ENTOMOLOGY (ENTOM)

ENTOM 1 — COOPERATIVE EDUCATION/CO-OP IN ENTOMOLOGY
1 credit.

Full-time off-campus work experience which combines classroom theory with practical knowledge of operations to provide students with a background upon which to base a professional career. Students receive credit only for the term in which they are actively enrolled and working. The same work experience may not count towards credit in ENTOM 399.

Requisites: So st, and consent of supervising instructor and academic advisor.

Repeatable for Credit: Yes, unlimited number of completions

ENTOM/AGROECOL/AGRONOMY/C&E SOC/ENVIR ST 103 — AGROECOLOGY: AN INTRODUCTION TO THE ECOLOGY OF FOOD AND AGRICULTURE
3 credits.

Agroecology has blossomed across the world in recent decades as not only a science, but also a practice, and a movement. This course will challenge students to employ the multiple disciplines and perspectives that Agroecology affords to analyze our agricultural and food systems within a broader context of dynamic social and ecological relationships.

Requisites: None

Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req
Level - Elementary
L&S Credit - Counts as Liberal Arts and Science credit in L&S

Repeatable for Credit: No

ENTOM/ENVIR ST 201 — INSECTS AND HUMAN CULTURE-A SURVEY COURSE IN ENTOMOLOGY
3 credits.

Importance of insects in man’s environment, emphasizing beneficial insects, disease carriers, and agricultural pests that interfere with man’s food supply. Environmental problems due to insect control agents.

Requisites: Open to Fr

Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req
Level - Elementary
L&S Credit - Counts as Liberal Arts and Science credit in L&S

Repeatable for Credit: No

Last Taught: Summer 2017

ENTOM/AGRONOMY/NUTR SCI 203 — INTRODUCTION TO GLOBAL HEALTH
3 credits.

Introduces students to global health concepts through multidisciplinary speakers dedicated to improving health through their unique training. It targets students with an interest in public health and those who wish to learn how their field impacts their global issues.

Requisites: None

Course Designation: Breadth - Social Science
Level - Elementary
L&S Credit - Counts as Liberal Arts and Science credit in L&S

Repeatable for Credit: No

Last Taught: Spring 2017

ENTOM 289 — HONORS INDEPENDENT STUDY
1-2 credits.

INTER-AG 288

Requisites: Enrolled in the CALS Honors Program Sophomore or Junior standing.

Course Designation: Honors - Honors Only Courses (H)

Repeatable for Credit: Yes, unlimited number of completions

Last Taught: Spring 2005

ENTOM 299 — INDEPENDENT STUDY
1-3 credits.

Requisites: Open to Freshmen, Sophomore or Junior standing prior written consent of instructor

Repeatable for Credit: Yes, unlimited number of completions

Last Taught: Summer 2017

ENTOM/ZOOLOGY 302 — INTRODUCTION TO ENTOMOLOGY
4 credits.

Principles including morphology and classification; a general collection of insects required of each student.

Requisites: An elem course in zoology

Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S

Repeatable for Credit: No

Last Taught: Spring 2017

ENTOM 321 — PHYSIOLOGY OF INSECTS
3 credits.

Anatomy, histology and basic physiology of organ systems in insects.

Requisites: ENTOM/ZOOLOGY 302 or cons inst

Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Grad 50% - Counts toward 50% graduate coursework requirement

Repeatable for Credit: No

Last Taught: Fall 2016

ENTOM 331 — TAXONOMY OF MATURE INSECTS
4 credits.

Principles of taxonomy, identification and taxonomic morphology of adult insects.

Requisites: Entomol/Zool 302

Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Grad 50% - Counts toward 50% graduate coursework requirement

Repeatable for Credit: No

Last Taught: Fall 2015
ENTOM 342 — INSECT ECOLOGY
3 credits.

Ecology of insects as individuals, populations, and components of communities and ecosystems. Emphasis on interactions of insects with their biotic and abiotic environment.

Requisites: Entom/Zool 302 or course in zool; MATH 112 or equiv

Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req

Level - Intermediate

L&S Credit - Counts as Liberal Arts and Science credit in L&S

Repeatable for Credit: No

Last Taught: Fall 2010

ENTOM/M M & I/PATH-BIO/ZOOLOGY 350 — PARASITOLOGY
3 credits.

The biology of water-borne, food-borne, soil-borne and vector-borne parasites of animals including humans. Parasites are explored in the context of transmission, associated disease, diagnosis and treatment options, and environmental, cultural and socioeconomic drivers of disease epidemiology.

Requisites: BIOLOGY/ZOOLOGY/BIOLOGY 101 and 102, or BIOLOGY/BOTANY/ZOOLOGY/BIOLOGY/BOTANY 152 or ZOOLOGY 153, or BIOCORE 381

Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req

Level - Intermediate

L&S Credit - Counts as Liberal Arts and Science credit in L&S

Repeatable for Credit: No

Last Taught: Spring 2017

ENTOM 351 — PRINCIPLES OF ECONOMIC ENTOMOLOGY
3 credits.

Major economic insects: identification, life histories, bionomics, distribution, control; procedures in fundamental and practical inquiry.

Requisites: Intro course in zoology

Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req

Level - Intermediate

L&S Credit - Counts as Liberal Arts and Science credit in L&S

Grad 50% - Counts toward 50% graduate coursework requirement

Repeatable for Credit: No

Last Taught: Spring 2017

ENTOM/ZOOLOGY 371 — MEDICAL ENTOMOLOGY
3 credits.

Arthropods of medical and veterinary importance, how they affect their hosts and transmit diseases.

Requisites: Intro course in zool or vet sci

Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req

Level - Intermediate

L&S Credit - Counts as Liberal Arts and Science credit in L&S

Grad 50% - Counts toward 50% graduate coursework requirement

Repeatable for Credit: No

Last Taught: Spring 2017

ENTOM 375 — SPECIAL TOPICS
1-4 credits.

Requisites: Cons inst

Repeatable for Credit: Yes, unlimited number of completions

Last Taught: Spring 2017

ENTOM 399 — COORDINATIVE INTERNSHIP/COOPERATIVE EDUCATION
1-8 credits.

Requisites: So, Jr or Sr st cons supervising inst, advisor, and internship program coordinator

Course Designation: Level - Advanced

L&S Credit - Counts as Liberal Arts and Science credit in L&S

Repeatable for Credit: Yes, unlimited number of completions

Last Taught: Summer 2017

ENTOM 400 — STUDY ABROAD IN ENTOMOLOGY
1-6 credits.

Provides an area equivalency for courses taken on Madison Study Abroad Programs that do not equate to existing UW courses. W.-Madison Study Abroad Program

Requisites: Current registration in a U.

Repeatable for Credit: Yes, unlimited number of completions

ENTOM 432 — TAXONOMY AND BIONOMICS OF IMMATURE INSECTS
4 credits.

Lectures on anatomy/morphology, taxonomy, bionomics of immature insects (ordinal and familial levels). Ametabola, Paleoptera, Plecoptera, Trichoptera not covered in lecture (will be examined in lab). Labs emphasize utilizing taxonomix keys for identification (order and family). Required field trips and collection.

Requisites: ENTOM/ZOOLOGY 302 or equiv, or cons inst

Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req

Level - Intermediate

L&S Credit - Counts as Liberal Arts and Science credit in L&S

Grad 50% - Counts toward 50% graduate coursework requirement

Repeatable for Credit: No

Last Taught: Spring 2017

ENTOM/AGRonomy/HORT/PL PATH/SOIL SCI 354 — DIAGNOSING AND MONITORING PEST AND NUTRIENT STATUS OF FIELD CROPS
1 credit.

This course is designed to provide students with information necessary to diagnosis and monitor corn, soybean, alfalfa and wheat for pests (insects, weeds, diseases) and nutrient deficiency symptoms including perspectives from Agronomy, Entomology, Horticulture, Plant Pathology and Soil Science. Proper soil and pest sampling information will be provided as will proper crop staging techniques which are essential for pest and nutrient management.

Requisites: None

Repeatable for Credit: No

Last Taught: Spring 2017
ENTOM 450 — BASIC AND APPLIED INSECT ECOLOGY
3 credits.

Basic and Applied Insect Ecology is advanced course in population and community ecology, plant-insect interactions, insect biodiversity and biogeography, and applied ecology. The course will weave basic ecological theory and principles with their application to entomological problems such as conservation, biological control, agriculture, and insect-vectored diseases of plants and humans. We will use the current entomological and ecological scientific literature and draw on examples from a broad range of natural and managed ecosystems. As the semester progresses, the scope of the lectures and literature will broaden from pairwise species interactions (e.g., a predator and its prey) to the entire community of organisms and their physical environment. Lectures are designed to emphasize the theoretical principles and historical background underlying the various topics with a link to potential applications in agriculture, conservation, pest management, and/or invasion biology.

Requisites: BIOLOGY/BOTANY/ZOOLOGY 151 152 or consent of instructor

Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req

Level - Advanced
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Grad 50% - Counts toward 50% graduate coursework requirement

Repeatable for Credit: No

Last Taught: Fall 2015

ENTOM 451 — BASIC AND APPLIED INSECT ECOLOGY LABORATORY
1 credit.

Basic and Applied Insect Ecology Laboratory/Discussion is the companion course for the lecture-based Basic and Applied Insect Ecology (Entomology 450). This course will include hands-on experiences such as labs, field trips, computer exercises, and discussions based on readings in the primary literature to enhance and delve into more details on materials introduced in the course lectures.

Requisites: Concurrent or previous enrollment in Entomology 450, consent of instructor for undergraduates

Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req

Level - Advanced
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Grad 50% - Counts toward 50% graduate coursework requirement

Repeatable for Credit: No

Last Taught: Fall 2015

ENTOM 468 — STUDIES IN FIELD ENTOMOLOGY
3 credits.

Period of intensive field work (2 weeks) outside Madison area. Concentration on structural, behavioral adaptations of insects to diverse habitats; dynamic relations between insects and plants, other animals and other insects. Student field project, literature review presentation required. (Recommended ecology course ENTOM 331 or 432)

Requisites: ENTOM/ZOOLOGY 302, Junior standing, and consent of instructor.

Repeatable for Credit: No

Last Taught: Summer 2016

ENTOM/BOTANY/ZOOLOGY 473 — PLANT-INSECT INTERACTIONS
3 credits.

Multiple ways in which arthropods exploit plants, plant traits that deter or augment insects, environmental mediation of these interactions, effects on population dynamics, community ecology and co-evolution, and implications to natural resource management, environmental quality, and sustainable development.

Requisites: One of the following: Bot/For/Zoo 460, Ent/PI Path/For 500, PI Path/Bot 505, Forestry 550, or ENTOM 342

Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req

Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Grad 50% - Counts toward 50% graduate coursework requirement

Repeatable for Credit: No

Last Taught: Spring 2017

ENTOM/BOTANY/PL PATH 505 — PLANT-MICROBE INTERACTIONS: MOLECULAR AND ECOLOGICAL ASPECTS
3 credits.

Molecular and ecological aspects of the interactions between plants and microorganisms. This course explores many of the themes, from genetic to integrative, of modern biology, and illustrates how study of plant-microbe interactions contributes to understanding of fundamental plant science. e.g. Bact 303; biochem (e.g. BIOCHEM 501); genetics (e.g. GENETICS 466) or cons inst

Requisites: An upper level crse in microbiol (e.

Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req

L&S Credit - Counts as Liberal Arts and Science credit in L&S
Grad 50% - Counts toward 50% graduate coursework requirement

Repeatable for Credit: No

Last Taught: Spring 2009
ENTOM/ZOOLOGY 540 — THEORETICAL ECOLOGY
3 credits.

Introduction to theoretical ecology, including hands-on experience in computer modeling. For students with ecology background; does not require a strong math background. 3-credit option requires project and consent of instructor.

Requisites: 1 year calculus, Zoo/Bot 260, Zoo/Bot/For 460 or equiv, Jr st
Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Fall 2016

ENTOM 601 — SEMINAR IN METHODS OF SCIENTIFIC ORAL PRESENTATIONS
1 credit.

Training for the presentation of short talks.

Requisites: Senior standing

Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Spring 2016

ENTOM/F&W ECOL/M&ENVTOX/PL PATH/SOIL SCI 606 — COLLOQUIUM IN ENVIRONMENTAL TOXICOLOGY
1 credit.

Current topics in molecular and environmental toxicology and problems related to biologically active substances in the environment. Topics vary each semester. Lectures are by resident and visiting professors and other researchers.

Requisites: Biology/ZOOLOGY/BIOLOGY 101, Biology/BOTANY/BIOLOGY 130, or equivalent
Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: Yes, unlimited number of completions
Last Taught: Spring 2016

ENTOM/GENETICS/ZOOLOGY 624 — MOLECULAR ECOLOGY
3 credits.

Basic principles of molecular ecology. Lecture topics include population genetics, molecular phylogenetics, rates and patterns of evolution, genome evolution, and molecular ecology.

Requisites: BOTANY/GENETICS/ZOOLOGY 466, GENETICS 467 or BIOCORE 383 or graduate student standing
Course Designation: Breadth - Biological Sci. Counts toward the Natural Sci req
Level - Intermediate
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Spring 2017

ENTOM/AGRONOMY/F&W ECOL/M&ENVTOX 632 — ECOTOXICOLOGY: THE CHEMICAL PLAYERS
1 credit.

Introduction to natural and man-made toxins/toxicants, their distribution, transport, and fate in the environment. Includes lectures, current research presentations, and discussions.

Requisites: 2 sem intro biol 1 sem organic chem, or cons inst
Repeatable for Credit: No
Last Taught: Fall 2015

ENTOM/AGRONOMY/F&W ECOL/M&ENVTOX 633 — ECOTOXICOLOGY: IMPACTS ON INDIVIDUALS
1 credit.

Addresses absorption, biotransformation, elimination of toxins in a wide variety of taxa (plants, invertebrates, vertebrates), and includes lectures, current research presentations, and discussions.

Requisites: M&ENVTOX/AGRONOMY/ENTOM/F&W ECOL 632, or 2 sem intro biol M&ENVTOX/CIV ENGR/SOIL SCI 631, or cons inst
Repeatable for Credit: No
Last Taught: Fall 2015

ENTOM/AGRONOMY/F&W ECOL/M&ENVTOX 634 — ECOTOXICOLOGY: IMPACTS ON POPULATIONS, COMMUNITIES AND ECOSYSTEMS
1 credit.

Focuses on the impact of toxicants on populations, communities, ecosystems, and includes risk evaluation. Includes lectures, current research presentations, and discussions.

Requisites: M&ENVTOX/AGRONOMY/ENTOM/F&W ECOL 633, or M&ENVTOX/MEDICINE/ONCOLOGY/PATH/PHM SCI/PHMCOL-M/ POP HLTH 625, 626 631, or cons inst
Repeatable for Credit: No
Last Taught: Fall 2015

ENTOM 681 — SENIOR HONORS THESIS
2-4 credits.

Requisites: Honors candidacy
Course Designation: Honors - Honors Only Courses (H)
Repeatable for Credit: No
Last Taught: Fall 2014

ENTOM 682 — SENIOR HONORS THESIS
2-4 credits.

Continuation of 681.

Requisites: Honors program candidacy ENTOM 681
Course Designation: Honors - Honors Only Courses (H)
Repeatable for Credit: No
Last Taught: Spring 2015

ENTOM 691 — SENIOR THESIS
2 credits.

Requisites: Senior standing consent of instructor
Repeatable for Credit: No
Last Taught: Summer 2017
ENTOM 699 — SPECIAL PROBLEMS
1-4 credits.

Requisites: Cons inst Sr st
Course Designation: Level - Advanced
L&S Credit - Counts as Liberal Arts and Science credit in L&S
Repeatable for Credit: Yes, unlimited number of completions
Last Taught: Summer 2017

ENTOM 701 — ADVANCED TAXONOMY
3 credits.

Requisites: ENTOM 331 and cons inst
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: Yes, unlimited number of completions
Last Taught: Spring 2016

ENTOM/F&W ECOL 711 — MULTIVARIATE ANALYSIS OF ECOLOGICAL AND COMMUNITY DATA
2 credits.

This course will examine some common methods of multivariate data analysis in ecology and environmental science. Often called "community data analysis," this class will cover methods for the analysis of complex, multidimensional datasets that are collected in the study of plant, invertebrate, fish, and bird communities. We will also address the concurrent analysis of the environmental factors that may drive community distributions. All of this provides the basis for predictive modeling of distributions across landscapes. General methods we will cover include ordination (PCA, DCA, NMDS, CCA), clustering (or classification), and other comparative analyses of data matrices (ANOSIM, Mantel tests). The "class" (better called a "workshop") is designed to be applied, meaning that the objective is for students to learn in a "hands-on" way how to use these tools, and the circumstances under which their uses are either appropriate or inappropriate.

Requisites: Stats 571 572 or equivalent course or consent of instructor
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Fall 2015

ENTOM 799 — PRACTICUM IN ENTOMOLOGY TEACHING
1-3 credits.

Instructional orientation to teaching at the higher education level in the agricultural life sciences, direct teaching experience under faculty supervision, experience in testing and evaluation of students, and the analysis of teaching performance.

Requisites: Grad st cons inst
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Spring 2015

ENTOM 801 — COLLOQUIUM
1 credit.

Requisites: Grad st
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Spring 2017

ENTOM/BOTANY/GENETICS/ZOOLOGY 820 — FOUNDATIONS OF EVOLUTION
2 credits.

Through reading and analysis of the primary literature, this course will explore some of the most important themes and debates that have permeated evolutionary biology over the last 50 years. Students will read key papers related to each controversial topic, will debate the pros and cons of competing viewpoints, and will reflect on the relevance of the issues to contemporary evolutionary biology. Students will also write a paper that analyzes one topic in more detail. This course is intended for graduate students who plan to specialize in evolutionary biology, broadly construed.

Requisites: Graduate or professional standing
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Fall 2016

ENTOM 875 — SPECIAL TOPICS
1-4 credits.

Requisites: Grad st and cons inst
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: Yes, unlimited number of completions
Last Taught: Spring 2017

ENTOM 901 — SEMINAR IN ORGANISIMAL ENTOMOLOGY
1 credit.

Presentations from the original literature on developments in natural products chemistry, biochemistry, physiology, developmental biology and/or ultrastructure of insects.

Requisites: Grad st
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: Yes, unlimited number of completions
Last Taught: Spring 2016

ENTOM 903 — SEMINAR IN EVOLUTIONARY ENTOMOLOGY
1 credit.

Presentation from the original literature on developments in the evolution, ecology, behavior and/or systematics of insects.

Requisites: Grad st
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: Yes, unlimited number of completions
Last Taught: Fall 2010

ENTOM 905 — SEMINAR IN APPLIED ENTOMOLOGY
1 credit.

Presentations from the original literature on developments in integrated pest management, insect-plant interactions medical entomology, and/or insect pathology.

Requisites: Grad st
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: Yes, unlimited number of completions
Last Taught: Spring 2011
ENTOM/PSYCH/ZOOLOGY 950 — INTERDISCIPLINARY SEMINAR IN ANIMAL BEHAVIOR
1 credit.

Research methods in animal behavior studies in many disciplines.
Requisites: Grad st
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: Yes, unlimited number of completions
Last Taught: Spring 2013

ENTOM/AGRONOMY/ATM OCN/BOTANY/ENVIR ST/F&W ECOL/GEOG/ZOOLOGY 953 — INTRODUCTION TO ECOLOGY RESEARCH AT UW-MADISON
1-2 credits.

This seminar course will introduce new graduate students to the diversity of ecologists across the UW-Madison campus. Course meetings will include discussions of key topics in professional development, research presentations by faculty members, and discussions of assigned papers with senior graduate students.
Requisites: None
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Fall 2016

ENTOM 990 — GRADUATE RESEARCH AND THESIS
1-12 credits.

Requisites: Grad st cons inst
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: Yes, unlimited number of completions
Last Taught: Summer 2017