American River College 2005-2006

The ARC horticulture program prepares students for self-employment or employment with nurseries, landscape contractors, arborists, park departments, fertilizer and insecticide companies, or as maintenance groundskeepers or horticulture consultants. Students receive a formal education in plant identification: their habits, growth, cultural requirements and landscape use in the climates of northern California as well as a basic knowledge of the tools and equipment used in the landscape and nursery industries. After completing the first year of training, students elect an option in either landscape or nursery practices.

The Landscape Industry option builds skills and knowledge in the design and installation of landscape and turf grass systems, irrigation and sprinkler systems, fertilization, pruning, the use of power equipment and the law and regulations for pest control operations.

The Nursery Industry option emphasizes plant propagation techniques, greenhouse management, plant merchandising and installation, maintenance and customer relations. Work experience is required.

**Career Opportunities**

The continued growth of suburban residential areas, the growth of gardening as a major leisure time activity, and the demand for park and recreational greenbelt areas all provide challenging opportunities to those who choose careers in horticulture. With the growing interest in protecting and enhancing the environment and the increased demand for park and recreation green belts, employment opportunities for horticulturists look bright. Employment opportunities should grow in both industry and government agencies as environmental research leads to new laws and standards for protecting the environment.

**General Education Graduation Requirements:** In addition to completing the degree requirements, students must also complete the general education graduation requirements for an AA/AS degree. See ARC graduation requirements.
### Requirements for Certificate  

<table>
<thead>
<tr>
<th>Courses Required</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>HORT 100  Plant Diseases and Pests</td>
<td>3 Units</td>
</tr>
<tr>
<td>HORT 105  Pest Control Licensing For Certification</td>
<td>2 Units</td>
</tr>
<tr>
<td>HORT 110  Irrigation Design</td>
<td>2 Units</td>
</tr>
<tr>
<td>HORT 140  Advanced Student Projects</td>
<td>2 Units</td>
</tr>
<tr>
<td>HORT 298  Work Experience in Horticulture</td>
<td>1-4 Units</td>
</tr>
<tr>
<td>HORT 300  Introduction to Horticulture</td>
<td>3 Units</td>
</tr>
<tr>
<td>HORT 302  Soils and Plant Nutrition</td>
<td>3 Units</td>
</tr>
<tr>
<td>HORT 305  Plant Materials I</td>
<td>3 Units</td>
</tr>
<tr>
<td>HORT 306  Plant Materials II</td>
<td>3 Units</td>
</tr>
<tr>
<td>HORT 310  Nursery Practices</td>
<td>3 Units</td>
</tr>
<tr>
<td>HORT 312  Plant Propagation</td>
<td>3 Units</td>
</tr>
<tr>
<td>HORT 314  Greenhouse Operations</td>
<td>3 Units</td>
</tr>
<tr>
<td>HORT 320  Landscape Construction</td>
<td>3 Units</td>
</tr>
</tbody>
</table>

#### HORT 100  Plant Diseases and Pests  

**Prerequisite:** None  
**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  

**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  

**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  

**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 298  Work Experience in Horticulture  

**Prerequisite:** Horticulture 300 with a grade of “C” or better.  
**Advisory:** HORT 100, 302, 305, and 306.  
**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  

**Prerequisite:** None  
**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. AA/AS area 3A.

#### HORT 302  Soils and Plant Nutrition  

**Prerequisite:** None  
**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  

**Prerequisite:** None  
**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  

**Prerequisite:** None  
**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  

**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  

**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  

**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  

**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 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 330  Small Gas Engines  1 Unit
Prerequisite: None
Corequisite: HORT 300.
Course Transferable to CSU
Hours: 9 hours LEC; 27 hours LAB
This course covers trouble shooting, adjusting and maintaining small gas engines.