Environmental and Resource Sciences

Preparatory Subject Matter .......... 46-52

- Biological Sciences 2A, 10, or 10V..... 4-5
- Chemistry 2A, 10, or 10V........... 5
- Plant Science 121, or Science & Society 18............. 3
- Economics 1A, 1B......................... 8
- Animal Science 1, Atmospheric Science 60, Biological Sciences 100, Environmental Science & Management 100, Geology 1 or 134, Plant Sciences 12, or Wildlife, Fish, & Conservation Biology 11............... 3-5
- Environmental Science & Policy 14............. 4
- Mathematics 1A-168, 17A-178, or 21A-218........... 6-8
- Physics 1A, 1B, 1C.......................... 6
- Political Science 1......................... 3-4
- Statistics 13 or 32......................... 3-4

Satisfaction of General Education requirement.

Depth Subject Matter .......... 47-51

[Students must take these units on a letter grade basis, and must obtain an overall grade point average of 2.00 or higher in the Depth Subject Matter courses.]

- Environmental Science & Policy 110, 160, 168A, 168B.................... 17
- Environmental Science & Policy 161............. 4
- Environmental Science & Policy 178............. 4
- Environmental Science & Policy 179............. 4
- Agricultural & Resource Economics 100A or Economics 100..................... 4
- Select one course from: Agricultural & Resource Economics 176, 176A, 176B, Economics 125, Environmental Science & Policy 175..................... 4
- Applied Biological Systems Technology 150 or Environmental Science & Policy 179L ..................... 2-4
- Select one course from: Applied Biological Systems Technology 181N, 182, or Environmental Science & Management 185 or 186..................... 4-5

Areas of Specialization

(choose one)......................... 12-17

Students must select courses in the Areas of Specialization that have not been taken in the Depth Subject Matter.

City & Regional Planning

Environmental Science & Policy 171 and 172..................... 8
- Select one course from: Civil & Environmental Engineering 162, 165 or Environmental Science & Management 100, 121, 127..................... 3-4
- Select one course from: Art History 168, Community & Regional Development 149, 152, 156, or 171, Environmental Toxicology 110, Environmental Science & Policy 173 or Political Science 100..................... 2-5

Climate Change Policy

Environmental Science & Policy 165N ........ 3
- Select one course from: Agriculture & Resource Economics 176, Economics 125, Environmental Science & Policy 163, or 171..................... 2-4

Conservation Management

Select two courses from: Environmental Science & Policy 100, 169, 176, or 178, 179, 180, or 190..................... 6-8
- Select one course from: Environmental Science & Policy 100, 121, or 127, Evolution & Ecology 115, 138, or Wildlife, Fish, & Conservation Biology 154 or 153..................... 3-5


Energy & Transportation Planning

Economics 125, Engineering 106, or Environmental Science & Policy 175..................... 3-4
- Select two courses from: Civil & Environmental Engineering 162, 165, Environmental Science & Policy 163, 167, or 172..................... 7-8
- Select one course from: Atmospheric Science & Policy 116, Civil & Environmental Engineering 123, 143, Engineering 160, Environmental Science & Management 131, or Geology 130..................... 3-4

Environmental Policy & Politics

Select one course from: Political Science 100, 104, 105, 107, or 109..................... 4
- Select one course from: Political Science 162, 164, 165, or 170..................... 4
- Select one course from: Civil & Environmental Engineering 165, Environmental Science & Policy 165N, 166N, 167, 169, 170, 171, 172..................... 3-4
- Select one course from: Agricultural & Resource Economics 106, 176, Civil & Environmental Engineering 153, Economics 130, or Environmental Science & Policy 175..................... 4

Integrative Policy

Students choosing this individualized track must consult with a faculty adviser to identify an area of emphasis within this track and to select four upper division courses with a common theme. Possible areas of emphasis are marine policy, pollutants in the environment, planning in the presence of environmental hazards, sustainable development, and environmental and natural resource economics. If you are considering this track, please contact the major adviser as soon as possible.

Water Management

Select two courses from: Environmental Science & Policy 166N, 169, or Hydrologic Science 150..................... 6
- Select two courses from: Environmental Science & Management 100, 121, 127, 131, 133, 138, or 152, or Environmental Science & Policy 116N, Science & Society 25 or 25V..................... 6-8

Total Units for the Degree ............ 108-128

Major Adviser, J. Sanchirico (Environmental Science and Policy)

Minor Program Requirements:

The faculty for environmental policy analysis and planning offers the following minor. The Environmental Policy Analysis minor is for natural and social science students desiring basic training in policy analysis theory and methods.

UNITS

Environmental Policy Analysis .......... 23-25

Preparation: Economics 1A, basic course in political science, or Environmental Science & Policy 1..................... 4
- Select one course from: Economics 125, Environmental Science & Policy 160, 161, 168A, 168B, 169, 171, 172, or 179..................... 6-8

Environmental and Resource Sciences

[College of Agricultural and Environmental Sciences]

This major was discontinued as of Fall 2008; see Environmental Science and Management, on page 298.

Environmental Science and Management

[College of Agricultural and Environmental Sciences]

The Major Program

The Environmental Science and Management (ESM) major is designed for students who are interested in solving environmental problems from an interdisciplinary perspective linking the natural and social sciences. Students who choose this major will study the interaction of physical, biological, and social components of environmental problems. Students completing the program will understand the scientific basis for environmental decision making and the legal, economic, and political issues involved in management of the environment.

The Program.

Courses in biology, chemistry, physics, economics, geology, and calculus form the lower-division preparatory foundation of the curriculum. These are then tied together with Environmental Science and Policy 1, “Environmental Analysis,” which provides an inter-disciplinary analysis of several environmental problems. The upper-division core consists of foundation courses in physical, biological, and social sciences, as well as applied courses in environmental monitoring, GIS, impact reporting, and statistical analysis. In their junior year, students must choose a specialized track from the following six options:

(a) Ecology, Biodiversity, and Conservation
(b) Natural Resource Management
(c) Climate Change and Air Quality
(d) Geospatial Information Science
(e) Watershed Science
(f) Soils and Biogeochemistry

A capstone course is required for all seniors and serves to integrate the science, policy, management, and biology aspects of the ESM major. All students gain practical experience through field courses and a required internship. Selected students may also pursue an honors thesis in their senior year.

The ESM major is jointly administered by the Departments of Environmental Science and Policy (ESP) and Land, Air and Water Resources (LAWR). Any student in good standing is eligible to transfer to the major, to do so, please see the student affairs offices in 2134 Wickson Hall or in 1150 Plant and Environmental Sciences Building.

Careers.

Graduates from this program are prepared to pursue careers as practicing environmental scientists, resource analysts and planners working for public agencies and private firms specializing in environmental quality, natural resources or ecological research. The major is also an excellent preparation for graduate or professional training in physical and/or biological environmental science graduate programs, as well as in environmental law, administration and environmental policy.

Quarter Offered: II-Fall, II-Winter, III-Spring, IV-Summer, 2015-2016 offering in parentheses.

Pre-Fall 2011 General Education (GE): Arts & Humanities; Science & Engineering; Social Sciences; Domestic Diversity; Writing Experience

Fall 2011 and on Revised General Education (GE): AH-Arts & Humanities; SE-Science and Engineering; SS-Social Sciences; ACHM-American Cultures, DD=Domestic Diversity, OL=Oral Skills, QL=Quantitative, SL=Scientific, VL=Visual, WC=World Cultures; Writing Experience

Minor Adviser, J. Sanchirico (Environmental Science and Policy)