

COURSE NAME; NUMBER; SEMESTER; MEETING DAYS, TIMES, AND PLA.

Urban Entomology

11:370:430; Fall (yearly)

Tuesdays and Thursdays (9:15-10:35 am)

Cook campus. Blake Hall, Room 101

CONTACT INFORMATION:

Instructor(s): Changlu Wang

Office Location: Thompson Hall. Office 205

Phone: 848-932-9552

Email: changluw@rutgers.edu

Office Hours: Open

COURSE WEBSITE, RESOURCES AND MATERIALS:

- Bennett, G., Corrigan, R., and Owens, J. 2010. Truman's scientific guide to pest control operations.
- Handouts will be distributed in the class.
- Reading materials will be distributed through Sakai.

COURSE DESCRIPTION:

The course focus on identification, biology, behavior, ecology, health and economic impact, and control methods of urban pests. Majority of them are insect pests associated with homes and other structures. The purpose of this course is to provide students with a working knowledge on pests in urban environment and their management methods. By the end of this course, students are expected to be able to identify various urban pests, know their biology and ecology, and design and apply appropriate management strategies.

Course purpose: This course is an elective course for entomology major and minor. It is designed to provide students with an advanced understanding on the identification, biology, and control methods of major groups of urban pests. Thus, it is related to other courses in the department (e.g. Medical and Veterinary Entomology, Agricultural Entomology and Pest Management). This course will help students to broaden their knowledge in entomology, and biology. One goal of the course is to help students to be prepared to solve real-life pest infestations and communicate with the public about urban pests.

The course Prerequisites are 01:119:115/116 General Biology I and II.

LEARNING GOALS:

(Link to Entomology Undergraduate Program Goals: <https://entomology.rutgers.edu/undergraduate/>)

- 1) Accurately identify major groups or species of urban pests (addresses program goal 1)
- 2) Demonstrate in-depth knowledge on urban pest biology, behavior, ecology, and their impact on animals and humans (addresses program goals 1 and 2)
- 3) Design and apply appropriate pest management strategies (addresses program goal 2)
- 4) Design, implement, and analyze experiments and interpret results in entomological research (addresses program goal 3)

ASSIGNMENTS/RESPONSIBILITIES, GRADING & ASSESSMENT:

Assignments are expected before due date. Fail to comply with the due date will result in a zero on the assignment.

Grading

- 20% Bi-weekly in-class short tests
- 20% Lab reports
- 30% Midterm exam
- 30% Final exam

Grading system:

- A: 90-100
- B: 80-89
- C: 70-79
- D: 60-69
- F: Below 60

Assessment of learning goals.

Besides the biweekly quizzes and two exams, two other methods will be used to assess the effectiveness of the teaching: 1) A pre- and post- quiz of 20 questions will be handed out to students at beginning and the end of the semester; 2) Each student will be asked to answer questions from other students on at least one lecture during the course of the study. The students are expected to answer most of the questions raised by other students and the instructor. The questions will be based on the lecture notes that are provided to students and discussions during the class.

ACCOMODATIONS FOR STUDENTS WITH DISABILITIES

Please follow the procedures outlined at <https://ods.rutgers.edu/students/registration-form>. Full policies and procedures are at <https://ods.rutgers.edu/>
Enter additional text here if you wish

ABSENCE POLICY

Students are expected to attend all classes; if you expect to miss one or two classes, please use the University absence reporting website <https://sims.rutgers.edu/ssra/> to indicate the date and reason for your absence. An email is automatically sent to me.

COURSE SCHEDULE:

Lecture and title

- 1 Introduction part I: Urban pests: their importance and habitats
- 2 Introduction part II: Principles of urban pest management
- 3 Urban Pesticides part I: Classification, risks, and non-synthetic insecticides
- 4 Urban Pesticides part II: Synthetic insecticides, insecticide resistance
- 5 Cockroaches part I: Identification, biology of important species
- 6 Cockroaches part II: Cockroach management

Lab experiment I. Efficacy of selected insecticides against the German cockroach

- 7 North America Termite taxonomy, general biology, and economic importance
- 8 Termite management and other wood destroying insects
- 9 Ant diversity, biology, and economic importance

- 10 Important ant pests and their management
- 11 Stinging wasps and their management
- 12 Stinging bees and their management
- 13 Diversity and importance of stored product pests
- 14 Management of stored product pests

Mid-term exam

- 15 Ectoparasites I: fleas, lice, ticks
- 16 Ectoparasites II: Mites, kissing bugs, bed bugs, delusory parasites
- 17 Occasional invaders I: Arthropods other than Insects
- 18 Occasional invaders II: The Insects
- 19 Fabric insects: clothes moths, carpet beetles
- 20 Flies part I: Importance of flies, fly biology, important filth flies
- 21 Flies part II: Small flies, biting flies, midges, management of flies

Lab experiment II. Behavior of bed bugs

- 22 Mosquito morphology, biology, and mosquito transmitted diseases
- 23 Important mosquito species in urban environment and their management
- 24 Rodents
- 25 Pesticide legislation and integrated pest management

FINAL EXAM/PAPER DATE AND TIME

Online Final exam Schedule: <http://finalexams.rutgers.edu/>

ACADEMIC INTEGRITY

The university's policy on Academic Integrity is available at <http://academicintegrity.rutgers.edu/academic-integrity-policy>. The principles of academic integrity require that a student:

- properly acknowledge and cite all use of the ideas, results, or words of others.
- properly acknowledge all contributors to a given piece of work.
- make sure that all work submitted as his or her own in a course or other academic activity is produced without the aid of impermissible materials or impermissible collaboration.
- obtain all data or results by ethical means and report them accurately without suppressing any results inconsistent with his or her interpretation or conclusions.
- treat all other students in an ethical manner, respecting their integrity and right to pursue their educational goals without interference. This requires that a student neither facilitate academic dishonesty by others nor obstruct their academic progress.
- uphold the canons of the ethical or professional code of the profession for which he or she is preparing.

Adherence to these principles is necessary in order to ensure that

- everyone is given proper credit for his or her ideas, words, results, and other scholarly accomplishments.
- all student work is fairly evaluated and no student has an inappropriate advantage over others.
- the academic and ethical development of all students is fostered.
- the reputation of the University for integrity in its teaching, research, and scholarship is maintained and enhanced.

Failure to uphold these principles of academic integrity threatens both the reputation of the University and the value of the degrees awarded to its students. Every member of the University community therefore bears a responsibility for ensuring that the highest standards of academic integrity are upheld.