives, stakeholders, and policies.

Prerequisites: None

Offered: As needed

ENV 272. Sh t Happens: a Natural History of Human Waste. 3 Credits.

This course will explore the natural history of human excrement. Human waste is something that we are all intimately familiar with, yet rarely discuss (or at least, we rarely admit to discussing it). But, it tells an incredible story about our lives and our interactions with the environment. We study ancient feces to learn about diet and health in the past; we look at cross-cultural studies to understand different types of contemporary waste disposal and cultural understanding of human waste; we learn about the gut microbiome, which may influence our emotions; we study our closest living relatives and their relationship with bodily waste.

Prerequisites: None

Offered: Every year, Spring

UC: Breadth Elective

ENV 280. Environmental Issues Journal Club. 1 Credit.

This course seeks to advance interdisciplinary research on environmental issues such as climate change, environmental pollution, renewable and non-renewable resources, biodiversity and sustainability. Students will participate in a journal club where they will be responsible for presenting a published research paper on an environmental topic of their choice and will emphasize the link between the environmental issue and the social/cultural and economic issue, such as health, transport, consumption, demographic changes, production and growth. The student is not limited to these issues and is encouraged to explore topics outside of the ones listed.

Prerequisites: Take ENV 101

Offered: Every year, Fall and Spring

ENV 282. Global Environmental History. 3 Credits.

This course will provide an introduction to the major issues in global environmental history and their relevance to contemporary global environmental politics. The first half of this class will focus on how approaches to environmental management have differed across the world due to differences in culture, politics, history, and ecology. The second half of the course will focus on explaining the origins of contemporary environmentalism, as well as why global disparities in environmental regulation continue to exist.

Prerequisites: None

Offered: Every other year, All

UC: Humanities

ENV 300. Special Topics. 3 Credits.

Prerequisites: Specific prerequisites vary depending on the focus of the course.

Offered: As needed

ENV 304. Environmental Economics. 3 Credits.

This course examines environmental issues and their economic impact. Topics include economic efficiency both in market and nonmarket activities; dynamic efficiency for nonrenewable and renewable resources; how environmental problems are modeled from an economic perspective including environmental racism, pollution and poverty; and principles of environmental policy design at the state, federal, and international level.

Prerequisites: Take EC 111.

Offered: Every other year

ENV 312. Environmental Physiology. 3 Credits.

Principles of environmental physiology and animal adaptation with emphasis on mechanisms of temperature regulation and related nutritional and metabolic hormonal functions.

Prerequisites: Take BIO 102, BIO 151 or ENV 120

Offered: As needed

ENV 323. Human and Economic Geography. 4 Credits.

The course provides an introduction to human and economic geography through conceptual models and theories, practical application of geographic principles, and the study of the current state of the world. With regard to human geography, the course introduces students to the basic concepts involved in geographic study, including the study of human populations, the connections between human society and the natural world, and the idea of culture as a geographic construct. The course then turns to a consideration of economic aspects of geography, particularly the study of resource industries, manufacturing, and the service sector of the economy. NOTE: This 4-credit course is designed for the Online Completion Program and runs fully online over a 7-week period. Students should therefore expect to devote double the typical amount of time to fulfilling the requirements for this intensive course.

Prerequisites: None

Offered: As needed

ENV 324. Indigenous Perspectives From Latin America. 3 Credits.

This course studies indigenous cultures of Latin America, from pre-Columbian times to the present, with a focus on their interactions as communities with nature. Students gain deeper insights into relations with the environment that come from indigenous perspectives, as well as cultivate intercultural skills that apply to contemporary cultural and environmental issues. Principal readings are indigenous texts, from the Maya book of creation known as the 'Popol Vuh' to the autobiographical reflections of Nobel Peace Laureate Rigoberta Menchú. The course is conducted in English.

Prerequisites: Take EN 102.

Offered: As needed

ENV 325. Environmental Toxicology. 3 Credits.

Environmental Toxicology is an exciting field involving the application of toxicological principles to environmental problems associated with chemical, biological and physical poisons. We begin this course by establishing an understanding of toxin classification (target organ and mechanism of action); uptake, distribution, storage and elimination of toxicants; detoxification, biotransformation and biomagnification; and dose-response relationships. We then use this foundation to discuss biological testing, health and risk assessment, pollutant impact on environmental compartments (air, water, and soil), and remediation. Ultimately, we will investigate the ecotoxicological effects of chemical and physical disease-causing agents on wildlife and human health at the molecular level (biochemical pathways of metabolism and detoxification); the organismal level (target organs, behavioral effects); and the ecosystem level (nutrient cycling and ecosystem services).

Prerequisites: Take BIO 102 or BIO 151, and CHE 211

Offered: As needed

ENV 329. Environmental Sociology.**3 Credits.**

Nature connectedness contributes to our overall quality of life by enhancing our physical and mental well-being. Research has shown that connecting with nature can lead to increased happiness as well as the development of pro-environmental attitudes and advocacy for environmental justice. This course will begin with a two-day guided forest bathing experience that is intended to foster a deeper appreciation for the healing powers of nature, the cycle of life in the natural world and your place within it. Building upon this foundation of connectedness, the remainder of this course will explore our historical detachment from the natural world and its implications for both the environment and our personal well-being. Together we will explore cultural values and priorities that drive human behavior as well as the symbiotic relationship with nature: how we affect it, and it in turn, affects us. We will end the semester by exploring the role of social activism in abating environmental degradation and we will engage in additional field work that is targeted to preserving the natural world here in Connecticut.

Prerequisites: Take ENV 101 or SO 101 or SO 225 or SO 244;

Offered: As needed

ENV 349. American Maritime History.**3 Credits.**

This course examines America's historic activities on the world's oceans, and on the bays, rivers and Great Lakes that are within its national boundaries. Students consider the economic, cultural, political and naval uses of these bodies of water from the 16th century to the present. Within this broad framework, this course considers how Americans used marine and freshwater environments to conduct trade, build communities, engage in war and diplomacy, use nature's bounty and participate in recreational activities. These themes illuminate the value Americans placed on maritime affairs, and provide insight into the American mariner's world, the American maritime community alongshore and the rippling effects of maritime activity throughout wider American society.

Prerequisites: Take one 200-level history course.

Offered: Every other year, All

ENV 350. Environmental Studies Practicum.**1-4 Credits.**

Environmental issues pose some of the greatest concerns facing our planet. Problems like global warming, acid rain, urban sprawl, air and water pollution, loss of biodiversity and deforestation affect all our communities. Students will study sustainability and environmental science/policy in the US or abroad, in an immersive experience where they will meet and learn from individuals from across the country and around the world. Students will explore humanity's complex relationship with the environment and will deepen their knowledge of distinct cultures and environmental issues while arming themselves with tools for tackling unique challenges in various environments.

Prerequisites: None

Offered: As needed

ENV 355. Environmental Law.**3 Credits.**

This course provides an overview of federal environmental law, the way law protects the natural environment and government policies created to protect or exploit the environment. In this class, we explore issues impacting the environment, and how the law can both benefit and disadvantage the environment. (Practice)

Prerequisites: Take ENV 101 LE 101

Offered: Every other year, Fall

ENV 356. International Environmental Law.**3 Credits.**

This course gives students an overview of the legal and political framework that constitutes international environmental law. We examine the characteristics of international law and distinguish it from domestic law, looking at the various actors and their roles in the system. Students become familiar with the key principles of international environmental law such as the precautionary principle, sovereignty and sustainable development. Issues examined include climate change, the oceans, and the relationship between trade and the environment. (Alternative Perspective)

Prerequisites: Take 6 credits from legal studies courses.

Offered: Every other year, Fall

ENV 390. Environmental Writing.**3 Credits.**

This course considers the rhetoric of environmental communication. How can we write to reach audiences both professional and public? Explaining scientific knowledge is tricky at the best of times, but environmental communication is now burdened by extraordinary political, social, and cultural complexities. You will develop your rhetorical sensitivity and linguistic facility by analyzing historical examples and practicing genres (both technical genres like the proposal and public facing ones like articles and essays).

Prerequisites: Take EN 101 and EN 102; or EN 103H.

Offered: As needed

ENV 396. Games, Learning & Society.**3 Credits.**

This course addresses the design, use, and assessment of serious and meaningful games in education. The class has both theoretical and applied components. Students will conduct literature reviews to understand current practice in a specific area of applied games, i.e. outcomes assessment, data collection, games for physical therapy, games for diabetes management, games to train surgeons, etc. and then produce a research paper on their area of focus. Students will then design, prototype, and test an applied game that addresses an actual societal need. Partnership with outside individuals and institutions is encouraged and supported.

Prerequisites: Take BIO 102 and CHE 111 or ENV 120

Offered: As needed

ENV 399. Interdisciplinary Independent Study.**1-6 Credits.**

Specific prerequisites vary depending on the focus of the course. The student is required to submit for approval an interdisciplinary independent study proposal describing the study that will be conducted; students may not self-register for this course and may take a total of 8 credits of interdisciplinary independent study.

Prerequisites: Specific prerequisites vary depending on the focus of the course.

Offered: As needed