ENVIRONMENTAL STUDIES (TRI-CO)
haverford.edu/environmental-studies

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

The Tri-Co ES Minor cultivates 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. Acknowledging the reciprocal dimensions of materiality and culture in the historical formations of environments, this program is broadly framed by a series of interlocking dialogues: between the “natural” and the “built,” the local and the global, and the human and the nonhuman.

To declare the minor, students should contact the Environmental Studies director at their home campus.

LEARNING GOALS
• Students will be able to identify and confront key environmental issues through a blend of multiple disciplines, including historical, cultural, economic, political, scientific and ethical modes of inquiry.
• Students will develop good communication skills with particular aptitude for dialogue across and between multiple disciplines.
• Students will collaborate on interdisciplinary group projects that relate to environmental issues and that reflect creativity and tangible research design and inquiry.

CURRICULUM
Students may complete an ES Minor in conjunction with any major at Haverford, Bryn Mawr or Swarthmore, pending approval of the student’s coursework plan by the home department and the home-campus ES director.

MINOR REQUIREMENTS
The Tri-Co ES Minor consists of six courses, including an introductory course and capstone course. Students may complete the courses at any of the three campuses (or any combination thereof). The six required courses are:
• A required introductory course to be taken prior to the senior year. This may be ENVS 101 at Haverford or Bryn Mawr or the parallel course at Swarthmore (ENVS 001). 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 ES website for course lists and more about core and cognate courses.) For Haverford students, no more than one of these four course credits may be in the student’s major.
  o 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.
  o 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.
• A senior seminar (case-based), with culminating work that reflects tangible research design and inquiry, but might materialize in any number of project forms. Haverford and Bryn Mawr’s ENVS 397 (Senior Seminar in Environmental Studies) and Swarthmore’s ENVS 091 (Environmental Studies Capstone Seminar) satisfy the requirement.

Haverford students interested in the ES Minor should plan their course schedule with the
Haverford Director of Environmental Studies in consultation with their major advisor. In choosing electives, we encourage students to reach beyond their major, and to include mostly intermediate or advanced courses.

**AFFILIATED PROGRAMS**
For information about faculty and courses in Environmental Studies at Bryn Mawr and Swarthmore, visit the websites of those programs.

**CONCENTRATIONS AND INTERDISCIPLINARY MINORS**
Environmental Studies contributes to the following concentrations and interdisciplinary minors at Haverford:
- Health Studies
- Peace, Justice, and Human Rights
- Visual Studies

**STUDY ABROAD**
Students are encouraged to study abroad and receive ES credit by participation in programs in Australia, Denmark, Ecuador, Germany, Ireland, Scotland and South Africa. Other study abroad programs can receive ES credit by arrangement with the ES Director.

**FACULTY AT HAVERFORD**

**Joshua Moses**
Assistant Professor of Anthropology and Environmental Studies

**Helen White**
Associate Professor of Chemistry and Environmental Studies

**Jonathan Wilson**
Assistant Professor of Biology and Environmental Studies, Environmental Studies Director at Haverford

**Affiliated Faculty at Haverford:**

**Kimberly Benston**
President of the College and Francis B. Gummere Professor of English

**Craig Borowiak**
Associate Professor of Political Science

**C. Stephen Finley**
Professor of English

**Andrew Friedman**
Associate Professor of History

**Darren Hayton**
Associate Professor of History

**Benjamin Le**
Professor of Psychology

**Robert Scarre**
Professor of Chemistry

**Erin Shoneveld**
Assistant Professor of East Asian Languages & Cultures

**FACULTY AT BRYN MAWR**

**Don Barber**
Associate Professor of Geology on the Harold Alderfer Chair in Environmental Studies; Co-Director of Environmental Studies at Bryn Mawr

**Victor Donnay**
Professor of Mathematics on the William R. Kenan, Jr. Chair; Co-Director of Environmental Studies at Bryn Mawr

**Affiliated Faculty at Bryn Mawr:**

**Jody Cohen**
Term Professor in the Bryn Mawr/Haverford Education Program

**Selby Cull-Hearth (on leave Spring 2018)**
Assistant Professor of Geology

**Robert Dostal**
Rufus M. Jones Professor and Chair of Philosophy

**Jonas Goldsmith**
Associate Professor of Chemistry

**Karen Greif**
Professor of Biology

**Carol Hager**
Professor of Political Science on the Clowes Professorship in Science and Public Policy and Director of the Center for Social Sciences

**Yonglin Jiang**
Co-Chair and Associate Professor of East Asian Studies
ENVIROMENTAL STUDIES (TRI-CO)

Gary McDonogh  
Helen Herrmann Chair and Professor of Growth and Structure of Cities

Pedro Marenco  
Associate Professor of Geology

Tom Mozdzer  
Assistant Professor of Biology

Kalala Ngalamulume  
Associate Professor of Africana Studies and History, Co-Director of International Studies and Co-Director of Health Studies

Sydne Record  
Assistant Professor of Biology

Michael Rock  
Samuel and Etta Wexler Professor of Economic History

David Ross  
Associate Professor of Economics

Nathan Wright  
Associate Professor of Sociology

FACULTY AT SWARTHMORE  

Giovanna DiChiro  
Environmental Studies

Christopher Graves  
Chemistry and Environmental Studies

Gustavo Oliveira  
Environmental Studies

Jennifer Peck  
Economics and Environmental Studies

Jennifer Pfluger  
Environmental Studies

Affiliated Faculty at Swarthmore:  

Elizabeth Bolton  
English Literature

Timothy Burke  
History

Erich Carr Everbach  
Engineering

ENVIRONMENTAL STUDIES

ENVS H101 CASE STUDIES IN ENVIRONMENTAL ISSUES: CONCEPTS, CONTEXTS, & CONUNDRUMS  
Jonathan Wilson, Helen White  
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. No divisional credit will be awarded for this course. (Offered every Fall; ENVS B101 offered Fall 2017 at Bryn Mawr by Don Barber)

ENVS H118 PLANTS AND PEOPLE  
Jonathan Wilson  
Natural Science (NA)  
A multidisciplinary approach to the co-evolution and co-domestication of plants and humans. Topics will include the biology, physiology, evolution, and cultivation of key plants, embedded within their social history and
environmental effects. Intended for non-majors and meets in parallel with BIOL 318. Crosslisted: Biology, Environmental Studies (Offered Spring 2018)

**ENVS H206 INTRODUCTION TO PERMACULTURE**  
_Rafter Ferguson_  
Social Science (SO)  
An introduction to permaculture, a design system aimed at meeting human needs while increasing ecosystem health, with attention to ethics, principles, design process, and techniques for application across a wide range of contexts. Crosslisted: Environmental Studies, Independent College Programs; Prerequisite(s): Sophomore standing (at time taking course), or instructor consent. (Offered Fall 2017)

**ENVS H230 POSTWAR JAPANESE CINEMA**  
_Erin Schoneveld_  
Humanities (HU)  
This course provides an introduction to Japanese cinema from the immediate Postwar period of 1945 to the present day. Focusing on films by influential directors including Ozu YasujirÅ, Kurosawa Akira, and Mizoguchi Kenji among others we will consider how Japanese filmmakers use cinema to investigate issues of truth, beauty, identity, and nationhood in an attempt to answer fundamental questions regarding life and death in Japan’s Postwar period. Crosslisted: East Asian Languages & Cultures, Environmental Studies, Visual Studies (Offered Spring 2018)

**ENVS H263 CARBON FARMING**  
_Rafter Ferguson_  
Social Science (SO)  
An exploration of the range of carbon-sequestering agriculture practices and their potential to provide solutions to a range of social and environmental problems from climate justice to land degradation. Crosslisted: Environmental Studies, Independent College Programs; Prerequisite(s): One course in Environmental Studies or one course in Natural Science, or instructor consent. (Offered Spring 2018)

**ENVS H281 NATURE/ CULTURE: AN INTRODUCTION TO ENVIRONMENTAL ANTHROPOLOGY**  
_Joshua Moses_  
Social Science (SO)  
This course will introduce students to the emerging field of environmental anthropology that focuses on the interrelationship between human cultures and natural environments. Environmental anthropology studies the various ways in which our biological survival and our social structures are influenced by environmental factors around us, while at the same time analyzing how our actions shape these environmental factors in turn. The course will engage with some of the key themes of the major sub-disciplines of environmental anthropology, viz. ecological anthropology, ethnoecology, political ecology, environmental justice, and sustainability studies. Topics covered will include human adaptation, traditional environmental knowledge, food justice, race/class and access to safe environment, etc. Prerequisite(s): ANTH 103 or ENVS 101 or instructor consent. (Offered Fall 2017)

**ENVS H305 ART AND THE ENVIRONMENT IN EAST ASIA**  
_Erin Schoneveld_  
Humanities (HU)  
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 (Offered Fall 2017)

**ENVS H309 PLACE, PEOPLE, AND COLLABORATIVE RESEARCH IN THE URBAN ENVIRONMENT**  
_Joshua Moses_  
Social Science (SO)  
This transdisciplinary course focuses on anthropology’s contributions (and potential contributions) to engaging critical environmental issues in urban settings. Collaborative environmental work with urban communities is inherently interdisciplinary, drawing on anthropology, urban planning, public health, ecology, and geography. Through a study of Philadelphia’s current struggles to redefine itself as a green city, students will gain grounding in anthropological theory and practice and urban ecology. Themes will include the intersections of race, class, and gender; environmental justice; urban farming/gardening; brownfields; grassroots organizing; action research; and ideas of place, home and nature. The course will focus on the ethics and practice of community
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collaboration and community-based research in environmental work in urban settings. It will require significant time working with a community group in Philadelphia. Crosslisted: Anthropology, Environmental Studies

Prerequisite(s): Students will be selected based on instructor evaluation of written applications. To access the application: pre-register for the course, view your class schedule in the Student Center in Bionic (Main Menu > Self-Service > Student Center > Class Schedule), and click on the URL icon (Offered Spring 2018)

ENVS H311 GREEN LATIN AMERICA: CULTURE AND THE ENVIRONMENT
Graciela Michelotti
Humanities (HU)
An ecocritical approach to the study of the Latin American human and non-human environment, and the cultural practices that address this interdependence in the context of its economic, political and social realities. This course is conducted in Spanish. Crosslisted: Spanish, Comparative Literature, Environmental Studies; Prerequisite(s): 200-level course or consent of instructor. (Offered Fall 2017)

ENVS H316 BIOCHEMICAL ADAPTATIONS
Kristen Whalen
Natural Science (NA)
This course will cover the diversity of physiological mechanisms and biochemical strategies that help organisms, from microbes to mammals, adapt to various environmental conditions. Emphasis put on biochemical evolution in response to changing environmental conditions. Crosslisted: Biology, Environmental Studies; Prerequisite(s): BIOL H200A and B with a grade of 2.0 or above or instructor consent. (Offered Fall 2017)

ENVS H318 ECONOMIC BOTANY
Jonathan Wilson
Natural Science (NA)
A multidisciplinary approach to the coevolution and co-domestication of plants and humans. Topics will include the biology, physiology, evolution, and cultivation of key plants, embedded within their social history and environmental effects, and explored at an advanced level. Meets in parallel with BIOL 118. Crosslisted: Biology, Environmental Studies; Prerequisite(s): 200-level course in anthropology, biology, chemistry, or geology or ENVS 101 and instructor consent. (Offered Spring 2018)

ENVS H356 ADVANCED TOPICS IN BIOLOGY OF MARINE LIFE
Kristen Whalen
Natural Science (NA)
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 H300A and B with a grade of 2.0 or above or instructor consent. (Offered Fall 2017)

ENVS H358 TOPICS IN ENVIRONMENTAL CHEMISTRY
Staff
Natural Science (NA)
Three lectures for one-half semester (one-half course credit). This course will examine chemical processes that occur in natural waters, soils and the atmosphere. Specific topics will be chosen with input from enrolled students, who will be expected to share in discussion leadership. CHEM 358 may be repeated once for credit as long as the topical themes differ. Crosslisted: Chemistry, Environmental Studies; Prerequisite(s): CHEM 304 or equivalent, or instructor consent. (Not offered 2017-18)

ENVS H397 SENIOR SEMINAR IN ENVIRONMENTAL STUDIES
Joshua Moses
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. (Offered every year; ENVS B397 offered Spring 2018 at Bryn Mawr by Don Barber)

ANTH H112 THE ANTHROPOLOGY OF ARCHITECTURE
Jacob Culbertson
Social Science (SO)
A survey of anthropological approaches to architecture, with a particular interest in how architecture expresses senses of place. Readings will cover indigenous and vernacular architecture,
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the modernist movement, ecological design, and forms of housing. (Offered Fall 2017)

ANTH H217 METHODS IN DESIGN ANTHROPOLOGY
Jacob Culbertson
Social Science (SO)
An introduction to research methods in Design Anthropology. Readings are drawn from Anthropology, Design, and Science and Technology Studies (STS), and the course will introduce fundamental concepts and methods in STS. Each student will conduct ethnographic research into a design practice of their choice. Prerequisite(s): An introductory course in anthropology, sociology, or art history, or instructor consent. (Offered Fall 2017)

ANTH H302 OIL, CULTURE, POWER
Zainab Saleh
Social Science (SO)
This course will examine the political, social, and cultural history of oil. As the single most important commodity in the world, the story of control over this highly prized resource is a complex and violent one. It will discuss the ways in which oil has defined the fates of empires and nation-states, the rise and fall of local political movements, violence, neoliberal governmentality, and knowledge production. Prerequisite(s): One 100-level course in anthropology, political science, sociology, or history, or instructor consent. (Offered occasionally)

ENGL H356 STUDIES IN AMERICAN ENVIRONMENT AND PLACE
C. Stephen Finley
Humanities (HU)
Texts mostly 19th and 20th-c. American, but beginning earlier, with colonial New England; then Thoreau, Maclean, Snyder, Dillard, Least Heat Moon, Ammons, Mary Oliver, E. O. Wilson. Topics: cultural production of landscape (rural and urban), environmental history, place studies, landscape painting, ecology. Prerequisite(s): Two 200-level HU courses or instructor consent. (Typically offered every other year)

HIST H237 GEOGRAPHIES OF WITCHCRAFT AND THE OCCULT IN EARLY MODERN EUROPE
Darin Hayton
Social Science (SO)
Rather than dismiss witchcraft and the occult sciences as irrational beliefs, this course