Environmental Studies

Directors of undergraduate studies: Michael Fotos (michael.fotos@yale.edu) for B.A. students, Kealoha Freidenburg (kealoha.freidenburg@yale.edu) for B.S. students; www.yale.edu/evst

Environmental Studies offers the opportunity to examine human relations with their environments from diverse perspectives. The major encourages interdisciplinary study in (1) social sciences, including anthropology, political science, law, economics, and ethics; (2) humanities, to include history, literature, religion, and the arts; and (3) natural sciences, such as biology, ecology, human health, geology, and chemistry. Students work with faculty advisers and the directors of undergraduate studies (DUS) to concentrate on some of the most pressing environmental and sustainability problems of our time: energy and climate change, food and agriculture, urbanism, biodiversity and conservation, human health, sustainable natural resource management, justice, markets, and governance.

Students may pursue either a B.A. or a B.S. degree within Environmental Studies. The B.A. program is intended for students who wish to concentrate in the social sciences and humanities. The B.S. program encourages students to focus in the natural sciences, especially fields such as environmental health and medicine, ecology, and energy and climate change. Both degree programs culminate in a senior essay project that is commonly preceded by independent summer research.

Students must declare a major in Environmental Studies before the end of the second term of junior year.

PREREQUISITES

The B.A. degree program has no prerequisites.

The B.S. degree program has prerequisites in mathematics, chemistry, life sciences, and natural science laboratory or field science. The prerequisites include a term course in mathematics, physics, or statistics selected from MATH 112 or higher (excluding MATH 190), or PHYS 170 or higher, or S&DS 101 or higher; the two-term lecture sequence in chemistry or, for students qualifying for advanced placement in chemistry, one term of CHEM 170 or CHEM 167 or higher; the two-credit BIOL sequence BIOL 101, 102, 103 and 104, or EPS 125; and a natural science laboratory or field course focusing on research and analytic methods.

Students are advised to take chemistry and biology during the first year before enrolling in the EVST core courses in the natural sciences. It is recommended that students complete the prerequisites by the end of their sophomore year, although this is not required.

REQUIREMENTS OF THE MAJOR

B.A. degree program The B.A. degree requires at least fourteen course credits, consisting of the core requirements, the concentration, and the senior requirement.
**B.S. degree program** In addition to the prerequisites, the B.S. degree requires at least twelve course credits, consisting of the core requirements, the concentration, and the two-term senior requirement.

**B.A. core courses** One course in statistics or mathematics selected from S&DS 101 or higher, or MATH 112 or higher; two core courses in the social sciences or humanities and three core courses in the natural sciences. Students may select core courses from among the list of approved core courses posted on the environmental studies website or by searching Yale Course Search (YC EVST: Core BA Natural Scie and YC EVST: Core Human/Social Scie). Completing one course in each core area is recommended before the end of the sophomore year.

**B.S. core courses** Two core courses in the humanities or social sciences and two natural science core courses from among the list of approved core courses posted on the environmental studies website or by searching Yale Course Search (YC EVST: Core BA Natural Scie and YC EVST: Core Human/Social Scie). Completing one course in each area is recommended before the end of the sophomore year.

**Areas of concentration** Students plan their concentration in consultation with the DUS and the student’s adviser. A concentration is defined as six courses that provide analytical depth in a particular environmental problem or issue of interest, as well as disciplinary expertise. For the B.A. degree, one of these six courses must be an advanced seminar (200 level or higher) that exposes students to primary literature, extensive writing requirements, and experience with research methods. For the B.S. degree, two of the six courses must provide interdisciplinary context to the concentration and three of the six courses must have the science (SC) distributional designation. Of the three SC-designated concentration courses in the B.S. degree program, at least two must have departmental numerical ratings of 125 or higher. Concentrations include biodiversity and conservation, climate change and energy, environmental humanities, environmental justice, environmental policy, food and agriculture, human health and environment, sustainability and natural resources, and urban environments. Students also have the opportunity to design a unique concentration within the major, in consultation with the DUS.

**Credit/D/Fail** No course taken Credit/D/Fail may be counted toward the major, including prerequisites.

**Roadmap** See visual roadmap of the requirements.

**SENIOR REQUIREMENT**

In the junior year, students consult with their advisers on the design of their senior essay project.

**B.A. degree program** For the B.A. degree, students most often complete one term of EVST 496, a colloquium in which they write their senior essay. Students writing the one-term essay must also complete an additional advanced seminar in the environment. The additional advanced seminar is in addition to the six-course concentration requirement. Two-term senior research projects require the permission of the DUS.

**B.S. degree program** For the B.S. degree, students complete two terms of EVST 496.
ADVISING

Summer Environmental Fellowship During the spring term, EVST majors may apply for the Summer Environmental Fellowship to gain experience in the field through research or internships in an area pertinent to their academic development or their senior essay project. Sophomores and juniors may arrange internships with nonprofit organizations, government agencies, or corporations. Rising seniors typically focus on research for their senior essay. Although the summer program is optional, many students take advantage of this opportunity with some financial support from the program.

REQUIREMENTS OF THE MAJOR

Prerequisites B.A. – no prerequisites; B.S. – one statistics, math, or physics course from MATH 112 or higher (excluding MATH 190), or PHYS 170 or higher, or S&DS 101 or higher; two-term lecture sequence in chemistry, or CHEM 170 or 167 or higher; BIOL 101, 102, 103 and 104, or EPS 125; and one natural science lab or field course focusing on research and analytical methods

Number of courses B.A. – at least 14 course credits, including the senior req; B.S. – at least 12 course credits, beyond prereqs and incl the senior req

Specific courses required B.A. – 6 core courses, as specified; B.S. – 2 core courses in humanities and social sciences and 2 core courses in natural sciences, as specified

Distribution of courses B.A. – 6 courses in area of concentration, including 1 adv seminar as specified; B.S. – 6 courses in area of concentration, 3 of which must have SC designation with 2 of the 3 numerically rated at 125 or higher, and 2 must provide interdisciplinary context as specified

Senior requirement B.A. – one term senior essay and an adv seminar in the environment or, with petition to the DUS before the end of the junior year, a two-term research project; B.S. – two-term research project

Environmental Studies offers an interdisciplinary approach to the complex relationships between humans and the natural and built environment. The Environmental Studies curriculum includes the natural and social sciences, as well as the humanities. Earth and life sciences provide the means to observe and assess environmental change. Social sciences such as anthropology, political science, and economics enable students to examine how human societies shape environments, and the ways that environmental factors influence communities, governments, and social institutions. The humanities – including history, literature, ethics, religion, and the fine arts – allow students to consider the origins and influence of human values and practices, and the ways that nature has been perceived, depicted, and incorporated into culture.

Environmental Studies students may elect to pursue either a B.A. or a B.S. degree. The B.A. program is intended for those students interested in an interdisciplinary exploration of environmental issues. The B.S. program is designed for students who want to pursue training in interdisciplinary environmental science. Both programs require students to identify a thematic concentration defined as six courses that provide
analytical depth in a particular environmental problem or issue of interest, as well as disciplinary expertise.

Common concentrations within the major include: biodiversity and conservation, climate change and energy, environmental humanities, environmental justice, environmental policy, food and agriculture, human health and environment, sustainability and natural resources, and urban environments. Students can also work with the director of undergraduate studies (DUS) to design their own unique concentration.

Environmental Studies is particularly rewarding for students with a passion for environmental issues who wish to study environmental problems and solutions in an interdisciplinary manner. Students frequently undertake research and internships during the summer with support from the Summer Environmental Fellowship.

Environmental Studies majors also conduct substantial independent research, which culminates in a rewarding senior essay. Students considering the Environmental Studies major should complete the science prerequisites as early as possible in their Yale career, ideally before the end of the sophomore year. For more detailed information about Environmental Studies prerequisites, as well as requirements for both the B.A. and B.S. degrees, please see the Environmental Studies website.

First-year students interested in the major are encouraged to consult with the DUS or the Environmental Studies Program Manager to learn more about the major.

FACULTY ASSOCIATED WITH THE PROGRAM OF ENVIRONMENTAL STUDIES

Professors
Mark Ashton (School of the Environment), Michelle Bell (School of the Environment), Gaboury Benoit (School of the Environment), Graeme Berlyn (School of the Environment), Ned Blackhawk (History and American Studies), Mark Bradford (School of the Environment), Derek Briggs (Earth and Planetary Sciences), Gary Brudvig (Chemistry, Molecular Biophysics & Biochemistry), Ingrid Burke (School of the Environment), Susan Clark (School of the Environment, Adjunct), Deborah Coen (History), Michael Donoghue (Ecology & Evolutionary Biology, School of the Environment), Michael Dove (School of the Environment, Anthropology), Robert Dubrow (School of Public Health), Anna Dyson (Architecture, School of Environment), Keller Easterling (Architecture), Menachem Elimelech (Chemical & Environmental Engineering), Daniel Esty (School of the Environment, Law School), Eduardo Fernandez-Duque (School of the Environment), Walter Jetz (Ecology and Evolutionary Biology, School of the Environment), Ben Kiernan (History), Matthew Kotchen (School of the Environment, Economics), Douglas Kysar (Law School), William Lauenroth (School of the Environment), Xuhui Lee (School of the Environment), Robert Mendelsohn (School of the Environment, Economics), Alan Mikhail (History), Jeffrey Park (Earth and Planetary Sciences), Peter Perdue (History), Stephen Pitti (History, American Studies), Alan Plattus (Architecture), David Post (Ecology & Evolutionary Biology), Jeffrey Powell (Ecology & Evolutionary Biology, School of the Environment), Daniel Prober (Physics, Physics & Electrical Engineering), Peter Raymond (School of the Environment), Paul Sabin (History), James Saiers (School of the Environment), Oswald Schmitz (School of the Environment, Ecology & Evolutionary Biology), James Scott (Political Science, Anthropology), Karen Seto (School of the Environment), Kalyanakrishnan Sivaramakrishnan (Anthropology,
Environmental Studies

School of the Environment), David Skelly (School of the Environment, Ecology & Evolutionary Biology), Stephen Stearns (Ecology & Evolutionary Biology), Peter Swenson (Political Science, Institution for Social and Policy Studies), Dorceta Taylor (School of the Environment), Charles Tomlin (School of the Environment) (Visiting), Gerald Torres (School of the Environment, Law), Paul Turner (Ecology & Evolutionary Biology), John Wargo (School of the Environment), John Warner (History of Medicine, American Studies, History), Michael Warner (English, American Studies), Harvey Weiss (Near Eastern Languages & Civilizations, Anthropology), Robert Wyman (Molecular, Cellular, & Developmental Biology), Carl Zimmer (Molecular Biophysics and Biochemistry, Adjunct)

Julie Zimmerman (Chemical & Environmental Engineering)

Associate Professors Laura Barraclough (American Studies), Craig Brodersen (School of the Environment), Marian Chertow (School of the Environment), Kenneth Gillingham (School of the Environment, Economics, School of Management), Jennifer Raab (History of Art), Elihu Rubin (Architecture), Carla Staver (Ecology and Evolutionary Biology), David Vasseur (Ecology & Evolutionary Biology)

Assistant Professors Anjelica Gonzalez (Biomedical Engineering), Krystal Pollitt (Engineering and Applied Science), William Rankin (History, History of Science)

Senior Lecturers Shimon Anisfeld, Carol Carpenter, Amity Doolittle, John Grim, Mary Evelyn Tucker, Marta Wells

Lecturers Alan Burdick, Ian Cheney, Mary Beth Decker, Marlyse Duguid, Michael Fotos, Kealoha Freidenburg, Gordon Geballe, Robert Klee, Linda Puth, Catherine Skinner

View Courses