

Entomology

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Ent **211 Insect Biology** (4 cr). *May be used as core credit in J-3-b.* Classification, structure, and ecology of insects, and their importance to human society. Three lec and one 3-hr lab a wk.

Ent **322 Economic Entomology** (3 cr). *May be used as core credit in J-3-d.* Identification, biology, and importance of insects and related arthropods to humans and agriculture; basic principles of arthropod pest management. Two lec and one 3-hr lab a wk.

Ent **WS361 Honey Bee Biology** (1 cr). WSU Entom 361. Biology of the honey bee including behavior, genetics, pollination, sociality, and beekeeping practices.

Ent **WS362 Fundamentals of Beekeeping** (1 cr). WSU Entom 362. Applied beekeeping practices including safety, equipment, colony installation, manipulation for pollination and honey production, honey bee diseases and pests.

Ent **398 Internship** (1-6 cr, max 6). Graded P/F. Prereq: perm of dept.

Ent **WS401 Invertebrates in Biological Thought** (3 cr). WSU Entom 401. Development of historical ideas and knowledge from antiquity to present with emphasis on major advances achieved through invertebrate models.

Ent **404 (s) Special Topics** (cr arr). Prereq: perm.

Ent **438 Pesticides in the Environment** (3 cr). See Soil 438.

Ent **J440/J540 Insect Identification** (4 cr). Survey of approximately 200 major families; collecting and preservation techniques. For grad cr, an additional 50 families and selected subfamilies and genera will be covered and a term paper is reqd. Two lec and two 2-hr labs a wk; two 1-day field trips. Recommended Preparation: Ent 211. (Alt/yrs)

Ent **ID-J441/ID-J541 Insect Ecology** (3 cr). WSU Entom 541. 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 500-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. Prereq: Ent 211 or perm.

Ent **ID-J446/ID-J546 Host Plant Resistance to Insects and Pathogens** (3 cr). WSU Entom 446/546. Principles and methodologies for developing pest-resistant crop varieties. Requirements for graduate credit include preparation of grant proposal, classroom presentation. Field trips. Prereq: Ent 211 or perm. (Alt/yrs)

Ent **ID-J447/ID-J547 Fundamentals of Biological Control** (3 cr). WSU Entom 447/547. Intro to history and development of biological control and biological and ecological factors involved; emphasis on entomophagous and phytophagous insects. For graduate credit, students present a paper or "grant proposal" for critique. Recommended Preparation: Ent 211 and general ecology. (Alt/yrs)

Ent **ID-J472/ID-J572 Aquatic Entomology** (3 cr). WSU Entom 472. Identification and biology of insects associated with aquatic and subaquatic environments. Additional projects/assignments required for graduate credit. One lec and two 3-hr labs a wk; two 1-day field trips. (Spring, alt/yrs)

Ent **J484/J584 Insect Anatomy and Physiology** (4 cr). Ent 484 same as Biol 494. Organ systems of insects and their functions. A comprehensive term paper and research project reqd for grad cr. Three lec and one 3-hr lab a wk. Prereq: Ent 211. (Alt/yrs)

Ent **J491/J591 Principles of Insect Pest Management** (3 cr). Quantitative analyses, ecological theory, and pest control tactics required to design and conduct integrated pest management programs for insects. Two written papers and one classroom seminar reqd for grad cr. Recommended Preparation: one course in statistics. (Alt/yrs)

Ent **499 (s) Directed Study** (cr arr). Prereq: perm.

Ent **500 Master's Research and Thesis** (cr arr).

Ent **501 (s) Seminar** (cr arr). Prereq: perm.

Ent **502 (s) Directed Study** (cr arr). Prereq: perm.

Ent **504 (s) Special Topics** (cr arr). Prereq: perm.

Ent **540 Insect Identification** (4 cr). See Ent J440/J540.

Ent **ID541 Advanced Insect Ecology** (3 cr). See Ent J441/J541.

Ent **ID546 Host Plant Resistance to Insects and Pathogens** (3 cr). See Ent J446/J546.

Ent **ID547 Fundamentals of Biological Control** (3 cr). See Ent J447/J547.

Ent **ID549 Insect-Plant Interactions** (3 cr). WSU Entom 445/545. Ecology, evolution, and mechanisms of the interactions between insects and plants. Requirements for graduate credit include formal report of field study, term paper. Prereq: Ent 211. (Alt/yrs)

Ent **ID&WS-J551 Applied Biological Control: Weeds** (1 cr). WSU Entom 551. Principles and methodologies in biological control of weeds. Requirements for graduate credit include leading a classroom presentation and discussion session. Recommended Preparation: one ecology course, Principles of Biological Control. (Alt/yrs)

Ent **ID572 Aquatic Entomology** (3 cr). See Ent J472/J572.

Ent **584 Insect Anatomy and Physiology** (4 cr). See Ent J484/J584.

Ent **591 Principles of Integrated Pest Management** (3 cr). See Ent J491/J591.

Ent **597 (s) Practicum** (cr arr). Prereq: perm.

Ent **598 (s) Internship** (cr arr). Prereq: perm.

Ent **599 (s) Non-thesis Master's Research** (cr arr). Research not directly related to a thesis or dissertation. Prereq: perm.

Ent **600 Doctoral Research and Dissertation** (cr arr).