Environmental Horticulture

[College of Agricultural and Environmental Sciences] Faculty. See Plant Sciences, on page 476.

The Program. Students of Environmental Horticulture learn how plants improve the environment and the quality of our lives. Plants are used to revegetate and restore disturbed landscapes, control erosion, and reduce energy and water consumption. The ornamental use of plants to improve the aesthetic quality of urban and rural landscapes, recreational areas, and commercial sites is an important aspect of the study of environmental horticulture.

Students interested in Environmental Horticulture can obtain a B.S. degree in Environmental Horticulture and Urban Forestry and may specialize in Floriculture/Nursery Management, Urban Forestry, Landscape Management/Turf or Plant Biodiversity/Restoration. Students can develop an individual major with the help of an Environmental Horticulture faculty adviser and approval of the College’s Individual Major Committee. A minor in Environmental Horticulture or Landscape Restoration is available to students in other majors.

Career Alternatives. Opportunities in this field include growing and/or managing plants in a variety of settings, including nurseries, golf courses and arboretums, consulting as an urban, landscape, or restoration horticulturist, business ownership, working for public agencies or private landscape firms/corporations, park management and landscape contracting. Students are encouraged to develop internships on or off campus to augment their activities in the classroom and laboratory.

Minor Program Requirements:

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<tr>
<th>UNITS</th>
<th>Environmental Horticulture .......................... 23-25</th>
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<tr>
<td></td>
<td>Environmental Horticulture 6 and 105 .......... 8</td>
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<td>Plant Sciences 171, ..................................... 4</td>
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<td>Select three courses from: Environmental Horticulture 100, 120, 125, 130, 133, ................................. 11-13</td>
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<tr>
<td>Minor Adviser.</td>
<td>J.A. Harding (Plant Sciences)</td>
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Related Undergraduate Programs. See the undergraduate majors in Ecological Management and Restoration, on page 229, Environmental Horticulture and Urban Forestry, on page 297, Plant Biology, on page 471, and Plant Sciences, on page 476.

Graduate Study. For graduate study related to this field, see the M.S. and Ph.D. degree programs in the graduate groups of Horticulture and Agronomy, Plant Biology, Ecology, and Genetics. Also see Graduate Studies, on page 111.

Related Courses. See Plant Biology and Plant Sciences.

Courses in Environmental Horticulture (ENH)

Vacancies permitting the following courses should be directed to the instructor or to the Plant Sciences Advising Office in 122E Plant and Environmental Sciences Building 530752-7738.

Lower Division

1. Introduction to Environmental Horticulture/Urban Forestry (3)

Lecture—3 hours. Introduction to the use of plants to enhance the physical, visual and social environment. The use of ecological principles in developing sustainable, low maintenance landscape systems will be presented. Career opportunities will be discussed. GE credit: SciEng, Wrt | SE, SL, WE. —I (I.) Volder

6. Introduction to Environmental Plants (4)

Lecture—1 hour; discussion—2 hours, laboratory—3 hours. Classification, nomenclature and variation of environmental plants. The use of floral and vegetative characteristics and terminology to key unknown plant species. Characteristics of plant groups and basics of climate, soils and plant selection. Identification of 150 common landscape plants. GE credit: SciEng | SE, VL. —I. (I.) Young

Upper Division

100. Urban Forestry (4)

Lecture—2 hours, laboratory—3 hours, term paper. Prerequisite: Biological Sciences 1C or Plant Sciences 2. Principles and practices of planning and managing urban vegetation. Basics of tree appraisal, natural resource inventory, and development of long term urban forest management plans. GE credit: SciEng | SE. —I. (I.) Cadenasso

101. Trees of the Urban Forest (2)

Lecture—1 hour, laboratory—2 hours. Prerequisite: course 6 or consent of instructor. Identification and evaluation of 200 tree species of the urban forest on campus, in the Arboretum, and in the city of Davis; appraised and aesthetic values, condition, and branch structure; contribution of trees to this ecosystem. Bicycle required. GE credit: SciEng | VL, SE. —I. (I.) Harding

102. Physiological Principles in Environmental Horticulture (4)

Lecture—3 hours; discussion—1 hour. Prerequisite: Biological Sciences 1C. Physiological principles and processes essential to floriculture, nursery crop production, turficulture and landscape horticulture, disease, Emphasis on the control of vegetative and reproductive development for a broad species range in greenhouse and extensive landscape environments. GE credit: SciEng | SE. —I. (I.) Hilfiker

105. Taxonomy and Ecology of Environmental Plant Families (4)

Lecture—2 hours; laboratory—6 hours. Prerequisite: course 6 or consent of instructor. Classification and identification of introduced native species used in urban forests, with emphasis on floral and vegetative characteristics of the prominent families of angiosperms and gymnosperms, adaptations to environmental variations in western landscapes, and horticultural classification. GE credit: SciEng | VL, SE. —III. (III.) Harding

120. Management of Container Media (3)

Lecture—2 hours, laboratory—3 hours. Prerequisite: Soil Science 10; Principles of soil science and practices related to management of container media are taught, emphasizing appropriate use of soils and amendments, irrigation, and fertilizers. Physical and chemical properties of terrestrial and aquatic environments, assessment of container media on crops are evaluated in the laboratory. GE credit: SciEng | QL, SE, WE. —I. (I.) Evans

125. Greenhouse and Nursery Crop Production (5)

Lecture—3 hours, discussion—1 hour; laboratory—3 hours. Prerequisite: Plant Sciences 2 or Biological Sciences 1C. Principles and techniques for the production of ornamental greenhouse and nursery crops. Hands-on experience producing greenhouse crops. Optional weekend field trip. GE credit: SciEng | SE, WE.

129. Analysis of Horticultural Problems (4)

Lecture—1 hour; laboratory—6 hours. Prerequisite: course 102, Entomology 110, Plant Pathology 120, and Soil Science 100 or the equivalents. Methods of analysis of common plant disorders seen in the landscape, greenhouse, and nursery. Diagnosis of plant disorders caused by soil, water, and chemical agents, climatic conditions or cultural practices. Approaches to diagnosis that emphasize acquisition and integration of information. GE credit: SciEng | SE. —III. (III.) Durkee

130. Turfgrass and Amenity Grassland Utilization and Management (4)

Lecture—2 hours; discussion—1 hour; laboratory—3 hours. Prerequisite: Biological Sciences 1C or Plant Sciences 2. Utilization and management of amenity
Environmental Horticulture and Urban Forestry

(Dean of Agricultural and Environmental Sciences)

Faculty. See Department of Plant Sciences, on page 476.

The Major Program

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 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, improve environment and water consumption. The ornamental use of plants to improve the aesthetic quality of urban and rural landscapes, recreational areas, interscapes and commercial sites is an important aspect of the UC Davis major. Students may select one or more of the following three areas of specialization: Floriculture/Nursery, Plant Biodiversity/Restoration, or Urban Landscape Management.

Internships and Career Opportunities. Students are encouraged to develop internships on or off campus to augment their activities in the classroom and laboratory. Internships are available with the department, the UC Davis Arboretum, landscape designers, government agencies or regional nurseries. Career opportunities in this field include growing and/or managing plants in a variety of settings, including nurseries and arboreta, consulting as an urban, landscape, or restoration horticulturist, business ownership, working for public agencies or private landscape firms/corporations, park management and landscape contracting.

B.S. Major Requirements:

UNITs

Communications 1 recommended as part of the College English Composition Requirement or the Words and Ideas Core Literacy Component.

Preparatory Subject Matter.......................... 56-72

Environmental Horticulture 1 and 6 ................ 7

Landscape Architecture 30 ......................... 4

Biological Sciences 2A, 2B, and Plant Sciences 2A, 2B ...............14

Chemistry 2A-2B .................................. 10

Environmental Science and Policy 1 or 10 or 30 ......... 3-4

Physics 1A-1B ........................................ 6

Plant Sciences 21 .................................. 3

Mathematics 16A or Statistics 13 .................... 3-4

University Writing Program 102B, 102G, 104E, or upper division composition course (may overlap with college composition requirement; may be satisfied by passing the English Composition exam) ................. 0-4

Lower division restricted electives ................. 6

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

Depth Subject Matter ................................. 42-46

Environmental Horticulture 102 or Plant Sciences 100A ........................................ 3-4

Environmental Horticulture 105 or Plant Sciences 105 or 105A, 105B ............. 4-5

Plant Biology 117 or Plant Sciences 117, 119 .......................... 4-5

Plant Sciences 171 .................................. 4

Soil Science 100 .................................... 5

Select two courses from Plant Sciences 110, 116, 141, 147L, 163, 176, Wildlife, Fish, and Conservation Biology 155, 157, 159, 160, 165 .......................... 3-5

Select one additional class from section a or b

Urban Landscape Management Option.........................16-17

Environmental Horticulture 100, 133 .............. 8

Applied Biological Systems Technology 165, 200 ........................................ 2

Plant Sciences 162 .................................. 3

Science and Society 18 or Landscape Architecture 150 ........................................ 3-4

Total Units for the Major .......................... 114-130

Major Adviser. T.P. Young

Advising Center for the major 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 policy in fields related to environmental quality and natural resource management and an understanding of governmental policymaking. 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 master 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, statistics, and 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, science, economics, or business.

B.S. Major Requirements:

UNITs

Environmental English Composition and Public Speaking Requirement ........................3-8

University Writing Program 101, 102A-G, 104A-E, or passing the Upper Division English Composition exam ........................................ 0-4

Communication 1 or 3 or Dramatic Art 10 ........................................ 3-4

Quarter Offered: I-Fall, II-Winter, III-Spring, IV-Summer; 2013-2016 offering in parentheses.

Pre-Fall 2011 General Education (GE): Art/Literature, Humanities; Science and Mathematics; Social Sciences; Oral Communication Skills; Visual; World Cultures; Writing Experience

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