s of Environmental Horticulture and Urban Forestry

The Major Program.

The major provides students with a background in the biological and physical concepts and horticultural principles of plant production, management of plants and plant ecosystems in landscape settings and sociological aspects of plant/people interactions in the urban environment. Plants are used to revegetate and restore disturbed landscapes, control erosion and reduce energy and water consumption. The management of plants and plant ecosystems is an important aspect of this major. Students may select one of more of the following specialization areas: Floriculture/Nursery, Plant Biodiversity/Restoration, or Urban Landscape Management.

Internships and Career Opportunities.

Environmental Horticulture and Urban Forestry

(is College of Agricultural and Environmental Sciences)

The Major Program.

The major students majoring in Environmental Horticulture and Urban Forestry learn how plants improve the environment and the quality of our lives. The major focuses on the biological and physical concepts and horticultural practices of plant production, management of plants and plant ecosystems in landscape settings and sociological aspects of plant/people interactions in the urban environment. Plants are used to revegetate and restore disturbed landscapes, control erosion and reduce energy and water consumption. The management of plants and plant ecosystems is an important aspect of this major. Students may select one or more of the following specialization areas: Floriculture/Nursery, Plant Biodiversity/Restoration, or Urban Landscape Management.

Internships and Career Opportunities.

Students are encouraged to develop internships or off campus to augment their activities in the classroom and laboratory. Internships are available with the department’s greenhouse facility, the UC Davis Arboretum, landscape designers, local nurseries, government agencies, regional non-profits, and restoration firms. Career opportunities in this field include growing and managing plants in a variety of settings, including nurseries and arboretums, consulting as an arborist, or as an urban, landscape, or restoration horticulturist; business ownership; park management; contract orangery; or work in the public or private sector, or for non-profit organizations.

B.S. Major Requirements:

UNITs

Communications recommended as part of the College English Composition Requirement or the Words and Images Literacy Component.

Preparatory Subject Matter

Environmental Horticulture 1 and 6

Landscape Architecture 30, 4

Biological Sciences 2A, 2B, and Plant Sciences 2

Chemistry 2A-2B

Environmental Science and Policy 1 or 10 or 30

Physics 1A-1B

Plant Sciences 21

Mathematics 16A or Statistics 31

University Writing Program 102B, 102G, or 104E, or other upper division composition course (may overlap with college composition requirement by passing the English Composition Exam)

Lower division restricted electives

Select one lower division science course and one lower division social science/humanities course in consultation with adviser; minimum 6 units.

Depth Subject Matter

Environmental Horticulture 102 or Plant Sciences 100A

Environmental Horticulture 105 or Plant Sciences 102 or Plant Biology 108

Plant Biology 117 or Plant Sciences 150

Soil Science 100

Select two courses from Entomology 110, Nematology 100, Plant Pathology 120, Plant Sciences 100, 120, 179

Interdisciplinary requirements must be approved by major adviser

Upper division restricted electives

Select two upper division science courses and two upper division social science/humanities courses in consultation with adviser; minimum 12 units.

Areas of Specialization (choose one)

No course may be used to satisfy more than one requirement.

Floriculture/Nursery Option

Environmental Horticulture 120, 125

Applied Biological Systems Technology 165

Entomology 130

Plant Sciences 100C or 158 or Soil Science 109

Plant Biodiversity/Restoration Option

Environmental Horticulture 160, 165

Environmental Horticulture 160, 165 or Plant Biology 116

Select one course from: Environmental Science and Policy 127, 155

Plant Sciences 130, 150, Wildlife, Fish, and Conservation Biology 155

Select one course from: Environmental Science and Policy 155, Plant Biology 108, 117, 119, Plant Sciences 102, 144, 147

EN 141, 163, 176, Wildlife, Fish, and Conservation Biology 156, 157

Select one additional course from section a or b

Urban Landscape Management Option

Environmental Horticulture 100, 133

Applied Biological Systems Technology 165

Plant Sciences 162

Science and Society 18 or Landscape Architecture 150

Total Units for the Major

Major Adviser: T.Y. Young

Advising Center: The advising center is located in 1224 Plant and Environmental Sciences 530.752.7738

Environmental Policy Analysis and Planning

College of Agricultural and Environmental Sciences

The Major Program.

The major in environmental policy analysis and planning develops skills for designing and assessing sustainable policies for environmental quality and natural resource management. Any student in good standing is eligible to transfer to the major; to do so, please see the staff adviser, Melissa Whaley, in 2134 Wickson Hall, or the major adviser, Prof. J. Sanchirico, in 2102 Wickson Hall.

The Program.

This major provides students with a strong background in policy analysis, including the evaluation of policy alternatives and the study of factors affecting policy formulation and implementation. Key components of this interdisciplinary training include a general background in the natural sciences relevant to environmental policy, economics, political science, social policy, and community research methodology to quantitatively analyze environmental problems and policy options. In addition, students are encouraged to develop substantive knowledge in a specific field of environmental policy, such as urban and regional planning, water policy, transportation and energy, climate policy, or conservation management.

Careers.

Environmental policy analysis and planning graduates are prepared for employment in environmental, natural resource, energy, and transportation focused public agencies, consulting firms, non-governmental organizations, and businesses, or as legislative aides for elected representatives. The major is also excellent preparation for students who want to go on to graduate work in law, planning, public policy, political science, economics, or business.

B.S. Major Requirements

UNITs

English Composition and Public Speaking Requirement

Preparatory Subject Matter

Environmental Science & Management 100, 104E

Applied Biological Systems Technology 165

Physics 1A

Plant Sciences 21

Plant Sciences 162

Science and Society 18

Economics 1A

Animal Science 1, Atmospheric Science 60, Chemistry 2A or 10, and Physics 1A

Biological Sciences 2B or Chemistry 2B or Physics 1B

Plant Sciences 21, or Science & Society 18

Environmental Science & Management 100

Geology 1 or 134, Plant Sciences 12, or Wildlife, Fish, & Conservation Biology 11
Environmental Science and Management

Environmental Science & Policy 1 ........... 4
Mathematics 16A-16B, 17A-17B, or 21A-21B 6-8
Political Science 1 4
Statistics 13 or 32 3-4

Satisfaction of General Education requirement.

Depth Subject Matter.......................... 49-51
(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
Select one course from: Agricultural & Resource Economics 106, Sociology 106, Statistics 100, 103, or 108 4-5
Agricultural & Resource Economics 100A or Economics 100 4
Agricultural & Resource Economics 176, Economics 125, or Environmental Science & Policy 175 4
Applied Biological Systems Technology 150 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 & Policy 163 or 166 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, 167, or 171 4

Conservation Management

Select two courses from: Environmental Science & Policy 166N, 169, 170, or 172 6-8
Select one course from: Environmental Horticulture 160, Environmental Science & Management 141, Environmental Science & Policy 100, 121, or 127, Evolution & Ecology 115, 138, or Wildlife, Fish, & Conservation Biology 154 or 159 3-5

Energy & Transportation Planning

Economics 125, Engineering 160, or Environmental Science & Policy 172 3-4
Select two courses from: Civil & Environmental Engineering 162, 165, Environmental Science & Policy 163, 167, or 172 7-8

Environmental Science and Policy 110, 160, 176, or 179 4
Select one course from: Civil & Environmental Engineering 162, 165, Environmental Science & Policy 163, 167, or 172 7-8

Satisfaction of General Education requirement.

Depth Subject Matter......................... 49-51

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, “Introduction to Environmental Analysis,” which provides an interdisciplinary 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 officers 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.

B.S. Major Requirements:

English Composition and Public Speaking requirement................................................. 3-8

University Writing Program 101, 102A, 104A, or passing the Upper Division English Composition exam 0-4
Communication 1, 3, or Dramatic Art 10 3-4

Preparatory Subject Matter.................. 48-57

Biological Sciences 2A, 2B, 2C 15
Geology 1 or 50; [Geology 50 recommended] 3-4
Chemistry 2A, 2B or 2AH, 2BH; [Chemistry 2C or 2CH recommended] 10
Physics 1A, 1B, 7A, 7B, 7C 6-12
Economics 1A 6-8
Mathematics 16A, 16B, 17A, 17B, or 21A, 21B (Mathematics 17A, 17B recommended) 6-8
Environmental Science and Policy 1 4
Satisfaction of the General Education requirement.

Depth Subject Matter......................... 28-32

Environmental Science and Management 120 or Environmental Science and Policy 120 4
Environmental Science and Policy 100 or Evolution and Ecology 101 4
Environmental Science and Policy 162 4
Statistics 13 or 100; [Statistics 100 recommended] 4