ENTOMOLOGY (ENTOM)

ENTOM 2010 - Alien Empire: Bizarre Biology of Bugs (2 Credits)
Insects are the most abundant and diverse animals on earth. This course explores the bizarre biology of insects and their interaction with humans. It examines both the detrimental roles insects play (e.g., pests and vectors of disease) as well as their beneficial roles (e.g., pollination, edible insects, insect products such as waxes, dyes, and silk). The course also explores the symbolic representation of insects in art, literature, and religion.
Distribution Requirements: (OPHLS-AG)
Last Four Terms Offered: Spring 2025, Spring 2024, Spring 2023, Spring 2022
Learning Outcomes:

- 1.1 know and be able to identify the 32 insect orders. 1.2 understand the basic physiological functions of insects. 1.3 appreciate and understand the diversity of insects (relative to other terrestrial organisms). 1.4 appreciate the ecological role that insects play on earth.
- 2.1 understand the basic principles of evolutionary biology and evolutionary reasoning. 2.2 understand the scientific method and hypothesis testing in the context of biology.
- 3.1 understand the beneficial roles that insects play in human society. 3.2 understand the negative roles that insects play in human society. 3.3 intelligently distinguish real threats that insects pose from those that are based on a misunderstanding of basic insect biology.
- 4.1 evaluate critical issues related to the impact of insects on human society based on independent research. 4.2 communicate effectively in a debate format. 4.3 communicate effectively in written format.

Schedule of Classes (https://classes.cornell.edu/)

ENTOM 2011 - Alien Empire: Bizarre Biology of Bugs (3 Credits)
Insects are the most abundant and diverse animals on earth. This course explores the bizarre biology of insects and their interaction with humans. It examines both the detrimental roles insects play (e.g., pests and vectors of disease) as well as their beneficial roles (e.g., pollination, edible insects, insect products such as waxes, dyes, and silk). The course also explores the symbolic representation of insects in art, literature, and religion. Students taking the course meet for small group discussions, debates, demonstrations, and documentary films on the biology of insects. This course is suitable for non-life sciences majors.
Distribution Requirements: (BIO-AG, BSC-AG, OPHLS-AG)
Last Four Terms Offered: Spring 2025, Spring 2024, Spring 2023, Spring 2022
Learning Outcomes:

- 1.1 know and be able to identify the 32 insect orders. 1.2 understand the basic physiological functions of insects. 1.3 appreciate and understand the diversity of insects (relative to other terrestrial organisms). 1.4 appreciate the ecological role that insects play on earth.
- 2.1 understand the basic principles of evolutionary biology and evolutionary reasoning. 2.2 understand the scientific method and hypothesis testing in the context of biology.
- 3.1 understand the beneficial roles that insects play in human society. 3.2 understand the negative roles that insects play in human society. 3.3 intelligently distinguish real threats that insects pose from those that are based on a misunderstanding of basic insect biology.
- 4.1 evaluate critical issues related to the impact of insects on human society based on independent research. 4.2 communicate effectively in a debate format. 4.3 communicate effectively in written format.

Schedule of Classes (https://classes.cornell.edu/)

ENTOM 2030 - Honey Bees: Their Intriguing Biology and Interactions with Humans and More (3 Credits)
Honeybees have been an object of fascination for mankind since prehistoric times. The complexity of their communal life has intrigued many observers and scientists, and they have long been prized for their honey as well as their beeswax. Honeybees, along with many wild bees are essential coworkers in agriculture because of their pollination services, and they are increasingly seen as important partners for sustainable agriculture that limits the use of pesticides. 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 and Conservation Biology. This course is suitable for non-life sciences students. This course is suitable for non-life sciences majors.
Distribution Requirements: (AFS-AG, BIO-AG, BSC-AG, OPHLS-AG)
Exploratory Studies: (CU-SBY)

Last Four Terms Offered: Summer 2025, Winter 2025, Fall 2024, Summer 2024
Learning Outcomes:

- Showcase working knowledge of honey bee biology and their place in the evolutionary history of life on planet Earth, their unique anatomy/physiology, behavior, social complexity, chemical world, and environmental adaptations.
- Explain how Apis mellifera, the Western honey bee, differs from other honey bees, and from the other 20,000 bee species of the world.
- Analyze the relationships, influence, and impact between honey bees and humans throughout history.
- Describe the role of honey bees and wild bees in current agricultural systems, evaluate the potential impact of the current decline of populations of many of those bee species on food supply for both humans and livestock, and identify strategies that can mitigate bee decline and lead to sustainable agriculture.
- Demonstrate self-directed learning in biology by finding and then utilizing credible information sources available to the educated layperson, including articles from the primary scientific literature.
- Communicate clearly and effectively about controversial issues that relate to insect biology, in written and oral formats.

Schedule of Classes (https://classes.cornell.edu/)

ENTOM 2031 - Honey Bees: Their Intriguing Biology and Interactions with Humans (2 Credits)
Honeybees have been an object of fascination for mankind since prehistoric times. The complexity of their communal life has intrigued many observers and scientists, and they have long been prized for their honey as well as their beeswax. Honeybees, along with many wild bees are essential coworkers in agriculture because of their pollination services, and they are increasingly seen as important partners for sustainable agriculture that limits the use of pesticides. 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 and Conservation Biology. This course is suitable for non-life sciences students.
Distribution Requirements: (OPHLS-AG)
Exploratory Studies: (CU-SBY)

Last Four Terms Offered: Fall 2024, Fall 2023, Fall 2022, Fall 2020
Learning Outcomes:

- Showcase working knowledge of honeybee biology and their place in the evolutionary history of life on planet Earth, their unique anatomy/physiology, behavior, social complexity, chemical world, and environmental adaptations.
- Explain how Apis mellifera, the Western honeybee, differs from other honeybees, and from the other 20,000 bee species of the world.
- Analyze the relationships, influence, and impact between honeybees and humans throughout history.
- Describe the role of honeybees and wild bees in current agricultural systems, evaluate the potential impact of the current decline of populations of many of those bee species on food supply for both humans and livestock, and identify strategies that can mitigate bee decline and lead to sustainable agriculture.
- Demonstrate self-directed learning in biology by finding and then utilizing credible information sources available to the educated layperson, including articles from the primary scientific literature.
- Communicate clearly and effectively about controversial issues that relate to insect biology, in written and oral formats.

Schedule of Classes (https://classes.cornell.edu/)

ENTOM 2100 - Plagues and People (3 Credits)
Crosslisted with BSOC 2101
Human diseases have affected human lives and society through history. This course focuses on the pathogens, parasites, and arthropods causing human plagues through multiple perspectives (biomedical, social, ethical, cultural). Those plagues that have had the greatest impact on human culture and expression are emphasized. Lectures are supplemented with readings and videos . Also addresses emerging diseases, bioterrorism, and future plagues.
Distribution Requirements: (BSC-AG, ETH-AG, OPHLS-AG), (SCT-IL)
Exploratory Studies: (AFAREA)

Last Four Terms Offered: Fall 2023, Fall 2021, Fall 2019, Fall 2017
Learning Outcomes:

- 1.1 able to explain the biology, transmission and factors that lead to disease outbreaks based on investigation of in-depth examples from the class. 1.2. aware of the sources that report emerging infectious diseases and how the media can influence public perception of diseases. 1.3. able to explain the historical impact of some key infectious diseases. 1.4. know some of the key people who have contributed to or impacted historical disease outbreaks (e.g. Typhoid Mary). 1.5. able to describe how bioterror agents are categorized and some pathogens and/or parasites that may cause future epidemics.
- 2.1. able to describe key factors (e.g. reassortment, mutation, host shifting) that can lead to the emergence of a new pathogen or parasite. 2.2. able to provide specific examples of how pathogens have cause major outbreaks (pandemic flu, SARS).
- 3.1. able to discuss the ways some arthropod-borne infections have impacted human health in the past, present and future. 3.2. able to explain to others (those not knowledgeable about the topic) the impacts of arthropods on human health.
- 4.1 able to objectively understand and articulate the facts and fears surrounding disease outbreaks. 4.2 able to engage in informed debate about issues related to disease outbreaks.

Schedule of Classes (https://classes.cornell.edu/)

ENTOM 2120 - Insect Biology (4 Credits)
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.
Prerequisites: one semester of college biology or permission of instructor.
Course Fee: Course Fee, $50. Lab fee.
Distribution Requirements: (BSC-AG, OPHLS-AG)
Exploratory Studies: (CU-SBY)

Last Four Terms Offered: Fall 2024, Fall 2023, Fall 2022, Fall 2021
Learning Outcomes:

- To be able to categorize insects based on basic ecological, behavioral, morphological, physiological, or developmental attributes.
- Demonstrate phylogenetic tree thinking.
- To be able to name various structures in some insect and compare them with homologous structures in other insects.
- To be able to present an insect collection of appropriately preserved specimens using a variety of collecting techniques.
- To be able to evaluate morphological characters and use a dichotomous key.
- 1. Conduct an ecological sampling field exercise and write a team report 2. Identify insects in lab and collegially compare identifications with other lab members.
- Sketch anatomical features in personal dissection and lab demonstrations.

Schedule of Classes (https://classes.cornell.edu/)

ENTOM 2150 - Spider Biology: Life on a Silken Thread (2 Credits)
Introduction to the fascinating world of spiders and their close kin. Explores behavior, ecology, evolution, and physiology of spiders from a modern perspective. Topics include their unusual reproduction, predatory behavior, unique use of silk, social spiders, and potential use in IPM.
Distribution Requirements: (OPHLS-AG)
Exploratory Studies: (CU-SBY)

Last Four Terms Offered: Fall 2024, Fall 2022, Fall 2018, Fall 2016
Schedule of Classes (https://classes.cornell.edu/)

ENTOM 2500 - Biological Diversity of the Sonoran Desert (3 Credits)
The Sonoran Desert hosts an impressive array of biological diversity. This course will explore this diversity, with a focus on the insect fauna and the plants they utilize. Specific topics will include collection methods, insect biodiversity, biogeography, and Sonoran Desert plant communities. A one-week field trip will take place over spring break. Students will travel to Tucson, visit the Sonoran Desert Museum, and be housed at the Southwest Field Station.This course receives more credit than typical for the meeting pattern due to substantial academic activity outside of instructional hours.
Prerequisites: ENTOM 2120.
Course Fee: Course Fee, $1500. Covers lodgings, food and transportation in Arizona. Students are also required to purchase their own plane ticket (est. $500).
Distribution Requirements: (BSC-AG, DLG-AG)
Last Four Terms Offered: Spring 2023, Spring 2019
Learning Outcomes:

- Introduce students to the biodiversity of the desert southwest through a focused examination of insects and their host plant communities.
- Develop skills in insect natural history observation.
- Apply basic statistical methods.
- Interpret, analyze, and discuss scientific literature relevant to desert ecology and plant and insect biodiversity.

Schedule of Classes (https://classes.cornell.edu/)

ENTOM 3030 - Applied Statistics: Biological Experiments in Practice (4 Credits)
In this course, you will get hands-on experience in how to design, analyze, and interpret biological experiments. This course 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, interpret the statistical results within a broader conceptual framework, and finally present statistical methods and results in written and oral form. You will learn common statistical methods (chi-square tests, t-test, ANOVA, Regression) and in-class workshops will familiarize you with the software to run those statistical tests. This course will be based on the scientific method, and the role statistical analysis play within this method. Writing several papers, based on the experiments you performed and analyzed, will allow you to cement this knowledge for your future research.
Prerequisites: introductory class in statistics.
Distribution Requirements: (DLS-AG, OPHLS-AG)
Last Four Terms Offered: Spring 2025, Spring 2024, Spring 2023, Spring 2022
Learning Outcomes:

- Design and plan experiments based on scientific hypotheses.
- Construct a scientific question, formulate biological and statistical hypothesis, derive testable predictions, use a rigorous experimental design, and test the proposed hypotheses.
- Learn when and how to use different experimental designs such as paired designs, randomized blocks, Latin squares, factorial-, split-plot, and nested-designs among others.
- Apply the theory behind statistical analysis such as chi-square test, t-test, ANOVA, Regression, ANCOVA, nested analysis, and split-plots.
- Master running the above described analyses in R.
- Analyze and interpret the outcome from your own data and showing a real understanding of the statistical methods.
- Interpret statistical results and make inferences on their biological hypotheses and original question.
- Effectively communicate in written and oral form statistical results in a biological context.
- Write papers that reflect the full understanding of the scientific method from initial question to conclusion with emphasis on experimental design, statistical methods, and results.

Schedule of Classes (https://classes.cornell.edu/)

ENTOM 3150 - Spider Biology (3 Credits)
In-depth introduction to the fascinating world of spiders and their relatives. Students cover current topics in arachnology and developing spider identification skills.
Distribution Requirements: (BSC-AG, OPHLS-AG)
Exploratory Studies: (CU-SBY)

Last Four Terms Offered: Fall 2024, Fall 2022, Fall 2020, Fall 2018
Schedule of Classes (https://classes.cornell.edu/)

ENTOM 3310 - Insect Diversity and Evolution (3 Credits)
Insects are the dominant terrestrial organisms on planet earth both in terms of the number of species as well as in biomass. This course will provide a detailed look at insect diversity, phylogeny, natural history, and the insect fossil record. We will examine what is known about insect higher level relationships based on morphology and DNA sequence data and explore how phylogenies can be used to examine the evolution of behavior, life history, ecology, and natural history. Students will come away from the class with a deeper understanding of insect biodiversity, evolution, natural history, and phylogeny.
Prerequisites: ENTOM 2120. Corequisite: ENTOM 3311.
Distribution Requirements: (BSC-AG, OPHLS-AG)
Last Four Terms Offered: Fall 2023, Fall 2021, Fall 2017, Fall 2015
Learning Outcomes:

- Develop a comprehensive understanding of the insect orders and families and their evolutionary relationships.
- Understand a variety of methods used to reconstruct phylogenies from morphological and DNA sequence data.
- Develop a broad understanding of insect natural history.
- Read and evaluate the primary literature in insect diversity and evolution.
- Communicate phylogenetic and evolutionary concepts in written and oral form.

Schedule of Classes (https://classes.cornell.edu/)

ENTOM 3311 - Insect Diversity Laboratory (1 Credit)
This laboratory will introduce students to the diversity of insects and their identification. Collections will be made in the early part of the semester. Labs will introduce students to insect collecting techniques and insect identification to the family level. Optional weekend field trips to natural areas will take place early in the semester.
Prerequisites: ENTOM 2120.
Corequisites: ENTOM 3310.
Course Fee: Course Fee, $40. Lab fee.
Last Four Terms Offered: Fall 2023, Fall 2021, Fall 2017, Fall 2015
Schedule of Classes (https://classes.cornell.edu/)

ENTOM 3350 - Naturalist Outreach Practicum (4 Credits)
An interdisciplinary course on how to do effective scientific outreach. The goals of the course are 1) to train students to speak about science with passion and clarity, 2) for the students to be able to teach science effectively in classrooms, science centers, and in large community outreach events, and 3) to train a generation of civically engaged scientific outreach leaders. Students give presentations in schools. Class size is limited. Students who wish to enroll should read blogs.cornell.edu/naturalistoutreach, please contact the instructor to get an enrollment code.
Prerequisites: one college-level biology course.
Enrollment Information: Enrollment limited to: upperclassmen and graduate students.
Distribution Requirements: (ORL-AG)
Exploratory Studies: (CU-CEL, CU-SBY)

Last Four Terms Offered: Fall 2024, Fall 2023, Fall 2022, Fall 2021
Learning Outcomes:

- Students will be able to give knowledgeable, well-organized, and dynamic hands-on presentations. Students learn how to assemble and design illustrative display materials.
- Students will understand the complexities to design, organize, and manage an outreach event.
- Students gain experience with the pleasures and realities of teaching children. Additionally, students interact with teachers to integrate their presentations with the curricular needs of the class.
- Students learn to synthesize biological concepts and create experiential learning materials for use by others

Schedule of Classes (https://classes.cornell.edu/)

ENTOM 3360 - Naturalist Outreach Continued (1-2 Credits)
If you have already taken ENTOM 3350, you can continue to do outreach in the community for credit. Open only to students who have already taken ENTOM 3350.
Prerequisites: ENTOM 3350.
Distribution Requirements: (OPHLS-AG)
Exploratory Studies: (CU-CEL, CU-SBY)

Last Four Terms Offered: Fall 2024, Fall 2023, Fall 2022, Fall 2021
Schedule of Classes (https://classes.cornell.edu/)

ENTOM 3410 - Applied Entomology (3 Credits)
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 and behavior of important insects and other arthropods. We will explore insects and pests as well as beneficial organisms (e.g. pollinators, natural enemies and aquatic insects). 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.
Prerequisites: college course in introductory biological sciences.
Last Four Terms Offered: Fall 2020, Fall 2019, Fall 2018, Fall 2017
Learning Outcomes:

- 1.1 Students will study insect structure and function as needed for understanding the principles of identification of insect species, their ecology, and effects of management tactics. 1.2 Students will understand the major themes of insect pest management including biological, cultural, genetic, insecticidal, host plant resistance and IPM.
- 2.1 Students will understand the various insect pest management practices and be able to intelligently discuss their benefits and limitations within the context of domestic and international perspectives.
- 3.1 Students will learn about responsibilities in various employment opportunities such as field technicians, food industry, government, university and international positions. 3.2 Students will conduct a search for positions of interest and prepare a resume.
- 4.1 Students will make class presentations about particular pests and the pros and cons of various management strategies. 4.2 Students will be presented with an issue important to pest management and be assigned to articulate and defend various points of view.
- 5.1 Students will be able to explain the beneficial and harmful ways in which insects affect agriculture, urban and environmental settings and public health. They will become familiar with important examples.
- 6.1 With an understanding of the biology and ecology of insects, and familiarity with the settings in which the pests cause negative effects, students will be able to compare and contrast various management strategies and discuss which have succeeded or failed and why. 6.2 Students will be able to discuss how social and cultural issues affect management strategies.

Schedule of Classes (https://classes.cornell.edu/)

ENTOM 3440 - Insect Conservation Biology (3 Credits)
Crosslisted with BSOC 3441
In-depth look at the concepts and issues surrounding the conservation of insects and other invertebrates. Topics include sampling rare populations; insect conservation genetics; the role of phylogeny in determining conservation priorities; refuge design; saving individual species; plus the unique political, social, and ethical aspects of insect conservation and preservation of their ecological services (i.e., pollination, decomposition, pest suppression, and insectivore food sources).
Prerequisites: entomology or conservation biology course or permission of instructor.
Distribution Requirements: (BSC-AG, OPHLS-AG, SCH-AG)
Exploratory Studies: (CU-SBY)

Last Four Terms Offered: Fall 2023, Fall 2021, Fall 2019, Fall 2017
Learning Outcomes:

- 1.1 Students will appreciate the often overlooked economic and ecological roles of insects and by extension the dangers associated with their declining diversity. 1.2 Students will be able to identify and evaluate ethical issues involved with conservation.
- 2.1 Students will acquire the abilities to use multiple integrated techniques to assess the state of insect diversity in general and for individual species and services. 2.2 Students will develop underlying skills to prioritize among conservation alternatives and developing conservation plans.
- 3.1 Students will participate actively in discussion and debate about insect conservation with peers. 3.2 Students will work together to facilitate discussion and understanding of contentious issues. 3.3 Students will gain experience searching the scientific literature to learn more about insect conservation biology from primary sources.
- 4.1 Students will collect and organize information with team members to report on a specific insect species or issue of their choice. 4.2 Students will summarize and codify data from a literature review to learn about the hypothesis-driven approach to scientific research.

Schedule of Classes (https://classes.cornell.edu/)

ENTOM 3630 - Bugs in Bugs– Insect Pathology and Immunity (3 Credits)
Bugs in Bugs: Insect Pathology and Immunity provides an overview of the major groups of internal pathogens and parasites that infect insects in natural and managed settings, as well as the fundamental structure of the insect immune system for combatting infection. Major pathogen groups covered include viruses, bacteria, fungi, parasitoids, nematodes and other parasites. The course will examine infection strategies used by each pathogen group and the mode of host immune defense deployed against each pathogen. At the population level, the course will examine epidemiological and evolutionary outcomes of infection.
Prerequisites: BIOMG 1350 or BIOG 1440 or BIOG 1445 or permission of instructor.
Distribution Requirements: (BSC-AG)
Last Four Terms Offered: Spring 2022, Spring 2020, Spring 2018, Spring 2016
Learning Outcomes:

- Describe general characteristics of parasites, parasitoids, bacterial symbionts and pathogens, viruses, and fungi associated with insects and other arthropods in natural and managed settings.
- Describe the basic functions of insect immune systems and how they compare to immune functions in vertebrates and plants.
- Analyze illustrative examples of insect pathogenesis and evaluate consequences at the individual and population levels.
- Describe current scientific literature and apply it to novel cases, both individually and in discussion with peers.

Schedule of Classes (https://classes.cornell.edu/)

ENTOM 3690 - Chemical Ecology (3 Credits)
Crosslisted with BIOEE 3690, BIONB 3690
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.
Prerequisites: one majors-level biology course and one semester introductory chemistry for majors or non-majors or equivalents, or permission of instructor.
Distribution Requirements: (BIO-AS), (BSC-AG, OPHLS-AG)
Exploratory Studies: (CU-SBY)

Last Four Terms Offered: Spring 2025, Spring 2024, Spring 2023, Spring 2022
Learning Outcomes:

- Categorize ecological interactions and potential mechanisms by which they are mediated.
- Discuss these mechanisms in light of evolutionary theory and draw conclusions about potential agricultural applications.
- Become familiar with the general structures of organic molecules and the relationship between structure and function.
- Become familiar with a number of analytical, behavioral, and experimental techniques used to analyze chemical compounds that mediate ecological interactions.
- Read and synthesize findings from original scientific research in chemical ecology by studying and discussing the primary literature.

Schedule of Classes (https://classes.cornell.edu/)

ENTOM 3755 - Social Animal Behavior: Arthropods to Apes (3 Credits)
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? We will compare the ecological and evolutionary factors influencing sociality in animals from social amoeba, eusocial insects, social invertebrates, cooperative birds, ground squirrels, carnivores, elephants, and primates with the goal of developing a comparative social synthesis. Social theory, and patterns of foraging, reproduction, parental care, group defense will be compared. Social animals are the most compelling, and the most informative to the human condition of all animals.
Distribution Requirements: (BSC-AG, OPHLS-AG)
Last Four Terms Offered: Fall 2023, Spring 2022, Spring 2018
Learning Outcomes:

- Interpret diverse behaviors which requires an integration of social theory, evolutionary history, and ecological pressures that influence different organisms.
- Develop a synthetic knowledge of the diversity of social behavior in different taxa.
- Critically evaluate the quality and conclusions of scientific primary literature.
- Apply theory and practical examples from across Animalia, but also look at systems with a broader perspective.
- Incorporate behavioral components into future research projects.

Schedule of Classes (https://classes.cornell.edu/)

ENTOM 4000 - Ecology and Evolution of Infectious Diseases (4 Credits)
Crosslisted with BIOEE 4000
This course introduces students to the field of infectious disease ecology, an area of study that has developed rapidly over the past three decades and addresses some of the most significant challenges to human health and conservation. Students will learn about the incredible diversity of parasitic organisms, arguably the most abundant life forms on the planet, and examine how pathogens invade and spread through host populations. Throughout the course, an emphasis will be placed on understanding of infectious diseases dynamics at the population level, and on quantitative approaches for studying pathogen spread and impacts. Specific topics include types of pathogens and their ecological properties, epidemiology and impacts on host populations, types of transmission, evolution of resistance and virulence, drivers of the emergence of new diseases, parasites in the context of ecological communities, strategies for controlling outbreaks, and the role of parasites in biodiversity and conservation.
Prerequisites: Recommended prerequisite: BIOEE 1610, BIOG 1101, BIOG 1102, or BIOG 1190 and MATH 1106, MATH 1110, MATH 1120, MATH 2210, MATH 1710, or STSCI 2150; or equivalencies; or by instructor permission.
Distribution Requirements: (BSC-AG, DLG-AG, OPHLS-AG)
Last Four Terms Offered: Spring 2024
Learning Outcomes:

- Apply an understanding of ecological and evolutionary interactions between hosts and their microbes/parasites across multiple scales of biological organization.
- Utilize quantitative approaches for studying infectious disease spread.
- Critically review current research and case studies in the field of infectious disease ecology and evolution.
- Contextualize an understanding of the diversity of parasitic organisms and their importance in conservation and human health.
- Predict pathogen emergence and develop responses to epidemics based on ecological and evolutionary principles.

Schedule of Classes (https://classes.cornell.edu/)

ENTOM 4040 - Diversity, Equity, and Inclusion in STEM: The Science Behind Bias Seminar (1 Credit)
In this seminar course we will discuss the historical context of bias and exclusion in science, read from and discuss the primary literature to understand the science of bias and why it is present and how it has continued to persist across the Science, Technology, Engineering, and Mathematics (STEM) fields, and identify actionable items to address and overcome these issues.
Last Four Terms Offered: Spring 2024, Spring 2022, Fall 2020
Learning Outcomes:

- Participants will be able to contextualize the history of racism, exclusion, and bias in Science, Technology, Engineering, and Mathematics (STEM) and apply that fuller understanding to help them recognize how it continues to persist today.
- Participants will be able to assess primary scientific literature and present these findings to the class.
- Participants will identify actions we can each implement as individuals, as well as steps institutions can take, to decrease bias and promote equity and inclusion.

Schedule of Classes (https://classes.cornell.edu/)

ENTOM 4440 - Integrated Pest Management (4 Credits)
Crosslisted with PLSCI 4440
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.
Prerequisites: introductory biology or permission of instructor.
Distribution Requirements: (AFS-AG, BSC-AG, OPHLS-AG)
Exploratory Studies: (CU-SBY)

Last Four Terms Offered: Spring 2025, Spring 2024, Spring 2023, Spring 2022
Learning Outcomes:

- Students will be able to articulate the often-overlooked economic and ecological underpinnings of pest outbreaks.
- Students will be able to identify and evaluate ethical issues involved with pest management.
- Students will be able to use multiple integrated techniques to assess pest populations and determine if treatment is warranted.
- Students will be able to evaluate pest management alternatives and develop integrated pest management plans.
- Students will be able to participate actively in discussion and debate with peers about integrated pest management.
- Students will be able to work together to facilitate discussion and understanding of contentious issues.
- Students will be able to search scientific literature to learn more about integrated pest management from primary sources.
- Students will be able to conduct research with team members to report on the management of a specific pest of their choice.
- Students will be able to summarize and codify data from a literature review about the hypothesis-driven approach to scientific research.

Schedule of Classes (https://classes.cornell.edu/)

ENTOM 4520 - Biology of Disease Vectors (3 Credits)
This course introduces vector taxonomy, evolution, biology, behavior, and the history of vector-borne disease control, with an emphasis on the USA. Some lectures will feature expert spotlights: brief conversations with experts in vector control/public health who will join the class live or via recorded video link. Through a series of lectures and projects, you will have a chance to gain knowledge of the latest surveillance approaches, control methods, and challenges for controlling vector-borne diseases. In this course, we intend for you to gain an understanding of arthropod biology, body plans, organ systems, behavior and physiology, infection biology and immunity. You will demonstrate a solid understanding of disease vector evolutionary relationships. Our ultimate goal is for you to learn how to apply knowledge gained from the class in your future roles as entomologists, health experts or public health practitioners.
Last Four Terms Offered: Fall 2024, Fall 2022, Fall 2020, Fall 2019
Learning Outcomes:

- Understand fundamental concepts in public health entomology, vector biology, behavior, surveillance, control and public health programming.
- Explain mosquito and tick biology, body plans, organ systems, behavior and physiology, infection biology and immunity.
- Demonstrate knowledge of arthropod behavior, host finding and sensory systems.
- Demonstrate knowledge of classification and vector diversity.
- Interpret how different environmental and socioeconomic systems impact infectious disease epidemiology.
- Integrate the general principles of infectious disease epidemiology and biology to explain infectious disease events and programs.
- Apply what you have learned from class examples to understand new disease outbreaks and challenges of the future.
- Develop an awareness of the most up-to-date issues and challenges for vectorborne diseases.
- Describe who key players are and actions taken in public health emergency responses in the face of vectorborne disease outbreaks.
- Become knowledgeable about the latest monitoring and control tools and challenges for controlling mosquito and tick vectors.
- Explain the latest approaches for mosquito and tick control in detail; and highlight the pros and cons and efficacy of each approach.
- Compare and contrast infectious disease prevention and control strategies and systems.
- Demonstrate your understanding of basic approaches to surveillance of mosquitoes and ticks.
- Apply your knowledge to develop a suitable monitoring and public health intervention strategy.
- Critique methods of infectious disease diagnostics and detection systems.
- Apply the knowledge gained from the class in your present or future roles as an informed citizen and in potential careers, including animal and human health professionals, public health practitioners and policy makers.
- Develop awareness of how you may encounter the subjects covered in your own future career and personal life.
- Communicate important issues related to vector control learned in class to the lay public.

Schedule of Classes (https://classes.cornell.edu/)

ENTOM 4521 - Introduction to Disease Vectors Lab (1 Credit)
The laboratory complements the required lecture course ENTOM 4520. Students will learn how to collect and identify arthropods that transmit human pathogens and parasites. Lab sessions will include a mixture of field trips, hands on demonstrations and independent student work.
Prerequisites: ENTOM 4520.
Last Four Terms Offered: Fall 2024, Fall 2022, Fall 2021, Fall 2019
Schedule of Classes (https://classes.cornell.edu/)

ENTOM 4550 - Insect Ecology (4 Credits)
Crosslisted with BIOEE 4550
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.
Prerequisites: introductory biology or permission of instructor recommended.
Distribution Requirements: (BSC-AG, OPHLS-AG)
Exploratory Studies: (CU-SBY)

Last Four Terms Offered: Fall 2024, Fall 2022, Fall 2020, Fall 2018
Learning Outcomes:

- 1.1 Students will be able to explain the fundamental principles of population and community ecology. 1.2 Students will be to identify what interactions are important for insects. 1.3 Students will learn natural history of local insects.
- 2.1 Students will be able to interpret data presented in graphs. 2.2 Students will be able to pose their own questions and design and execute experiments to answer these questions. 2.3 Students will be able to read and interpret the scientific literature. 2.4 Students will be able to use basic statistical methods to interpret their data.
- 3.1 Students will participate actively in debate with peers using information they research in the primary literature
- 4.1 Students will write full reports based on the field and laboratory projects they conduct. 4.2 Students will have opportunities to summarize and evaluate the important factors in insect ecology

Schedule of Classes (https://classes.cornell.edu/)

ENTOM 4610 - Model-Based Phylogenetics and Hypothesis Testing (3 Credits)
This course is an introduction to the tree of life (phylogeny): its conceptual origins, methods for discovering its structure, how phylogenies are used in macroevolution, and its importance in evolutionary biology and other areas of science. Topics include historical context and concepts, sources of data, methods of phylogenetic analysis, and the use of phylogenies to study systematics and classification, the tempo and mode of lineage diversification, coevolution, biogeography, conservation, molecular biology, development, and epidemiology.
Prerequisites: BIOEE 1780 or BIOMG 2800 or equivalent, or permission of instructor.
Distribution Requirements: (BSC-AG, DLG-AG)
Last Four Terms Offered: Spring 2024, Spring 2022, Spring 2020, Spring 2016
Learning Outcomes:

- 1.1 Be able to describe relationships among gene sequences/ individuals/ species based on a phylogeny. 1.2 Understand the difference between gene trees and species trees.
- 2.1 Learn how to use a variety of programs to analyze data in a phylogenetic framework. 2.2 Build an aligned sequence data set and infer phylogenies using various programs. 2.3 Assess and discuss issues with evaluating statistical support for relationships.
- 3.1 Implement methods for macroevolutionary analyses, including comparative analyses and ancestral reconstruction. 3.2 Determine which tests are appropriate for a specific evolutionary question. 3.3 Develop alternative hypotheses of evolution and rigorously examine statistical support for these alternatives.
- 4.1 Write questions and hypotheses and be able to evaluate others' research. 4.2 Discuss scientific literature with peers and peer-review other classmates' scientific writing.
- 5.1 Develop an independent project based on [the student's] own interests. 5.2 Build a dataset and run appropriate analyses for the individual project. 5.3 Interpret the results of these analyses and communicate findings through scientific writing. 5.4 Present results of independent research orally.

Schedule of Classes (https://classes.cornell.edu/)

ENTOM 4700 - Ecological Genetics (4 Credits)
Crosslisted with BIOEE 4800
Ecological Genetics focuses on the application of population genetic concepts in ecological contexts, with emphases on measuring adaptation in natural populations, detecting the effects of population demography, and determining the genetic basis of quantitative traits. Illustrative examples will be drawn from the primary research literature to demonstrate experimental techniques and methods of data analysis on single-gene, multi-locus and genome-wide scales.
Prerequisites: BIOEE 1780. Recommended prerequisite: introductory course in genetics and/or statistics. Permission of instructor required if prerequisite(s) are not met.
Distribution Requirements: (BSC-AG, DLG-AG, OPHLS-AG)
Last Four Terms Offered: Spring 2025, Spring 2023, Spring 2021, Spring 2019
Learning Outcomes:

- Students will be able to apply and test basic models of genetic evolution to real biological scenarios, guided by case examples from the primary scientific literature as well as the lecture-based presentations of abstract concepts.
- Students will be able to apply analytical tests to empirical data sets and draw statistically robust conclusions.
- Students will be able to interpret data and results in a broader context to reach plausible biological conclusions. Students will employ scientific thinking to solve problems that mirror real-life experimental scenarios.

Schedule of Classes (https://classes.cornell.edu/)

ENTOM 4830 - Insect Physiology (4 Credits)
Introduction to the often unique ways in which insects have met their basic needs. Examines each organ system 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.
Prerequisites: ENTOM 2120 or permission of instructor.
Distribution Requirements: (BSC-AG, DLG-AG)
Last Four Terms Offered: Spring 2024, Spring 2022, Spring 2020, Spring 2018
Learning Outcomes:

- To be able to evaluate adaptations of a given organ system for a particular environmental pressure.
- To be able to construct a graphical or verbal model of how a particular organ functions at the cellular level.
- Be able to apply techniques in the lab and evaluate the results obtained.
- To be able to design and carry out a (group) independent research project.
- To be able to judge the conclusions of primary research articles.

Schedule of Classes (https://classes.cornell.edu/)

ENTOM 4940 - Special Topics in Entomology (2 Credits)
The department teaches trial courses under this number. Offerings vary by semester and are advertised by the department before the semester starts. Courses offered under the number will be approved by the department curriculum committee, and the same course is not offered more than twice under this number.
Last Four Terms Offered: Spring 2025, Spring 2022, Spring 2021, Spring 2020
Schedule of Classes (https://classes.cornell.edu/)

ENTOM 4970 - Individual Study in Entomology (1-3 Credits)
A student may, with approval of a faculty advisor, study a problem or topic not covered in a regular course or may undertake tutorial study of an independent nature in an area of interest in Entomology.
Last Four Terms Offered: Spring 2025, Fall 2024, Spring 2024, Fall 2023
Schedule of Classes (https://classes.cornell.edu/)

ENTOM 4980 - Undergraduate Teaching (1-3 Credits)
Undergraduate teaching assistance in an entomology course by agreement with the instructor. Participating students assist in teaching a course allied with their education and experience. Students are expected to meet regularly with a discussion or laboratory section, to gain teaching experience, and regularly to discuss teaching objectives, techniques, and subject matter with the professor in charge.
Last Four Terms Offered: Spring 2025, Fall 2024, Spring 2024, Fall 2023
Schedule of Classes (https://classes.cornell.edu/)

ENTOM 4990 - Undergraduate Research in Entomology (1-6 Credits)
Students must register using CALS Special Studies form available online.
Exploratory Studies: (CU-UG)

Last Four Terms Offered: Spring 2025, Fall 2024, Spring 2024, Fall 2023
Schedule of Classes (https://classes.cornell.edu/)

ENTOM 5440 - Integrated Pest Management (4 Credits)
Crosslisted with PLSCI 5440
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.
Prerequisites: introductory biology or permission of instructor.
Exploratory Studies: (CU-SBY)

Last Four Terms Offered: Spring 2025, Spring 2024, Spring 2023, Spring 2022
Learning Outcomes:

- Students will be able to articulate the often-overlooked economic and ecological underpinnings of pest outbreaks.
- Students will be able to identify and evaluate ethical issues involved with pest management.
- Students will be able to use multiple integrated techniques to assess pest populations and determine if treatment is warranted.
- Students will be able to evaluate pest management alternatives and develop integrated pest management plans.
- Students will be able to participate actively in discussion and debate with peers about integrated pest management.
- Students will be able to work together to facilitate discussion and understanding of contentious issues.
- Students will be able to search scientific literature to learn more about integrated pest management from primary sources.
- Students will be able to conduct research with team members to report on the management of a specific pest of their choice.
- Students will be able to summarize and codify data from a literature review about the hypothesis-driven approach to scientific research.

Schedule of Classes (https://classes.cornell.edu/)

ENTOM 6000 - Ecology and Evolution of Infectious Diseases (4 Credits)
Crosslisted with BIOEE 6000
This course introduces students to the field of infectious disease ecology, an area of study that has developed rapidly over the past three decades and addresses some of the most significant challenges to human health and conservation. Students will learn about the incredible diversity of parasitic organisms, arguably the most abundant life forms on the planet, and examine how pathogens invade and spread through host populations. Throughout the course, an emphasis will be placed on understanding of infectious diseases dynamics at the population level, and on quantitative approaches for studying pathogen spread and impacts. Specific topics include types of pathogens and their ecological properties, epidemiology and impacts on host populations, types of transmission, evolution of resistance and virulence, drivers of the emergence of new diseases, parasites in the context of ecological communities, strategies for controlling outbreaks, and the role of parasites in biodiversity and conservation.
Prerequisites: Recommended prerequisite: BIOEE 1610, BIOG 1101, BIOG 1102, or BIOG 1190 and MATH 1106, MATH 1110, MATH 1120, MATH 2210, MATH 1710, or STSCI 2150; or equivalencies; or by instructor permission.
Last Four Terms Offered: Spring 2024
Learning Outcomes:

- Apply an understanding of ecological and evolutionary interactions between hosts and their microbes/parasites across multiple scales of biological organization.
- Utilize quantitative approaches for studying infectious disease spread.
- Critically review current research and case studies in the field of infectious disease ecology and evolution.
- Contextualize an understanding of the diversity of parasitic organisms and their importance in conservation and human health.
- Predict pathogen emergence and develop responses to epidemics based on ecological and evolutionary principles.

Schedule of Classes (https://classes.cornell.edu/)

ENTOM 6520 - Malaria Biology and Control (2 Credits)
Malaria represents one of the most daunting global health challenges of the 21st century. Understanding this disease and the biological, social, and epidemiological dimensions of its persistence can aid future global health practitioners in their efforts to eradicate malaria and the many health and economic burdens it creates. This course will delve into the biology of malaria parasites and their interactions with invertebrate and vertebrate hosts during the different phases of their complex life cycles. Global disease trends, prospects for reducing disease burdens, and the most promising and innovative approaches currently in use or under development to control insect vectors and prevent transmission will be thoroughly discussed.
Prerequisites: previous coursework in biology, global health or entomology, or permission of instructor.
Last Four Terms Offered: Spring 2025, Spring 2022, Spring 2021, Spring 2019
Learning Outcomes:

- Students will be able to demonstrate an understanding of the fundamental concepts of malaria biology, history, treatment/intervention, surveillance, and vector control.
- Students will be able to explain mosquito biology.
- Students will be able to demonstrate knowledge of the malaria parasite; and biology and vector infection dynamics.
- Students will be able to describe the history of and emerging strategies for malaria control.
- Students will be able to apply class examples in order to understand new malaria outbreaks and future challenges.
- Students will be able to analyze the most up-to-date challenges for controlling malaria globally.
- Students will be able to apply knowledge gained from the class in their present or future roles as animal and human health professionals and policy makers as well as informed citizens.
- Students will be able to examine how they may encounter the topics covered in their own future careers and personal lives.
- Students will be able to interpret important issues related to vector control and demonstrate effective scientific communication to a variety of audiences.

Schedule of Classes (https://classes.cornell.edu/)

ENTOM 6530 - Control of Disease Vectors Seminar (2 Credits)
This course introduces the history of vector-borne disease control, application methodologies, public outreach and education, insecticide resistance and potential future technology. Some lectures will be taught by experts in vector control/public health via video link.
Prerequisites: previous coursework in biology, global health or entomology, or permission of instructor.
Last Four Terms Offered: Spring 2022, Spring 2020, Spring 2019
Learning Outcomes:

- Students will be able to examine fundamental concepts in vector control, history, and application methodology.
- Students will be able to describe highlights of vector control history and development.
- Students will be able to illustrate knowledge of chemical classes used for vector control and current registered products.
- Students will be able to discuss the insectide and acaricide registration process.
- Students will be able to interpret the most up-to-date issues and challenges for controlling tick and mosquito vectors.
- Students will be able to apply what they have learned from class to understand vector control challenges of the future.

Schedule of Classes (https://classes.cornell.edu/)

ENTOM 6540 - Vector Biology in Practice (2 Credits)
This course will cover key laboratory and field techniques, methods and concepts in public health vector biology and control. Students will learn laboratory methods for determining blood meal hosts, methods for determining sugar feeding patterns of mosquitoes and how to conduct resistance bioassays for ticks and mosquitoes. In addition, data management and collection strategies, mapping and spatial analysis will be covered. Public health skills including program management and grant writing will be included. Additional skills may be addressed based on the student needs and interests. The goal is to provide students with hands on experience leading to competency in vector biology practice.
Prerequisites: ENTOM 4520, ENTOM 4521.
Last Four Terms Offered: Spring 2022, Spring 2021, Spring 2020
Learning Outcomes:

- Students will learn fundamental methods and approaches in public health entomology--1.1 describe the methods of different tests and approaches for detecting, investigating, and describing arthropod disease vectors; 1.2 describe the pros and cons of different methods and when to utilize them; 1.3 be aware of the most up-to-date methodology and considerations for detecting, investigating and describing vectors; 1.4 utilize best practices and systems for program management; 1.5 write a compelling public health grant proposal.
- Students will be aware of how they may encounter the subjects covered in their own future careers and personal lives--2.1 communicate important issues related to vector biology learned in class to others and the lay public.

Schedule of Classes (https://classes.cornell.edu/)

ENTOM 6900 - Seminar in Ecology and Evolution of Infectious Diseases (1 Credit)
Crosslisted with BIOEE 6900
Graduate-level discussion of the ecology, epidemiology, genetics, and evolution of infectious disease in animal and plant systems. Weekly discussion of research papers published in the primary scientific literature. Participation in discussion and presentation of at least one paper required for course credit.
Last Four Terms Offered: Spring 2025, Fall 2024, Fall 2023, Spring 2023
Learning Outcomes:

- Students will become conversant in general topics in the ecology and evolution of infection and disease across a variety of plant and animal systems-approaches will be both empirical and theoretical.
- Students will learn how to read and evaluate the peer-reviewed scientific literature.
- Students will gain experience giving oral presentations as a means for sharing their evaluations of the scientific literature.

Schedule of Classes (https://classes.cornell.edu/)

ENTOM 7070 - Individual Study for Graduate Students (1-4 Credits)
Independent or small-group study of special topics of current interest.
Last Four Terms Offered: Spring 2025, Fall 2024, Spring 2024, Fall 2023
Schedule of Classes (https://classes.cornell.edu/)

ENTOM 7090 - Teaching Entomology (1-9 Credits)
Teaching entomology or for extension training.
Last Four Terms Offered: Spring 2025, Fall 2024, Spring 2024, Fall 2023
Schedule of Classes (https://classes.cornell.edu/)

ENTOM 7100 - Mastering the Craft of Scientific Writing (2 Credits)
This course will offer students an opportunity to develop skills necessary for writing scientific papers, progress reports, and grant proposals. Students will work on their own projects, as well as offer editorial comments on the work of other students in the course. MS and PhD students at all stages are welcome in the course, from first year students developing thesis proposals and grants to support their work, to senior students finishing their dissertations and applying for faculty and postdoctoral positions. This course is being offered at 2 credits as there is 0% work required outside of the classroom.This course will offer students an opportunity to develop skills necessary for writing scientific papers, progress reports, and grant proposals. Students will work on their own projects, as well as offer editorial comments on the work of other students in the course. MS and PhD students at all stages are welcome in the course, from first year students developing thesis proposals and grants to support their work, to senior students finishing their dissertations and applying for faculty and postdoctoral positions.
Enrollment Information: Enrollment limited to: MS and PhD students.
Last Four Terms Offered: Spring 2023, Spring 2022, Spring 2016, Spring 2015
Learning Outcomes:

- Student will be able to: - Recognize the elements of clear and concise writing - Identify how English grammar and usage contribute to clear and concise writing - Construct paragraphs to organize and convey information effectively - Gain experience in criticizing and revising their own writing - Employ outlines to organize ideas - Practice effective writing and revision in their own subject areas.

Schedule of Classes (https://classes.cornell.edu/)

ENTOM 7640 - Plant-Insect Interactions Seminar (1 Credit)
Crosslisted with BIOEE 7640, BIONB 7640
Group intensive study of current research in plant-insect interactions. Topics vary from semester to semester but include chemical defense, coevolution, insect community structure, population regulation, biocontrol, tritrophic interactions, and mutualism.
Enrollment Information: Enrollment limited to: graduate students or permission of instructor.
Exploratory Studies: (CU-SBY)

Last Four Terms Offered: Spring 2025, Fall 2024, Spring 2024, Fall 2023
Learning Outcomes:

- Read, synthesize, and discuss findings from original scientific research in the ecology and evolution of plants interacting with their environment.

Schedule of Classes (https://classes.cornell.edu/)

ENTOM 7670 - Professional Development in Entomology (2 Credits)
This is a graduate level seminar required of, and limited to, first semester graduate students in the Field of Entomology. The content focusses on professional development skills, including critical reading of scientific literature, oral and written presentation, and grant writing.
Enrollment Information: Enrollment limited to: graduate students in Entomology.
Last Four Terms Offered: Fall 2024, Fall 2023, Fall 2022, Fall 2021
Learning Outcomes:

- Develop cohesion of the graduate cohort through teamwork and critical, but constructive, peer review.
- To be able to locate cutting-edge scientific literature relevant to the student's research and critically evaluate the methodology, interpretation of results, and presentation.
- To be able to present scientific results and analysis orally and in writing in a persuasive and engaging style.
- To be able to formulate a significant open question in the student's area of research, synthesize the relevant literature, develop a cogent research plan, and write a compelling grant proposal.

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ENTOM 8900 - Master's Level Thesis Research (1-15 Credits)
Thesis research conducted by M.S. students in the field of entomology with advice and consultation of a major professor who is a member of the field.
Last Four Terms Offered: Spring 2025, Fall 2024, Spring 2024, Fall 2023
Schedule of Classes (https://classes.cornell.edu/)

ENTOM 9900 - Doctoral Level Thesis Research (1-15 Credits)
Dissertation research conducted by a Ph.D. student in the field of entomology with advice and consultation of a major professor who is a member of the field.
Last Four Terms Offered: Spring 2025, Fall 2024, Spring 2024, Fall 2023
Schedule of Classes (https://classes.cornell.edu/)