

Lecture Contact Hours: 32-36; Outside-of-Class Hours: 64-72;

Laboratory Contact Hours: 48-54; Outside-of-Class Hours: 0;

Total Student Learning Hours: 144-162

CUYAMACA COLLEGE
COURSE OUTLINE OF RECORD

Ornamental Horticulture 130 – Plant Pest Control

2 hours lecture, 2 units

3 hours laboratory, 1 unit

Total units: 3 units

Catalog Description

Identification and control of insects, mites, spiders, snails, weeds and diseases that affect ornamental plants with an emphasis on their phylogenetic relationships, habits, habitats and important characteristics affecting the health of ornamental plants. Control methods will stress the relationships with predators and integrated pest management. The course will introduce study material for the Qualified Applicator Certificate and License.

Prerequisite

None

Course Content

- 1) Lecture:
 - a. Pest control license laws
 - b. Pesticide safety
 - c. Weed Identification
 - d. Insect identification
 - e. Disease identification
 - f. Integrated pest management
- 2) Lab:
 - a. Pesticide safety
 - b. Use of compression sprayers
 - c. Biological control methods
 - d. Insect collecting and identification
 - e. Plant problem collecting and problem identification
 - f. Problem solving and pest identification

Course Objectives

Students will be able to:

- 1) Identify the main insect orders and important insect families.
- 2) Identify common landscape insect pests and predators.
- 3) Identify common landscape weeds.
- 4) Describe the principles of integrated pest management.
- 5) Describe commonly used pesticides
- 6) Identify and describe the common landscape vertebrate pests.
- 7) Describe the principle plant disease causal agents.
- 8) Identify common common landscape plant diseases
- 9) Apply agricultural laws as they pertain to pesticides applications in the landscape.

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) Projects, quizzes, and exams which measure the student's ability to identify and control insects, mites, spiders, snails, weeds and diseases that affect ornamental plants.
- 2) Exams and quizzes which measure the student's ability to identify and/or describe the morphological and phylogenetic relationships, habits, habitats and important characteristics affecting the health of ornamental plants of common pests as well as control methods for integrated pest management

Special Materials Required of Student

Insect collecting equipment not provided by the college.

Minimum Instructional Facilities

- 1) 2-gallon compression sprayers
- 2) Stereoscopic microscopes (24)
- 3) Insect collecting equipment
- 4) Herbicides, fungicides and pesticides as needed
- 5) Chemical storage area
- 6) Scales and measuring containers
- 7) Electric nursery cart

Method of Instruction

- 1) Lecture and demonstration
- 2) Laboratory

Out-of-Class Assignments

- 1) **Reading:** course materials; other course related multimedia.
- 2) **Writing:** prepare for oral presentation.
- 3) **Other:** work on weed collection; work on insect collection.

Texts and References

- 1) Required (representative examples):
 - a. Dreistadt and Clark. *Pests of Landscape Trees and Shrubs*. 3rd edition. University of California Division of Agriculture and Natural Resources, 2016 (classic).
- 2) Supplemental: None

Exit Skills

Students having successfully completed this course exit with the following skills, competencies and/or knowledge:

- 1) Compare and contrast life cycles of various orders of insects.
- 2) Typical methods of insect pest damage and associate the type of insect for each damage type.
- 3) Describe integrated pest management including strategies for control with cultural, biological and chemical control methods.
- 4) Identify 25 insect pests common to the landscape and nurseries of the southwestern United States.
- 5) Identify 15 common weed pests and list the control options.
- 6) Calibrate pest control application equipment.

Student Learning Outcomes

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

- 1) Identify the main insect orders.
- 2) Evaluate landscape and production facility pest and disease issues using the principles of integrated pest management.

- 3) Identify common landscape and production facility pests, biotic and abiotic diseases, and weeds.