

Southeast Missouri State University

Department of: Agriculture
Title of Course: Economic Entomology

Course Number: AG 290
Proposed/Revision/New: 9/98

I. Catalog Description and Credit Hours of Course:

Scientific principles and integrated pest management practices associated with insects and related pests. One lectures; two-hour laboratory. I. (2).

II. Prerequisites: None

III. Purposes or Objectives of the Course:

- A. To become familiar with insecta and arachnida biology.
- B. To gain a knowledge of the environmental factors influencing insect physiology and behavior.
- C. To gain an understanding of the influence of insects in crop-ecology.
- D. To become familiar with insect classification and the classification of insecticides.
- E. To become familiar with the principles of integrated pest management.

IV. Expectations of Students:

- A. Evidence of study outside of lectures as revealed by examinations.
- B. Active classroom and laboratory participation.
- C. Completion of all written and laboratory assignments.
- D. All writing assignments will conform to the style guide of the American Society of Agronomy.
- E. Study groups will maintain throughout the semester an insect portfolio detailing the selected insect's descriptions, threshold levels, lifecycles and ecology, and population control methods.
- F. Students will demonstrate the integration of control measures by producing a series of written integrated management plans.
- G. Students will be expected to prepare organized and technically correct professional presentations using available multimedia techniques.

V. Course Content:

- A. Lecture content.
 - 1. The Anthropods. (1 hour)
 - 2. The Insect Externally. (1 hour)
 - 3. The Insect Internally. (1 hour)
 - 4. Insect development and specialization. (1 hour)

5. Ecology (aquatic, terrestrial and population dynamics) (1 hour)
 6. Social behavior. (1 hour)
 7. Examination (1 hour)
 8. Insect taxonomy and classification (2 hours)
 9. Classification of insecticides (1 hour)
 10. Examination (1 hour)
 11. Integrated pest management. (3 hours)
 - a. pest management theory
 - b. natural enemies as a control measure
 - c. ecological management as a control measure
 - d. conventional insecticide practices
 - e. resistant plants as a control measure
 - f. modifying development / behavior as a control measure
 - g. sterile-insect techniques as a control measure
 12. Examination(1 hour)
- B. Laboratory Content Laboratories
1. Insect anatomy. (2 hours)
 2. Insect identification. (2 hours)
 3. Insect scouting techniques. (2 hours)
 4. Pesticide application equipment. (1 hour)
 5. Pesticide calculations. (1 hour)
 6. Pesticide safety equipment and pesticide labels. (1 hour)
 7. Insects associated with cotton*. (1 hour)
 8. Insects associated with cereal and feed-grain crops*. (1 hour)
 9. Insects associated with vegetable crops* . (1 hour)
 10. Insects associated with landscapes and turf*. (1 hour)
 11. Insects associated with seed storage*. (1 hour)
 12. Insects associated with livestock*. (1 hour)
- * includes student presentations.

VI. Textbook

Pedigo, L.P. 1998. Entomology and Pest Management. Prentice-Hall, Inc., New York. [ISBN 0-13-780024-X].

VII. Student Evaluation:

- A. Hour Exams (3) - 300 points
- B. Final Examination - 100 points
- C. Portfolio - 50 points
- D. Management plans - 100 points
- E. Presentations - 50 points
- Total - 600 points

Grading scale: 91<A<100; 81<B<90; 71<C<80; 61<D<70; F<61

