

Common Course Outline
HORT 105
Pesticide Use and Safety
2 credits

Community College of Baltimore County

Description

HORT 105 – Pesticide Use and Safety prepares the Horticulture student for the examination given by the MD State Department of Agriculture for pesticide application certification/licensure; covers principles of pest control, pesticides, laws and regulations, pesticide labeling, pesticides and human health, pesticides and the environment, personal protective equipment, handling pesticides, pesticide emergencies and pesticide alternatives. One Saturday class practical is required.

2 credits; 2 lecture hours per week.

Prerequisites: ACLT 052 and MATH 081.

Overall Course Objectives

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

1. discuss chemicals that are considered to be pesticides;
2. explain pesticide terminology;
3. list and evaluate different types of pesticides;
4. describe the uses of various pesticides such as insecticides, fungicides, herbicides, etc.;
5. identify appropriate pesticide reference and study materials;
6. summarize the pesticide laws and regulations:
 - a. The Federal Pesticide Law (FIFRA) and (FQPA)
 - b. The Maryland Pesticide Law
 - c. Local Pesticide Laws;
7. explain the pesticide registration process including the pesticide registration time line, the discovery phase, the testing phase, the submission date and EPA evaluation and registration;
8. discuss pesticide toxicology, including:
 - a. definitions
 - b. types of toxicities: acute, delayed and chronic, plus allergic reactions
 - c. what LD/50 numbers are
 - d. the fate of pesticides in the human body;
9. discuss pesticide health and safety, including:
 - a. personal protective equipment
 - b. how pesticides enter the body
 - c. pesticide emergencies
 - d. the pesticide label;
10. summarize the proper handling of pesticides, including:

- a. pesticide storage
 - b. pesticide transportation
 - c. pesticide application equipment
 - d. pesticide equipment calibration and calculations
 - e. pesticide disposal;
11. discuss pesticides and the environment, including:
- a. how pesticides get into the environment: runoff, drifts, leaching
 - b. effects of pesticides on the environment
 - c. non-target animals and plants
 - d. groundwater
 - e. the Chesapeake Bay
 - f. the fate of pesticides in the environment: absorption, degradation, transfer
 - g. alternative pest control methods;
12. discuss pesticides and the public, including:
- a. pesticide risks - perception vs. reality
 - b. pesticides and the media
 - c. the benefit vs. the risk
 - d. pesticide detection methods; and
13. recognize the future of pest control, including: Integrated Pest Management and advances in biological pest control.

Major Topics

- I. Laws and regulations governing the use, safety and application of pesticides
- II. Environmental and health concerns associated with the use of pesticides
- III. Principles of Integrated Pest Management
- IV. Evaluating pesticides on the basis of cost, application, safety, environmental and health concerns
- V. Communicating effectively with nursery, greenhouse and landscape professionals, extension agents, government officials and customers

Course Requirements

Grading/exams: Grading procedures will be determined by the individual faculty member but will include the following:

- 1. Two (2) Written Exams
- 2. One (1) Saturday Class Practical
- 3. Participation

Other Course Information

This course is an elective in the Horticulture Program and is not required for the Horticulture A.A.S. Degree. However, it is a required course for licensure testing for a Maryland State Pesticide Applicator's license in Category III – A, B, C.