

ENTOMOLOGY (ENT)

ENT 101. INTRODUCTION TO CROP, SOIL, AND INSECT SCIENCE. (1 Credit)

Introduces students with interests in crop, soil, and insect sciences to educational and professional opportunities in these disciplines. Speakers will discuss opportunities in research and academia as well as in the applied professional job market. Open to all students. CROSSLISTED as CROP 101, SOIL 101.

Equivalent to: HORT 101

ENT 300. *PLAGUES, PESTS, AND POLITICS. (3 Credits)

Integration and interaction of agricultural and public health aspects of entomology in society and history. CROSSLISTED as HORT 330. (Bacc Core Course)

Attributes: CSST – Core, Synthesis, Science/Technology/Society

Equivalent to: BI 300, HORT 330

ENT 311. INTRODUCTION TO INSECT PEST MANAGEMENT. (4 Credits)

Identification, biology and management of injurious and beneficial insects. Concurrent laboratory is designed to provide hands-on experience with identification of insect groups of relevance to agricultural cropping systems. Lec/lab.

Equivalent to: CSS 311

Recommended: Entomology course work or one year college biology.

ENT 322. HONEY BEE BIOLOGY AND BEEKEEPING. (3 Credits)

In this introduction to the fascinating honey bee and its biology, honey bees are used as model organisms to illustrate general principles of biology, entomology, and sociobiology. Students will learn the basics of beekeeping, have an opportunity to manipulate honey bee colonies, and gain hands-on experience, prevailing winter weather permitting.

ENT 331. *POLLINATORS IN PERIL. (3 Credits)

Pollinators, human influences on pollination systems, and the potential consequences of pollinator decline. An introduction to the skills needed to investigate media reports and multidisciplinary scientific research. Effects of pesticides, habitat fragmentation, climate change, invasive species, pests, pathogens, and other threats to pollinators in critical natural and agricultural systems around the world. CROSSLISTED as HORT 331. (Bacc Core Course)

Attributes: CSGI – Core, Synth, Global Issues

Equivalent to: HORT 331

Recommended: Completion of a Baccalaureate Core biological science course.

ENT 401. RESEARCH. (1-16 Credits)

Work on approved problems carried on in the library, laboratory or field.
This course is repeatable for 16 credits.

ENT 403. THESIS. (1-16 Credits)

This course is repeatable for 16 credits.

ENT 405. READING AND CONFERENCE. (1-16 Credits)

Reading and discussions on special topics.
This course is repeatable for 16 credits.

ENT 407. SEMINAR. (1-2 Credits)

Graded P/N.
This course is repeatable for 16 credits.

ENT 410. INTERNSHIP. (1-16 Credits)

This course is repeatable for 16 credits.

ENT 420. INSECT ECOLOGY. (3 Credits)

Insect ecology, evolution, and management. Biophysical ecology; foraging and feeding; life cycles; population dynamics, regulation, and control; species interactions including herbivore-plant, predator-prey, parasite-host, competition, and mutualism; diversity, food web structure, agricultural ecology, exercises merge models, experiments, and sampling. Offered on even years.

Recommended: BI 370

ENT 440. ISSUES IN INSECT TOXICOLOGY. (3 Credits)

Introduction to concepts and mechanisms associated with molecular toxicology as it relates to insects, including interactions with naturally occurring and synthetic compounds. Overview of current research in insect toxicology including resistance to pesticides, protection of non-target species, and use of insects as model organisms. Discussion of laboratory and field approaches and potential strategies to address issues in insect toxicology.

Recommended: Background in basic chemistry and biology

ENT 444. INSECT AGROECOLOGY. (3 Credits)

Agroecology incorporates ecological concepts and principles to the design and management of sustainable agricultural systems. Topics include: the role of insects in sustainable agricultural systems; application of the principles of insect ecology to better manage insect pests and maximize crop yield; conserving beneficial insects and other natural resources in agroecosystems and the surrounding landscape. CROSSLISTED as HORT 444.

Equivalent to: HORT 444

Recommended: General background or previous course work in entomology.

ENT 499. SPECIAL TOPICS. (1-6 Credits)

Equivalent to: FW 499

This course is repeatable for 6 credits.

ENT 501. RESEARCH. (1-16 Credits)

Work on approved problems carried on in the library, laboratory or field.
This course is repeatable for 16 credits.

ENT 503. THESIS. (1-16 Credits)

This course is repeatable for 999 credits.

ENT 505. READING AND CONFERENCE. (1-16 Credits)

Reading and discussions on special topics.
This course is repeatable for 16 credits.

ENT 507. SEMINAR. (1-2 Credits)

Graded P/N.
This course is repeatable for 16 credits.

ENT 508. WORKSHOP. (1-16 Credits)

This course is repeatable for 16 credits.

ENT 509. PRACTICUM IN TEACHING. (1-3 Credits)

Developing skills and competence in teaching under staff supervision; organization and presentation of instructional material by assisting in laboratory, recitation, and lectures. CROSSLISTED as CROP 509, PBG 509, SOIL 509.

Equivalent to: CROP 509, PBG 509, SOIL 509

This course is repeatable for 9 credits.

ENT 510. INTERNSHIP. (1-16 Credits)

This course is repeatable for 16 credits.

ENT 518. CURRENT TOPICS IN ENTOMOLOGY. (2 Credits)

This is a core course of the Horticulture graduate program. Provides an advanced understanding of entomology and its relationship to other disciplines through critical analysis of the scientific literature. Students practice synthesizing information and presenting findings to peers. Instructors, topics, and specific learning objectives vary from term to term. CROSSLISTED as HORT 518.

Equivalent to: HORT 518

This course is repeatable for 12 credits.

ENT 520. INSECT ECOLOGY. (3 Credits)

Insect ecology, evolution, and management. Biophysical ecology; foraging and feeding; life cycles; population dynamics, regulation, and control; species interactions including herbivore-plant, predator-prey, parasite-host, competition, and mutualism; diversity, food web structure, agricultural ecology, exercises merge models, experiments, and sampling. Offered even years.

Recommended: BI 370 and Z 365

ENT 523. ORGANIC BEEKEEPING AND HONEY PRODUCTION. (3 Credits)

In this introduction to the fascinating honey bee and its biology, honey bees are used as model organisms to illustrate general principles of biology, entomology, and sociobiology. Learn the basics of beekeeping, organic beekeeping and honey production. Examine the culture and certification of organic and conventional systems of honey production.

ENT 540. ISSUES IN INSECT TOXICOLOGY. (3 Credits)

Introduction to concepts and mechanisms associated with molecular toxicology as it relates to insects, including interactions with naturally occurring and synthetic compounds. Overview of current research in insect toxicology including resistance to pesticides, protection of non-target species, and use of insects as model organisms. Discussion of laboratory and field approaches and potential strategies to address issues in insect toxicology.

Recommended: Background in basic chemistry and biology

ENT 542. PRINCIPLES OF INTEGRATED PEST MANAGEMENT: SYSTEMS DESIGN. (4 Credits)

Principles of integrated pest management design focusing on the use of systems analysis as a means to integrate management tactics, environmental and biological monitoring, pest control models, and implementation elements into a cohesive whole. Introduction to integrated pest management on websites. Students will design a hypothetical crop-pest management system. Lec/lab.

Equivalent to: HORT 542

Recommended: ENT 311

ENT 544. INSECT AGROECOLOGY. (3 Credits)

Agroecology incorporates ecological concepts and principles to the design and management of sustainable agricultural systems. Topics include: the role of insects in sustainable agricultural systems; application of the principles of insect ecology to better manage insect pests and maximize crop yield; conserving beneficial insects and other natural resources in agroecosystems and the surrounding landscape. CROSSLISTED as HORT 544.

Equivalent to: HORT 544

Recommended: General background or previous course work in entomology.

ENT 548. INTEGRATED PEST MANAGEMENT IN ORGANIC SYSTEMS. (3 Credits)

Prevention, detection, and management of pests and diseases in organic plant production systems. Content includes activities that require students to expand their experience of pest management in their locality by incorporating new and emergent technology for monitoring, diagnosing and managing insects, pathogen, and weed pests and their impacts on crops. Discussions will be centered on the logistics and potential of new technologies in pest management, incorporating biological, ecological and sustainable agriculture concepts.

Recommended: ENT 311 with minimum grade of D-

ENT 599. SPECIAL TOPICS. (1-16 Credits)

Important topics of current interest in the areas of systematics, insect physiology and toxicology, ecology and behavior, and pest management. Course content and title will change with each offering.

This course is repeatable for 16 credits.

ENT 601. RESEARCH. (1-16 Credits)

This course is repeatable for 16 credits.

ENT 603. THESIS. (1-16 Credits)

This course is repeatable for 999 credits.

ENT 605. READING AND CONFERENCE. (1-16 Credits)

This course is repeatable for 16 credits.

ENT 607. SEMINAR. (1-16 Credits)

This course is repeatable for 16 credits.

ENT 609. PRACTICUM IN TEACHING. (1-3 Credits)

Developing skills and competence in teaching under staff supervision; organization and presentation of instructional material by assisting in laboratory, recitation, and lectures. Graded P/N.

Equivalent to: CROP 609, PBG 609, SOIL 609

This course is repeatable for 9 credits.

ENT 699. SPECIAL TOPICS. (1-16 Credits)

Important topics of current interest in the areas of systematics, insect physiology and toxicology, ecology and behavior, and pest management. Course content and title will change with each offering.

This course is repeatable for 16 credits.