

VALLEY ROP COURSE OUTLINE

COURSE TITLE:	Ornamental Horticulture	
VALLRY ROP #:	AG-4050-OH	
CDE #:	5162	
CBEDS TITLE:	Ornamental Horticulture	
CBEDS #:	4050	
CTE SECTOR:	Agriculture & Natural Resources	
CTE PATHWAY:	Ornamental Horticulture	
JOB TITLES:	Landscaping & Grounds Keeper Workers	37-3011.00
	Floral Designers	27-1023.00

COURSE DESCRIPTION:

Ornamental Horticulture is a two-semester class (one year) designed to introduce and develop entry-level skills and experiences associated with the Ornamental Horticulture and Floriculture industries, as well as pursuing further education at a Community College or University. Students will obtain skills in the area of horticulture, landscape design, landscape maintenance, floriculture, turf, business sales and communications. Emphasis will be on a nursery landscape laboratory that includes: propagation, shade and green houses, a class landscape project, landscape park laboratory, vegetable, flower gardens and a retail sales project. This class articulates with Reedley College (2+2+2) and as graduation credit for Fine Arts at Selma High School. To receive in-depth training in design and career skills in the field of Horticulture, this course should be taken in succession with Floriculture, either following or preceding.

DATE APPROVED:	September 1999
REVISED DATE(S):	December 2008 / March 2009/Oct. 2009
HOURS:	180 Hours (2 semesters)
CREDITS:	5
PREREQUISITES:	None
GRADE LEVEL:	11-12
ARTICULATION(S):	None

TEXTBOOKS: *Introduction to Horticulture (Science and Technology)*, Interstate Publishers, 1997.
Floriculture Designs and Merchandising, Delmar Publishers, 1995.
Western Garden Book, Sunset Publishing, 1998.

COURSE COMPETENCIES:

Upon completion of this course, the student will:

- Demonstrate plant identification and selection of for local landscape applications by completion of lab assignments.
- Understand the principles of plant physiology and growth, including: photosynthesis, transpiration, respiration, and plant structure through satisfactory grade on tests and labs.
- Demonstrate methods of sexual and asexual plant propagation and factors affecting them through satisfactory grade on tests and labs.
- Learn the principles of integrated pest management and demonstrate through labs.
- Evaluate water management practices for ornamental plants. Student will demonstrate knowledge through satisfactory completion of lab assignments.
- Learn the relationship between growing mediums, water management, and fertilization through satisfactory completion of lab assignments.
- Demonstrate principles of pruning and training plant material through satisfactory completion of lab assignments.
- Describe the selection, installation, and care of turf through satisfactory completion of lab assignments.
- Become familiar with safe work practices with nursery production facilities, equipment, and tools by satisfactory completion of lab assignments.
- Demonstrate principles of landscape planning, design, construction, and maintenance through satisfactory completion of landscape design lab.
- Demonstrate principles and skills of floral design through satisfactory completion of floral labs.
- Learn about the California Horticultural Industry and role of supporting industries through demonstration in lab exercises.
- Learn the importance of record keeping through demonstrations in retail sales simulation.
- Learn about the importance of leadership by participating in leadership training activities.

INSTRUCTIONAL METHODS:

- Lecture
- Cooperative group learning
- Demonstration
- Modeling
- Multi-media aids
- Computer technology
- Nursery and Floral Practices
- Lab

EVALUATION METHODS:

Assessment opportunities, which allow continuous evaluation of students' progress, will be embedded throughout the course and should be a learning experience. All students will be expected to achieve mastery of all topics; often, demonstrations of mastery will occur in a public forum. The following strategies, which include both formal and informal assessment techniques will include, but are not limited to:

- Projects (Nursery labs, Floral labs, Landscape design, Installation and maintenance labs, and Retail sales simulation-Bear Roots)
- Chapter /lecture tests (t/f, multiple choice, fill-in, short answer, essay, and drawing)
- Chapter questions and problems (short answer, definitions, and critical thinking)
- Oral Presentations (design presentation and laboratory experiments)
- Class Participation (attendance, homework, discussions, group participation)

COURSE OUTLINE:

Unit of Instruction	Estimated Hours	State Framework
Introduction	5	
<ul style="list-style-type: none">• Importance of Horticulture Industry/California/U.S.• Occupational opportunities• Job requirements		
Recognize safe work practices	5	
<ul style="list-style-type: none">• Hand tool identification, storage and usage• Power equipment and usage• Personal safety measures		
Plant Physiology and Nomenclature	5	
<ul style="list-style-type: none">• Plant structures and functions• Plant classifications• Plant characteristics and identification		
Plant Propagation: Nursery Stocking	5	
<ul style="list-style-type: none">• Importance• Difference between sexual and asexual propagation• Labs in seeding, transplanting, cuttings, grafting, and division		
Nursery Practices	30	
<ul style="list-style-type: none">• Growing nursery stock• Care and maintenance of nursery plants• Plant handling• Structures		
Landscape Construction, Installation, and Maintenance	30	
<ul style="list-style-type: none">• Landscape measurement• Landscape design• Soils, soil conditioners, fertilizers, grading, and irrigation• Landscape installation• Structures, staking, and leveling		
Pruning of Ornamental Plants	10	
<ul style="list-style-type: none">• Reason for pruning• Timing of pruning• Pruning tools Identification, safety, use, and care• Types of pruning Thinning out, heading back, espalier, and hedging		
Turf / Grass Care	30	

- Identification of turf grass
- Planting/re-establishing methods
Seeding, stolons, sod, and plugging
- Maintenance practices
Mowing, edging, fertilization, watering, winter care aeration,
and basic pest and disease control

Floriculture 40

- Identification of flower varieties
- Floral design elements
- Wiring, ribbons, accessories and container
- Corsage production
Three flower and five flower arrangements
- Floral arranging
Symmetrical and asymmetrical

Business Procedures 20

- Record keeping
- Inventory and equipment records
- Marketing and sales

Total Hours 180 Total Hours

CAREER PREPARATION STANDARDS:

- A. **PERSONAL SKILLS** - Students will understand how personal skill development affects their employability. This skill includes positive attitudes, self-confidence, honesty, responsibility, initiative, self-discipline, personal hygiene, time management, and the capacity for lifelong learning.
1. Demonstrate an understanding of classroom policies and procedures.
 2. Discuss importance of the following personal skills in the business environment:
 - a. positive attitude
 - b. self-confidence
 - c. honesty
 - d. perseverance
 - e. self-management/work ethic
 - f. pride in product/work
 - g. dependability
 3. Identify acceptable work attire.
 4. Establish goals for self-improvement and further education/training.
 5. Prioritize tasks and meet deadlines.
 6. Understand the importance of initiative and leadership.
 7. Understand the importance of lifelong learning in a world of constantly changing technology.
- B. **INTERPERSONAL SKILLS** - Students will understand key concepts on group dynamics, conflict resolution, and negotiation. This skill includes the ability to work cooperatively, accept supervision, assume leadership roles, and show respect for others. This standard includes an understanding of sexual harassment laws and an appreciation of cultural diversity in the workplace.
1. Identify and discuss behaviors of an effective team.
 2. Explain the central importance of mutual respect in the workplace relations.
 3. Discuss and demonstrate strategies for conflict resolution and negotiation, and explain their importance within the business environment.
 4. Understand laws that apply to sexual harassment in the workplace, and identify tactics for handling harassment situations.
 5. Work cooperatively, share responsibilities, accept supervision and assume leadership roles.
 6. Demonstrate cooperative working relationships and proper etiquette across gender and cultural groups.
- C. **THINKING AND PROBLEM-SOLVING SKILLS** - Students will exhibit critical and creative thinking skills, logical reasoning, and problem-solving. These skills include applying basic skills in order to calculate, estimate, measure; identify, locate, and organize information/data; interpret and follow directions from manuals, labels, and other sources; analyze and evaluate information and solutions.
1. Recognize the importance of good academic skills and implement a plan for self-improvement as needed.
 2. Read, write, and give directions.
 3. Exhibit critical and creative thinking skills and logical reasoning skills, and employ these skills for problem solving.
 - a. Work as a team member in solving problems.
 - b. Diagnose the problem, its urgency, and its causes.
 - c. Identify alternatives and their consequences.
 - d. Explore possible solutions.
 - e. Compare/contrast the advantages and disadvantages of alternatives.
 - f. Determine appropriate action(s).
 - g. Implement action(s).

- h. Evaluate results of action(s) taken.
- D. **COMMUNICATION SKILLS** - Students will understand principles of effective communication. This standard includes effective oral and written communication, listening skills, following and giving directions, requesting and giving information, asking questions.
1. Use communication concepts in application of skills, techniques, and operations.
 - a. Prepare written material.
 - b. Analyze written material.
 2. Understand and implement written instructions, from technical manuals, written communications, and reference books.
 3. Present a positive image through verbal and nonverbal communication, and understand the power of body language in communication.
 4. Demonstrate active listening through oral and written feedback.
 5. Give and receive feedback.
 6. Demonstrate assertive communications (both oral and written).
 7. Demonstrate proper etiquette in workplace communications, including an awareness of requisites for international communications (languages, customs, time zones, currency and exchange rates).
 8. Demonstrate writing/editing skills as follows:
 - a. Write, proofread, and edit work.
 - b. Use correct grammar, punctuation, capitalization, vocabulary, and spelling.
 - c. Select and use appropriate forms of technology for communication.
 9. Exhibit a proficiency in the use of reference books.
 10. Research, compose, and orally present information for a variety of business situations utilizing appropriate technology.
- E. **OCCUPATIONAL SAFETY** - Students will understand occupational safety issues, including the avoidance of physical hazards in the work environment. This includes the safe operation of equipment, proper handling of hazardous materials, appropriate attire and safety accessories, avoidance of physical injuries, interpretation of warning and hazard signs and terminology, and following and understanding safety-related directions.
1. Discuss and implement good safety practices, including the following (if applicable to course):
 - a. personal
 - b. lab
 - c. fire
 - d. electrical
 - e. equipment
 - f. tools
 - g. interpretation of Material Safety Data Sheets (MSDSs)
 - h. Environmental Protection Agency (EPA)
 - i. Occupational Safety and Health Administration (OSHA)
 - j. American Red Cross Standards (ARC)
 - k. Networking Safety Standards
 2. Apply sound ergonomic principles in organizing one's work space.
- F. **EMPLOYMENT LITERACY** - Students will understand career paths and strategies for obtaining employment within their chosen field. This includes traditional job preparation skills, such as resumes, application forms, cover letters, sources of employment information, and interviewing skills, but also includes an overview of the industry and an understanding of labor market trends.
1. Explore career opportunities and projected trends; investigate required education, training and experience; and develop an individual education plan.
 2. Identify steps for setting goals and writing personal goals and objectives.

3. Examine aptitudes related to career options; relate personal characteristics and interests to educational and occupational opportunities.
4. Develop a career portfolio, including the following documents:
 - a. job application
 - b. resume(s)
 - c. appropriate cover and follow-up correspondence
5. Identify and demonstrate effective interviewing techniques.
- G. **TECHNOLOGY LITERACY** - Students will understand and adapt to changing technology by identifying, learning, and applying new skills to improve job performance. Students should understand the role of technology in their chosen field and should be able to use all appropriate technology. Students should also feel confident in their ability to learn new technology by generalizing from what they know, adapting skills to new situations, and identifying and using sources of information and of further learning.
 1. Demonstrate the ability to use personal computers for loading and retrieving data, information gathering, measurements, and writing.
 2. Identify the characteristics and explain the importance of adapting to changes, being flexible, and evaluating goals when working in the industry.
 3. Understand the importance of lifelong learning in adapting to changing technology.
- H. **IMPORTANCE OF ETHICS** – Students will understand proper ethics in the workplace.
 1. Discuss social and ethical responsibilities in the industry.
 2. Demonstrate ethical choices in workplace situations.