



Seminars

ENTOM 4940 Special Topic in Entomology- Advanced topics in applied statistics for biologists. 1 credit. Instructor: H. Grab
Sem: W 12:20 – 1:10 pm

ENTOM 6900 (BIOEE 6900) Ecology and Evolution of Infectious Diseases Graduate-level discussion of the ecology, epidemiology, genetics, and evolution of infectious disease in animal and plant systems. 1 credit. Instructor: A. Hajek
Sem: R 10:10 – 11:00 am

ENTOM 7570 (BIOEE 7570) Spatial Population Ecology Examines the role of space for individuals, populations and communities in ecology. Open to anyone (undergraduates with prior permission). 1 credit. Instructor: S. van Nouhuys
Sem: T 3:35-4:25 pm

ENTOM 7640 (BIOEE/BIONB) Plant Insect Interactions (PIG) Group intensive study of current research in plant- insect interactions including chemical defense, coevolution, insect community structure, population regulation, biocontrol, tritrophic interactions and mutualism. Instructors: A. Kessler, K. Poveda
Sem: F 9:00 – 10:00 am

ENTOM 3755 – Social Animal Behavior: Arthropods to Apes 3 credits. Prerequisite: 1 year college biology. Instructor: L. Rayor

Why do some animals live in social groups while others live solitarily? Throughout Animalia are examples of closely related taxa in which the majority of species live essentially solitary lives while a few species have evolved to live in cooperative social groups. What factors make cooperation beneficial while closely related species succeed without those benefits?

Lec: T,R: 11:40 -12:55 pm

ENTOM 3630 – Bugs in Bugs: The World of Pathogens, Parasites and Symbionts 3 credits. Prerequisite: general biology. Instructor: A. Hajek

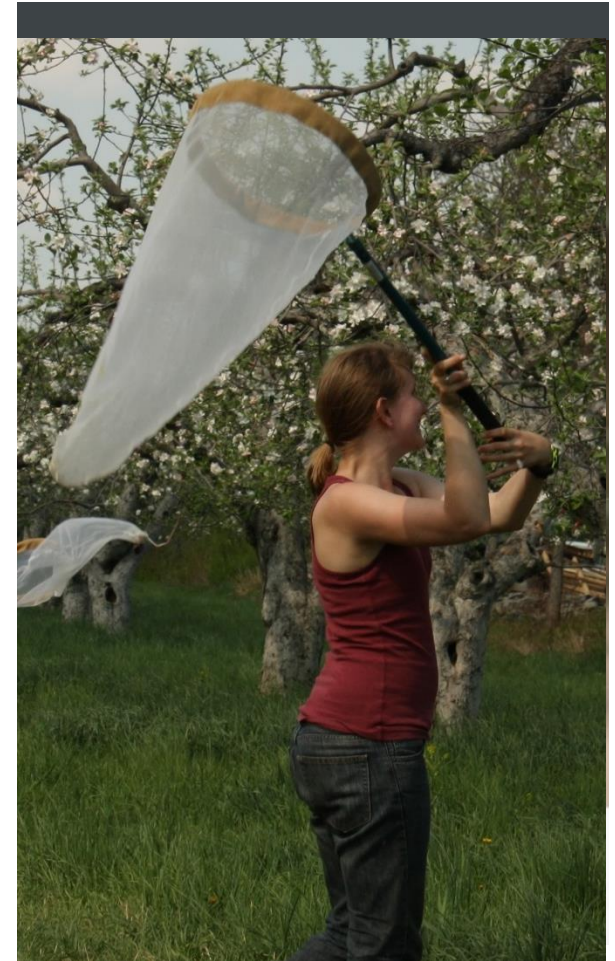
Fascinating and diverse associations between microorganisms and invertebrates make it possible for invertebrates to damage crops, feed on wood and blood, and vector pathogens of animals and plants. Microorganisms can act as parasites/ pathogens; we protect against some of these, like microbes causing bee diseases, while others are used for environmentally safe control of pests. We will cover insect/microbe biology, ecology and evolution across the diversity of these interactions. The course will include demonstrations and an on-campus field trip.

Lec: M,W,F 10:10-11:00 am.

ENTOM 3330 – Maggots, Grubs, and Cutworms: Larval Insect Biology 3 credits Prerequisite: Entom. 2120 or instructor permission. Instructor: J.K. Liebherr.

Holometabolous insects comprise over 90% of insect diversity and the evolutionary history of the Holometabola is greatly informed by attributes of their larvae. This course introduces students to the biology, anatomy, and natural history of Holometabolous insect larvae, and how larval information supports phylogenetic classification of the Holometabola. Exploration of these topics is supported by reading primary scientific literature and in-class discussion. The laboratory exercises are based on identification of a broad array of reference specimens, coupled with personal identification of a set of unknowns.

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



For full course descriptions:
<http://courses.cornell.edu>

*Spring 2018
Entomology
Course Offerings*

ENTOM 2010/2011 - Alien Empire: Bizarre Biology of Bugs 2-3 credits. Optional field trips. Instructors: B. Danforth, M. Caillaud

Insects are the most abundant and diverse animals on earth. This course explores the bizarre biology of insects and their interaction with humans. We will examine both the detrimental roles insects play (e.g., pests and vectors of disease) as well as their beneficial roles (e.g., pollinations, edible insects, insect products such as waxes, dyes, and silk). We will also explore the symbolic representation of insects in art, literature, and religion. In addition to the two lectures, students taking the course for 3 credits will meet once per week (on Friday) for discussion and documentary films on the biology of insects. **Lec: M,W 10:10-11:00 am; Disc: F 10:10 - 11:00 am**



ENTOM 4440 - Integrated Pest Management (PLSCS 4440) 4 credits. Prerequisite: introductory biology or permission of instructor. Lec/lab Instructors: J. E. Losey, A. DiTommaso

Lectures integrate the principles of pest control, ecology, and economics in the management of pests across multiple systems. Labs consist of exercises to reinforce concepts presented in lecture and demonstrate pest monitoring techniques and the application of computer technology to management problems. **Lec: M,W,F 9:05-9:55 am; Lab: T 1:25-4:25 pm**



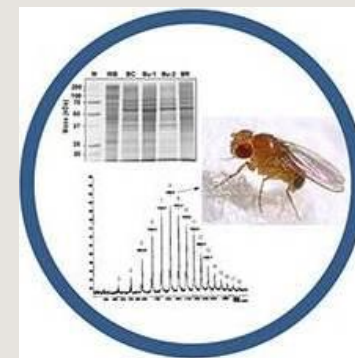
ENTOM 3030 - Applied Statistics: Biological Experiments in Practice 3 credits. Instructor: K. Poveda

In this course you will get hands-on experience in how to design, analyze and interpret biological experiments. This class will be particularly useful if you plan to conduct experiments in a greenhouse or field setting. You will learn to develop a scientific question, formulate biological and statistical hypotheses, derive testable predictions, design and conduct experiments, collect your own data, test the proposed hypotheses using appropriate statistical methods and finally interpret the statistical results within a broader conceptual framework. You will learn common statistical methods (chi-square tests, t-test, ANOVA, Regression) and in-class workshops will familiarize you with R, the software we will use to run statistical test.

Lec: M 1:25-3:20 pm; Lab: F 1:25-4:25 pm

ENTOM 4830 - Insect Physiology 4 credits. Prerequisite: ENTOM 2120 or permission of instructor. Lec/lab. Instructors: N. Buchon, A. Douglas

Introduction to how insects work. Examines each physiological system (digestion, gas exchange, immunity, etc.) with emphasis on basic principles and specific examples. Also introduces students to some common methods used in physiological research and to the critical reading of scientific literature. **Lec: M,W,F 10:10 - 11:00 am; Lab: W 1:25-4:25 pm**



ENTOM 3690 - Chemical Ecology (BIOEE/BIONB 3690) 3 credits. Prerequisites: one semester of introductory biology for majors or non-majors and one semester of introductory chemistry for majors or non-majors or equivalents, or permission of instructor. Instructors: G. Jander, A. Kessler

Why are chilies so spicy? This course examines the chemical basis of interactions between species and is intended for students with a basic knowledge of chemistry and biology. Focuses on the ecology and chemistry of plants, animals, and microbes. Stresses chemical signals used in diverse ecosystems, using Darwinian natural selection as a framework. Topics include: plant defenses, microbial warfare, communication in marine organisms, and human pheromones. **Lec: M,W,F 11:15 am-12:05 pm.**