ENTOM 3070 - Pesticides, the Environment, and Human Health (TOX 3070) - 2 credits. Prerequisites: sophomore standing or permission of instructor. Instructor: J. Scott.

Survey of the different types of pesticides, their uses, properties, and effects on the environment. Discusses the risks, benefits, regulation, politics, and current controversies associated with pesticide use and genetically modified organisms. 

Lec: T, R 12:20 – 1:10 pm

ENTOM 2120 – Insect Biology - 4 credits. Instructor: P. O’Grady. Prerequisite or co-requisite: one semester of college biology or permission of instructor.

Lab fee: $40. Introduces the science of entomology, focusing on the systematics, anatomy, physiology, basic and applied ecology, and natural history of insects. Early fall laboratories include field trips to collect and study insects in the natural environment. A personal collection emphasizing ecological, behavioral, and taxonomic categories is a requirement of the laboratory.

Lec: T, R 9:05-9:55 am
Lab: W or R 1:25-4:25 pm.

ENTOM 4520 – Introduction to Disease Vectors - 4 credits. Instructor: L. Harrington.

Introduces vector taxonomy, evolution, biology, behavior, and history of vector-borne disease control, with emphasis on the Northeast USA. Students will gain knowledge of the latest surveillance approaches, control methods, and challenges for controlling vector-borne diseases, understanding of arthropod biology, body plan, organ systems, behavior and physiology, infection biology and immunity. As well as practical skills with arthropod identification and demonstrate a solid understanding of disease vector evolutionary relationships. Students will learn to apply knowledge gained from the class in future roles as public health practitioners, or as informed citizens.

Lec: T, R 10:10-11:50 am
Lab: R 1:25-4:25 pm

ENTOM 2030 - Honey Bees: Their Intriguing Biology and Interactions with Humans - 2 or 3 credits. Students electing the 3 cr. option will have a discussion on Fridays, in addition to the two weekly lectures offered on M and W. Instructor: M. Caillaud

Honey bees have been an object of fascination for mankind since prehistoric times. They have, and still are, prized for their honey and beeswax. They are essential coworkers in agriculture. The complexity of their communal life has intrigued many observers and scientists. This course aims to offer an exploration of one of the most amazing life forms we know. Topics covered include chemical ecology, insect physiology, beekeeping, behavioral ecology, pollination biology, sociobiology, Colony Collapse Disorder and Conservation Biology. The relationship between Humans and honey bees from prehistoric through modern age will be emphasized.

Lec: M, W 12:20 - 1:10 pm; Disc: F 11:15am-12:05pm or 12:20-1:10pm

ENTOM 3200 – Grape Pest Management (PLPPM/VIEN 3200) - 3 credits. Instructors: G. Loeb, W. Wilcox and A. Landers.

Emphasizes general integrated pest management concepts, the biology and specific management practices pertaining to the major diseases and arthropod pests of grapes, and modern spray application technologies. Team taught by plant pathologist, entomologist, and agricultural engineer.

Lec: M, W 11:15 am - 12:05 pm
Lab: W 1:25 – 4:25 pm.

Seminars

ENTOM 6900 (BIOEE 6900) Ecology and Evolution of Infectious Diseases. 1 credit. Instructor: A. Hajek Sem: R 10:10 – 11:00 am

ENTOM 7640 (BIOEE/BIONB) Plant Insect Interactions (PIG) 1 credit. Instructors: A. Agrawal, J. Thaler Sem: F 9:00 – 10:00 am
Through lectures, field trips, case studies and discussions students will gain a broad, working knowledge of agroecology including population, community, evolutionary and ecosystem principles as well as the role of economics and other social processes in agricultural systems. This class also provides students with opportunities to apply ecological concepts to agricultural systems and to develop critical thinking and writing skills.

**Lec:** T, R 2:30–3:45 pm  
**Disc:** R 3:45–4:25 pm

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Introduction to insect biodiversity, ecology and behavior in a neotropical rainforest environment. Fall disc., followed by two weeks in January at Las Cruces and La Selva Biological Stations in Costa Rica. Field course project completed in Spring semester.

**Multi-semester Disc:** R 2:55-4:10 pm  
**Field:** 2 weeks in winter session

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**ENTOM 2150 - Spider Biology: Life on a Silken Thread - 2 credits. Instructor: L. Rayor**

An introduction to the fascinating world of spiders and their kin, and to the variety of research being done with these animals. The course emphasizes spider behavioral ecology, biodiversity, ecology, and evolution. Open labs and field trips give practical experience with diverse groups.

**Lec:** W,F 11:15-12:05 pm

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**ENTOM 3150 - Spider Biology - 3 credits. Letter grades only. Instructor: L. Rayor**

A more in-depth introduction to the fascinating world of spiders and their relatives. Meets concurrently with ENTOM 2150 (2 credits). Students in ENTOM 3150 meet for another hour a week to develop spider identification skills, do behavioral experiments with arachnids, and discuss current literature. Entomology majors and biology majors in the Insect Biology program of study should take ENTOM 3150 rather than ENTOM 2150. Students may not take both ENTOM 2150 and 3150 for credit.

**Lec:** W,F 11:15–12:05 pm  
**Disc:** M 11:15-12:05 pm

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**ENTOM 4730 - Ecology of Agricultural Systems (PLHRT 4730) - 3 credits. Prerequisite: BIOEE 1610. Instructor: L. Drinkwater**

Through lectures, field trips, case studies and discussions students will gain a broad, working knowledge of agroecology including population, community, evolutionary and ecosystem principles as well as the role of economics and other social processes in agricultural systems. This class also provides students with opportunities to apply ecological concepts to agricultural systems and to develop critical thinking and writing skills.

**Lec:** T,R 2:30-3:45 pm  
**Disc:** R 3:45-4:25 pm

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**ENTOM 3410 – Applied Entomology - 3 credits. Letter grades only. Instructor: J. P. Sanderson.**

This course focuses on how insects affect our daily lives in agriculture, urban and environmental settings and public health. Through hands-on field trips, lectures and laboratory exercises, students will gain an appreciation for and understanding of the biology, ecology, behavior and management of important insects and arthropods. We will explore insects as pests as well as beneficial organisms (e.g. pollinators and natural enemies). We will discuss various past, present and future pest management practices and the effects they have on our society, economy, health and the environment in which we live. The course will emphasize field experiences and discussion of topics. Previous experience in entomology is not required.

**Lec:** M,W 10:10 – 11:00 am  
**Lab:** F 1:25 – 4:25pm

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**ENTOM 3350 – Naturalist Outreach Practicum - 4 credits. Prerequisite: one college level biology course. Enrollment limited to: juniors, seniors, and graduate students. Instructor: L. Rayor**

An interdisciplinary, community engaged service-learning course on how to do effective scientific outreach in environmental and organismal biology (http://blogs.cornell.edu/naturalistoutreach). The goals of this course are to 1) to train you to speak about science with passion and clarity, 2) to give you experience doing science outreach in different contexts, 3) to expose you to the diversity of careers in informal and formal science education, and 4) to help develop civically engaged outreach leaders of the future. Naturalist Outreach Program will give you outreach experience in classrooms throughout the region. With feedback from peers and instructors, students develop their own biological presentations and display materials.

**Lec:** R 1:25–4:25 pm.

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**ENTOM 4750 - Insect Ecology (BIOEE 4550) – 4 credits. S-U or letter grade only. Recommended: Intro Biology or permission of Instructor. Instructor: J. Thaler**

You will learn to think like an ecologist by studying the fundamental principles of insect ecology and the types of questions ecologists ask, seeing how ecology can be used to understand and solve environmental problems, and putting this knowledge into action during group activities in the lab and field.

**Lec:** M,W 9:05–9:55 am  
**Lab:** W 1:25–4:25 pm