

# HORT 54J: HORTICULTURAL PRACTICES: INSECT IDENTIFICATION & DISORDERS

## Foothill College Course Outline of Record

Heading	Value
Units:	3
Hours:	3 lecture per week (36 total per quarter)
Degree & Credit Status:	Degree-Applicable Credit Course
Foothill GE:	Non-GE
Transferable:	CSU
Grade Type:	Letter Grade (Request for Pass/No Pass)
Repeatability:	Not Repeatable

## Student Learning Outcomes

- Student shall be able to identify common horticultural insects.
- Student shall identify common control methods for selected insects.

## Description

Identification, morphology, physiology and management of common agricultural and horticultural insects. Review of the disorders caused by plant insects. Review of the impacts of common insects on the plant production and landscape industries and their identification throughout the life cycle of the insect.

## Course Objectives

The student will be able to:

- Identify common insects that impact California horticultural crops.
- Classify insects by pest taxonomy.
- Identify the stage of growth of the insects.
- Identify the plant disorders caused by insects.
- Discuss IPM solutions to control the insects.
- List the recommended biological controls for the insects.
- List the recommended chemical controls for the insects.
- Prepare a management plan for insects in horticultural facilities and the landscape.

## Course Content

- Impact of insects on California horticultural crops and landscapes.
  - Problems with insects in the California nursery and greenhouse industry.
  - Problems with weeds in the California landscape.
  - Economic impacts of insects in the horticultural field.
  - Insects as a vector for diseases.
  - Insects as a control for other insects.
- Identification of insects.
  - Identify the stage of growth of the insects.
  - Recognize the stage of growth in which controls will be most effective.
- Identify the anatomy of the insects.

- Review the reproductive cycle of insects.
- Identify disorders caused by insects.
  - Plant defoliation.
  - Leaf chewing.
  - Leaf abscission.
  - Leaf discoloration or irregularities.
- Control of insects.
  - IPM in insect control.
  - Insect exclusion methods.
  - Insect control methods.
    - Biological control of insects.
    - Chemical control of insects.
- Insect management planning.
  - Measures to control insects.
  - Economic implications of various insect control methods.
  - Scheduling of insect control methods.

## Lab Content

Not applicable.

## Special Facilities and/or Equipment

- Classroom with overhead projection and internet connection.
- Gardens to attract insects for identification.

## Method(s) of Evaluation

Methods of Evaluation may include but are not limited to the following:

- Identification exams requiring field and image identification of insects and insect damage.
- Written exams on the cultural, identification and management issues related to insects.
- Insect management plan preparation for a designated facility or landscape.

## Method(s) of Instruction

Methods of Instruction may include but are not limited to the following:

- Lectures about the impact of insects on the horticultural industry.
- Discussions regarding pest management.
- Observation and identification of insects in the field.
- Discussions regarding control methods for insects.

## Representative Text(s) and Other Materials

Walters, Martin. *The Illustrated World Encyclopedia of Insects*. Leicester, England: Lorenz Books, 2011.

Although this text is older than the suggested "5 years or newer" standard, it remains a seminal text in this area of study.

## Types and/or Examples of Required Reading, Writing, and Outside of Class Assignments

A. Reading assignments include reading approximately 30-50 pages per week from assigned text. Supplemental reading will be provided in hand-out form or through reference to online resources.

B. Field trips to horticultural venues to examine measures used for insect control will be provided.

C. Writing assignments include:

1. Short papers on specific insects.
2. Management plan for a designated facility or landscaped area.

## **Discipline(s)**

Ornamental Horticulture