

**Southeast Missouri State University**

**Department of Biology**

**ZO 465/665**

**Entomology**

**New Spring 2002**

I. Catalog Description and Credit Hours of Course:

Insect biology, behavior, control, structure, diversity, physiology and additional selected topics in entomology. Two hours lecture and two hours lab. (3)

II. Prerequisite: ZO 200

III. Purposes or Objectives of the Course:

- A. Provide a background in basic insect biology including structure, function and physiology.
- B. Provide an introduction to insect behavior and its evolutionary significance as model organisms in biology.
- C. Provide a greater depth of understanding of insect control methods, their environmental impact and alternatives to chemical control.
- D. Provide an opportunity for students to explore and more fully understand the diversity of insect orders around them every day.
- E. To give students practical experience in working with insects as model organisms in biology.

IV. Expectations of students:

- A. To attend all lecture and lab sessions and fieldtrips, to comprehend the material, actively participate in discussions and pass all exams and quizzes.
- B. To make an insect collection.
- C. To carry out an individual experimental project in entomology and make a presentation.
- D. Graduate students will additionally do a literature search and make a student presentation in an area of his/her own interest in entomology.

V. Course content or outline:

Lecture \_\_\_\_\_ class hours

Introduction	1
Insect Cuticle structure and significance	2
Insect Molting	2
Insect Flight and indirect muscles	2
Insect Respiration and tracheal system	2
Insect Digestion and peritrophic membrane	1
Insect Excretion, Osmoregulation and Malpighian tubules	2
Insect Open Blood system and immune system	2
Introduction to Insect Pests	2
Insects as Vectors of Diseases	1
Chemical Control of Insects	2
Biological Control of Insects	2
Alternative Control Methods	3
Evolution of Insecticide Resistance and transgenic plants	1
Insect Behavior	3
Social Insects	2

<u>Lab</u>	<u>class hours</u>
Insect External Structure	2
Insect Internal Structure	3
Insect Mouthparts and their modifications	3
Insect Diversity - Subclass Exopterygota	5
Insect Diversity - Subclass Endopterygota	5
Fieldtrip (insect diversity and control)	3
Fieldtrip (beekeeping)	3
Fieldtrip (ants and termites)	3
Student presentations	3

VI. Textbook:

Rosomer, W.S. & Stoffolano, J.G. (1998) The Science of Entomology. 4th edition.  
Wm. C. Brown Publishers, Dubuque, Iowa.

VII. Basis of Student Evaluation:

Quizzes	5%
Exams	50%
Student Insect Collection	20%
Individual Student Projects	20%
Student Presentation	5%

For Graduate Students:

Quizzes	5%
Exams	40%
Student Insect Collection	15%
Individual Student Projects	15%
Student Presentation	5%
Term Paper	15%
Term Paper Presentation	5%