

# ENTOMOLOGY (ENTO)

## ENTO 2001 Introduction to Entomological Research

**Description:** Familiarize entomology majors with the department, faculty, and other students. Experience a broad overview of the field of entomology and how a degree in entomology can prepare you for many different opportunities and career paths.

**Credit hours:** 1

**Contact hours:** Lecture: 1 Contact: 1

**Levels:** Undergraduate

**Schedule types:** Lecture

**Department/School:** Entomology & Plant Pathology

## ENTO 2003 Insects and Society (N)

**Description:** Influence of insects and related arthropods on human society. Current issues involving insects, society and the environment. View of insects in folklore and mythology. Basic biology and behavior of insects and use of insects as model systems for biological studies. A course for both majors and non-majors.

**Credit hours:** 3

**Contact hours:** Lecture: 3 Contact: 3

**Levels:** Undergraduate

**Schedule types:** Lecture

**Department/School:** Entomology & Plant Pathology

**General Education and other Course Attributes:** Natural Sciences

## ENTO 2223 Insects in Global Public Health (N)

**Description:** Biology of diseases carried by arthropods, including their historical and societal impacts focusing on the intersection of arthropod and human biology.

**Credit hours:** 3

**Contact hours:** Lecture: 3 Contact: 3

**Levels:** Undergraduate

**Schedule types:** Lecture

**Department/School:** Entomology & Plant Pathology

**General Education and other Course Attributes:** Natural Sciences

## ENTO 2993 Introduction to Entomology (LN)

**Description:** Basic biology and classification of insects and closely related animals. Overview of the ecological roles of insects in both natural and managed ecosystems. Previously offered as ENTO 2992 and ENTO 2023.

**Credit hours:** 3

**Contact hours:** Lecture: 2 Lab: 2 Contact: 4

**Levels:** Undergraduate

**Schedule types:** Lab, Lecture, Combined lecture and lab

**Department/School:** Entomology & Plant Pathology

**General Education and other Course Attributes:** Scientific Investigation, Natural Sciences

## ENTO 3001 Research Skills in Entomology

**Description:** Introduction to research opportunities in field and laboratory entomology. Focus on literature review, hypothesis formation, and development of a grant proposal.

**Credit hours:** 1

**Contact hours:** Lecture: 1 Contact: 1

**Levels:** Undergraduate

**Schedule types:** Lecture

**Department/School:** Entomology & Plant Pathology

## ENTO 3003 Livestock Entomology

**Description:** Economic importance, biology and control of pests affecting domestic animals. Biology of diseases carried by arthropods, including their impacts focusing on the intersection of arthropod and animal biology. Previously offered as ENTO 2091.

**Credit hours:** 3

**Contact hours:** Lecture: 3 Contact: 3

**Levels:** Undergraduate

**Schedule types:** Lecture

**Department/School:** Entomology & Plant Pathology

## ENTO 3044 Insect Morphology and Physiology

**Prerequisites:** ENTO 2993 Introduction to Entomology.

**Description:** Morphology and function of insects and their organ systems and use of selected techniques for the study of insect physiology. May not be used for degree credit with ENTO 5044.

**Credit hours:** 4

**Contact hours:** Lecture: 3 Lab: 3 Contact: 6

**Levels:** Undergraduate

**Schedule types:** Lab, Lecture, Combined lecture and lab

**Department/School:** Entomology & Plant Pathology

## ENTO 3421 Horticultural Insects

**Prerequisites:** ENTO 2993 or concurrent enrollment.

**Description:** Identification, biology and control of pests attacking horticultural crops. Emphasis on pests injurious to vegetables, fruits, pecans, greenhouse plants, turf and ornamental trees and shrubs.

**Credit hours:** 1

**Contact hours:** Lab: 2 Contact: 2

**Levels:** Undergraduate

**Schedule types:** Lab

**Department/School:** Entomology & Plant Pathology

## ENTO 3461 Insects in Forest Ecosystems

**Prerequisites:** ENTO 2993 or concurrent enrollment.

**Description:** Identification and seasonal life history of insect pests and beneficial insects on shade trees in urban settings, in commercial forests, and in forest products.

**Credit hours:** 1

**Contact hours:** Lab: 2 Contact: 2

**Levels:** Undergraduate

**Schedule types:** Lab

**Department/School:** Entomology & Plant Pathology

## ENTO 3501 Entomology for Educators

**Description:** Hands-on laboratory course designed to provide high school science teachers, FFA or 4H leaders with all of the resources and background information needed to use insects as a model to teach scientific concepts. Curriculum and resources are provided at the level of 7-12th grade and may be adapted to other levels as needed.

**Credit hours:** 1

**Contact hours:** Lab: 2 Contact: 2

**Levels:** Undergraduate

**Schedule types:** Lab

**Department/School:** Entomology & Plant Pathology

**ENTO 4223 Ecological Methodology**

**Prerequisites:** One course in either ecology or general biology.

**Description:** Use of insects and other invertebrates for describing and evaluating interactions of individuals and populations with their environments. Coverage of behavioral and physiological ecology on consequences to individuals; population and community ecology considered in dynamics of groups of organisms in ecosystems. May not be used for Degree Credit with ENTO 5223.

**Credit hours:** 3

**Contact hours:** Lecture: 2 Lab: 2 Contact: 4

**Levels:** Undergraduate

**Schedule types:** Lab, Lecture, Combined lecture and lab

**Department/School:** Entomology & Plant Pathology

**ENTO 4400 Special Topics**

**Prerequisites:** Consent of instructor.

**Description:** Special topics in plant pathology, entomology or related fields. Same course as PLP 4400. Offered for variable credit, 1-3 credit hours, maximum of 3 credit hours.

**Credit hours:** 1-3

**Contact hours:** Contact: 1-3 Other: 1-3

**Levels:** Undergraduate

**Schedule types:** Independent Study

**Department/School:** Entomology & Plant Pathology

**ENTO 4464 Insect Biology and Classification**

**Prerequisites:** ENTO 2993 or equivalent or consent of instructor.

**Description:** Insect phylogeny, taxonomy, behavior, morphology and physiology in the context of ecosystem function. Major roles of insects in shaping ecosystem diversity, as indicators of environmental integrity, and as vectors of plant and animal pathogens and parasites.

**Credit hours:** 4

**Contact hours:** Lecture: 2 Lab: 4 Contact: 6

**Levels:** Undergraduate

**Schedule types:** Lab, Lecture, Combined lecture and lab

**Department/School:** Entomology & Plant Pathology

**ENTO 4484 Aquatic Entomology**

**Prerequisites:** ENTO 2993 or instructor permission.

**Description:** Biology, taxonomy and ecology of insects and other invertebrates, inhabiting freshwater environments. Identification and biology of individual taxa. Roles of insects in aquatic ecology, as a forage base. May not be used for degree credit with ENTO 5484 or ZOOL 5484. Same course as ZOOL 4484. Previously offered as ENTO 4483.

**Credit hours:** 4

**Contact hours:** Lecture: 3 Lab: 2 Contact: 5

**Levels:** Undergraduate

**Schedule types:** Lab, Lecture, Combined lecture and lab

**Department/School:** Entomology & Plant Pathology

**ENTO 4513 Biological Control**

**Prerequisites:** ENTO 2993 or equivalent or consent of instructor.

**Description:** The ecological principles and applied practices of biological control of insects and weeds. Principles include the scientific basis of biological control; natural enemies and their biology; biological control methods; and biological control in invasive species and pest management programs. May not be used for degree credit with ENTO 5513.

**Credit hours:** 3

**Contact hours:** Lecture: 2 Lab: 2 Contact: 4

**Levels:** Undergraduate

**Schedule types:** Lab, Lecture, Combined lecture and lab

**Department/School:** Entomology & Plant Pathology

**ENTO 4573 Introduction to Forensic Entomology**

**Description:** The role of arthropods in decomposition, the use of forensic entomology in criminal and civil investigations and the increasing importance of forensic science on society; material includes content that some students may find disturbing. May not be used for degree credit with ENTO 5573.

**Credit hours:** 3

**Contact hours:** Lecture: 3 Contact: 3

**Levels:** Undergraduate

**Schedule types:** Lecture

**Department/School:** Entomology & Plant Pathology

**ENTO 4733 Insect Behavior and Chemical Ecology**

**Prerequisites:** ENTO 2993 and CHEM 3015 or equivalent.

**Description:** Behavioral biology of insects. Ecological interactions among organisms mediated by naturally produced chemicals. An interface of ecology, behavior, physiology and chemistry with examples from animals, plants and microorganisms. Origin, function, significance and utilization of semiochemicals such as pheromones and allelochemicals. No credit for students with credit in ENTO 5733.

**Credit hours:** 3

**Contact hours:** Lecture: 3 Contact: 3

**Levels:** Undergraduate

**Schedule types:** Lecture

**Department/School:** Entomology & Plant Pathology

**ENTO 4800 Entomology Practicum**

**Prerequisites:** Consent of instructor.

**Description:** Supervised research or extension experience with faculty in the Entomology/Plant Pathology Dept. or with approved governmental agencies or private employers. Written report required at close of practicum. Offered for variable credit, 1-4 credit hours, maximum of 4 credit hours.

**Credit hours:** 1-4

**Contact hours:** Contact: 1-4 Other: 1-4

**Levels:** Undergraduate

**Schedule types:** Independent Study

**Department/School:** Entomology & Plant Pathology

**ENTO 4854 Medical and Veterinary Entomology**

**Prerequisites:** ENTO 2993 or consent of instructor.

**Description:** Biology and control of arthropod vectors of disease and the diseases carried by arthropods. Course includes emphasis on scientific writing skills. No credit for students with credit in ENTO 5854.

**Credit hours:** 4

**Contact hours:** Lecture: 3 Lab: 4 Contact: 7

**Levels:** Undergraduate

**Schedule types:** Lab, Lecture, Combined lecture and lab

**Department/School:** Entomology & Plant Pathology

**ENTO 5003 Insect Biochemistry**

**Prerequisites:** BIOC 3653 or equivalent or consent of instructor.

**Description:** Biochemical processes in insects and closely related arthropods with emphasis on pathways unique to this group. Biochemical aspects of arthropod-microbe and arthropod-host interactions.

**Credit hours:** 3

**Contact hours:** Lecture: 3 Contact: 3

**Levels:** Graduate

**Schedule types:** Lecture

**Department/School:** Entomology & Plant Pathology

**ENTO 5523 Integrated Management of Insect Pests and Pathogens****Prerequisites:** ENTO 2993 and PLP 3344.**Description:** Modern theory and practices for management of insect pests and pathogens in plant production systems, emphasizing an ecologically-based, integrated approach. Basic concepts of pest management, decision-making, cost/benefit analysis and risk/benefit analytics. Previously offered as ENTO 5524.**Credit hours:** 3**Contact hours:** Lecture: 2 Lab: 2 Contact: 4**Levels:** Graduate**Schedule types:** Lab, Lecture, Combined lecture and lab**Department/School:** Entomol & Plant Path**ENTO 5573 Introduction to Forensic Entomology****Description:** The role of arthropods in decomposition, the use of forensic entomology in criminal and civil investigations and the increasing importance of forensic science on society; material includes content that some students may find disturbing. May not be used for degree credit with ENTO 4573.**Credit hours:** 3**Contact hours:** Lecture: 3 Contact: 3**Levels:** Graduate**Schedule types:** Lecture**Department/School:** Entomology & Plant Pathology**ENTO 5613 Host Plant Resistance****Prerequisites:** ENTO 2993 and PLP 3343 or equivalent and a general genetics course; or consent of instructor.**Description:** Interactions of plants and the herbivorous insects and pathogenic micro-organisms that attack them. Development and deployment of multiple-pest resistant cultivars in crop management systems. Same course as PLP 5613. Previously offered as ENTO 5612.**Credit hours:** 3**Contact hours:** Lecture: 2 Lab: 2 Contact: 4**Levels:** Graduate**Schedule types:** Lab, Lecture, Combined lecture and lab**Department/School:** Entomology & Plant Pathology**ENTO 5733 Insect Behavior and Chemical Ecology****Prerequisites:** ENTO 2993 and CHEM 3015 or equivalent.**Description:** Behavioral biology of insects. Ecological interactions among organisms mediated by naturally produced chemicals. An interface of ecology, behavior, physiology and chemistry with examples from animals, plants and microorganisms. Origin, function, significance and utilization of semiochemicals such as pheromones and allelochemicals. No credit for students with credit in ENTO 4733.**Credit hours:** 3**Contact hours:** Lecture: 3 Contact: 3**Levels:** Graduate**Schedule types:** Lecture**Department/School:** Entomology & Plant Pathology