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Degree: A.S. - Landscape Industry
 A.S. - Nursery Industry
 Certificates: Floristry
 Landscape Industry
 Nursery Industry

Landscape Industry Degree

The degree presents horticultural science and provides skills that relate to the landscape construction and maintenance industry. The program concentrates on plant identification, design, installation, irrigation, maintenance, soils sustainability, and disease and pest certification. Work experience is required.

Student Learning Outcomes

Upon completion of this program, the student will be able to:

- Identify and select plant materials that are used for landscapes in the northern California regions.
- Analyze a landscape site and create a complete landscape design for that site.
- Analyze a landscape design and apply the installation procedures necessary to implement the design.
- Assess a landscape and apply the maintenance operation techniques required.
- Assess a soil analysis and apply the appropriate steps for plants health and soil sustainability.
- Demonstrate horticulture skills in a work environment.
- Apply safe operating procedures and practices to all landscape operations.

Requirements for Degree	32-35 Units
HORT 100	Plant Diseases and Pests.....3
HORT 105	Pest Control Licensing For Certification.....2
HORT 110	Irrigation Design2
HORT 298	Work Experience in Horticulture 1 - 4
HORT 300	Introduction to Horticulture3
HORT 302	Soils and Plant Nutrition3
HORT 305	Plant Materials I3
HORT 306	Plant Materials II3
HORT 320	Landscape Construction3
HORT 322	Landscape Graphics3
HORT 324	Landscape Maintenance3
HORT 326	Landscape Design3

Associate Degree Requirements: The Landscape Industry Associate in Science (A.S.) Degree may be obtained by completion of the required program, plus general education requirements, plus sufficient electives to meet a 60-unit total. See ARC graduation requirements.

Landscape Industry Certificate

This certificate presents horticultural science and provides skills that relate to the landscape construction and maintenance industry. The focus of this program concentrates on plant identification, design, installation, maintenance, soils sustainability, and disease and pest certification.

Student Learning Outcomes

Upon completion of this program, the student will be able to:

- Identify and select plant materials that are used for landscapes in northern California regions.

- Analyze a landscape site and create a complete landscape design for that site.
- Analyze a landscape design and apply the installation procedures necessary to implement the design.
- Assess a landscape and apply the maintenance operation techniques required.
- Asses a soil analysis and apply the appropriate procedures for plant health and soil sustainability.
- Apply safe operating procedures and practices to all landscape operations.

Requirements for Certificate	31 Units
HORT 100	Plant Diseases and Pests3
HORT 105	Pest Control Licensing For Certification2
HORT 110	Irrigation Design2
HORT 300	Introduction to Horticulture3
HORT 302	Soils and Plant Nutrition3
HORT 305	Plant Materials I3
HORT 306	Plant Materials II3
HORT 320	Landscape Construction3
HORT 322	Landscape Graphics3
HORT 324	Landscape Maintenance3
HORT 326	Landscape Design3

Nursery Industry Degree

This degree provides a broad overview of the science of horticulture as it relates to the nursery industry. The focus of the program covers plant production and sales, plant identification, soils and fertilizers, plant diseases and pests, design and pesticide certification. Work experience is required.

Student Learning Outcomes

Upon completion of this program, the student will be able to:

- list the propagation options for nursery plants.
- describe the merchandising practices used in retail nursery sales.
- apply the principles of soil science and pest identification to nursery plant production and sales.
- categorize plant material by specific use in the landscape.
- design a basic landscape plan.
- demonstrate horticultural skills in a work environment.

Requirements for Degree	30-33 Units
HORT 100	Plant Diseases and Pests3
HORT 105	Pest Control Licensing For Certification2
HORT 298	Work Experience in Horticulture 1 - 4
HORT 300	Introduction to Horticulture3
HORT 302	Soils and Plant Nutrition3
HORT 305	Plant Materials I3
HORT 306	Plant Materials II3
HORT 310	Nursery Practices3
HORT 312	Plant Propagation3
HORT 322	Landscape Graphics3
HORT 326	Landscape Design3

Associate Degree Requirements: The Nursery Industry Associate in Science (A.S.) Degree may be obtained by completion of the required program, plus general education requirements, plus sufficient electives to meet a 60-unit total. See ARC graduation requirements.

Nursery Industry Certificate

This certificate provides a broad overview of the science of horticulture as it relates to the nursery industry. The focus of the program covers plant production and sales, plant identification, soils and fertilizers, plant diseases and pests, design and pesticide certification.

Student Learning Outcomes

Upon completion of this program, the student will be able to:

- list the propagation options for nursery plants.
- apply the principles of soil science and pest identification to nursery plant production and sales.
- categorize plant material by specific use in the landscape.
- describe the merchandising practices used in retail nursery sales.
- design a basic landscape plan.
- recommend solutions to various landscape practices and situations.

Requirements for Certificate		29 Units
HORT 100	Plant Diseases and Pests	3
HORT 105	Pest Control Licensing For Certification	2
HORT 300	Introduction to Horticulture	3
HORT 302	Soils and Plant Nutrition	3
HORT 305	Plant Materials I	3
HORT 306	Plant Materials II	3
HORT 310	Nursery Practices	3
HORT 312	Plant Propagation	3
HORT 322	Landscape Graphics	3
HORT 326	Landscape Design	3

Floristry Certificate

The Floristry certificate provides well-balanced training in the fundamentals of floral design, the identification of flowers and foliage, the care of fresh cut product and the sources of floral materials. Courses cover special event floral design such as weddings, funerals and holidays, and prepares students to participate in the varied floral enterprises.

Student Learning Outcomes

Upon completion of this program, the student will be able to:

- Identify floral specimens used in commercial floristry by scientific name and availability
- Assess and utilize floral materials and design to create a visually appealing and salable arrangement
- Demonstrate methods in the care and merchandising of floral materials
- Resource and purchase floral materials
- Apply the distinctive marketing skills for both the retail and mass market in the floral industry

Career Opportunities

Completion of the certificate provides satisfactory qualification for employment in retail and mass market floristry industries. The program also is a means to upgrade skills of those already working in the industry.

Requirements for Certificate		8 Units
HORT 200	Introduction to Retail Floristry	2
HORT 201	Floral Design	2
HORT 202	Corsage and Wedding Floral Design	2
HORT 203	Multi Occasion, Sympathy Design and the Mass Market	2

HORT 100 Plant Diseases and Pests 3 Units

Corequisite: HORT 300.

Hours: 36 hours LEC; 54 hours LAB

This course is a study of local plant diseases and pests including weed problems, recognition of symptoms and causes, plant/insect/disease life cycles, host and habitat relationships and methods of control.

HORT 105 Pest Control Licensing For Certification 2 Units

Prerequisite: HORT 300 with a grade of "C" or better.

Hours: 36 hours LEC

This course covers the laws and regulations for operators, applicators, and advisors including the study of weeds, diseases and insects and accepted standards for control.

HORT 110 Irrigation Design 2 Units

Prerequisite: HORT 300 with a grade of "C" or better.

Hours: 36 hours LEC

This course is a study of water hydraulics, irrigation equipment inclusive of heads, pipes, pumps, clocks, and valves. Irrigation design, which includes preparing plans, dealing with measurement, head layout, pipe sizing and specifications, is covered.

HORT 140 Advanced Student Projects 2 Units

Prerequisite: HORT 300 with a grade of "C" or better.

Hours: 108 hours LAB

This course provides the student with an opportunity to pursue advanced projects which are selected by the department. This course may be taken twice for credit.

HORT 200 Introduction to Retail Floristry 2 Units

Hours: 18 hours LEC; 54 hours LAB

This course presents fundamentals of design techniques and skills practiced in the floral industry. Topics include design mechanics, guides to design, identification of flower and foliage shapes and their use, cut flower care, corsage practice, and containers and designers' aids. Field trips may be required.

HORT 201 Floral Design 2 Units

Prerequisite: HORT 200 with a grade of "C" or better.

Hours: 18 hours LEC; 54 hours LAB

This course builds on the theory, techniques and skills developed in HORT 200. Identification of wholesale sources, origin of product, and seasonal price fluctuations in the industry and market are discussed. The emphasis of the course is on design techniques. Field trips may be required.

HORT 202 Corsage and Wedding Floral Design 2 Units

Prerequisite: HORT 201 with a grade of "C" or better.

Hours: 18 hours LEC; 54 hours LAB

This course presents the history and uses of wedding and body flower designs. The principles, methods, and practices used to create wedding bouquets and arrangements are explored and practiced. The techniques for wiring corsages, tools and materials for creating them, and other body flower designs are taught and experienced. Field trips may be required.

HORT 203 Multi Occasion, Sympathy Design and the Mass Market 2 Units

Prerequisite: HORT 202 with a grade of "C" or better.

Hours: 18 hours LEC; 54 hours LAB

This course presents the theory of sympathy, tribute, party and multi-occasion floral design. Design applications for standing, flat sprays, set work, large multi-occasion arrangements and casket covers are included, as well as their delivery and set up. The mass market place in floral design is explored. Field trips may be required.

HORT 204 Sympathy Tributes 1 Unit

Hours: 18 hours LEC

This course emphasizes principles and elements of sympathy tributes in the funeral business. It also includes the practical application of sympathy design. It covers trends, care and handling, customs, etiquette, and display of sympathy tributes.

HORT 205 Oriental Floral Design .5 Unit

Hours: 9 hours LEC

This course provides an introduction and overview of oriental floral arranging. The art, principles, and skills of Asian floral design are explored. This course has a class material fee. This course can be taken four times for credit as different oriental schools are covered.

HORT 206 Floral Arranging for Bereavement .5 Unit

Hours: 9 hours LEC

This course provides an introduction and overview of floral arrangements used in burial rituals. It also covers significant trends in the use of sympathy flowers and how they have evolved over time. A material fee is required for this course. This course may be taken four times for credit emphasizing flowers available in each of the four seasons.

HORT 207 Floral Designs For Special Events .5 Unit

Hours: 9 hours LEC

This course provides an introduction and overview of floral arranging for special events. The art, principles, and skills of floral designs for weddings, corporate events, high school events and special occasion designs are explored. This course has a class materials fee. This course can be taken four times for credit as different types of events are covered.

HORT 298 Work Experience in Horticulture 1-4 Units

Prerequisite: Horticulture 300 with a grade of "C" or better.

Advisory: HORT 100, 302, and 305.

General Education: AA/AS Area III(b)

Hours: 18 hours LEC; 60-225 hours LAB

This course provides supervised work experience in the field of horticulture for the purpose of increasing students' understanding of the nature and scope of the operation of horticulture businesses. Class enrollment is dependent upon student being in a paid or volunteer work experience learning environment.

HORT 300 Introduction to Horticulture 3 Units

General Education: AA/AS Area IV

Course Transferable to CSU

Hours: 54 hours LEC

This course is a survey of principles and practices of horticulture designed to improve the knowledge of the home gardener as well as those seeking a career in horticulture. Topics include basic plant structure and function, general knowledge of plant usage, landscape planning and maintenance.

HORT 302 Soils and Plant Nutrition 3 Units

Corequisite: HORT 300.

Course Transferable to CSU

Hours: 36 hours LEC; 54 hours LAB

This course is a study of the nature and properties of soils and their relationship to plant needs. Topics include water and irrigation problems and erosion control, composition, value and use of fertilizer materials, conditioners and agricultural minerals.

HORT 305 Plant Materials I 3 Units

Corequisite: HORT 300.

Course Transferable to UC/CSU

Hours: 36 hours LEC; 54 hours LAB

This course is a study of the identification, habits of growth, cultural requirements and uses of ornamental woody and herbaceous plants used in the California landscape. Emphasis is on those plants best observed in the fall and winter seasons.

HORT 306 Plant Materials II 3 Units

Corequisite: HORT 300.

Course Transferable to UC/CSU

Hours: 36 hours LEC; 54 hours LAB

This course is a study of the identification, habits of growth, cultural requirements and uses of ornamental woody and herbaceous plants used in the California landscape. Emphasis is on those plants best observed in the fall and winter seasons.

HORT 310 Nursery Practices 3 Units

Prerequisite: HORT 300 with a grade of "C" or better.

Advisory: HORT 100, 302, 305, and 306.

Course Transferable to CSU

Hours: 36 hours LEC; 54 hours LAB

This course is an overview of the practices involved in commercial nursery operations. Topics include selling techniques, displays and advertising, and customer assistance with basic garden practices.

HORT 312 Plant Propagation 3 Units

Prerequisite: HORT 300 with a grade of "C" or better.

Course Transferable to CSU

Hours: 36 hours LEC; 54 hours LAB

This course is a study of the fundamental principles involved in propagating plants including identification of facilities, equipment and techniques utilized in plant production. Topics include seed and vegetative propagation, media selection and structures.

HORT 314 Greenhouse Operations 3 Units

Prerequisite: HORT 300 with a grade of "C" or better.

Advisory: HORT 100, 302, 305, and 306.

Course Transferable to CSU

Hours: 36 hours LEC; 54 hours LAB

This course is a study of the problems and practices in the management of greenhouses, including the production of specific greenhouse crops.

HORT 320 Landscape Construction 3 Units

Prerequisite: HORT 300 with a grade of "C" or better.

Course Transferable to CSU

Hours: 36 hours LEC; 54 hours LAB

This course provides the theory and skills needed in the landscape construction industry. Landscape operations covered include carpentry, masonry, concrete/pavers, irrigation/drainage, low-voltage lighting, soil preparation and drainage, plant materials/turf, plan reading, estimating and bidding in the landscape trades. Field trips are required.

HORT 322 Landscape Graphics**3 Units***Prerequisite: HORT 300 with a grade of "C" or better.**Course Transferable to CSU**Hours: 36 hours LEC; 54 hours LAB*

This course is the study of technical drafting skills and freehand graphics including line quality, lettering and organization as it relates to landscape design. It also includes an introduction to three dimensional sketching and the use of a variety of graphics skills and media.

HORT 324 Landscape Maintenance**3 Units***Prerequisite: HORT 300 with a grade of "C" or better.**Course Transferable to CSU**Hours: 36 hours LEC; 54 hours LAB*

This course is a study of landscape maintenance of exterior and interior residential and commercial landscapes, parks, highways, and public buildings. Topics include planting, pruning, watering, fertilizing, pest control and power equipment operation and maintenance. Field trips are required.

HORT 326 Landscape Design**3 Units***Prerequisite: HORT 322 with a grade of "C" or better.**Course Transferable to CSU**Hours: 36 hours LEC; 54 hours LAB*

This course is a study of the basic principles and elements of landscape design related to the problem solving process, design theory and composition, functional and design uses of landscape materials, and client and maintenance criteria.

HORT 327 Advanced Landscape Design**3 Units***Prerequisite: HORT 322 with a grade of "C" or better**Course Transferable to CSU**Hours: 36 hours LEC; 54 hours LAB*

This course is the study of the advanced and in-depth principles of custom residential landscape design related to proposal writing, site analysis, design development and construction document preparation. Further exploration of design composition is studied as well as the development of spaces and the use of materials based upon a client's program desires.

HORT 328 Turf Grass Management**3 Units***Prerequisite: Horticulture 300 with a grade of "C" or better.**Course Transferable to CSU**Hours: 36 hours LEC; 54 hours LAB*

This course is a study of the maintenance and management of turfgrass areas including golf greens, athletic fields, parks, as well as residential lawns.

HORT 329 Landscape CAD Design**3 Units***Prerequisite: HORT 322 with a grade of "C" or better**Advisory: DESGN 100**Course Transferable to CSU**Hours: 36 hours LEC; 54 hours LAB*

This course is an introduction to computer assisted landscape design and drafting utilizing Computer Aided Drafting and Design (CADD) software to produce professional quality landscape designs for residential and commercial sites. Design emphasis includes site plan development and landscape planting and landscape irrigation plans, with the generation of materials lists based on the design created for the site.

HORT 330 Small Gas Engines, 4-Cycle**2 Units***Same As: AT 301**Course Transferable to CSU**Hours: 18 hours LEC; 54 hours LAB*

This course covers basic operational theory, servicing, adjusting and the maintenance of 4-cycle small gas engines as they pertain to the automotive and horticulture industries. This course is not open to students who have taken AT 301.

HORT 331 Small Gas Engines, 2-Cycle**2 Units***Same As: AT 302**Course Transferable to CSU**Hours: 18 hours LEC; 54 hours LAB*

This course covers basic operational theory, servicing, adjusting, and maintaining 2-cycle small gas engines as they pertain to the automotive and horticulture industries. This course is not open to students who have taken AT 302.