

# ENTOMOLOGY & PLANT PATHOLOGY (ENPP)

## ENPP 2143 Global Agricultural Biosecurity and Forensics

**Description:** Biosecurity, biosafety, bioterrorism, microbial forensics, emerging organisms, invasive species, quarantine, response, surveillance, detection, diagnostics, and how all system components integrate to science and to agricultural specialties, economics, and defense.

Previously offered as PLP 2143.

**Credit hours:** 3

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

**Levels:** Undergraduate

**Schedule types:** Lecture

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

## ENPP 3663 Turfgrass Integrated Pest Management

**Description:** The biology, ecology, and identification of fungal, nematode and insect turfgrass pest. Contemporary concepts and applications of integrated control practices available for managing turfgrass pest presented along with decision-making tools for use in turfgrass pest management programs. Same course as ENTO 3663. Previously offered as PLP 3663.

**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

## ENPP 5000 Master's Research and Thesis

**Description:** Research for the MS degree. Offered for variable credit, 1-6 credit hours, maximum of 6 credits. Previously offered as ENTO 5000.

**Credit hours:** 1-6

**Contact hours:** Contact: 1-6 Other: 1-6

**Levels:** Graduate

**Schedule types:** Independent Study

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

## ENPP 5014 Plant Virology

**Prerequisites:** PLP 3343 or MICR 2125 or PLNT 2013 or instructor permission.

**Description:** Plant viruses as causal agents of plant diseases. Taxonomy, biological, chemical, and physiological properties; transmission; host-virus and vector-virus relationships; replication; molecular virology detection, diagnosis ecology, and biosecurity. Lab; primer design for RT-PCR isothermal methods; serology. Previously offered as PLP 5013 and PLP 5014. May not be used for degree credit with MICR 5123.

**Credit hours:** 4

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

**Levels:** Graduate

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

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

## ENPP 5020 Special Problems

**Prerequisites:** Graduate standing.

**Description:** Selected studies in the area of entomology, acarology or araneology or Plant Pathology. Previously offered as ENTO 5020. Offered for variable credit, 1-8 credit hours, maximum of 8 credit hours.

**Credit hours:** 1-8

**Contact hours:** Contact: 1-8 Other: 1-8

**Levels:** Graduate

**Schedule types:** Independent Study

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

## ENPP 5044 Insect Morphology and Physiology

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

**Description:** Functions of the organ systems and demonstration of selected techniques for study of insect physiology. Offered in combination with ENTO 3044. May not be used for degree credit with ENTO 3044. Previously offered as ENTO 5043 and ENTO 5044.

**Credit hours:** 4

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

**Levels:** Graduate

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

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

## ENPP 5104 Mycology

**Prerequisites:** Graduate standing.

**Description:** A systematic study of the fungi, with emphasis on taxonomy, comparative morphology and fungal biology. Same course as BOT 5104 or PBIO 5104. Previously offered as PLP 5104.

**Credit hours:** 4

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

**Levels:** Graduate

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

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

## ENPP 5223 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 4223. Previously offered as ENTO 5223.

**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

## ENPP 5304 Phytobacteriology

**Prerequisites:** PLP 3343.

**Description:** Bacteria as plant pathogens, with examination of the taxonomy, genetics, ecology, physiology, host-parasite interaction, and control of phytobacteria. Previously offered as PLP 5304.

**Credit hours:** 4

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

**Levels:** Graduate

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

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

## ENPP 5343 Principles of Plant Pathology

**Prerequisites:** PBIO 1404 or MICR 2123 or HORT 1113 or PLNT 2013.

**Description:** Introduction to basic principles and concepts of plant pathology, including the nature, cause and control of biotic and environmentally induced plant diseases. Offered in combination with PLP 3343. No credit for both PLP 3343 and PLP 5343. Graduate students will be expected to complete extra assignments. Previously offered as PLP 5043 and PLP 5343.

**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

**ENPP 5464 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. No credit for students with credit in ENTO 4464. Previously offered as ENTO 5464.**Credit hours:** 4**Contact hours:** Lecture: 2 Lab: 4 Contact: 6**Levels:** Graduate**Schedule types:** Lab, Lecture, Combined lecture and lab**Department/School:** Entomology & Plant Pathology**ENPP 5484 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, and as indicators of biotic integrity of aquatic systems. May not be used for degree credit with ENTO 4484 or ZOOL 4484. Same course as ZOOL 5484. Previously offered as ENTO 5483 and ENTO 5484.**Credit hours:** 4**Contact hours:** Lecture: 3 Lab: 2 Contact: 5**Levels:** Graduate**Schedule types:** Lab, Lecture, Combined lecture and lab**Department/School:** Entomology & Plant Pathology**ENPP 5501 Entomology For Educators****Description:** Hands-on laboratory course designed to provide educators (teachers, FFA or 4H leaders, etc.) with all of the resources and background information needed to use insects as a model to teach scientific concepts. No credit given for students who have taken ENTO 3501. Previously offered as ENTO 5501.**Credit hours:** 1**Contact hours:** Lab: 2 Contact: 2**Levels:** Graduate**Schedule types:** Lab**Department/School:** Entomology & Plant Pathology**ENPP 5513 Biological Control****Prerequisites:** ENTO 4464 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 past management programs. May not be used for degree credit with ENTO 4513. Previously offered as ENTO 5512 and ENTO 5513.**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**ENPP 5523 Integrated Management of Insect Pests and Pathogens****Prerequisites:** ENTO 2993 and PLP 3344.**Description:** Modern theory and practices for management of insect pest 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 analysis. Previously offered as PLP 5524 and PLP 5523 and ENTO 5523.**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**ENPP 5623 Advanced Biotechnology Methods****Prerequisites:** BIOC 3653, BIOL 3023 or equivalent or consent of instructor.**Description:** Principles of biotechnology and laboratory experience with basic experimental techniques used in biochemical and molecular biological research. Previously offered as ENTO 5623.**Credit hours:** 3**Contact hours:** Lecture: 1 Lab: 4 Contact: 5**Levels:** Graduate**Schedule types:** Lab, Lecture, Combined lecture and lab**Department/School:** Entomology & Plant Pathology**ENPP 5700 Teaching Practicum in Plant Pathology****Prerequisites:** Graduate student standing.**Description:** Variable credit offering for graduate students who wish to develop skills in teaching, assessment and course development working in conjunction with a primary instructor. Previously offered as PLP 5700. Offered for variable credit, 1-6 credit hours, maximum of 6 credit hours.**Credit hours:** 1-6**Contact hours:** Contact: 1-6 Other: 1-6**Levels:** Graduate**Schedule types:** Discussion**Department/School:** Entomology & Plant Pathology**ENPP 5710 Advanced Medical and Veterinary Entomology****Prerequisites:** ENTO 4854.**Description:** Special problems in methods of disease transmission, animal parasite control and the relationships existing between parasite and host. Offered for variable credit, 1-5 credit hours, maximum of 5 credit hours. Previously offered as ENTO 5710.**Credit hours:** 1-5**Contact hours:** Contact: 1-5 Other: 1-5**Levels:** Graduate**Schedule types:** Independent Study**Department/School:** Entomology & Plant Pathology**ENPP 5723 Molecular Plant-Microbe Interactions****Prerequisites:** PLP 3343 and BIOC 3653.**Description:** This course covers the biochemistry, molecular biology and molecular genetics of pathogenic and symbiotic interactions between microbes and plants to explain the mechanisms by which microbe's infection and activation of plant immunity and symbiosis signaling pathways. Same course as BIOC 6663. Previously offered as ENTO 5723 and PLP 5723.**Credit hours:** 3**Contact hours:** Lecture: 3 Contact: 3**Levels:** Graduate**Schedule types:** Lecture**Department/School:** Entomology & Plant Pathology

**ENPP 5833 Insect Molecular Biology**

**Prerequisites:** ENTO 2993 and BIOL 3024 or equivalent or consent of instructor.

**Description:** Concepts and methods in molecular biology with emphasis on genetics of insects. Application of molecular techniques in insect biology. Previously offered as ENTO 5833.

**Credit hours:** 3

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

**Levels:** Graduate

**Schedule types:** Lecture

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

**ENPP 5870 Scientific Presentations**

**Prerequisites:** Consent of instructor.

**Description:** Preparation and delivery of scientific presentations, including 50-minute seminars, 10-minute talks, and posters. Same course as ENTO 5870. Previously offered as PLP 5870. Offered for 1 credit, max 5 credit hours.

**Credit hours:** 1

**Contact hours:** Contact: 1 Other: 1

**Levels:** Graduate

**Schedule types:** Independent Study

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

**ENPP 5923 Applications of Biotechnology in Pest Management**

**Prerequisites:** BIOL 1114 or (BIOL 1113 and BIOL 1111) and CHEM 1215 or equivalents.

**Description:** Applications of biotechnology in managing arthropod pests of plants, animals, plant pathogens, and weeds. Introduction to underlying technology, products being developed and deployed, effectiveness and associated problems or concerns resulting from their use. May not be used for degree credit with PLP 4923. Previously offered as PLP 5923.

**Credit hours:** 3

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

**Levels:** Graduate

**Schedule types:** Lecture

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

**ENPP 5992 Career Skills and Professionalism for Scientists**

**Prerequisites:** Graduate standing.

**Description:** For graduate students majoring in science-based fields, especially those nearing graduation. Skills needed for effective job application and interviewing, career development and advancement, communication with professional colleagues and the public, and personal professional development. Same course as ENTO 5992. Previously offered as PLP 5992.

**Credit hours:** 2

**Contact hours:** Lecture: 2 Contact: 2

**Levels:** Graduate

**Schedule types:** Lecture

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

**ENPP 6000 Research**

**Description:** Research for the PhD degree. Previously offered as PLP 6000. Offered for variable credit, 1-12 credit hours, maximum of 36 credit hours.

**Credit hours:** 1-12

**Contact hours:** Contact: 1-12 Other: 1-12

**Levels:** Graduate

**Schedule types:** Independent Study

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