

**CUYAMACA COLLEGE**  
COURSE OUTLINE OF RECORD

**ORNAMENTAL HORTICULTURE 240 – GREENHOUSE PLANT PRODUCTION**

2 hours lecture, 3 hours laboratory, 3 units

**Catalog Description**

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.

**Prerequisite**

None

**Course Content**

- 1) Lecture:
  - a. Crop selection and programming
  - b. Marketing wholesale and retail
  - c. Greenhouse crop requirements
  - d. Greenhouse plant pricing
  - e. Labor and production management
  - f. Greenhouse structure and construction
  - g. Growing media
- 2) Laboratory:
  - a. Planting methods and spacing
  - b. Crop timing
  - c. Greenhouse production methods
  - d. Flower forcing techniques
  - e. Greenhouse equipment
  - f. Greenhouse benches
  - g. Greenhouse design

**Course Objectives**

Students will be able to:

- 1) Program and grow a greenhouse crop based on established horticultural practices.
- 2) Distinguish between various substrate based on substrate composition.
- 3) Propagate plants using cutting methods demonstrated in class.
- 4) Analyze various plants and draw conclusions on environment, substrate, watering, and fertilization to determine if corrective measures apply.
- 5) Identify and describe the function of the structural components of a greenhouse and compare and contrast greenhouse construction styles based on established industry standards.
- 6) Distinguish between and demonstrate the use of greenhouse environmental controls.
- 7) Identify crop problems between insects, disease, environment, and watering based on observations to determine if biotic or abiotic disturbances are present.
- 8) Prepare a basic business and marketing plan for a specific crop from production to market including the principles of plant branding.
- 9) Demonstrate proper planting, transplanting of liners, and production of cuttings.
- 10) Predict appropriate cutting methods, select quality propagation stock, and produce viable cuttings

**Method of Evaluation**

A grading system will be established by the instructor and implemented uniformly. Grades will be based on demonstrated proficiency in subject matter determined by multiple measurements for evaluation, one of which must be essay exams, skills demonstration or, where appropriate, the symbol system.

- 1) Quizzes and exams that measure students' retention and understanding of the content and concepts covered in both lecture and lab class meetings.
- 2) Exercises or assignments which measure students' ability to use practical methods demonstrated in both lecture and lab class meetings.

**Special Materials Required of Student**

None

**Minimum Instructional Facilities**

- 1) greenhouse
- 2) shadehouse
- 3) growing area
- 4) Containers, shears, labels
- 5) Smart classroom

**Method of Instruction**

- 1) Lecture and demonstration
- 2) Laboratory
- 3) Field trips
- 4) Research projects

**Out-of-Class Assignments**

Reading assignments

Preparation of business marketing plan

**Texts and References**

- 1) Required (representative examples):
  - a. Nelson, *Greenhouse Operation and Management*. 7th edition, Prentice Hall, 2012.
- 2) Supplemental: None

**Student Learning Outcomes**

Upon successful completion of this course, students will be able to:

- 1) Program and grow a greenhouse crop based on established horticultural practices including substrate selection, cutting propagation, use of Integrated Pest Management principles, and abiotic factor management to produce a wholesale/retail product meeting industry standards.
- 2) Identify and describe the function of the structural components of a greenhouse and compare greenhouse construction styles.
- 3) Understand and demonstrate the use of greenhouse environmental controls.
- 4) Prepare a basic business and marketing plan for a specific crop from production to market including the principles of plant branding.