

ENTOMOLOGY (ENT)

ENT 2040 (s) Special Topics (1-16 credits, max 99)

Credit arranged

ENT 2990 (s) Directed Study (1-16 credits, max 99)

Credit arranged

ENT 3220 General and Applied Entomology (4 credits)

Identification, biology, and importance of insects and related arthropods to humans and agriculture; basic principles of arthropod pest management. Three lectures and one 3-hour lab per week.

ENT 3980 (s) Internship (1-6 credits, max 6)

Graded Pass/Fail.

Prereqs: ENT 3220 or Permission

ENT 4000 (s) Seminar (1-16 credits, max 99)

Credit arranged

ENT 4040 (s) Special Topics (1-16 credits, max 99)

Credit arranged

ENT 4110 Veterinary & Medical Entomology (3 credits)

Joint-listed with ENT 5110

This course will explore why insects are such efficient disease vectors, how blood feeding evolved, the impact of insects and related arthropods and vector-borne diseases on humans and animals worldwide, and what is being done to combat the resurgence of many of these diseases.

Typically Offered: Spring (Odd Years).

Prereqs: BIOL 1150 and EPPN 1540 OR BIOL 2500

ENT 4380 Pesticides in the Environment (3 credits)

General Education: Capstone Experience

Cross-listed with PLSC 4380, SOIL 4380

Principles of pesticide fate in soil, water, and air; pesticide metabolism in plants, pesticide toxicology, and pesticide mode-mechanism of action; pest resistance to pesticides; biotechnology in pest control; regulations and liability; equipment application technology; pesticide transport, storage, and disposal; and social and ethical considerations. Recommended Preparation: CHEM 2750.

ENT 4400 Insect Identification (4 credits)

Joint-listed with ENT 5400

Survey of approximately 200 major families; collecting and preservation techniques. For graduate credit, an additional 50 families and selected subfamilies and genera will be covered and a term paper is required. Two lectures and two 2-hour labs per week; two 1-day field trips. Typically Offered: Varies.

Prereqs: ENT 3220 or Permission Cooperative: open to WSU degree-seeking students.

ENT 4410 Insect Ecology (3 credits)

Joint-listed with ENT 5410

Population and community dynamics set in a systems framework; theory and applications in natural and altered systems. Requirements for graduate credit include a longer (10 vs. 5 pages), more synthetic term paper, and each 5000-level student will lead a web-based or in-class discussion on a research paper of their choice. Two 1-day field trips. Recommended Preparation: General ecology.

Prereqs: ENT 3220 or Permission Cooperative: open to WSU degree-seeking students.

ENT 4470 Biological Control in Plant Pest Management Systems (3 credits)

Joint-listed with ENT 5470

This course teaches content within the fields of agro-ecology, natural resource conservation, and especially integrated pest management. Biological control and classical biological control of exotic invasive plants, arthropod crop and forest pests, and crop diseases are a major subdiscipline of integrated pest management. Biological control can reduce and sometimes eliminate the need for pesticides to manage pests and/or invasive species. The course will introduce students to the underlying principles of biological control, predator prey interactions and invasion ecology. Students will learn about 1) the history of the discipline, including many environmentally disastrous examples of "biological control" from the 18th and 19th century prior to the use of environmental assessments, 2) methods to develop and assess biological control organisms across taxa; and 3) environmental risk assessment procedures and introduction policies and guidelines of different countries. Examples of biological control across taxa will be used throughout the course to illustrate the conservation, social and economic benefits of the discipline. Additional projects and/or assignments are required for graduate credit. Course will meet twice weekly for 1-hour and 15-minute sessions.

ENT 4690 Introduction to Forest Insects (2 credits)

Roles and impacts of insects within forest ecosystems. Current management techniques of arthropod pests (insects and mites) in natural and managed forest systems. Interactions of arthropods with other agents of forest disturbance (fire and fungi). Identification of some common arthropod pests of Rocky Mountain forests.

Prereqs: FOR 2100 or REM 2210

ENT 4760 Medical Parasitology (3 credits)

Joint-listed with ENT 5760

This course will explore the biology of eukaryotic parasites as they impact human health. Topics will include blood, gastrointestinal, and multi-organ parasites. The life cycles, clinical importance, global impact, and cutting edge research on these parasites will be reviewed. Typically Offered: Spring (Even Years).

Prereqs: EPPN 1540 or BIOL 2500 and BIOL 3100 or BIOL 3120

ENT 4990 (s) Directed Study (1-16 credits, max 99)

Credit arranged

ENT 5000 Master's Research and Thesis (1-16 credits, max 99)

Credit arranged

ENT 5010 (s) Seminar (1-16 credits, max 99)

Credit arranged

ENT 5020 (s) Directed Study (1-16 credits, max 99)

Credit arranged

ENT 5040 (s) Special Topics (1-16 credits, max 99)

Credit arranged

ENT 5110 Veterinary & Medical Entomology (3 credits)

Joint-listed with ENT 4110

This course will explore why insects are such efficient disease vectors, how blood feeding evolved, the impact of insects and related arthropods and vector-borne diseases on humans and animals worldwide, and what is being done to combat the resurgence of many of these diseases.

Typically Offered: Spring (Odd Years).

ENT 5400 Insect Identification (4 credits)

Joint-listed with ENT 4400

Survey of approximately 200 major families; collecting and preservation techniques. For graduate credit, an additional 50 families and selected subfamilies and genera will be covered and a term paper is required. Two lectures and two 2-hour labs per week; two 1-day field trips. Typically Offered: Varies. Cooperative: open to WSU degree-seeking students.

ENT 5410 Insect Ecology (3 credits)

Joint-listed with ENT 4410

Population and community dynamics set in a systems framework; theory and applications in natural and altered systems. Requirements for graduate credit include a longer (10 vs. 5 pages), more synthetic term paper, and each 5000-level student will lead a web-based or in-class discussion on a research paper of their choice. Two 1-day field trips. Recommended Preparation: General ecology. Cooperative: open to WSU degree-seeking students.

ENT 5470 Biological Control in Plant Pest Management Systems (3 credits)

Joint-listed with ENT 4470

This course teaches content within the fields of agro-ecology, natural resource conservation, and especially integrated pest management. Biological control and classical biological control of exotic invasive plants, arthropod crop and forest pests, and crop diseases are a major subdiscipline of integrated pest management. Biological control can reduce and sometimes eliminate the need for pesticides to manage pests and/or invasive species. The course will introduce students to the underlying principles of biological control, predator prey interactions and invasion ecology. Students will learn about 1) the history of the discipline, including many environmentally disastrous examples of "biological control" from the 18th and 19th century prior to the use of environmental assessments, 2) methods to develop and assess biological control organisms across taxa; and 3) environmental risk assessment procedures and introduction policies and guidelines of different countries. Examples of biological control across taxa will be used throughout the course to illustrate the conservation, social and economic benefits of the discipline. Additional projects and/or assignments are required for graduate credit. Course will meet twice weekly for 1-hour and 15-minute sessions.

ENT 5490 Insect-Plant Interactions (3 credits)

Ecology, evolution, and mechanisms of the interactions between insects and plants. Requirements for graduate credit include formal report of field study, term paper. Typically Offered: Varies.

Prereqs: ENT 3220 Cooperative: open to WSU degree-seeking students.

ENT 5690 Advanced Forest Entomology (3 credits)

Methods and applications of biological and economic evaluation and control strategies of forest insect populations in relation to pest management programs. Recommended preparation: ENT 4690. Typically Offered: Varies.

ENT 5760 Medical Parasitology (3 credits)

Joint-listed with ENT 4760

This course will explore the biology of eukaryotic parasites as they impact human health. Topics will include blood, gastrointestinal, and multi-organ parasites. The life cycles, clinical importance, global impact, and cutting edge research on these parasites will be reviewed. Typically Offered: Spring (Even Years).

ENT 5970 (s) Practicum (1-16 credits, max 99)

Credit arranged

ENT 5980 (s) Internship (1-16 credits, max 99)

Credit arranged

Prereqs: ENT 3220 or Permission

ENT 5990 (s) Non-thesis Master's Research (1-16 credits, max 99)

Credit arranged. Research not directly related to a thesis or dissertation.

Prereqs: Permission

ENT 6000 Doctoral Research and Dissertation (1-45 credits, max 99)

Credit arranged