

Horticulture



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Agricultural Sciences Department

Revised 02/01/12

HORTICULTURE MISSION STATEMENT

The Horticulture Team at Mt. San Antonio College is committed to providing students:

- 1. Training: that is developing employable skills.**
- 2. Educating: the teaching and learning skills of critical thinking.**
- 3. Inspiring: encouraging and promoting the passion for the world of horticulture.**
- 4. Celebrating: the learning process and success of our students.**

Welcome to Mt. San Antonio College Horticulture

The Ornamental Horticulture Program at Mt. San Antonio College is one of the largest in California. It serves Los Angeles, San Bernardino, Orange and Riverside Counties. The classes offered prepare the individual for a career in many different areas of horticulture, such as:

Nursery Management: The propagation, scheduling, production, and marketing of ornamental plants.

Interior Landscaping: The design, selection and care of plants for interior situations such as malls, office buildings, and residences.

Retail Garden Center Sales and Management: Selling and marketing of plants, plant products, pesticides, fertilizers and horticultural equipment.

Landscape Maintenance: Care and management of landscape plantings in home gardens, industrial parks, condominium complexes, schools and institutions.

Landscape Contracting: Installation and construction of landscape plantings, decks, fences, pools, outdoor lighting, irrigation systems, patios, walks and retaining walls.

Turf Management: Maintenance of golf courses, parks, athletic fields, cemeteries and other large turf areas.

Arboriculture: Care and culture of woody plants, including tree pruning, cabling and bracing.

Pest Control: Identification and control (chemical, biological and cultural) of insects, diseases and weed pests in the landscape.

Landscape Design: Site and client analysis, planning the outdoor environment, including the preparation of drawings and planting plans.

Floral Design: The design and preparation of flower arrangements for weddings, corsages, funerals and special occasions.

Horticultural Equipment Operations: The selection, operation and maintenance of horticultural equipment.

Landscape Irrigation Design and Application: The design, installation and maintenance of irrigation systems.

Benefits of the Ornamental Horticulture Program at Mt. San Antonio College

Mt. San Antonio College is located in Los Angeles County, which is one of the largest dollar-volume counties utilizing horticultural and products in the world. We utilize the nearby industry for numerous field trips and job placement.

Practical approach to horticulture with hands-on experience and interaction with the horticultural industry.

Most classes are offered in block mode (meet one day per week) so individuals can maintain employment and still seek a degree or certificate. Additionally, the classes for the certificate program are scheduled so the student could obtain a certificate by attending at night.

Students propagate, produce and market horticultural products.

Horticulture and Equipment Club activities.

Work Experience Program. Earn units for on-the-job work experience.

Individualized and personalized instruction with low instructor-to-student ratio.

Full-time and part-time faculty with over (60) years of practical industry experience.

Advisory Committee composed of many industry leaders in horticultural enterprises.

Facilities

The Horticulture Unit is located on approximately seven acres of land as part of the entire school farm.

Greenhouse space totaling 12,000 square feet.

Shade house space totaling 56,000 square feet.

Three classrooms, including a landscape drafting lab, floral design lab, and plant propagation and nursery management lab.

Landscape power equipment shop.

Landscape irrigation and construction lab.

Turf plots.

Orchard.

Groundcover and herbaceous plots.

Large campus with many established ornamental plants to serve as a continual laboratory.

Master Plan to include a new Agriculture Classroom and Laboratory Building and facilities including a new propagation house.

The Curriculum

Courses are offered which lead to certificates in the following areas of specialization:

- **Interior Landscaping**
- **Landscape Design and Construction**
- **Landscape Equipment Technology**
- **Landscape Irrigation**
- **Landscape and Park Maintenance**
- **Nursery Management**
- **Tree Care and Maintenance**
- **Sports Turf Management**
- **Park Management**

The requirements for these certificates are explained in more detail later in the handbook.

In addition, the college offers Associate in Science Degrees in:

- **Ornamental Horticulture**
- **Park and Sports Turf Management**
- **Equipment Technology**
- **Integrated Pest Management**
- **Agri-Technology**

Most courses are transferable to a four year institution where a higher degree may be earned.

For More Information, Please Contact:

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horticulture.mtsac.edu**

SOME CAREER OPTIONS

Nursery Management

Wholesale Production Nursery Propagator

- **Inventory Controller**
- **Field Foreperson**
- **Field Superintendent**
- **Manager**
- **Salesperson**
- **Sales Manager**
- **Shipping Foreperson**
- **Broker**

Wholesale Production of Seeds

- **Breeder Propagator**
- **Independent Grower**
- **Sales Manager**
- **Salesperson and Dealer**

Retail Nursery and Garden Center

General Manager
Buyer
Division Manager
Plant Doctor (Horticulturist)
Landscape Designer
Salesperson
Floral Designer
Maintenance Person
Delivery Person (Truck Driver)

Arboretum, Botanical Garden and Horticulture Garden

Director
Superintendent of Operations
Educational Director
Curator
Librarian
Writer
Propagator
Researcher
Greenhouse Manager

Education and Research

Extension Agent (Farm Advisor)
Private Horticultural Consultant
Garden Writer

Education and Research (continued)

Ornamental Horticulture Instructors

- **High School**
- **Community College**
- **University**
 - Landscape Design**
 - Landscape Contracting**
 - Floriculture Production**
 - Diseases and Pests**
 - Floral Design**
 - Management**

Research Scientists

Research Technicians

Plant Inspector

Horticulture Therapy

Landscape Industry

Landscape Contracting

- **Landscape Designer**
- **Landscape Estimator**
- **Landscape Contractor**
- **Landscape Construction Crew Foreperson**
- **Landscape Maintenance Foreperson**
- **Landscape Gardener**
- **Salesperson**
- **Landscape Draftsperson**

Turf Management

- **Greenskeeper**
- **Greenskeeper, Head Foreperson**
- **Turf Grower**

Parks Management

Parks Service Manager

Parks Maintenance Supervisor

Groundskeeper

Interior Landscape

Designer - Salesperson

Contractor (Installer)

Contractor, Rental and/or Maintenance

Arboriculture

Urban Forester

Tree Trimmer

Tree Trimming Foreperson

Tree Surgeon

Floriculture and Design

Production

- **Grower**
- **Production Superintendent or Foreperson**

Marketing Manager

- **Propagator**
- **Inventory Controller**

Wholesale Commission

Florist

Manager

Buyer

Sales Manager

Salesperson

Route Salesperson

Retail Florist

Store Manager

Sales Clerk

Head Designer

Designer

Wire Service Field Representative

Panel or Show Designer

ASSOCIATE IN SCIENCE DEGREE
in
ORNAMENTAL HORTICULTURE

Required Courses:

AGAG 1	Food Production, Land Use and Politics - A Global Perspective
AGOR 1	Horticultural Science
AGOR 2	Plant Propagation/Greenhouse Management
AGOR 13	Landscape Design
AGOR 24	Integrated Pest Management
AGOR 29	Ornamental Plants - Herbaceous
AGOR 30	Ornamental Plants - Trees and Woody Shrubs
AGOR 32	Landscaping and Nursery Management
AGOR 39	Turf Grass Production and Management
AGOR 50	Soil Science and Management
AGOR 62	Landscape Irrigation - Design and Installation
AGOR 71	Landscape Construction Fundamentals
AGOR 91	Work Experience in Nursery Operations

PLUS – Select six (6) units from the following:

AGOR 15	Interior Landscaping
AGOR 25	Floral Design I
AGOR 26	Floral Design II
AGOR 40	Sports Turf Management
AGOR 51	Tractor and Landscape Equipment Operations
AGOR 53	Small Engine Repair I
AGOR 63	Landscape Irrigation Systems Management
AGOR 72	Landscape Hardscape Applications
AGOR 75	Urban Arboriculture
CISB 15	Microcomputer Applications

ASSOCIATE IN SCIENCE DEGREE IN EQUIPMENT TECHNOLOGY

Required Courses:

AGAG 1	Food Production, Land Use and Politics, A Global Perspective
AGAG 59 or 60 or 61 or 62	Work Experience in Agriculture
AGOR 51	Tractor and Landscape Equipment Operation
AGOR 52	Hydraulics
AGOR 53	Small Engine Repair I
AGOR 54	Small Engine Repair II
AGOR 55	Diesel Engine Repair
AGOR 56	Engine Diagnostics
AGOR 57	Power Train Repair
AGAG 91	Agricultural Calculations
AGOR 71	Landscape Construction Fundamentals
AGOR 72	Landscape Hardscape Applications
CISB 15	Microcomputer Applications

Landscape Equipment Technology Certificate

AGOR 1	Horticultural Science
AGOR 51	Tractor and Landscape Equipment Operation
AGOR 52	Hydraulics
AGOR 53	Small Engine Repair I
AGOR 54	Small Engine Repair II
AGOR 55	Diesel Engine Repair
AGOR 56	Engine Diagnostics
AGOR 57	Power Train Repair
AGOR 71	Landscape Construction Fundamentals
AGOR 72	Landscape Hardscape Applications
AGOR 91 or 92 or 93 or 94	Work Experience in Nursery Operations

ASSOCIATE IN SCIENCE DEGREE IN PARK AND SPORTS TURF MANAGEMENT

Required Courses:

AGOR 4	Park Management
AGOR 5	Park Facilities
AGOR 13	Landscape Design
AGOR 24	Integrated Pest Management
AGOR 29	Ornamental Plants - Herbaceous
AGOR 30	Ornamental Plants - Trees and Woody Shrubs
AGOR 39	Turf Grass Production and Management
AGOR 40	Sports Turf Management
AGOR 50	Soil Science and Management
AGOR 51	Tractor and Landscape Equipment Operations
AGOR 62	Landscape Irrigation Design and Installation
AGOR 63	Landscape Irrigation Systems Management
AGOR 71	Landscape Construction Fundamentals
AGOR 73	Landscaping Laws, Contracting, and Estimating
AGOR 75	Urban Arboriculture
AGOR 91	Work Experience in Nursery Operations

**ASSOCIATE IN SCIENCE DEGREE
in
INTEGRATED PEST MANAGEMENT**

Required Courses:

AGOR 1	Horticultural Science
AGOR 24	Integrated Pest Management
AGOR 29	Ornamental Plants - Herbaceous
AGOR 30	Ornamental Plants - Trees and Woody Shrubs
AGOR 39	Turf Grass Production and Management
AGOR 50	Soil Science and Management
AGOR 62	Landscape Irrigation Design and Installation
AGOR 63	Landscape Irrigation Systems Management
AGOR 91	Work Experience in Nursery Operations

PLUS – Select six (6) units from the following:

BIOL 1, 2, 3, 4, 4H, 6, 6L, 8, 20, 21, 34, 50
BTNY 3
CHEM 10, 20, 40, 50, 50H, 51, 60, 80, 81

PLUS – Select nine (9) units from the following:

AGOR 2	Plant Propagation
AGOR 15	Interior Landscaping
AGOR 32	Landscaping and Nursery Management
AGOR 40	Sports Turf Management
AGOR 75	Urban Arboriculture

ASSOCIATE IN SCIENCE DEGREE IN AGRI-TECHNOLOGY

Required Courses:

AGAG 1	Food Production, Land Use, and Politics – A Global Perspective
AGAG 91	Agricultural Calculations
AGAN 1	Animal Science
AGOR 1	Horticultural Science
AGOR 32	Landscaping and Nursery Management
AGOR 56	Engine Diagnostics
AGOR 71	Landscape Construction Fundamentals

PLUS – Select one course from:

AGLI 14	Swine Production
AGLI 16	Horse Production
AGLI 17	Sheep Production
AGLI 30	Beef Production
AGOR 24	Integrated Pest Management
AGOR 62	Landscape Irrigation – Design and Installation
AGPE 70	Pet Shop Management
AGPE 71	Canine Management

Certificates in Horticulture

The following certificates are skill-oriented and derived from input of industry professionals in the horticultural fields represented. The curriculum is intended to prepare students for entry-level positions or skill enhancement in horticulture.

Interior Landscaping Certificate

AGOR 1	Horticultural Science
AGOR 13	Landscape Design
AGOR 15	Interior Landscaping
AGOR 24	Integrated Pest Management
AGOR 29	Ornamental Plants - Herbaceous
AGOR 32	Landscaping and Nursery Management
AGOR 62	Landscape Irrigation - Design and Installation
AGOR 64	Landscape Irrigation – Drip and Low Volume

Landscape Design and Construction Certificate

AGOR 1	Horticultural Science
AGOR 13	Landscape Design
AGOR 24	Integrated Pest Management
AGOR 29	Ornamental Plants - Herbaceous
AGOR 30	Ornamental Plants - Trees and Woody Shrubs
AGOR 50	Soil Science and Management
AGOR 51	Tractor and Landscape Equipment Operations
AGOR 62	Landscape Irrigation - Design and Installation
AGOR 71	Landscape Construction Fundamentals
AGOR 72	Landscape Hardscape Applications
AGOR 73	Landscaping Laws, Contracting, and Estimating

Landscape Equipment Technology Certificate

AGOR 1	Horticultural Science
AGOR 51	Tractor and Landscape Equipment Operations
AGOR 52	Hydraulics
AGOR 53	Small Engine Repair I
AGOR 54	Small Engine Repair II
AGOR 55	Diesel Engine Repair
AGOR 56	Engine Diagnostics
AGOR 57	Power Train Repair
AGOR 71	Landscape Construction Fundamentals
AGOR 72	Landscape Hardscape Applications
AGOR 91	Work Experience in Nursery Operations

Landscape Irrigation Certificate

AGOR 1	Horticultural Science
AGOR 13	Landscape Design
AGOR 39	Turf Grass Production and Management
AGOR 50	Soil Science and Management
AGOR 51	Tractor and Landscape Equipment Operations
AGOR 62	Landscape Irrigation - Design and Installation
AGOR 63	Landscape Irrigation Systems Management
AGOR 64	Landscape Irrigation – Drip and Low Volume
AGOR 71	Landscape Construction Fundamentals

Landscape and Park Maintenance Certificate

AGOR 1	Horticultural Science
AGOR 24	Integrated Pest Management
AGOR 29	Ornamental Plants - Herbaceous
AGOR 30	Ornamental Plants - Trees and Woody Shrubs
AGOR 39	Turf Grass Production and Management
AGOR 40	Sports Turf Management
AGOR 51	Tractor and Landscape Equipment Operations
AGOR 62	Landscape Irrigation - Design and Installation
AGOR 63	Landscape Irrigation Systems Management
AGOR 71	Landscape Construction Fundamentals

Nursery Management Certificate

AGOR 1	Horticultural Science
AGOR 2	Plant Propagation/Greenhouse Management
AGOR 24	Integrated Pest Management
AGOR 29	Ornamental Plants - Herbaceous
AGOR 30	Ornamental Plants - Trees and Woody Shrubs
AGOR 32	Landscaping and Nursery Management
AGOR 39	Turf Grass Production and Management
AGOR 62	Landscape Irrigation - Design and Installation
AGOR 64	Landscape Irrigation – Drip and Low Volume

Park Management Certificate

AGOR 1	Horticultural Science
AGOR 4	Park Management
AGOR 5	Park Facilities
AGOR 24	Integrated Pest Management
AGOR 30	Ornamental Plants - Trees and Woody Shrubs
AGOR 39	Turf Grass Production and Management
AGOR 51	Tractor and Landscape Equipment Operations
AGOR 62	Landscape Irrigation - Design and Installation
AGOR 63	Landscape Irrigation Systems Management
AGOR 75	Urban Arboriculture

Tree Care and Maintenance Certificate

AGOR 1	Horticultural Science
AGOR 24	Integrated Pest Management
AGOR 30	Ornamental Plants - Trees and Woody Shrubs
AGOR 32	Landscaping and Nursery Management
AGOR 50	Soil Science and Management
AGOR 51	Tractor and Landscape Equipment Operations
AGOR 53	Small Engine Repair I
AGOR 75	Urban Arboriculture

Sports Turf Management Certificate

AGOR 1	Horticultural Science
AGOR 24	Integrated Pest Management
AGOR 30	Ornamental Plants - Trees and Woody Shrubs
AGOR 39	Turf Grass Production and Management
AGOR 40	Sports Turf Management
AGOR 50	Soil Science and Management
AGOR 51	Tractor and Landscape Equipment Operations
AGOR 62	Landscape Irrigation Design and Installation
AGOR 63	Landscape Irrigation Systems Management

COURSE DESCRIPTIONS

AGRICULTURE: GENERAL SUBJECTS

AGAG 1 – Food Production, Land Use, and Politics – A Global Perspective 3 UNITS
54 hours lecture Degree Appropriate, CSU, UC

Surveys the world's food producing systems in terms of economic, political, and cultural forces. Emphasizes ethical, sustainable food producing agriculture.

AGRICULTURE: ORNAMENTAL HORTICULTURE

AGOR 1 - Horticultural Science 3 UNITS
54 hours lecture. Degree Appropriate, CSU

The basic horticulture skills and techniques for use in gardening, nursery and landscape applications. Emphasis on propagation, cultural practices and the study of plant relationships, structure, growth and development.

AGOR 2 - Plant Propagation/Greenhouse Management 3 UNITS
36 hours lecture, 54 hours lab. Degree Appropriate, CSU

Plant Propagation and Production practices with emphasis on florists' plants, woody ornamentals and fruits. Commercial techniques include seed propagation, cuttings, grafting and budding, layering, fern sporing and division. Stresses greenhouses and other environmental structures for plant propagation and production.

AGOR 4 - Park Management 3 UNITS
54 hours lecture. Degree Appropriate

Management and operation of municipal park departments. Includes the development of budgets, purchasing, park policies, planning and scheduling.

AGOR 5 - Park Facilities 3 UNITS
54 hours lecture. Degree Appropriate

Management and operation of different types of park facilities. Includes the management of sports fields, recreation centers, campgrounds, aquatic facilities and golf courses.

AGOR 13 - Landscape Design 3 UNITS
36 hours lecture, 54 hours lab. Degree Appropriate, CSU

Fundamentals and implementation of landscape design. Principles of design, the design process, drafting, graphics, site evaluation, landscaping materials, and plant usage. Projects emphasize residential and small commercial sites.

AGOR 15 - Interior Landscaping 3 UNITS
54 hours lecture. (May be taken for option of letter grade or Credit/No Credit) Degree Appropriate

Design, installation and maintenance practices used in interior landscaping. Includes identification, culture and care of plants suitable for interior use.

AGOR 24 - Integrated Pest Management 3 UNITS
36 hours lecture, 54 hours lab. Degree Appropriate, CSU

Identifies common agricultural pests in Southern California and analyzes physical, biological and chemical pest control principles and practices. Stresses pesticide use, safety, equipment, laws and regulations of pesticides.

AGOR 25 - Floral Design I 3 UNITS
36 hours lecture, 54 hours lab. Degree Appropriate, CSU

Instruction and application of principles in the art of floral design as to form, styles and composition. Designing of floral arrangements, wreaths, sprays, baskets, bouquets, wedding flowers and corsages are included in the laboratory.

AGOR 26 - Floral Design II 3 UNITS
36 hours lecture, 54 hours lab. Degree Appropriate, CSU
Prerequisite: AGOR 25 or equivalent experience.

Continued application of principles in the art of floral design. Contemporary design theory emphasizing creativity, self expression, and professional design situations.

AGOR 27 - Floral Design III 3 UNITS
36 hours lecture, 54 hours lab. Degree Appropriate
(May be taken two times for credit. May be taken for option of letter grade or Credit/No Credit.)
Prerequisite: AGOR 25 and AGOR 26.

Advanced application of principles in the art of holiday designs, party and wedding designs, and sympathy designs. Florist management operations will be emphasized. Students who repeat this course will improve skills through further instruction and practice.

AGOR 29 - Ornamental Plants - Herbaceous 3 UNITS
36 hours lecture, 54 hours lab. Degree Appropriate, CSU, UC

A detailed study of herbaceous plants, including their identification, growth habits, culture, and ornamental use of landscape annuals, biennials, perennials, ferns, indoor plants, ground covers and vines adapted to climates of Southern California. Plants emphasized will come from the California Association of Nurserymen and Garden Centers (CANGC) and California Landscape Contractors Association (CLCA) certification plant lists.

AGOR 30 - Ornamental Plants - Trees and Woody Shrubs 3 UNITS
36 hours lecture, 54 hours lab. Degree Appropriate, CSU, UC

Identification, Growth Habits, culture and ornamental use of landscape trees and shrubs adapted to climates of Southern California. Plants emphasized will come from the California Association of Nurserymen and Garden Centers (CANGC) and California Landscape Contractors Association (CLCA) certification plant lists.

AGOR 32 - Landscaping and Nursery Management**3 UNITS**

36 hours lecture, 54 hours lab.

Degree Appropriate, CSU

Operation and management of wholesale and retail nurseries. Includes site location and layout of areas; greenhouse management; soil mixes and proper use of fertilizers, insecticides, fungicides, herbicides, and growth regulators; irrigation; mechanization; financing; personnel management; retail displays, advertising, and customer relationships; federal, state and local laws and regulations. Field trips are included.

AGOR 39 - Turf Grass Production and Management**3 UNITS**

36 hours lecture, 54 hours lab.

Degree Appropriate, CSU

Introduction to cultivation, maintenance and management of turfgrasses utilized for athletic fields, golf courses, parks, cemeteries, commercial and residential lawns. Identification, installation, cultural requirements and maintenance practices are emphasized.

AGOR 40 - Sports Turf Management**3 UNITS**

36 hours lecture, 54 hours lab.

Degree Appropriate

Prerequisite: AGOR 39 or equivalent experience.

Prepares students to work in the sports turf industry. Emphasizes turf cultural techniques used in sports turf management. Includes turf surfaces used on baseball, football, soccer, tennis, golf courses, driving ranges and other sports fields in both professional and amateur sports. Field trips are included.

AGOR 50 - Soil Science and Management**3 UNITS**

36 hours lecture, 54 hours lab.

Degree Appropriate, CSU, UC

Principles of proper soil management to optimize plant growth, including management of air, water, nutrients and organic matter. Physical and chemical properties of soil that govern soil reactions and interactions. Field trips are included.

AGOR 51 – Tractor and Landscape Equipment Operations**3 UNITS**

36 hours lecture, 54 hours lab.

Degree Appropriate

May be taken for option of letter grade or Credit/No Credit.

Selection, operation, repair and maintenance of power equipment used in the landscape industry. Includes 2WD and 4WD tractors, skip loader, skid steer loader, backhoe, lawnmowers, edgers, weed eaters, blower/vacuum, rototillers, chainsaws, spraying equipment and all-terrain vehicles. Laboratory includes actual hands-on applications of this equipment.

AGOR 52 – Hydraulics**3 UNITS**

36 hours lecture, 54 hours lab.

Degree Appropriate, CSU

Operation, maintenance, and repair of hydraulic systems. Emphasis: pumps, valves, cylinders, flow control, reservoirs, lines, motors, and hydrostatic transmissions. Laboratory provides hands-on application of hydraulic systems.

AGOR 53 – Small Engine Repair I**3 UNITS**

36 hours lecture, 54 hours lab.

May be taken for option of letter grade or Credit/No Credit.

Principles and repair of small engines used in landscape, industrial and agricultural applications. Includes repairs of lawnmowers, chainsaws, 2-cycle engine, 4-cycle engine, spraying equipment, all-terrain vehicles, and other related gas powered equipment.

AGOR 54 – Small Engine Repair II**3 UNITS**

36 hours lecture, 54 hours lab.

Degree Appropriate, CSU

May be taken for option of letter grade or Credit/No Credit.

Advanced repair and maintenance of mid-horsepower gasoline and diesel engines. Multi-cylinder air and water cooled engines used in landscape, industrial and agricultural applications. Repair of ridemowers, generator engines, air compressor engines, 2-cycle and 4-cycle engines, spraying equipment, all terrain vehicles, and other related gas-powered equipment. Students gain actual hands-on experience maintaining and overhauling engines.

AGOR 55 – Diesel Engine Repair**3 UNITS**

36 hours lecture, 54 hours lab.

Degree Appropriate, CSU

May be taken for option of letter grade or Credit/No Credit.

Repair and maintenance of diesel engines used to power industrial, landscape and agricultural equipment. Students gain actual hands-on experience maintaining, servicing, and repairing diesel engines.

AGOR 56 – Engine Diagnostics**3 UNITS**

36 hours lecture, 54 hours lab

Degree Appropriate, CSU

May be taken for option of letter grade or Credit/No Credit.

Analysis and evaluation of tractor power failure. Students gain actual experience in the proper diagnostic procedures of power equipment. Service, maintenance and repair of tractor electrical wiring, voltage regulators, generators, alternators, switches, gauges, batteries and test equipment.

AGOR 57 – Power Train Repair**3 UNITS**

36 hours lecture, 54 hours lab.

Degree Appropriate

May be taken for option of letter grade or Credit/No Credit.

Service, maintenance, and repair of power trains. Students gain experience with clutches, transmissions, differentials, power take-of units, and final drive used to transmit power on tractors.

AGOR 62 – Landscape Irrigation – Design and Installation**3 UNITS**

36 hours lecture, 54 hours lab.

Degree Appropriate, CSU

May be taken for option of letter grade or Credit/No Credit.

Design and application of turf and ornamental irrigation systems. Design techniques, sprinkler system components and hydraulic principles used in nursery management, interior design, residential and commercial landscaping. Special emphasis is given to water conservation incorporating controlled flow technologies.

AGOR 63 - Landscape Irrigation Systems Management**3 UNITS**

36 hours lecture, 54 hours lab.

Degree Appropriate

May be taken for option of letter grade or Credit/No Credit.

Advisory Prerequisite: Eligibility for ENGL 68.

A systematic approach to water conservation in the landscape. Repair techniques that will allow a current system to efficiently operate to its initial design. Trouble shooting procedures including field testing of valves and controllers. Irrigation efficiency test will be incorporated to demonstrate proper methods of water audits.

AGOR 64 – Landscape Irrigation – Drip and Low Volume**3 UNITS**

36 hours lecture, 54 hours lab.

Degree Appropriate

May be taken for option of letter grade or Credit/No Credit.

Conservation of water in the landscape by utilization of drip and low-flow irrigation practices. Design, operation and maintenance of drip and low-flow irrigation systems, including determination of irrigation requirements, selection of emitters and low-flow devices, and uniformity of water distribution. Students will gain hands-on experience in design and installation techniques.

AGOR 71 - Landscape Construction Fundamentals**3 UNITS**

36 hours lecture, 54 hours lab.

Degree Appropriate, CSU

May be taken for option of letter grade or Credit/No Credit.

Advisory Prerequisite: Eligibility for ENGL 68.

Fundamentals of construction techniques and tools used in landscaping. Students will gain skills in construction projects that include utilities (gas, water, electricity), woodworking, masonry, and surveying techniques applied to landscaping.

AGOR 72 - Landscape Hardscape Applications**3 UNITS**

36 hours lecture, 54 hours lab.

Degree Appropriate, CSU

May be taken for option of letter grade or Credit/No Credit.

Prerequisite/Corequisite: AGOR 71 or equivalent experience.

Advisory Prerequisite: Eligibility for ENGL 68.

Landscape construction pertaining to all hardscape features. Course covers estimation and installation of fences, walks, planters, patios, lighting, barbecues, gazebos, decks, ponds, spas, fountains and pools. Students will gain hands-on-experience in the laboratory activities.

AGOR 73 – Landscaping Laws, Contracting, and Estimating**3 UNITS**

54 hours lecture.

Degree Appropriate, CSU

May be taken for option of letter grade or Credit/No Credit.

Landscape laws, contracting, and estimating as it pertains to Landscape Construction. Information covered will be helpful for the licensing exam administered by the state of California C-27 classification. Students will gain hands-on experience of contracting and running a business.

AGOR 75 - Urban Arboriculture**3 UNITS**

36 hours lecture, 54 hours lab.

Degree Appropriate

May be taken for option of letter grade or Credit/No Credit.

Care and management of ornamental trees. Includes pruning techniques, fruit tree care, bracing, cabling, and pest control. Safe practices in the use of equipment including the use of ropes, chippers, boom trucks, chain saws, and identification and evaluation of common trees. Prepares students for the tree worker and arborist certification exams.

AGOR 91 - Work Experience in Nursery Operations**1-4 UNITS****Degree Appropriate**

May be taken four times for credit, may be taken for Credit/No Credit only

Prerequisite: Compliance with Work Experience regulations as designated in Section III of College Catalog.

This course is designed to provide majors with actual on-the-job experience in an approved work station which is related to classroom instruction. A minimum of five hours per week of supervised work (minimum 75 paid clock hours or 60 non-paid clock hours per semester) is required for each one unit of credit. Students who repeat this course will improve skills through further instruction and practice.

GENERAL EDUCATION REQUIREMENTS

Please see the appropriate college catalog for general education requirements. Students have catalog rights for the year that they began the program of study, as long as enrollment has been continuous.

GRADUATION REQUIREMENTS

Application for Graduation

Certificates and degrees are not automatically awarded upon completion. Students must file an application to be awarded the certificate or degree. See the college catalog or your advisor for information about how and when to complete the proper application.