FORESTRY AND ENVIRONMENTAL STUDIES

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The School of Forestry & Environmental Studies is primarily a graduate and professional program designed to train leaders to solve worldwide environmental problems and to provide new understanding of local and global environments through interdisciplinary research in the natural and social sciences. The School offers numerous courses to undergraduates in Environmental Studies, and undergraduates from any major can take courses in the School. Those undergraduates with significant interest should contact the School’s undergraduate program adviser to discuss a joint degree program that allows Yale College students to earn both a bachelor’s degree from Yale College and an M.E.M. degree from the School of Forestry & Environmental Studies in five years. For more information on the joint program, see the School’s Web site (http://environment.yale.edu/academics/degrees/five-year). Most graduate-level courses are open to qualified undergraduates. Listings and detailed descriptions of these courses are available in the bulletin of the School of Forestry & Environmental Studies (http://www.yale.edu/printer/bulletin/htmlfiles/forestry), and most also appear in the online bulletin of the Graduate School of Arts and Sciences (http://www.yale.edu/printer/bulletin/htmlfiles/grad).

Information about the programs of the School of Forestry & Environmental Studies may be found on the School’s Web site (http://environment.yale.edu). Most lectures and symposia are open to undergraduates.

Courses

* **F&ES 020a / EVST 020a, Sustainable Development in Haiti**  Gordon Geballe
  The principles and practice of sustainable development explored in the context of Haiti’s rich history and culture, as well as its current environmental and economic impoverishment. Enrollment limited to freshmen. Preregistration required; see under Freshman Seminar Program.  WR

* **F&ES 261a / EVST 261a / G&G 261a, Minerals and Human Health**  Ruth Blake
  Study of the interrelationships between Earth materials and processes and personal and public health. The transposition from the environment of the chemical elements essential for life. After one year of college-level chemistry or with permission of instructor; G&G 110 recommended.  SC

* **F&ES 290b / EVST 290b, Geographic Information Systems**  Charles Tomlin
  A practical introduction to the nature and use of geographic information systems (GIS) in environmental science and management. Applied techniques for the acquisition, creation, storage, management, visualization, animation, transformation, analysis, and synthesis of cartographic data in digital form.  SC

**F&ES 315a / E&EB 115a, Conservation Biology**  Linda Puth and Jeffrey Powell
  An introduction to ecological and evolutionary principles underpinning efforts to conserve Earth’s biodiversity. Efforts to halt the rapid increase in disappearance of both plants and animals. Discussion of sociological and economic issues.  SC

**F&ES 327a / ENVE 327a / G&G 327a, Atmospheric Chemistry**  Nadine Unger
  The chemical and physical processes that determine the composition of the atmosphere; implications for climate, ecosystems, and human welfare. Origin of the atmosphere; photolysis and reaction kinetics; atmospheric transport of trace species; stratospheric ozone chemistry; tropospheric hydrocarbon chemistry; oxidizing power, nitrogen, oxygen, sulfur, and carbon cycles; interactions between chemistry, climate, and biosphere; aerosols, smog, and acid rain. Prerequisites: CHEM 161, 165, or 167 (or CHEM 115 or 118), and MATH 120, or equivalents. ENAS 194 recommended.  QR, SC

* **F&ES 344b / EVST 344b, Aquatic Chemistry**  Gaboury Benoit
  A detailed examination of the principles governing chemical reactions in water. Emphasis on developing the ability to predict the aqueous chemistry of natural, engineered, and perturbed systems based on a knowledge of their biogeochemical setting. Calculation of quantitative solutions to chemical equilibria. Focus on inorganic chemistry. Topics include elementary thermodynamics, acid-base equilibria, alkalinity, speciation, solubility, mineral stability, redox chemistry, and surface complexation reactions.  SC

* **F&ES 384a / ANTH 382a / EVST 345a, Environmental Anthropology**  Michael Dove
  History of the anthropological study of the environment: nature-culture dichotomy, ecology and social organization, methodological debates, politics of the environment, and knowing the environment.  SO