

ENVIRONMENTAL STUDIES (BI-CO)

Department Website:

<https://www.haverford.edu/environmental-studies>

Now and over the coming decades, human societies face daunting environmental challenges. Energy consumption is expected to rise sharply while even present-day carbon emissions intensify global warming, threatening the finely balanced marine and terrestrial ecosystems upon which we rely for food, water and shelter. Global population pressure and sea-level rise, along with weather extremes, will create climate refugees and resource conflicts on an unprecedented scale. Responding to these cascading environmental, socioeconomic, and political challenges will require all the creativity, expertise and compassion we can muster, but neither scientific arguments nor social appeals have succeeded in mobilizing adequate action. We must find rational, holistic and ethically grounded ways to focus intellectual attention on the human-nature nexus. This is an essential endeavor of the field of Environmental Studies (ENVS).

Guided by a commitment to addressing challenges on multiple scales—by a holistic vision of humans in the environment, and by the particular problem at hand—ENVS scholars, educators and activists utilize a variety of methods and tools, which are represented in college curricula in many different ways. Students have the opportunity to pursue a Major in Environmental Studies through a curricular collaboration between Haverford and Bryn Mawr Colleges, or pursue a Minor in Environmental Studies to complement another major. The ENVS department is dedicated to preparing students who have the environmental expertise needed for the world they will inherit.

The Bi-College ENVS major combines the strengths of our two liberal arts campuses to create an interdisciplinary program that teaches students to synthesize diverse disciplinary knowledge and approaches, and to communicate effectively across disciplinary boundaries as they engage with environmental issues. In addressing these issues, ENVS students will apply critical thinking and analytical skills within a holistic, systems framework that includes social justice as an essential component.

The ENVS introductory course offers in-depth investigation of the theoretical and applied foundations of the study of the environment from all divisions. The major incorporates praxis community-based learning and core courses that examine

the theoretical and empirical approaches that the natural sciences, social sciences, arts and humanities bring to local and global environmental questions. In addition, ENVS majors pursue an individually selected area of environmental expertise, a focus area, in order to gain a depth of knowledge, and to develop a sense of their own agency in addressing what most concerns them. To support these learning goals, the ENVS program provides opportunities for independent and collaborative research, including co-curricular learning, via local, national and international internships and opportunities to study abroad.

Haverford, Bryn Mawr, and Swarthmore also offer an interdisciplinary Tri-College ENVS minor, involving departments and faculty on all three campuses from the natural sciences, engineering, mathematics, the humanities, and the arts. The Tri-Co ENVS minor brings together students and faculty to explore interactions among earth systems, human societies, and local and global environments.

Both the Bi-Co ENVS major and the Tri-Co ENVS minor cultivate in students the capacity to identify and confront key environmental issues through a blend of multiple disciplines, encompassing historical, cultural, economic, political, scientific, and ethical modes of inquiry.

To declare the ENVS major or minor, students should contact the Environmental Studies chair or advisor at their home campus.

Learning Goals

The Bi-Co Environmental Studies major is an interdisciplinary program that teaches students to synthesize diverse disciplinary knowledge and approaches, and to communicate effectively across disciplinary boundaries as they engage with environmental issues. Students graduating with the ENVS major are adept at applying diverse modes of analysis to solve problems across a wide array of interconnected social and environmental challenges.

Environmental Studies students apply critical thinking and analytical skills within a holistic, systems framework that includes the following specific goals:

- Cultivation of environmental literacies, and the ability to read, analyze, and create products from the environmental social sciences, natural sciences, and humanities
- Experience with praxis activities in the context of intellectual work, with particular emphasis on experience working with community groups in a socially just and participatory framework

- Development and refining of written and oral communication skills for a variety of academic and non-academic audiences
- Knowledge of, and the ability to articulate, the role of different divisions of intellectual inquiry in environmental issues
- An understanding of the diverse modes of environmental theory, and experience translating complex environmental data into actionable conclusions or revised theory.

Haverford's Institutional Learning Goals are available on the President's website, at <http://hav.to/learninggoals>.

Curriculum

There are two curricular pathways through Environmental Studies: the ENVS major and ENVS minor.

ENVS Major (Bi-Co)

The ENVS major curriculum is designed to maintain a balance between cultivating broad environmental literacies and developing a focused area of expertise with associated skills. This program includes core classes and a self-designed "focus area" that can be completed with coursework from Haverford, Bryn Mawr, and Swarthmore.

ENVS Minor (Tri-Co)

The ENVS minor curriculum is designed to complement any major at Haverford, Bryn Mawr or Swarthmore, pending approval of the student's coursework plan by the home department and the ENVS chair.

Up to date information about the Environmental Studies department's activities can be found at the departmental website.

Major Requirements

Students are required to take a minimum of 11 courses in the Environmental Studies major.

I. Core courses (6 credits)

Six required courses are in the core program, which consists of:

- ENVS H101 or ENVS B101 or ENVS S001: Case Studies in Environmental Issues
- ENVS H201 or ENVS B201: Laboratory in Environmental Sciences
- ENVS H202 or ENVS B202: Environment and Society
- ENVS H203 or ENVS B203: Environmental Humanities
- ENVS H204 or ENVS B204: Environmental Studies Praxis

- ENVS H397 or ENVS B397 or ENVS S091: Environmental Studies Senior Capstone (during the fall or spring semester of the senior year)

Students interested in pursuing an ENVS major are strongly encouraged to take ENVS 101 during their first year of study.

ENVS 101 and 397 are each offered two times per year: once at Haverford and once at Bryn Mawr, frequently in alternate semesters. Students are welcome to take these courses on either campus.

II. Electives and focus area (5 credits)

In addition to the core courses, ENVS majors must complete five electives. A wide variety of environmentally themed courses may serve as ENVS electives, including many courses offered by other departments and programs. Each student's set of elective courses must fulfill the following requirements:

- A minimum of one course must come from each of two broad divisional groups:
 - Natural sciences, mathematics, and engineering;
 - Social sciences, humanities, and arts.
- At least two elective courses must be taken at the 300-level or equivalent.
- At least three elective courses must articulate a coherent intellectual or thematic focus (a "focus area") that students develop in consultation with their ENVS advisor;

III. Focus area

The possibilities of a focus area are many. A student's focus area may be organized by a specific perspective on the study of the environment, a particular interdisciplinary focus, or even a geographic region. Focus areas are designated in consultation with an ENVS advisor. Early planning for the ENVS major allows students to begin satisfying prerequisites for advanced focus area courses.

Sample focus area topics include, but are not limited to: Environment and Society, Environmental Policy, Earth Systems, Environmental Modeling, Environmental Art and Technology, and Environment in East Asia.

Courses taken as ENVS major electives need not be prefixed with "ENVS" in the course catalog. Advanced courses with appropriate thematic content offered by any program, from Africana Studies, through Mathematics, to Visual Studies, may be counted.

Upon declaration of the ENVS major, the coursework plan must be approved by a major advisor on the student's home campus. Courses approved for the

Environmental Studies major at Swarthmore can be taken for the Bi-Co ENVS major or substituted for requirements contingent upon the major advisor's approval.

Courses taken while studying abroad or off-campus may be approved for the ENVS major by the major advisor in consultation with the Bi-Co ENVS Department faculty.

Senior Project

Students majoring in Environmental Studies will pursue their capstone experience in any one of a number of ways, centered within the one-semester ENVS H397 or ENVS B397 course. In this course, students will design and complete a project under the supervision of a faculty member that builds upon methods learned in the ENVS 200-level sequence and elaborated on during the Focus Area. In most cases, ENVS 397 will involve collaborating with one or more outside organizations or groups, and senior projects will be an individual project designed in concert with the faculty member and these organizations. For example, senior projects could include, but are not limited to, digital mapping and annotation of green space, the design and implementation of an environmental education curricular module, or an environmental art project. Students are strongly encouraged to consider possible senior project topics or techniques they would like to use prior to their senior year, and to be in dialogue with their faculty advisors about possible senior projects during the third year of study.

Senior Project Learning Goals

- **Collaboration with others, including students, faculty and staff, and outside partners**
Each senior is expected to hone the skills required to collaborate in an effective fashion throughout the course of the senior project. These skills are likely to include working effectively outside of the campus space.
- **Application of techniques and methods acquired during the major sequence**
The senior project is an opportunity for each student to demonstrate and apply the skills that are acquired during the ENVS major sequence, from research skills to communication skills. Students are expected to bring their unique strengths, approaches, and prior coursework to bear on the senior project.
- **Independent knowledge and responsibility**
Each senior is responsible for their share of the project, even if it is part of a larger, team-based, collaborative effort. Students will demonstrate responsibility in the design and implementation of the project, in conversation with the faculty

advisor and outside voices. Careful planning and consistent work effort are essential to completing a senior project.

- **Ethical practices for campus and community-oriented work**

Students will build upon the knowledge acquired during the ENVS 200-level sequence to collaborate with on- and off-campus partners in an ethical and responsible way. This includes practicing ethical scholarship, sharing work effectively, and collaborating.

- **Creativity in approaches to major questions**

Students will address the central topic of their senior project in creative and original ways. This should include some element of creative risk or ambition, which is encouraged and supervised by the ENVS faculty.

Senior Project Assessment

At the conclusion of a Senior Project, students will be expected to present their final project in an oral form to their peers and faculty from the ENVS department. In addition, each student will also be expected to submit a written form of the final project that documents their project and reflects on the experience. The faculty member supervising ENVS H397 will evaluate student work based on the quality and effort brought to bear during the project, and will assign a final numerical grade for the Senior Project. This faculty member may consult with other members of the ENVS department to provide feedback to individual students prior to Commencement.

Minor Requirements

The Tri-Co ENVS minor consists of six courses, including an introductory course. Students may complete the introductory course at any of the three campuses. The six required courses are:

- A required introductory course to be taken prior to the senior year. This may be ENVS H101 at Haverford or ENVS B101 at Bryn Mawr or the parallel course at Swarthmore (ENVS S001). Any one of these courses satisfies the requirement, and students may take no more than one such course for credit toward the minor.
- Four elective course credits from approved lists of core and cognate courses, including two credits in each of the following two categories. Students may use no more than one cognate course credit for each category. (See the ENVS website for course lists and more about core and cognate courses.) No more than one of these four course credits may be in the student's major.
 - **Environmental Science, Engineering, and Math:** courses that build understanding and knowledge of scientific methods and

theories, and explore how these can be applied in identifying and addressing environmental challenges. At least one of the courses in this category must have a laboratory component.

- **Environmental Social Sciences, Humanities, and Arts:** courses that build understanding and knowledge of social and political structures as well as ethical considerations, and how these inform our individual and collective responses to environmental challenges.
- An advanced elective in Environmental Studies (300-level, or its equivalent at Swarthmore) that can be from either category.

Haverford students interested in the ENVS minor should plan their course schedule with the ENVS Chair in consultation with their major advisor. In choosing electives, students should aim to include mostly intermediate or advanced courses.

Affiliated Programs

For information about faculty and courses in Environmental Studies at Swarthmore, visit the website of that program.

Concentrations and Interdisciplinary Minors

Environmental Studies contributes to the following concentrations and interdisciplinary minors:

- Health Studies
- Peace, Justice, and Human Rights
- Visual Studies

Study Abroad

The Bi-Co ENVS Department strongly encourages students to study abroad if it fits with their career plans. Students planning to major or minor in ENVS may receive course credit by participation in programs which offer environmental content, including but not limited to programs in Australia, Costa Rica, Denmark, Ecuador, Germany, Iceland, Scotland and South Africa.

Students may receive course credit for elective courses, at the equivalent of the 200 level or above, that contribute to the major's "focus area" or the four non-core classes in the ENVS minor. Students majoring in ENVS are required to take ENVS 101 and ENVS 397 at Haverford or Bryn Mawr, or the equivalent courses at Swarthmore and strongly recommended to take the four 200-level core courses within the Bi-Co.

Environmental Studies Faculty at Haverford

David Backus

Visiting Professor

Dylan Gauthier

Visiting Assistant Professor of Environmental Studies

Joshua Moses

Associate Professor of Anthropology and Environmental Studies

Helen White

The William H. and Johanna A. Harris Professor in Environmental Studies and Chemistry; Associate Provost for Curricular Development & Research; Professor of Chemistry and Environmental Studies

Jonathan Wilson

Professor of Environmental Studies

Talia Young

Visiting Assistant Professor of Environmental Studies

Environmental Studies Faculty at Bryn Mawr

Don Barber

Associate Professor of Environmental Studies and Geology, on the Harold Alderfer Chair in Environmental Studies; Interim Chair, Fall 2024

Sara Grossman

Associate Professor of Environmental Studies

Carol Hager

Professor of Environmental Studies and Political Science; Interim Chair, Spring 2025

Maira Hayat

Visiting Assistant Professor

Affiliated Faculty at Haverford

- **Craig Borowiak**, Political Science
- **Thomas Donahue**, Political Science
- **C. Stephen Finley**, English
- **Benjamin Le**, Psychology
- **Robert C. Scarrow**, Chemistry
- **Erin Schoneveld**, East Asian Languages and Cultures and Visual Studies
- **Kristen Whalen**, Biology

Affiliated Faculty at Bryn Mawr

- **Victor Donnay**, Mathematics
- **Jonas Goldsmith**, Chemistry
- **Yonglin Jiang**, East Asian Languages and Cultures

- **Shiamin Kwa**, East Asian Languages and Cultures
- **Gary McDonogh**, Growth & Structure of Cities
- **Tom Mozdzer**, Biology
- **Nathan Wright**, Sociology

Program Committee at Swarthmore

- **Hadjer Ahner**, Environmental Studies
- **Susan Barton**, Environmental Studies
- **Adrienne Benally**, Environmental Studies
- **Betsy Bolton**, English Literature
- **Shelley Costa**, Environmental Studies
- **Itzue Caviedes Solis**, Biology and Environmental Studies
- **Giovanna DiChiro**, Environmental Studies
- **Josh Ellow**, Environmental Studies
- **Carr Everbach**, Engineering and Environmental Studies
- **Chris Graves**, Chemistry, Biochemistry, and Environmental Studies
- **Christopher Green**, Art History
- **Rhonda Hilt**, Biology
- **Tyler Jacobs**, Psychology
- **Eric Jensen**, Physics and Astronomy
- **José-Luis Machado**, Biology
- **James Padilioni**, Religion and Environmental Studies
- **Jennifer Peck**, Economics and Environmental Studies
- **Jennifer Pfluger**, Environmental Studies and Biology
- **Mark Wallace**, Religion and Environmental Studies

Courses at Haverford

Anthropology Courses

ANTH H281 INTRODUCTION TO ENVIRONMENTAL ANTHROPOLOGY (1.0 Credit)

Joshua Moses

Division: Social Science

Domain(s): B: Analysis of the Social World

An introduction to the ideas and methods central to environmental anthropology. Topics covered will include political ecology, crises and uncertainty, indigeneity and community management.

(Offered: Fall 2024)

ANTH H342 SPECULATIVE ENVIRONMENTAL DESIGN (1.0 Credit)

Joshua Moses, Shayna Nickel

Division: Social Science

Domain(s): B: Analysis of the Social World

This experiential courses introduces students to a range of design thinking and practices in the context

of the planetary ecological crisis. Students will meet with local entrepreneurs, community activists and artists working at the nexus of entrepreneurship and complex socio-environmental challenges. Building on readings and experiences students will then develop their own projects to be presented at the end of the semester. Crosslisted: ENVS, ANTH. Pre-requisite(s): ENVS 101 (or the equivalent) and at least one 200 level social science or humanities course.

(Offered: Spring 2025)

Biology Courses

BIOL H456 ADVANCED TOPICS IN BIOLOGY OF MARINE LIFE (0.5 Credit)

Kristen Whalen

Division: Natural Science

Exploration of marine metazoan evolution through the lens of behavioral, morphological, biochemical, and physiological adaptations to various ocean regimes. Readings from primary literature will cover physio-chemical properties of seawater, abiotic/biotic organismal interactions, symbiosis, energy production, human impacts, and phylogenetic relationships. Crosslisted: Biology, Environmental Studies Prerequisite(s): BIOL H300 and BIOL H301 with a grade of 2.0 or above, or instructor consent

(Offered: Fall 2024)

English Courses

ENGL H305 THE PREMODERN LIFE OF TREES: INTERDISCIPLINARITY AND LITERARY STUDY OF THE PAST (1.0 Credit)

Danielle Allor

Division: Humanities

Domain(s): A: Meaning, Interpretation (Texts)

This course seeks to examine premodern literary representations of the natural world alongside historical, scientific, and experiential ways of understanding the environment. Our case study will be the figure of the tree. In collaboration with the Haverford College Arboretum, we will study literature from the premodern world that depicts trees, forests, and gardens while cultivating botanical, artistic, and historical knowledge about the trees of Haverford.

Pre-requisite(s): One English course or ENVS 101, 202, or 203 Lottery Preference: English majors

(Offered: Spring 2025)

Environmental Studies Courses

ENVS H101 CASE STUDIES IN ENVIRONMENTAL ISSUES: CONCEPTS, CONTEXTS, & CONUNDRUMS (1.0 Credit)

Don Barber, Talia Young

Domain(s): A: Meaning, Interpretation (Texts); B:

Analysis of the Social World; C: Physical and Natural Processes

The course offers a cross-disciplinary introduction to environmental studies. Tracing an arc from historical analysis to practical engagement, distinctive approaches to key categories of environmental inquiry are presented: political ecology, earth science, energy, economics, public health, ecological design, sustainability, policy, and environmental ethics. Basic concepts, such as thermodynamics, biodiversity, cost-benefit analysis, scale, modernization, enclosure, the commons, and situational ethics, are variously defined and employed within specific explorations of environmental challenges in the modern world. Prerequisite(s): Not open to students who have taken ENVS 101 at Bryn Mawr or Swarthmore
(Offered: Fall 2024)

ENVS H203 ENVIRONMENTAL HUMANITIES: STORIES OF JUSTICE AND INJUSTICE (1.0 Credit)

Dylan Gauthier

Division: Humanities

Domain(s): A: Meaning, Interpretation (Texts)
Bringing the traditional focus of the humanities—questions of meaning, value, ethics, justice and the politics of knowledge production—into environmental domains calls for a radical reworking of a great deal of what we think we know about ourselves and our fields of inquiry. Inhabiting the difficult space of simultaneous critique and action, this course will re-imagine the proper questions and approaches of the humanities, asking how our accumulated knowledge and practice might be refashioned to meet current environmental challenges, to productively rethink ‘the human’ in more than human terms. In order to resituate the human within the environment, and to resituate nonhumans within cultural and ethical domains, we will draw on a range of texts and films, and engage in a range of critical and creative practices of our own. Pre-requisite ENVS B101 or ENVS H101 or instructor's permission.
(Offered: Spring 2025)

ENVS H204 PLACE, PEOPLE AND COLLABORATIVE RESEARCH IN ENVIRONMENTAL STUDIES (1.0 Credit)

Jonathan Wilson

Division: Social Science

Domain(s): A: Meaning, Interpretation (Texts); B: Analysis of the Social World

This course focuses on the ethics and practice of community collaboration and community based research in the context of environmental challenges. Students will gain grounding in both theory and practice incorporating themes related to race, class, gender and environmental justice. Students will complete 4-5 hours of fieldwork per week.

Prerequisite(s): ENVS 101 and at least one of ENVS 201, 202, 203 or instructor's permission.

ENVS H207 ART, ECOLOGY, ACTIVISM: AESTHETICS & RESISTANCE IN THE CLIMATE CRISIS (1.0 Credit)

Dylan Gauthier

Division: Humanities

Domain(s): B: Analysis of the Social World

This course explores art and activism by contemporary visual, sound, and performance artists in response to the climate crisis. Drawing on precedents from Land Art and eco-art to intersectional feminism, anti-colonialism to Indigenous sovereignty, and grassroots organizing and mutual aid to public science, students will engage with forms of cultural and political resistance that challenge prevailing narratives of capitalism, colonialism, corporatism, and extractive industries, and create platforms for recalibrating social, political, economic, and ecological values. Pre-requisite(s): ENVS 101

(Offered: Fall 2024, Spring 2025)

ENVS H281 INTRODUCTION TO ENVIRONMENTAL ANTHROPOLOGY (1.0 Credit)

Joshua Moses

Division: Social Science

Domain(s): B: Analysis of the Social World

An introduction to the ideas and methods central to environmental anthropology. Topics covered will include political ecology, crises and uncertainty, indigeneity and community management.
(Offered: Fall 2024)

ENVS H328 BOTANY (1.0 Credit)

Jonathan Wilson

Division: Natural Science

Domain(s): C: Physical and Natural Processes

This course is a multidisciplinary approach to the biology of plants through their development, physiology, anatomy, and growth and their consequent effects on human society. Course topics include plant biology, anatomy, diversity, morphology, physiology, and ecology, followed by case studies of plants, from cacao to apples. Pre-requisite(s): ENVS 101 and ENVS 201 or ENVS 101 and 200-level ENVS, GEO, BIO or ENVS 101 and permission of instructor. Lottery Preference: Senior ENVS majors, junior ENVS majors, senior ENVS minors, junior ENVS minors, then seniors, followed by juniors, followed by all other students. If this course is tied to a 360 or study tour, that section will be closed to further enrollment.
(Offered: Fall 2024)

ENVS H342 SPECULATIVE ENVIRONMENTAL DESIGN (1.0 Credit)*Joshua Moses, Shayna Nickel***Division:** Social Science**Domain(s):** B: Analysis of the Social World

This experiential course introduces students to a range of design thinking and practices in the context of the planetary ecological crisis. Students will meet with local entrepreneurs, community activists and artists working at the nexus of entrepreneurship and complex socio-environmental challenges. Building on readings and experiences students will then develop their own projects to be presented at the end of the semester. Crosslisted: ENVS, ANTH. Pre-requisite(s): ENVS 101 (or the equivalent) and at least one 200 level social science or humanities course.

(Offered: Spring 2025)**ENVS H397 SENIOR SEMINAR IN ENVIRONMENTAL STUDIES (1.0 Credit)***Jonathan Wilson, Talia Young***Domain(s):** A: Meaning, Interpretation (Texts); B: Analysis of the Social World; C: Physical and Natural Processes

This capstone Environmental Studies course is designed to allow Environmental Studies seniors to actively engage in environmental problem solving by bringing the perspectives and skills gained from their majors and applying them to collaborative, interdisciplinary projects. Enrollment Preference(s): Limited to seniors

(Offered: Fall 2024, Spring 2025)**ENVS H456 ADVANCED TOPICS IN BIOLOGY OF MARINE LIFE (0.5 Credit)***Kristen Whalen***Division:** Natural Science

Exploration of marine metazoan evolution through the lens of behavioral, morphological, biochemical, and physiological adaptations to various ocean regimes. Readings from primary literature will cover physio-chemical properties of seawater, abiotic/biotic organismal interactions, symbiosis, energy production, human impacts, and phylogenetic relationships. Crosslisted: Biology, Environmental Studies Prerequisite(s): BIOL H300 and BIOL H301 with a grade of 2.0 or above, or instructor consent

(Offered: Fall 2024)**ENVS H480 INDEPENDENT STUDY (1.0,0.50 Credits)***Dylan Gauthier, Talia Young***(Offered:** Spring 2025, Spring 2025)**ENVS H480 INDEPENDENT STUDY (1.0,0.50 Credits)***Dylan Gauthier, Talia Young***(Offered:** Spring 2025, Spring 2025)**Health Studies Courses****HLTH H215 SACRIFICE ZONES: EMPIRES, EPIDEMICS, AND CLIMATE CHANGES (1.0 Credit)***Lauren Minsky***Division:** Social Science**Domain(s):** B: Analysis of the Social World

Global health environments have been shaped by human activities of imperialism and globalization since antiquity. Explore the relationships between intensive agriculture and the cultivation of disease; trade and disease spread; industrial capitalism, metabolic disorders and cancers; and differential racial, gendered and class entitlements and life expectancy. Participate in debates over how to address humanity's current existential crisis, and learn about alternative approaches to "healing" global health environments that can be recycled from our global past. Pre-requisite(s): Intro to Health Studies (HLTH H115/HLTH B115) or permission of instructor. Lottery Preference: (1) Declared Health Studies minors, (2) Environmental Studies and/or History majors/minors

(Offered: Fall 2024)**HLTH H219 BREATHING TOGETHER: AIR, CAPITALISM, AND HEALTH (1.0 Credit)***Anna West***Division:** Social Science**Domain(s):** B: Analysis of the Social World

This course explores the history of public health approaches to the properties, pathogenic potential, and politics of shared air. We ask what it means to breathe together—as humans in a global economic system—at multiple scales, from interpersonal to institutional, industrial, and imperial. Topics include miasma, tuberculosis, industrial pollution, occupational health and gendered labor, household fuels, secondhand smoke, incinerators, megacities. Texts are drawn from history, public health, science and technology studies, geography, and anthropology. Pre-requisite(s): HLTH H/B115, a health-related writing seminar, or at least one course in the humanities or social sciences Lottery Preference: In descending order: 1. declared Health Studies minors 2. Sophomores 3. Anthropology majors and minors 4. Environmental Studies majors and minors

HLTH H318 TRADITIONAL MEDICINE: HISTORIES AND ETHNOGRAPHIES (1.0 Credit)*Lauren Minsky***Division:** Social Science**Domain(s):** B: Analysis of the Social World

What is "traditional medicine" and why is it simultaneously revered, reviled and suppressed?

How does traditional medicine relate to “antique” senses and sensibilities of an enchanted cosmos, seasonality and stewardship? How have people translated and transformed traditional medicine for a “modern” world? Does traditional medicine have relevance for the climate crisis and billionaires’ efforts to conjure transhumanism? Readings include TCM; Kampo; Talmudic Medicine; Ayurveda; Unani-tibb; Homeopathy; Sufi, Saint and Goddess cults; Yoga; and Nature Cure. Pre-requisite(s): HLTH 115, or any course in History, Anthropology or Religion, or permission of the instructor Lottery Preference: (1) Declared Health Studies seniors; (2) Declared Health Studies juniors; (3) History, Anthropology, Environmental studies, or Religion majors; (4) Everyone else.

(Offered: Fall 2024)

Visual Studies Courses

VIST H305 ART AND THE ENVIRONMENT IN EAST ASIA (1.0 Credit)

Erin Schoneveld

Division: Humanities

Domain(s): A: Meaning, Interpretation (Texts); B: Analysis of the Social World

This course examines the relationship between environment and the arts in China and Japan. In particular, how artists engage with and respond to nature through varied modes of artistic production and exhibition. Crosslisted: East Asian Languages & Cultures, Environmental Studies, Visual Studies

Writing Program Courses

WRPR H112 GLOBAL SOLIDARITY AND LOCAL ACTIONS: INTERDEPENDENCE, SOCIAL CHANGE, AND HAVERFORD (1.0 Credit)

Eric Hartman

Division: First Year Writing

This course embraces global interdependence while considering how individual identities relate to appropriate local civic actions. Participants review ideas and methods relevant for co-creating more just, inclusive, sustainable communities, advancing inquiry in dialogue with community-based partners of Haverford College.

Courses at Bryn Mawr

Anthropology Courses

ANTH B254 ANTHROPOLOGY AND SOCIAL SCIENCE RESEARCH METHODS (1.0 Credit)

Melissa Pashigian

Division: Humanities

This course is designed for students interested in learning ethnographic and qualitative social science methods, and how to analyze qualitative results. Through hands on fieldwork, students will learn and practice ethnographic field methods,

for example, observation, participant observation, interviewing, use of visual media and drawing, life stories, generating and analyzing data, and ways to productively transform qualitative data into contextual information. Ethics in ethnographic research will be a central theme, as will envisioning and designing projects that protect human subjects. The purpose of this course is to provide anthropology majors and students in social sciences, humanities, as well as STEM majors with interests in multi-method research, an opportunity to learn methods in advance of their thesis proposal and research, Hanna Holborn Gray summer research, and other social science independent research opportunities during their undergraduate experience, and post-graduation.

Biology Courses

BIOL B220 ECOLOGY (1.0 Credit)

Thomas Mozdzer

Division: Natural Science

A study of the interactions between organisms and their environments. The scientific underpinnings of current environmental issues, with regard to human impacts, are also discussed. Students will also become familiar with ecological principles and with the methods ecologists use. Students will apply these principles through the design and implementation of experiments both in the laboratory and the field. Lecture three hours a week, laboratory/field investigation three hours a week. There will be optional field trips throughout the semester. Prerequisite: One semester of BIOL B110 or B111 or permission of instructor.

(Offered: Fall 2024)

BIOL B225 BIOLOGY AND ECOLOGY OF PLANTS (1.0 Credit)

Plants are critical to numerous contemporary issues, such as ecological sustainability, economic stability, and human health. Students will examine the fundamentals of how plants are structured, how they function, how they interact with other organisms, and how they respond to environmental stimuli. In addition, students will be taught to identify important local species, and will explore the role of plants in human society and ecological systems. One semester of BIOL 110/111.

BIOL B255 MICROBIOLOGY (1.0 Credit)

Monica Chander

Division: Natural Science

Domain(s): C: Physical and Natural Processes

Invisible to the naked eye, microbes occupy every niche on the planet. This course will examine how microbes have become successful colonizers; review aspects of interactions between microbes, humans and the environment; and explore practical uses of

microbes in industry, medicine and environmental management. The course will combine lecture, discussion of primary literature and student presentations. Three hours of lecture and three hours of laboratory per week. Prerequisites: BIOL 110 and CHEM B104.

(Offered: Spring 2025)

BIOL B262 URBAN ECOSYSTEMS (1.0 Credit)

Staff

Division: Natural Science

Cities can be considered ecosystems whose functions are highly influenced by human activity. This course will address many of the living and non-living components of urban ecosystems, as well as their unique processes. Using an approach focused on case studies, the course will explore the ecological and environmental problems that arise from urbanization, and also examine solutions that have been attempted. Prerequisite: BIOL B110 or B111 or ENVS B101.

BIOL B323 COASTAL AND MARINE ECOLOGY (1.0 Credit)

Thomas Mozdzer

An interdisciplinary course exploring the ecological, biogeochemical, and physical aspects of coastal and marine ecosystems. We will compare intertidal habitats in both temperate and tropical environments, with a specific emphasis on global change impacts on coastal systems (e.g. sea level rise, warming, and species shifts). Lecture three hours, laboratory three hours per week. In 2020 the course will have a mandatory field trip to a tropical marine field station and an overnight field trip to a temperate field station in the mid-Atlantic. Prerequisite: BIOL B220 or BIOL B225.

Growth and Structure of Cities Courses

CITY B201 INTRODUCTION TO GIS FOR SOCIAL AND ENVIRONMENTAL ANALYSIS (1.0 Credit)

Dirk Kinsey

Domain(s): B: Analysis of the Social World; C: Physical and Natural Processes

This course is designed to introduce the foundations of GIS with emphasis on applications for social and environmental analysis. It deals with basic principles of GIS and its use in spatial analysis and information management. Ultimately, students will design and carry out research projects on topics of their own choosing. Prerequisite: At least sophomore standing and Quantitative Readiness are required (i.e. the quantitative readiness assessment or Quan B001).

(Offered: Fall 2024, Spring 2025)

Economics Courses

ECON B225 ECONOMIC DEVELOPMENT (1.0 Credit)

Daniela Monge

Division: Social Science

Domain(s): B: Analysis of the Social World

Examination of the issues related to and the policies designed to promote economic development in the developing economies of Africa, Asia, Latin America, and the Middle East. Focus is on why some developing economies grow faster than others and why some growth paths are more equitable, poverty reducing, and environmentally sustainable than others. Includes consideration of the impact of international trade and investment policy, macroeconomic policies (exchange rate, monetary and fiscal policy) and sector policies (industry, agriculture, education, population, and environment) on development outcomes in a wide range of political and institutional contexts. Prerequisite: ECON B105.

(Offered: Fall 2024)

English Courses

ENGL B293 ANIMAL, VEGETABLE, MINERAL: MEDIEVAL ECOLOGIES (1.0 Credit)

Jamie Taylor

This course explores relationships between natural, non-human, and human agents in the Middle Ages. Reading natural philosophy, vernacular literature, and theological treatises, we examine how the Middle Ages understood supposedly "modern" environmental concepts like climate change, sustainability, animal rights, and protected land.

Environmental Studies Courses

ENVS B101 INTRODUCTION TO ENVIRONMENTAL STUDIES (1.0 Credit)

Don Barber

Domain(s): A: Meaning, Interpretation (Texts); B: Analysis of the Social World; C: Physical and Natural Processes

The course offers a cross-disciplinary introduction to environmental studies. Tracing an arc from historical analysis to practical engagement, distinctive approaches to key categories of environmental inquiry are presented: political ecology, earth science, energy, economics, public health, ecological design, sustainability, public policy, and environmental ethics. Basic concepts, such as thermodynamics, biodiversity, cost-benefit analysis, scale, modernization, enclosure, the commons, and situational ethics, are variously defined and employed within specific explorations of environmental challenges in the modern world. No divisional credit is awarded for this course at

Haverford nor does the course satisfy any of the Bryn Mawr approaches to inquiry.
(Offered: Spring 2025)

ENVS B202 ENVIRONMENT AND SOCIETY (1.0 Credit)

Division: Social Science

Domain(s): B: Analysis of the Social World

An exploration of the ways in which different cultural, economic, and political settings have shaped issue emergence and policy making. We examine the politics of particular environmental issues in selected countries and regions, paying special attention to the impact of environmental movements. We also assess the prospects for international cooperation in addressing global environmental problems such as climate change.

(Offered: Fall 2024, Spring 2025)

ENVS B203 ENVIRONMENTAL HUMANITIES: ENVIRONMENTAL FUTURES WRITING WORKSHOP. (1.0 Credit)

Sara Grossman

Division: Humanities

Domain(s): A: Meaning, Interpretation (Texts)

Bringing the traditional focus of the humanities—questions of meaning, value, ethics, justice and the politics of knowledge production—into environmental domains calls for a radical reworking of a great deal of what we think we know about ourselves and our fields of inquiry. Inhabiting the difficult space of simultaneous critique and action, this course will re-imagine the proper questions and approaches of the humanities, asking how our accumulated knowledge and practice might be refashioned to meet current environmental challenges, to productively rethink ‘the human’ in more than human terms. In order to resituate the human within the environment, and to resituate nonhumans within cultural and ethical domains, we will draw on a range of texts and films, and engage in a range of critical and creative practices of our own. Critical Interpretation (CI); Cross-Cultural Analysis (CC). Writing in the major/Intensive. Prerequisite: ENVS H101 or B101. (hard check prerequisite). Enrollment cap: 18. Lottery Preference(s): Senior ENVS majors, Junior ENVS majors, Sophomores, first-year students. Minors and non-majors by instructor's permission.

ENVS B204 PLACE, PEOPLE AND PRAXIS IN ENVIRONMENTAL STUDIES (1.0 Credit)

Dylan Gauthier, Sara Grossman

Division: Social Science

Domain(s): A: Meaning, Interpretation (Texts); B: Analysis of the Social World

This course offers a cross-disciplinary introduction to community-based learning. Working with local community groups, students will learn

the fundamental skills of praxis work applied to environmental issues within an inquiry-based framework. Pre-requisite: ENVS B101 or ENVS H101 and (ENVS B202, H202, B203, or H203) or instructor's permission.

(Offered: Fall 2024)

ENVS B350 ADVANCED TOPICS IN ENVIRONMENTAL STUDIES (1.0 Credit)

Carol Hager, Don Barber

This is a topics course. Course content varies.

(Offered: Fall 2024, Spring 2025)

ENVS B397 SENIOR SEMINAR IN ENVIRONMENTAL STUDIES (1.0 Credit)

Don Barber

This capstone Environmental Studies course is designed to allow Environmental Studies seniors to actively engage in environmental problem solving. Students bring the perspectives and skills gained from their ENVS focus area and from their preparatory work in the major/minor to collaborate on interdisciplinary projects

Geology Courses

GEOL B101 HOW THE EARTH WORKS (1.0 Credit)

Arlo Weil, Katherine Marenco

Division: Natural Science

Domain(s): C: Physical and Natural Processes

An introduction to the study of planet Earth—the materials of which it is made, the forces that shape its surface and interior, the relationship of geological processes to people, and the application of geological knowledge to the search for useful materials. Laboratory and fieldwork focus on learning the tools for geological investigations and applying them to the local area and selected areas around the world. Three lectures and one afternoon of laboratory or fieldwork a week. One required one-day field trip on a weekend.

(Offered: Fall 2024)

GEOL B203 BIOSPHERE THROUGH TIME (1.0 Credit)

Katherine Marenco, Pedro Marenco

Division: Natural Science

We will explore how the Earth-life system has evolved through time by studying the interactions between life, climate, and tectonic processes. During the lab component of the course, we will study important fossil groups to better understand their paleoecology and roles in the Earth-life system. Prerequisite: GEOL B101, GEOL B108, or GEOL B209.

(Offered: Fall 2024)

GEOL B206 ENERGY RESOURCES AND SUSTAINABILITY (1.0 Credit)*Don Barber***Division:** Natural Science**Domain(s):** C: Physical and Natural Processes

An examination of issues concerning the supply of energy required by humanity. This includes an investigation of the geological framework that determines resource availability, aspects of energy production and resource development and the science of global climate change. Two 90-minute lectures a week. Suggested preparation: one year of college science.

(Offered: Fall 2024)**GEOL B209 NATURAL HAZARDS (1.0 Credit)***Katherine Marenco***Division:** Natural Science; Quantitative**Domain(s):** C: Physical and Natural Processes

A quantitative approach to understanding Earth processes that impact human societies. We will examine earthquakes, volcanic eruptions, landslides, storms, and floods and explore the risks that they pose to communities. Course emphases include the fundamental physical principles and processes that govern natural hazards, approaches to mitigating the effects of natural disasters and responding in their aftermath, and examples of natural disasters from the recent and historical past. Lecture three hours a week.

(Offered: Spring 2025)**GEOL B302 LOW-TEMPERATURE GEOCHEMISTRY (1.0 Credit)***Pedro Marenco***Division:** Natural Science

Stable isotope geochemistry is one of the most important subfields of the Earth sciences for understanding environmental and climatic change. In this course, we will explore stable isotopic fundamentals and applications including important case studies from the recent and deep time dealing with important biotic events in the fossil record and major climate changes. Prerequisites: GEOL B101 or GEOL B108, and at least one semester of chemistry or physics, or permission of instructor.

(Offered: Spring 2025)**History Courses****HIST B212 PIRATES, TRAVELERS, AND NATURAL HISTORIANS: 1492-1750 (1.0 Credit)***Ignacio Gallup-Diaz***Division:** Social Science

In the early modern period, conquistadors, missionaries, travelers, pirates, and natural historians wrote interesting texts in which they tried to integrate the New World into their existing frameworks of knowledge. This intellectual endeavor

was an adjunct to the physical conquest of American space, and provides a framework through which we will explore the processes of imperial competition, state formation, and indigenous and African resistance to colonialism.

Philosophy Courses**PHIL B240 ENVIRONMENTAL ETHICS (1.0 Credit)****Division:** Humanities

This course surveys rights- and justice-based justifications for ethical positions on the environment. It examines approaches such as stewardship, intrinsic value, land ethic, deep ecology, ecofeminism, Asian and aboriginal. It explores issues such as obligations to future generations, to nonhumans and to the biosphere.

Political Science Courses**POLS B310 COMPARATIVE PUBLIC POLICY (1.0 Credit)***Carol Hager***Division:** Social Science

A comparison of policy processes and outcomes across space and time. Focusing on particular issues such as health care, domestic security, water and land use, we identify institutional, historical, and cultural factors that shape policies. We also examine the growing importance of international-level policy making and the interplay between international and domestic pressures on policy makers. Writing attentive. Prerequisite: One course in Political Science or public policy.

POLS B339 BUREAUCRACY & DEMOCRACY IN AMERICA (1.0 Credit)*Marissa Golden***Division:** Social Science**Domain(s):** B: Analysis of the Social World

This course is an upper-level seminar designed primarily for juniors and seniors who want to spend the Semester reading about and discussing the role of the federal bureaucracy in the U.S. political system. Topics will include the history of the federal bureaucracy, the bureaucratic policymaking process & administrative law, the roles of expertise and politics in agency decision-making, the competition among the three constitutional branches to "control" the bureaucracy, and the normative goals of competence, responsiveness and representativeness. Discussion of current events - including the federal government's response to COVID and the role of race in public administration - will be a central part of the seminar. Attention will also be paid - and assignments oriented towards - preparing students for the Senior Experience.

Courses at Swarthmore

Visit the Tri-College Course Guide to view the list of courses at Swarthmore this year: <https://trico.haverford.edu>