

ORNAMENTAL HORTICULTURE (OH)

**UC credit limit: all CADD courses, ENGR 119, ENGR 129, OH 200, OH 201 combined: maximum credit, one course*

102 XERISCAPE: WATER CONSERVATION IN THE LANDSCAPE 2 UNITS

2 hours lecture

Water management principles and practices as applied to the landscape. Topics include plant selection, landscape design principles for water conservation, irrigation system selection and management, soil preparation and management, and current topics and issues of California and United States water conservation efforts.

CSU

105 EDIBLES IN URBAN LANDSCAPES 1.5 UNITS

1.5 hours lecture

Covers the basics of cultivating edible plants in small scale urban settings, including annual and perennial vegetables as well as shrubs and trees that produce edible fruit. San Diego's climate allows for the production of many tropical and sub-tropical edibles as well as deciduous trees that require some winter chill. Topics include suitable crops, planting techniques, irrigation, fertilizers, maintenance, pests and diseases, and harvest and storage requirements.

CSU

105A EDIBLES IN URBAN LANDSCAPES FOR APPRENTICES 1.5 UNITS

Prerequisite: Student is a registered State indentured apprentice

1.5 hours lecture

This course is part of a state approved apprenticeship and is open to students accepted into the apprenticeship program. Covers the basics of cultivating edible plants in small scale urban settings, including annual and perennial vegetables as well as shrubs and trees that produce edible fruit. San Diego's climate allows for the production of many tropical and sub-tropical edibles as well as deciduous trees that require some winter chill. Topics include suitable crops, planting techniques, irrigation, fertilizers, maintenance, pests and diseases and harvest and storage requirement.

CSU

114 FLORAL DESIGN I 3 UNITS

2 hours lecture, 3 hours laboratory

Theory and practice of basic geometric floral design, identification of flowers and foliages, and practical skills necessary for employment in the floral industry. Fresh, silk and dried flowers will be used.

CSU

116 FLORAL DESIGN II 3 UNITS

Prerequisite: "C" grade or higher or "Pass" in OH 114 or equivalent

2 hours lecture, 3 hours laboratory

Theory and practice of parallel, vegetative, and contemporary line designs for the retail floral industry. Students will use fresh flowers, silks, dried flowers, foliages, organic and inorganic materials for creating floral designs with an emphasis on European influence and trends.

CSU

117 WEDDING DESIGN I 3 UNITS

Prerequisite: "C" grade or higher or "Pass" in OH 114 or equivalent

2 hours lecture, 3 hours laboratory

Theory and practice of numerous styles of wedding bouquets and corsages including church and reception floral designs. Emphasis is on the skills, mechanics and speed necessary in the floral industry.

CSU

118 SPECIAL OCCASION FLORAL DESIGN 3 UNITS

Prerequisite: "C" grade or higher or "Pass" in OH 114 or equivalent or one year high school floral design or trade experience

2 hours lecture, 3 hours laboratory

Learn to create unique floral arrangements used for parties, weddings, funerals and gala events. Arrangements will focus on the use of unusual and exotic flowers, containers and special mechanical props.

CSU

119 WEDDING DESIGN II 3 UNITS

Prerequisite: "C" grade or higher or "Pass" in OH 117 or equivalent

2 hours lecture, 3 hours laboratory

Theory and practice of designs used for weddings including bouquets for brides and attendants, corsages, church decorations, and reception decorations primarily using fresh flowers.

CSU

120 FUNDAMENTALS OF ORNAMENTAL HORTICULTURE 3 UNITS

2 hours lecture, 3 hours laboratory

Study of plant structure and function. Topics include basic principles of soil science and fertilizer requirements, and the growth of plants in regard to the environmental factors of water, light and temperature. The lab provides an overview of various skills needed in all fields of ornamental horticulture including pruning, basic equipment operation, fertilizer application, and general nursery skills.

CSU

120A FUNDAMENTALS OF ORNAMENTAL HORTICULTURE FOR APPRENTICES 3 UNITS

Prerequisite: Student is a registered State indentured apprentice

2 hours lecture, 3 hours laboratory

This course is part of a state approved apprenticeship and is open to students accepted into the apprenticeship program. Study of plant structure and function. Topics include basic principles of soil science and fertilizer requirements, and the growth of plants in regard to the environmental factors of water, light and temperature. The lab provides an overview of various skills needed in all fields of ornamental horticulture including pruning, basic equipment operation, fertilizer application and general nursery skills

CSU

121 PLANT PROPAGATION 3 UNITS

C-ID AG-EH 116L

2 hours lecture, 3 hours laboratory

Principles of plant propagation from seed, cutting, budding, grafting, layering, division and tissue culture. Greenhouses, cold frames, mist chambers and other propagating structures will be discussed along with stock selection, use of rooting hormones, proper sanitation procedures, and protection of young seedlings from disease. Lab exercises include propagation of plant material by various methods and working with various structures, tools and equipment common to plant propagation.

CSU, UC

125 LANDSCAPE TECHNICIAN

PRINCIPLES 1

1 UNIT

1 hour lecture, .5 hour laboratory

Introduces students to important landscape operations including the safe and effective use of power equipment, fertilizer application, plant identification, tree planting and staking and landscape grading. This course will provide students with the foundations of important skills used by landscape maintenance and landscape construction operations, and to prepare them for certification exams.

CSU

126 LANDSCAPE TECHNICIAN

PRINCIPLES 2

1 UNIT

1 hour lecture, .5 hour laboratory

Introduces students to the basic foundations of landscape management as well as irrigation installation and maintenance. This course will provide students with the foundations of important skills used by landscape maintenance and landscape construction operations, and to prepare them for certification exams.

CSU

127 LANDSCAPE TECHNICIAN

PRINCIPLES 3

1 UNIT

1 hour lecture, .5 hour laboratory

Introduces students to important landscape operations that require mathematical calculations and landscape plan reading. It also includes instruction on the programming of irrigation control clocks. This course will provide students with the foundations of important skills used by landscape maintenance and landscape construction operations, and to prepare them for certification exams.

CSU

130 PLANT PEST CONTROL

3 UNITS

2 hours lecture, 3 hours laboratory

Identification and control of insects, mites, spiders, snails, weeds and diseases that affect ornamental plants with an emphasis on their morphological and phylogenetic relationships, habits, habitats and important characteristics affecting the health of ornamental plants. Control methods will stress integrated pest management.

CSU

130A PLANT PEST CONTROL FOR

APPRENTICES

3 UNITS

Prerequisite: Student is a registered State indentured apprentice

2 hours lecture, 3 hours laboratory

This course is part of a state approved apprenticeship and is open to students accepted into the apprenticeship program. Identification and control of insects, mites, spiders, snails, weeds and diseases that affect ornamental plants with an emphasis on their morphological and phylogenetic relationships, habits, habitats and important characteristics affecting the health of ornamental plants. Control methods will stress integrated pest management.

CSU

140 SOILS

3 UNITS

2 hours lecture, 3 hours laboratory

Study of soil formation, characteristics, and classification with an emphasis on the management of various soil types with regard to pH, salinity, texture, organic matter control and other variables. The lab will include investigation of soil conditions, problems and management solutions common to soils in Southern California.

CSU, UC

140A SOILS FOR APPRENTICES 3 UNITS

Prerequisite: Student is a registered State indentured apprentice

2 hours lecture, 3 hours laboratory

This course is part of a state approved apprenticeship and is open to students accepted into the apprenticeship program. Study of soil formation, characteristics, and classification with an emphasis on the management of various soil types with regard to pH, salinity, texture, organic matter control and other variables. The lab will include investigation of soil conditions, problems and management solutions common to soils in Southern California.

CSU

170 PLANT MATERIALS: TREES AND SHRUBS 3 UNITS

3 hours lecture

Identification, cultural requirements, and landscape uses of ornamental trees and shrubs common to the California landscape.

CSU, UC

171 LANDSCAPE DRAFTING 1 UNIT

.5 hour lecture, 1.5 hours laboratory

Introduction to basic drafting practices used in landscape design. Includes topography drawings, concept plans, construction drawings, and construction and installation details. Upon completion, students should be able to complete a set of working drawings for a residential landscape.

CSU, UC

172 INTRODUCTION TO LANDSCAPE DESIGN 3 UNITS

Recommended Preparation: "C" grade or higher or "Pass" in OH 171 or equivalent

2 hours lecture, 3 hours laboratory

Principles of landscape design for residential projects with an emphasis on residential landscape design and the creation of usable, pleasant outdoor spaces. Focuses on size and placement of plants, walks, patios and other structures in the residential landscape. The lab emphasizes practice in the design and drafting of actual landscape projects.

CSU, UC

173 INTERMEDIATE LANDSCAPE DESIGN 3 UNITS

Prerequisite: "C" grade or higher or "Pass" in OH 172 or equivalent

2 hours lecture, 3 hours laboratory

Landscape design course covering advanced site analysis, use relationships, outside furniture and structures, color presentations, and client/designer relationships as they relate to estate, greenbelt and advanced planting designs.

CSU, UC

174 TURF AND GROUND COVER MANAGEMENT 3 UNITS

2 hours lecture, 3 hours laboratory

Building, care and maintenance of turf grasses and ground covers in parks and landscaping. Includes soil preparation, planting, fertilizing, maintenance of common and special turf grasses and ground covers, and pest and disease problems and their control.

CSU

175 ADVANCED LANDSCAPE DESIGN 3 UNITS

Prerequisite: "C" grade or higher or "Pass" in OH 173 or equivalent

2 hours lecture, 3 hours laboratory

Advanced development, design and presentation of residential landscape projects incorporating slope analysis, codes and ordinances, client or institutional requirements, detail sheets, sections and cost estimates. Client

presentation of concept, lighting and planting plans will utilize sketches, demonstration boards and digital presentation techniques.

CSU, UC

180 PLANT MATERIALS: ANNUALS AND PERENNIALS 3 UNITS

3 hours lecture

Identification, cultural requirements, and landscape value of common annuals and perennials used as bedding plants, annual color, and in the commercial floral industry.

CSU, UC

200 INTRODUCTION TO COMPUTER-AIDED LANDSCAPE DESIGN 3 UNITS

2 hours lecture, 3 hours laboratory

Introduction to computer-aided landscape design using AutoCAD software. Creation of site plans, landscape plans, sprinkler plans, contour maps and landscape estimates. Elevation and perspective drawings are also created. *Also listed as CADD 200. Not open to students with credit in CADD 200.*

CSU, *UC credit limit

201 ADVANCED COMPUTER-AIDED LANDSCAPE DESIGN 3 UNITS

Prerequisite: "C" grade or higher or "Pass" in CADD/OH 200 or equivalent

2 hours lecture, 3 hours laboratory

Use of computer-aided landscape design software for the application of graphics, symbols, patterns, layouts, text and scales for the development of design drawings, concept plans, construction documents, and cost estimates for residential landscape projects. *Also listed as CADD 201. Not open to students with credit in CADD 201.*

CSU, *UC credit limit

220 LANDSCAPE CONSTRUCTION: CONCRETE AND MASONRY 3 UNITS

2 hour lecture, 3 hours laboratory

Study of landscape construction methods and materials. Topics include: landscape contract law; concrete flat work including stamped concrete; brick, block and stone masonry; and proper design and construction of retaining and free standing walls. Grading and installation of plant material will also be covered.

CSU

221 LANDSCAPE CONSTRUCTION: IRRIGATION AND CARPENTRY 3 UNITS

2 hours lecture, 3 hours laboratory

Study of landscape construction methods and materials. Topics include: irrigation and drainage plan reading, materials and components, installation and construction, installation and troubleshooting of control valves and control clocks; basic materials and methods for construction of decks, overhead structures, wooden fences and gates; code and design requirements for irrigation, drainage and landscape structures.

CSU

221A LANDSCAPE CONSTRUCTION: IRRIGATION AND CARPENTRY FOR APPRENTICES 3 UNITS

Prerequisite: Student is a registered State indentured apprentice

2 hours lecture, 3 hours laboratory

This course is part of a state approved apprenticeship and is open to students accepted into the apprenticeship program. Study of landscape construction methods and materials. Topics include: irrigation and drainage plan reading, materials and components, installation and construction, installation and troubleshooting of control valves and control clocks; basic materials and methods for construction of decks, overhead

structures, wooden fences and gates; code and design requirements for irrigation, drainage and landscape structures.

CSU

222 JAPANESE GARDEN DESIGN AND CONSTRUCTION 1 UNIT

.5 hour lecture, 1.5 hours laboratory

An introduction to Japanese garden design concepts and construction methods. The course will cover the historical development of Japanese gardens and, based on the 11th century garden design book *Sakuteiki*, design concepts and construction of garden elements such as stone compositions, streams, ponds, waterfalls, Zen-influenced stone gardens (dry landscape garden), water-basins, introduction to traditional pruning and other basic design, construction and maintenance techniques.

225 LANDSCAPE CONTRACTING 3 UNITS

3 hours lecture

Covers the practices in applying standard techniques in landscape construction and estimating for landscape trades. Reviews the rules, regulations and licensing laws governing landscape contractors set forth by the State of California. Includes an exploration of the field of landscape contracting and business practices associated with the landscape industry.

CSU

235 PRINCIPLES OF LANDSCAPE IRRIGATION 4 UNITS

4 hours lecture

Principles of hydraulics as applied to landscape irrigation systems, including static and dynamic pressures, pipe flows and velocities, pipe sizing, water hammer, pump selection and use. Introduction to system components including valves, backflow prevention devices, controllers, and pumps and pipe.

CSU

235A PRINCIPLES OF LANDSCAPE IRRIGATION FOR APPRENTICES 4 UNITS

Prerequisite: Student is a registered State indentured apprentice

4 hours lecture

This course is part of a state approved apprenticeship and is open to students accepted into the apprenticeship program. Principles of hydraulics as applied to landscape irrigation systems, including static and dynamic pressures, pipe flows and velocities, pipe sizing, water hammer, pump selection and use. Introduction to system components including valves, backflow prevention devices, controllers and pumps and pipe.

CSU

238 IRRIGATION SYSTEM DESIGN 3 UNITS

Prerequisite: "C" grade or higher or "Pass" in OH 235 or equivalent or concurrent enrollment

2 hours lecture, 3 hours laboratory

Introduction to basic design and technical skills required to produce professional irrigation system designs. Building on the knowledge acquired in OH 235, students will design complete spray and low-volume systems, calculate hydraulic parameters and schedules, prepare details and specifications, practice presentation skills, analyze working designs, learn head spacing and pipeline layout, and specify equipment using manufacturers' catalogs. A design studio environment is used (including team building and mentoring exercises) to prepare students for entry-level employment in the irrigation design field.

CSU

240 GREENHOUSE PLANT PRODUCTION**3 UNITS**

2 hours lecture, 3 hours laboratory

Study of greenhouse plant production. Emphasis on the programming of greenhouse crops common to Southern California. The course will cover equipment, structures, environmental control, estimation of crop production requirements, and production and sales of common greenhouse crops.

*CSU***250 LANDSCAPE WATER MANAGEMENT****2 UNITS**

1 hour lecture, 3 hours laboratory

Water management principles and practices for urban landscapes including water audit methods and certification, irrigation scheduling, water budgets, water use monitoring, and laws and regulations pertaining to urban landscape irrigation and runoff.

*CSU***255 SUSTAINABLE URBAN LANDSCAPE PRINCIPLES AND PRACTICES****3 UNITS**

Recommended Preparation: "C" grade or higher or "Pass" in OH 120, 170 or equivalent

3 hours lecture

Principles and practices of sustainable landscape design, construction and maintenance. The course provides a basic understanding of the holistic function of the landscape in the context of sustainability. Using a comprehensive systems approach, learn to investigate, analyze, and apply sustainable environmental practices to a project site. Practice communicating ideas, research, and solutions, creatively and confidently via regular oral presentations.

*CSU, UC***260 ARBORICULTURE****3 UNITS**

2 hours lecture, 3 hours laboratory

Introductory course in the study and practice of arboriculture: the knowledge and care of individual trees living in populated areas. The course will familiarize students with the principles and practices of selecting, establishing, and maintaining trees, including tree biology, planting, pruning, diagnosis and preventative care, hazard evaluation, safe work practices, and tree valuation methods. The course can be used to prepare for the International Society of Arboriculture Certification Exam, and can provide Continuing Education units for those already certified.

*CSU, UC***261 TREE SURGERY AND SPECIALIZED PRUNING TECHNIQUES****1 UNIT**

1 hour lecture, .5 hour laboratory

Explores the concepts and procedures of specific pruning techniques for various ornamental and fruit trees to influence flowers, fruit and growth. Response to pruning is predictable and can be a management tool. Cabling, bracing, cavity repair, injury from failure treatments, crown cleaning versus crown thinning, and topping alternatives like crown reduction and restoration. Includes practical application of pruning theories and principles.

*CSU***262 ARBORICULTURE: PALMS AND RELATED PLANTS****1 UNIT**

1 hour lecture, .5 hour laboratory

Provides opportunities to learn the physiology of palms and other monocots, identification traits, and appropriate uses of common species. Understanding requirements for proper growing conditions and pruning of these plants will improve cultural management and

assist with the diagnosis and treatment of common biotic and abiotic disorders.

*CSU***263 URBAN FORESTRY****1 UNIT**

1 hour lecture, .5 hour laboratory

Introduces students to the theory and practice of conducting detailed tree inventories, management of public trees, tree evaluation for hazard assessment and risk reduction programs, legal aspects of trees, and appraisal of value methods for trees. Students will also learn site evaluation, benefits of tree volunteer organizations, priority action plans, and emergency response plans.

*CSU***264 SAFE WORK PRACTICES IN TREE CLIMBING AND ARBORICULTURE****1 UNIT**

.5 hour lecture, 1.5 hours laboratory

Study and training in the current accepted arboricultural practices in tree climbing and tree work with a chainsaw. Course content includes safety standards and procedures for: personal protective equipment, climbing equipment identification and preparation, pre-climb tree inspection, proper use of climbing equipment, safe operation and maintenance of chainsaws. The course can be used to help with preparation for the International Society of Arboriculture Certified Tree Worker Climber Specialist Exam, and can provide Continuing Education units for those already certified.

*CSU***265 GOLF COURSE AND SPORTS TURF MANAGEMENT****3 UNITS**

Prerequisite: "C" grade or higher or "Pass" in OH 174 or equivalent or concurrent enrollment

2 hours lecture, 3 hours laboratory

Advanced study in the specialization of golf course and athletic field management. Includes specialized turf management techniques, specialized equipment, budget development, scheduling requirements, and administrative considerations.

*CSU***266 SCIENCE IN PRACTICE FOR ARBORICULTURE****1 UNIT**

1 hour lecture

An overview of the scientific concepts of arboriculture, especially as applied to the knowledge required of an International Society of Arboriculture Certified Arborist. Individuals who attain this certification are expected to apply current scientific knowledge and best management practices to the evaluation and care of trees.

*CSU***275 DIAGNOSING HORTICULTURAL PROBLEMS****1.5 UNITS**

Recommended Preparation: "C" grade or higher or "Pass" in OH 120, 130, 170 or equivalent

1 hour lecture, 1.5 hours laboratory

Explores methods for positive identification and understanding of symptoms for accurate diagnosis of plant problems in the landscape and nursery. Biotic and abiotic causal agents including cultural influences, nutrient deficiencies and toxicities, pest and disease problems, soil salinity, aeration, drainage and irrigation problems will be discussed. Control and correction of disorders will be determined through an understanding of the organism or function involved.

*CSU***276 HORTICULTURAL EQUIPMENT REPAIR AND MAINTENANCE****3 UNITS**

2 hours lecture, 3 hours laboratory

General maintenance and specific repair procedures for common horticultural equipment

including troubleshooting, tune-up, and proper preventive maintenance programs for small and medium two- and four-cycle engines. The lab includes work on mowers, trenchers, trimmers, tractors, spray rigs and other equipment.

*CSU***278 BUSINESS MANAGEMENT FOR ORNAMENTAL HORTICULTURE****3 UNITS**

3 hours lecture

Principles and practices for the small business owner in the landscape, nursery, floral design, arboriculture or irrigation industries. Focuses on the aspects of business management that are unique to the green industry. Topics will include marketing, bidding, taxes and regulations, personnel and customer relations.

*CSU***290 COOPERATIVE WORK EXPERIENCE EDUCATION****1-4 UNITS**

5 hours paid or 4 hours unpaid work experience per week per unit

Practical application of principles and procedures learned in the classroom to the various phases of horticulture. Work experience will be paid or unpaid at local nurseries and landscape-related companies. Placement assistance will be provided. Two on-campus sessions will be scheduled. *May be taken for a maximum of 12 units.*

CSU