

# 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.

Students majoring in Environmental Science must complete:

Code	Title	Credits
University Curriculum <sup>1</sup>		46
Modern Language Requirement		3-6
<b>Environmental Program Shared Core</b>		
ENV 101	Introduction to Environmental Studies	3
ENV 220 & 220L	Environmental Science and Environmental Science Lab	4
ENV 350	Environmental Studies Practicum	1-4
ENV 390	Environmental Writing	3
GP 240	Fundamentals of Geographic Information Systems	3
PL 226	Environmental Ethics	3
IDS 400	Transdisciplinary Project	3
Choose one course from the following:		3
ENV 222	Environmental Geography and Culture	
ENV 230	Sustainable Development	
<b>Cognate Courses <sup>2</sup></b>		
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
Choose one track: Biology or Chemistry		
<b>Biology or Chemistry Track (Take a minimum of 11 cr.) <sup>4</sup></b>		
BIO 225	Physiological Diversity	3
BIO 252	Ecology and Biodiversity	3

BIO 252L	Ecology and Biodiversity Laboratory	1
BIO 282 & 282L	Genetics and Genetics Lab	4
BIO 300	Special Topics	3-4
BIO 324	Vertebrate Zoology	3
BIO 324L	Vertebrate Zoology Lab	1
BIO 352 & 352L	Botany and Botany Lab	4
BIO 356	Aquatic Ecology	2
BIO 356L	Aquatic Ecology Lab	2
BIO 358 & 358L	Conservation Biology and Conservation Biology Lab	4
BIO 323 & 323L	Invertebrate Zoology and Invertebrate Zoology Lab	4
BIO 383	Evolution	3
BMS 325	Toxicology	3
BMS 370	General Microbiology	3
CHE 211 & 211L	Organic Chemistry II and Organic Chemistry II Lab	4
CHE 215 & 215L	Analytical Chemistry and Analytical Chemistry Lab	4
CHE 305 & 305L	Instrumental Analysis and Instrumental Analysis Lab	4
CHE 315 & 315L	Biochemistry I and Biochemistry I Lab	4
CHE 316	Biochemistry II	3
ENV 201	Lessons in Local and Global Sustainability	3
ENV 207	Coral Reef Diversity - An Immersive Approach	3
ENV 223	Plastics - Miracle Or Curse.	3
ENV 225	Water and Human Health	3
ENV 280	Environmental Issues Journal Club	1
ENV 312	Environmental Physiology	3
ENV 325	Environmental Toxicology	3
SCI 102	Earth Sciences	3
SCI 102L	Earth Sciences Lab	1
SCI 261	Natural Disasters	3
SCI 270	Environmental Geology	3
Electives <sup>3</sup>		6
Free Electives		5-12
<b>Total Credits</b>		<b>120</b>

1

All students must complete the 46 credits of the University Curriculum (<http://catalog.qu.edu/academics/university-curriculum/>).

2

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

3

Choose two courses from the areas of Economics, Government/Policy, Law; Culture, Geography, History, Society; or Engineering, Math, Science or Environment that do not fulfill another major requirement.

4

The Biology or Chemistry track should be selected in consultation with academic adviser and electives should be intentionally selected to build disciplinary expertise.

## 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 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 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

**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  
**UC:** Humanities
- 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 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 Views From Latin America.****3 Credits.****Prerequisites:** Take EN 102.**Offered:** As needed, Spring**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 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

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
<b>First Year</b>		
Milestones: Earn 30 credits, meet with your adviser at least once a semester and have a GPA of 2.00 or higher.		
<b>Fall Semester</b>		
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	3
FYS 101	First-Year Seminar	3
<b>Spring Semester</b>		
ENV 222	Environmental Geography and Culture	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	3
<b>Second Year</b>		
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.		
<b>Fall Semester</b>		
BIO 252	Ecology and Biodiversity	3
BIO 252L	Ecology and Biodiversity Laboratory	1
ENV 220 & 220L	Environmental Science and Environmental Science Lab	4
CHE 210 & 210L	Organic Chemistry I and Organic Chemistry I Lab	4
HS 282	Global Environmental History	3
<b>Spring Semester</b>		
GP 240	Fundamentals of Geographic Information Systems	3
PL 226	Environmental Ethics	3
CHE 211 & 211L	Organic Chemistry II and Organic Chemistry II Lab	4
AN 230	Sustainable Development	3

MA 275	Biostatistics	3
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**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 (track)	4
Science Elective with lab (track)	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
HS 220	American Environmental History	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	

<b>Total Credits</b>	<b>117-120</b>
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