ENTOMOLOGY (ENTOM)

ENTOM/AGROECOL/AGRONY/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. 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. Enroll Info: None
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
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Fall 2020

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. Enroll Info: None
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
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Fall 2020

ENTOM/ENVIR ST 205 — OUR PLANET, OUR HEALTH
3 credits.

An introduction to the multiple determinants of health, global disease burden and disparities, foundational global health principles, and the overlap between ecosystem stability, planetary boundaries, and human health. Explore the core fundamentals of global health scholarship, including but not limited to infectious disease, sanitation, and mental health, and also consider ecological perspectives on these issues through the lens of planetary boundaries. Attention is placed on how human-mediated global change (e.g. climate change, biodiversity loss, land-use patterns, geochemical cycling, agricultural practice) impacts human health and the ecosystem services we depend on. An overview of pertinent issues in sustainability science and planetary health discourse, including the 'Anthropocene' and resilience to understand and critically assess global trends. Enroll Info: None
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
Last Taught: Fall 2020

ENTOM 289 — HONORS INDEPENDENT STUDY
1-2 credits.

Enroll Info: Enrolled in the CALS Honors Program Sophomore or Junior standing. INTER-AG 288
Requisites: Consent of instructor
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.

Enroll Info: Open to Freshmen, Sophomore or Junior standing prior written consent of instructor
Requisites: Consent of instructor
Repeatable for Credit: Yes, unlimited number of completions
Last Taught: Spring 2021

ENTOM/ZOOLOGY 302 — INTRODUCTION TO ENTOMOLOGY
4 credits.

Principles including morphology and classification; a general collection of insects required of each student. Enroll Info: An elem course in zoology
Requisites: None
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
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Spring 2021
ENTOM 321 — PHYSIOLOGY OF INSECTS
3 credits.
Anatomy, histology and basic physiology of organ systems in insects.
Enroll Info: ENTOM/ZOOLOGY 302 or cons inst
Requisites: None
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 2021

ENTOM 331 — TAXONOMY OF MATURE INSECTS
4 credits.
Principles of taxonomy, identification and taxonomic morphology of adult insects. Enroll Info: Entomol/Zool 302
Requisites: None
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 2019

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. Enroll Info: None
Requisites: ZOOLOGY/BIOLOGY 101 and 102, or 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 Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Spring 2021

ENTOM 351 — PRINCIPLES OF ECONOMIC ENTOMOLOGY
3 credits.
Major economic insects: identification, life histories, bionomics, distribution, control; procedures in fundamental and practical inquiry.
Enroll Info: Intro course in zoology
Requisites: None
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
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Fall 2021

ENTOM/AGRONOMY/HORT/PL PATH/SOIL SCI 354 — DIAGNOSING AND MONITORING PEST AND NUTRIENT STATUS OF FIELD CROPS
1 credit.
Provides 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 cropstaging techniques which are essential for pest and nutrient management. Enroll Info: None
Requisites: None
Course Designation: Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Spring 2019

ENTOM/ZOOLOGY 371 — MEDICAL ENTOMOLOGY
3 credits.
Arthropods of medical and veterinary importance, how they affect their hosts and transmit diseases. Enroll Info: Intro course in zool or vet sci
Requisites: None
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
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Spring 2019

ENTOM 375 — SPECIAL TOPICS
1-4 credits.
Enroll Info: None
Requisites: None
Repeatable for Credit: Yes, unlimited number of completions
Last Taught: Fall 2020

ENTOM 399 — COORDINATIVE INTERNSHIP/COOPERATIVE EDUCATION
1-8 credits.
Enroll Info: So, Jr or Sr st cons supervising inst, advisor, and internship program coordinator
Requisites: Consent of instructor
Course Designation: Level - Advanced
L&S Credit - Counts as Liberal Arts and Science credit in L&S Grad 50% - Counts toward 50% graduate coursework requirement
Sustain - Sustainability
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. Enroll Info: Current enrollment in a UW-Madison study abroad program
Requisites: None
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. Enroll Info: ENTOM/ZOOLOGY 302 or equiv, or cons inst
Requisites: None
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 2021

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. Enroll Info: BIOLOGY/BOTANY/ZOOLOGY 151 152 or consent of instructor
Requisites: None
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
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Fall 2017

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. Enroll Info: Concurrent or previous enrollment in Entomology 450, consent of instructor for undergraduates
Requisites: None
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
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Fall 2017

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. Enroll Info: ENTOM/ZOOLOGY 302, Junior standing, and consent of instructor. (Recommended ecology course ENTOM 331 or 432)
Requisites: None
Course Designation: Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Summer 2020

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. Enroll Info: One of the following: Bot/For/Zoo 460, Ent/PI Path/For 500, PI Path/Bot 505, Forestry 550, or Entom 342
Requisites: None
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
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Spring 2020
ENTOM/F&W ECOL 500 — INSECTS IN FOREST ECOSYSTEM FUNCTION AND MANAGEMENT
2 credits.

Roles of insects in the functioning of healthy forest ecosystems, tactics for addressing challenges they pose to sustainable natural resource management, and emerging issues such as biological invasions, habitat alteration, and climate change that influence interactions among insects, their microbial associates, forests, and humans. Enroll Info: BOTANY/BIOLOGY/ZOOLOGY 151 152 or equivalent

Requisites: None
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
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Fall 2015

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. Enroll Info: An upper level crse in microbiol (e.g. Bact 303); biochem (e.g. BIOCHEM 501); genetics (e.g. GENETICS 466) or cons inst

Requisites: None
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 2021

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. Enroll Info: 1 year calculus, Zoo/Bot 260, Zoo/Bot/For 460 or equiv, Jr st

Requisites: Junior standing; not open to special students
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
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Fall 2019

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

Training for the presentation of short talks. Enroll Info: None

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/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. Enroll Info: None

Requisites: ZOOLOGY/BIOLOGY 101 or BOTANY/BIOLOGY 130 or ZOOLOGY/BIOLOGY/BOTANY 151, or graduate/professional 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
Sustain - Sustainability
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. Enroll Info: None

Requisites: GENETICS 466, 467, 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
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Spring 2019

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. Enroll Info: None

Requisites: (CHEM 341 or 343) and ((BOTANY/BIOLOGY 130 and ZOOLOGY/BIOLOGY 102) or ZOOLOGY/BIOLOGY/BOTANY 152 or BIOCORE 383); or graduate/professional standing

Repeatable for Credit: No
Last Taught: Fall 2019
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). Enroll Info: None
Requisites: M&ENVTOX 632
Repeatable for Credit: No
Last Taught: Fall 2019

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. Enroll Info: None
Requisites: M&ENVTOX 633 or declared in Molecular and Environmental Toxicology, PhD program
Repeatable for Credit: No
Last Taught: Fall 2019

ENTOM 681 — SENIOR HONORS THESIS
2-4 credits.
Enroll Info: Honors candidacy
Requisites: Consent of instructor
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. Enroll Info: Honors program candidacy ENTOM 681
Requisites: Consent of instructor
Course Designation: Honors - Honors Only Courses (H)
Repeatable for Credit: No
Last Taught: Spring 2015

ENTOM 691 — SENIOR THESIS
2 credits.
Enroll Info: Senior standing consent of instructor
Requisites: Consent of instructor
Repeatable for Credit: No
Last Taught: Fall 2014

ENTOM 699 — SPECIAL PROBLEMS
1-4 credits.
Enroll Info: Cons inst Sr st
Requisites: Consent of instructor
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: Spring 2021

ENTOM 701 — ADVANCED TAXONOMY
3 credits.
Enroll Info: ENTOM 331 and cons inst
Requisites: Graduate/professional standing
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: Yes, unlimited number of completions
Last Taught: Fall 2020

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. Enroll Info: None
Requisites: Students must have Stats 571 or 572 to enroll, if a student feels that they have an equivalent background, they must get permission of the instructor to enroll
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. Enroll Info: None
Requisites: Consent of instructor
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Fall 2020

ENTOM 801 — COLLOQUIUM
1 credit.
Enroll Info: None
Requisites: Graduate/professional standing
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Sustain - Sustainability
Repeatable for Credit: No
Last Taught: Spring 2021
ENTOM/BOTANY/GENETICS/ZOOLOGY 820 — FOUNDATIONS OF EVOLUTION
2 credits.

Explore some of the most important themes and debates that have permeated evolutionary biology over the last 50 years. Read key papers related to each controversial topic, debate the pros and cons of competing viewpoints, and reflect on the relevance of the issue to contemporary evolutionary biology. Enroll Info: None
Requisites: Graduate/professional standing
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Fall 2020

ENTOM 875 — SPECIAL TOPICS
1-4 credits.

Enroll Info: None
Requisites: Graduate/professional standing
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: Yes, unlimited number of completions
Last Taught: Spring 2021

ENTOM 901 — SEMINAR IN ORGANISMAL ENTOMOLOGY
1 credit.

Presentations from the original literature on developments in natural products chemistry, biochemistry, physiology, developmental biology and/or ultrastructure of insects. Enroll Info: None
Requisites: Graduate/professional standing
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: Yes, unlimited number of completions
Last Taught: Spring 2021

ENTOM/PSYCH/ZOOLOGY 950 — INTERDISCIPLINARY SEMINAR IN ANIMAL BEHAVIOR
1 credit.

Research methods in animal behavior studies in many disciplines. Enroll Info: None
Requisites: Graduate/professional standing
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.

Introduces new graduate students to the diversity of ecologists across the UW-Madison campus. Includes discussions of key topics in professional development, research presentations by faculty members, and discussions of assigned papers with senior graduate students. Enroll Info: None
Requisites: Graduate/professional standing
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: No
Last Taught: Fall 2020

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

Enroll Info: None
Requisites: Consent of instructor
Course Designation: Grad 50% - Counts toward 50% graduate coursework requirement
Repeatable for Credit: Yes, unlimited number of completions
Last Taught: Spring 2021