

**COURSE OUTLINE**  
**HORT-230**  
**Pest and Disease Control**  
**3 Credits**

**HOWARD COMMUNITY COLLEGE**

**Description**

Entomology and plant disease control is a basic course for plant science majors. It provides the basic understanding of insects and diseases that attack ornamental plant materials and turf grasses. Details of the nature and structure of insects, effects of insect destruction and insect classification are major components. Plant diseases, weed identification and respective controls are also discussed as they apply to trees, shrubs, herbaceous plants, roses and turf. Prerequisite: HORT-100. (2 hours lecture, 2 hours lab)

**Overall Course Objectives**

Upon completion of this course, the student will be able to:

1. Acquire the skills necessary for diagnosis of plant problems.
2. Distinguish between normal coloration changes, damage, and pest problems.
3. Identify common cultural and site problems that cause plant stress.
4. Describe the characteristics of the major insect orders and pathogen classes that cause plant problems.
5. Identify the common insect pests of landscape plants in Maryland.
6. Distinguish between insect pests by the damage they cause.
7. Identify the common pathogens that cause plant diseases of landscape plants.
8. Use plant symptoms as clues to the identity of the possible pathogens on plants.
9. Define the least toxic chemical controls for pest and disease control.
10. Apply integrated pest management strategies for insect and disease problems.

**Major Topics**

- I. Pest Diagnosis
- II. Soil, Environmental and Site Problems
- III. Drought, Heat, Freezing, Girdling Roots and Other Abnormalities
- IV. IPM and Scouting Applications
- V. Insect Anatomy and Classification
- VI. Insects and Other Pests
  - A. Aphids
  - B. Adelgids
  - C. Scales
  - D. Whiteflies
  - E. Thrips
  - F. Borers
  - G. Bark Beetles
  - H. Weevils
  - I. Leaf Beetles

- J. Leaf Miners
- K. Caterpillars
- L. Sawflies
- M. Spider Mites
- VII. Disease Classification and Identification
- VIII. Disease Pathogens
  - A. Water Molds
  - B. Root Rots
  - C. Downy Mildews
  - D. Powdery Mildews
  - E. Leaf Spots
  - F. Needle Casts
  - G. Cankers
  - H. Galls
  - I. Blights
  - J. Rusts
  - K. Smuts
  - L. Mushrooms
  - M. Wood Decay
  - N. Bacterial Blights
  - O. Mycoplasmas
  - P. Nematodes
  - Q. Viruses
  - R. Parasitic Plants

### **Course Requirements**

Grading/exams: Grading procedures will be determined by the individual faculty member but will be based on lecture exams, quizzes, a lab practical, and a pest and disease collection.

### **Other Course Information**

This course is a core course in the Plant Science certificate program.