

HORTICULTURE (HORT)

- HORT 001 F Principles of Horticulture I** **4 Units**
54 hours lecture and 54 hours lab per term. This course covers the identification and use of ornamental plants, culture of landscape plants, morphology of leaves, flowers and fruits, survey of soil properties and fertilizers, safe and responsible use of pesticides and their alternatives, and landscape design principles for basic horticulture skills in the gardening and nursery trades. Pass/No Pass or Letter Grade option. (Degree Credit)
- HORT 002 F Principles of Horticulture II** **4 Units**
54 hours lecture and 54 hours lab per term. This course covers plant propagation techniques, weed control for ornamental plantings, disease and pest control in the landscape and turf grass management techniques.
- HORT 005 F Basic Landscape Plants I** **3 Units**
54 hours lecture per term. This course covers the identification and study of trees, shrubs, vines; tropical and herbaceous plant material of landscape value. Special emphasis is placed on fall-blooming as well as broadleaf and narrowleaf plants. This is course designed for non-majors, homeowners, and those engaged in the fields of landscaping and horticulture. Not open for transfer credit for majors in Ornamental Horticulture and Landscape Architecture as a substitute for HORT 160 F.
- HORT 006 F Basic Landscape Plants II** **3 Units**
54 hours lecture per term. This course covers the identification and study of trees, shrubs, vines and herbaceous plant material of landscape value. Plants emphasized in this course include spring-blooming deciduous plants and additional plants not covered in HORT 005 F. This course is designed for non-majors, homeowners, and those engaged in the fields of landscaping and horticulture. This course is not transferable and cannot be used as a substitute for HORT 161 F in the Ornamental Horticulture or Nursery Management AS Degree.
- HORT 008AF Landscape Pruning Techniques** **1 Unit**
18 hours lecture and 18 hours lab per term. This course covers the principles and practices used in pruning ornamental shrubs, trees, vines, herbaceous perennials, groundcovers and fruit trees found in residential and commercial landscapes. Special attention is given to appropriate plant use and maintenance. Field trips may be required outside of regularly scheduled class times. Pass/No Pass or Letter Grade option.
- HORT 008BF Basic Turf Care** **1 Unit**
12 hours lecture and 18 hours lab per term. This course covers the fundamentals of lawn care for homeowners including planting, fertilization, irrigation, weed control, and pest control. Special techniques and equipment used for lawn renovation are also covered.
- HORT 008CF Home Pest Control** **1 Unit**
12 hours lecture and 18 hours lab per term. This course covers the fundamentals of pest control for homeowners including identification and control of weeds, insects, vertebrates, arachnids, mollusks and diseases. Special emphasis is given to integrated Pest Management as a home pest control technique.
- HORT 010AF Landscape Lighting** **1.5 Units**
18 hours lecture and 27 hours lab per term. This course covers the principles and practices used in lighting outdoor trees, shrubs, planter beds and living spaces. Emphasis is given to appropriate selection of code-approved low voltage electrical components, wiring and lighting fixtures for residential use.
- HORT 010BF Landscape Water Features** **1.5 Units**
18 hours lecture and 27 hours lab per term. This course covers design and installation of landscape water features including ponds, garden streams, fountains and container water gardens. Students learn current construction techniques through an on-site installation.
- HORT 013 F Basic Turf Care** **1 Unit**
- HORT 045 F Pest Control Certification and Safety** **3 Units**
54 hours lecture per term. This course is designed to assist persons desiring to be licensed as Pest Control Advisors or Pest Control Operators or pesticide dealers. Instruction involves laws and regulations, pesticide safety, control of insects, mites, nematodes and other invertebrate pests, plant disease control, and plant growth regulators used in the landscaping business. California Department of Food and Agriculture continuing education hours are available for this course. (Degree Credit)
- HORT 046 F Pest Safety for Landscape Work** **2 Units**
36 hours lecture per term. This course is designed to teach pesticide safety to Spanish and English-speaking landscape workers. Students learn safe operations of application equipment, pesticide toxicity ratings, methods of exposure and pesticide labeling along with information about pest and disease life cycle and post host relationships.
- HORT 058 F Irrigation Controller Programming** **2 Units**
54 hours lecture and 54 hours lab per term. This course provides hands-on experience in which students will learn the fundamentals of programming irrigation controllers and the steps involved in programming some of the most popular irrigation controllers available in the industry. Practical situations will be used to show the applications of basic and advanced controller features. The course will also provide a review of various Central control computer irrigation systems. Three field trips will be scheduled to give students the opportunity to examine central control systems as water management tools in large commercial and recreational areas.
- HORT 070 F Volunteer Naturalist Training** **2.5 Units**
36 hours lecture and 27 hours lab per term. This is a basic ecology course dealing specifically with the ecosystems represented in the wilderness parks and nature preserves of Orange County. Special emphasis will be placed on the natural history, geology and cultural history of our undeveloped areas. Training will also be given in the skills required to lead nature tours in the parks. Assumes no science background. Weekly field trips required.
- HORT 075 F Habitat Assessment and Restoration** **2.5 Units**
36 hours lecture and 27 hours lab per term. This course is designed to introduce students to the ecological theory, and practical application of a variety of habitat assessment, restoration and monitoring techniques. Scientific, social and legal aspects of restoration will be discussed. Training will emphasize habitat evaluation and restoration techniques used by industry, government agencies and environmental organizations. Weekly field trips will visit and assist in assessment and restoration projects.
- HORT 152 F Applied Botany** **4 Units**
54 hours lecture and 54 hours lab per term. This course includes the study of plant growth and development, horticultural practices, and an overview of horticulture as a science, an art and an industry. Practical exercises and field trips are part of the lab work. (Degree Credit) (CSU) AA GE, CSU GE
- HORT 153 F Landscape Irrigation** **3 Units**
36 hours lecture and 54 hours lab per term. This course covers the principles and practices of installing basic irrigation systems. It includes the study of fittings, piping, valves, backflow preventers, controllers, and sprinklers; basic hydraulics, friction loss calculations and beginning irrigation design are also covered. (Degree Credit) (CSU)

HORT 154 F Irrigation Design**3 Units****Prerequisite(s):** HORT 153 F with a grade of C or better.

36 hours lecture and 54 hours lab per term. This course covers the principles and practices of designing and drawing plans for residential and small commercial irrigation systems. Includes the study of component selection, sprinkler spacing and location, hydraulic calculations, graphics presentations and current practices in producing professional quality irrigation design documents. (Degree Credit) (CSU)

HORT 155 F Soils**3 Units**

36 hours lecture and 54 hours lab per term. This course covers the following physical, chemical, and biological properties of soils: formation, texture, structure, compaction, stability and drainage, permeability and water-holding capacity, soil reaction, ionic exchange, organic matter, soil classification, water conservation, and soil conservation. Letter Grade or Pass/No Pass option. (Degree Credit) (CSU) (UC)

HORT 156 F Plant Nutrition**2 Units**

27 hours lecture and 27 hours lab per term. This course covers the composition, value and use of fertilizers, soil correctives and soil amendments. Methods and techniques employed in detailed fertility analysis and horticultural suitability of soil media. Application equipment and fertilizer injection techniques. (Degree Credit) (CSU)

HORT 157 F Irrigation Principles**3 Units****Prerequisite(s):** HORT 153 F with a grade of C or better

36 hours lecture and 54 hours lab per term. This course covers the study and application of plant, soil and water relationships as they relate to irrigation. Sprinkler precipitation rates, soil infiltration rates and plant evapotranspiration rates are investigated to determine optimal irrigation, programming and efficient water usage. Lab hours will include field trips, laboratory investigations and on-site analysis. (Degree Credit) (CSU)

HORT 158 F Landscape Irrigation Drip and Low Volume**3 Units**

36 hours lecture and 54 hours lab per term. This course covers the principles and practices of water conservation in landscapes by utilization of drip and low volume (low flow) irrigation systems. Special attention is given to system design, installation and operation of residential and commercial applications. (Degree Credit) (CSU)

HORT 160 F Plant ID / Ornamental Trees**3 Units**

54 hours lecture per term. This course studies broadleaf and conifer trees used in California landscapes, with special emphasis on identification. Recommended as a transfer course for majors in horticulture and landscape architecture. (Degree Credit) (CSU) (UC Credit Limitation: HORT 160 F and HORT 161 F combined; maximum credit one course)

HORT 161 F Plant ID/Ornamental Shrubs**3 Units**

54 hours lecture per term. This course covers the study of ornamental shrubs, ground covers, vines, tropical and herbaceous plant material used in California landscapes with special emphasis on identification. Recommended as a transfer course in the majors of horticulture and landscape architecture. (Degree Credit) (UC Credit Limitation)

HORT 162 F Landscaping for Dry Climates**3 Units**

54 hours lecture per term. This course covers the effects of the Southern California environment on plant selection, knowledge of the growth requirements of selected native and exotic species, and their proper usage in landscapes. Emphasis is on functional values and aesthetic qualities of native and exotic drought-tolerant plants. Through development of the design process the student will create landscape plans and make site analysis evaluations using an inventory of appropriate native and drought-tolerant exotic species. Field trips are integrated as part of the course and may occur outside of regularly-scheduled class times. Letter Grade or Pass/No Pass. (Degree Credit) (CSU)

HORT 164 F Plant Identification - Annuals, Perennials and Houseplants**3 Units**

54 hours lecture per term. This course covers the study of annuals, perennials, and houseplants used throughout California, with special emphasis on identification. It includes a comparison of the care requirements, culture and landscape usage for approximately 175 herbaceous ornamental plants. Recommended as a transfer course in the majors of horticulture and landscape architecture. (Degree Credit) (CSU)

HORT 165 F Landscape Management**4 Units**

54 hours lecture and 54 hours lab per term. This course introduces students to the requirements for successfully managing maintenance aspects of landscapes. This course covers new plantings and maintenance of existing plantings, including pruning, fertilization, pest control, lawn care, and landscape estimating. (Degree Credit) (CSU)

HORT 168 F Landscape Construction**3 Units**

54 hours lecture per term. This course covers the use and cost estimates of various landscape construction materials. Problems dealing with structure, grading, drainage, sprinklers, masonry, and electricity used in landscape construction. This course is designed for students qualifying for the State Landscape Contractors Examination. (Degree Credit) (CSU)

HORT 169LF Landscape Construction Laboratory**1 Unit****Corequisite(s):** HORT 168 F with a grade of C or better.

54 hours lab per term. This course covers lab exercises in the use of wood, concrete, brick, blocks, and other materials of construction as they relate to structures, drainage, grading, utilities, and irrigation. (Degree Credit) (CSU)

HORT 170 F Landscaping Contracting**3 Units**

54 hours lecture per term. This course covers the legal requirements and obligations of the landscape contractor, including contractor's law, lien rights, subcontractor regulations and employee labor law. It includes estimating and cost analysis for landscape trades. The course is directed toward preparing the student for passing the State Landscape Contractor's License Examination. (Degree Credit) (CSU)

HORT 173 F Greenhouse and Nursery Production**3 Units**

36 hours lecture and 54 hours lab per term. This course presents current production methods used in producing greenhouse and nursery plants. Greenhouse and nursery facilities and equipment will be covered along with business practices, computer applications, nursery automation and current irrigation systems. This course is recommended for students seeking careers in nursery-related trades. (Degree Credit) (CSU)

HORT 174 F Plant Propagation**3 Units**

36 hours lecture and 54 hours lab per term. This course covers the theoretical and commercial practices of plant propagation, including seeding and transplanting, preparation of cuttings, layering, division, budding and grafting, and micro propagation techniques. The use of plant hormones, plant physiology and genetic manipulation are discussed. (Degree Credit) (CSU)

HORT 177 F Turf Grass Management**3 Units**

36 hours lecture and 54 hours lab per term. This course covers the management and pest control in turf grasses. Included are laboratory and field experience in the identification, planting, management practices, renovation, fertilization and pest management methods. This course is valuable to individuals entering fields of landscape management, nursery management and landscape architecture; also gold course managers, stadium and athletic field managers, park managers and managers of memorial parks. (Degree Credit) (CSU)

- HORT 185 F Arboriculture** **2 Units**
18 hours lecture and 54 hours lab per term. This course covers current practices in maintaining trees through correct pruning, cabling and cavity repair. In addition, tree growth characteristics, local codes and regulations and safety practices related to pruning are covered. This course prepares students for the Certified Arborists examination. (Degree Credit) (CSU)
- HORT 188 F Integrated Pest Management** **2 Units**
27 hours lecture and 27 hours lab per term. This course provides students with a fundamental knowledge of integrated pest management. During the class, students learn to develop and implement pest control programs using cultural, biological and chemical methods. Emphasis will be placed on pest identification, pest monitoring and analysis of plant symptoms. (Degree Credit) (CSU)
- HORT 200 F Landscape Design** **3 Units**
36 hours lecture and 54 hours lab per term. This course covers basic drafting techniques combined with the principles of design leading to formal landscape drawings of homes. Includes the proper association of plant materials according to texture, color, mass, and cultural requirements. (Degree Credit) (CSU) (UC)
- HORT 201 F Advanced Landscape Design** **3 Units**
Prerequisite(s): HORT 200 F with a grade of C or better
36 hours lecture and 54 hours lab per term. This course is a continuation of graphics, plant usage, and design theory covered in HORT 200 F with emphasis on hillside developments and commercial projects. A survey of historical development of landscape. Design of landscape structures (walls, patio overheads, steps, walkways, pools) with focus placed on the basic qualities of the construction materials. Elements of perspective drawings for project presentations. Detailed site analysis and evaluation of ecological factors. Field trips are part of laboratory, including one weekend trip required of all students. (Degree Credit) (CSU)
- HORT 205 F Applied Entomology** **3 Units**
36 hours lecture and 54 hours lab per term. This course covers the principles of entomology including external anatomy and internal anatomy and physiology, insect relatives, and insect classification and identification. Concepts of insect pest management techniques will be included. An insect collection with proper identification to order and family will be required of all students with laboratory and field examination placing emphasis on identification and control. Field trips may be required outside of regularly-scheduled class times. (Degree Credit) (CSU) AA GE, CSU GE
- HORT 207 F Plant Pathology** **3 Units**
36 hours lecture and 54 hours lab per term. This course is an introductory study of the major plant diseases and their control. Fungi, bacteria, viruses, and nematodes causing diseases of economic crops throughout the U.S. are examined in the lab, greenhouse, and field. (Degree Credit) (CSU) AA GE, CSU GE
- HORT 215 F Diseases/Pests Ornament Plants** **4 Units**
Prerequisite(s): HORT 205 F or HORT 207 F with a grade of C or better
54 hours lecture and 54 hours lab per term. This course covers the diagnosis and control of parasitic and non-parasitic disease problems in ornamental landscapes. This course also involves determination of insects, mites, and other pest problems affecting ornamental plantings and the methods employed in control. Laboratory and field trips will be utilized to observe various problems in production areas. Transfer credit to colleges offering similar courses. (Degree Credit) (CSU)
- HORT 218 F Landscape Hydraulics** **3 Units**
Prerequisite(s): HORT 153 F
36 hours lecture and 54 hours lab per term. This course covers the principles of hydraulics related to open and closed piping systems, pipe and channel flow as applied to landscape irrigation and drainage system. It includes problems in water, storage, pumping system, surge and water hammer, fountains and ponds. (Degree Credit) (CSU)
- HORT 219 F CAD Applications in Horticulture** **3 Units**
36 hours lecture and 54 hours lab per term. This course includes the use of computer aided drafting in the creation of landscape and irrigation designs. The use of symbol libraries, layered drawings, macros, and different drawing programs are included. Detail drawings, landscape and irrigation plans will be developed for actual site situations. (Degree Credit) (CSU)
- HORT 250 F Permaculture Design** **5 Units**
72 hours lecture and 54 hours lab per term. This course introduces students to the application of ecological and environmental principles to designing human systems that are locally sustainable and require reduced inputs. Upon completion of this course with a passing grade, the student will receive a Permaculture Design Certificate, recognized worldwide. (Degree Credit) (CSU)
- HORT 255 F Hydroponics - Aquaponics** **3 Units**
36 hours lecture and 54 hours lab per term. This course covers the principles and practices used in hydroponic and aquaponics systems. Special attention is given to system design and production of appropriate crops for small scale production. (Degree Credit) (CSU)
- HORT 257 F Soil Food Web** **3 Units**
36 hours lecture and 54 hours lab per term. This course introduces students to the Soil Food Web. The Soil Food Web is a complex living system in the soil. This course examines soil organisms and their relationship to soil fertility. Methods will be explored to increase soil fertility using actively aerated compost teas. Quantitative and qualitative analysis of soil organisms through microscopy will be emphasized. (Degree Credit) (CSU)
- HORT 920 F Advanced CAD Applications in Horticulture** **3 Units**
Prerequisite(s): HORT 219 F
36 hours lecture and 54 hours lab per term. This course covers the use of LandCADD computer aided drafting and design program in the creation of 2-D and 3-D landscape and irrigation designs. It also includes the use of customized plant and irrigation symbols, intelligent drawing blocks, cross-referenced drawings and paper space/model space. Detail drawings, complex irrigation and grading plans will be developed for actual site situations. Presentation 2-dimensional and 3-dimensional rendered drawings and animated walk-throughs are developed using advanced tools in LandCADD. Pass/No Pass or Letter Grade option. (Degree Credit)