

Environmental Sciences Major Snapshot

College of Natural Resources

The College of Natural Resources (CNR) and the College of Letters and Science (L&S) jointly offer the undergraduate, interdisciplinary major in Environmental Sciences. Environmental Sciences prepares students to deal with issues arising from the impact of human activities on natural systems. To address these problems, all ES students acquire strong backgrounds in biological and physical sciences, and math and can choose to specialize further in a biological or physical science field such as ecology, toxicology, geology, hydrology, meteorology, geography, engineering, or a social science field such as policy analysis, economics or environmental justice. Each ES major completes a year-long senior research project with the support of a mentor in a biological, physical, or interdisciplinary research area.

The Environmental Sciences Advisor is Susan Kishi. Contact her with any questions you may have at 510-643-9479, kishi@nature.berkeley.edu, or in person at 260 Mulford Hall. The College of Natural Resources' Co-Director for ES is Professor Steve Welter. He can be reached at welters@nature.berkeley.edu, 510-642-7171. General questions about the College of Natural Resources should be directed to the CNR Office of Instruction and Student Affairs in 260 Mulford Hall, 510-642-0542.

Research Opportunities ♦ Career Options ♦ Medical School ♦ Health Professions

In addition to the required senior thesis research project, ES 196A/196B/96L, there are many research opportunities for ES students at UC Berkeley. They vary widely, from student initiated research to faculty initiated research and from formal projects to informal projects. To start gathering information about research opportunities go to the Berkeley campus web site, <http://research.berkeley.edu>, sponsored by the Office of Undergraduate Research, 301 Campbell Hall, or talk to your ES advisor. CNR students can apply for CNR Sponsored Projects for Undergraduate Research (SPUR) and Undergraduate Research Apprenticeship Program (URAP).

Given the broad nature of the Environmental Sciences degree, our graduates are prepared for career options, ranging from environmental consulting, management, law, planning, or research. The ES major also provides an excellent foundation for graduate or professional degrees in the biological, physical and social sciences, health professions (including medicine), law, or business. Employers generally appreciate students who have the ability to design and carry out inquiries and projects, and produce effective reports – which all ES majors experiences as part of their senior research project.

For more detailed information on key skills developed in the ES major, or on career pathways open to our graduates, please consult the ES Career Snapshot handout or download a copy from the CNR web site at <http://nature.berkeley.edu/site/resources.php>.

Also check out our pre-med/ES requirements comparison chart at http://environmentalsciences.berkeley.edu/new_students/premed.html to see how closely the requirements in each ES match the prerequisites for medical school.

Getting a Degree

The information on this snapshot is a guide to the degree requirements. See the ES advisor, Susan Kishi, or the ES website, <http://environmentalsciences.berkeley.edu> for details. Major requirements are summarized on the back of this guide. To earn a Bachelor of Science degree from UC Berkeley in Environmental Sciences, students must complete Unit and GPA requirements, University and Campus requirements, College requirements, and major requirements in the College of Natural Resources. Because ES is offered by both the Colleges of Natural Resources and Letters and Science, all ES students must satisfy the L&S Essential Skills and Seven Course Breadth requirements. (Requirements may change so please contact the ES Advisor for the most recent information.) Note: Students completing the ES major in the College of Natural Resources earn a Bachelor of Science degree; students in the College of Letter & Science earn a Bachelor of Arts degree.

Unit and GPA Requirements

All students must complete a minimum of 120 units to graduate; 36 of these must be upper division, 30 of the upper division units must be Environmental Sciences units. Students must maintain a 2.0 cumulative GPA, a 2.0 GPA in their ES major requirements, and not receive a grade below C- in their major requirements (lower and upper division courses).

University and Campus Requirements

- Subject A
 American History and Institutions
 American Culture

College Requirements

Essential Skills

- Reading and Composition
 Quantitative Reasoning
 Foreign Language

Seven-Course Breadth of Knowledge (one course from each of the following categories):

- Arts and Literature
 Historical Studies
 Philosophy and Values
 Biological Science
 International Studies
 Social and Behavioral Sciences
 Physical Science

Major Requirements

Environmental Sciences majors choose one of three concentrations: Biological, Physical, or Social Sciences. Students should choose a concentration based on their intended research area. All courses **must** be taken for a letter grade.

Lower Division Requirements

	Biological Science Concentration	Physical Science Concentration	Social Science Concentration
Biology Courses	Biology 1A/L-1B	Biology 1A/L-1B <i>or</i> Biology 11/L plus one of: IB 153, 154; ESPM 102A, 111, 113, 114, 115B, 116A, or 116B	Biology 1A/L-1B <i>or</i> Biology 11/L plus one of: IB 153, 154; ESPM 102A, 111, 113, 114, 115B, 116A, 116B
Chemistry Courses	Chemistry 1A-3A/L	Chemistry 1A-3A/L	Chemistry 1A-3A/L <i>or</i> 1A-1B
Math Courses	Math 1A-1B <i>or</i> 16A-16B	Math 1A-1B	Math 1A-1B <i>or</i> 16A-16B
Physics Courses	Physics 8A	Physics 7A-7B	Physics 8A
Other Courses	<ul style="list-style-type: none"> • Environmental Sciences 10 <i>and</i> • Environmental Economics and Policy C1/ Economics C3 		

Upper Division Requirements (1 course each for a total of minimum 30 upper division units)

Statistics	Stat 131A, Pb Hlth 142 or 141, <i>or</i> EPS C120/ERG C130
Intro to Methods and Problems	ES 100 (spring only)
Environmental Modeling	ERG 102 <i>or</i> ESPM C104/EEP C115 (both options spring only)
Human Environment Interactions	EEP C101/Econ C125, EEP C101, 153; ES 125; ESPM 100, 102D, 155, 160AC/Hist 120AC, 163AC/Soc 128AC, 165, 168; Geog 130
Elective in the Area of Concentration	See http://environmentalsciences.berkeley.edu/udelectives.html
Additional ES Elective	See http://environmentalsciences.berkeley.edu/udelectives.html
Senior Research Seminar (first half)	ES 196A (fall only) and ES 196L
Senior Research Seminar (second half)	ES 196B (spring only) and ES 196L