

Syllabus: Entomology 407/807

Urban and Industrial Entomology

Fall 2009

Instructor:

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Office Hours:

The best way to reach me is by email or text to my mobile. Expect a response within a few hours, although I sometimes take a little longer. If you call and I do not answer, leave a message and I will get back to you as soon as possible. Calls at home are fine up until about 10 pm central time. I am on the computer a lot so we can also arrange chat times if you wish.

ABOUT THE COURSE

Urban and Industrial Entomology strengthens the basic knowledge of entomology, and then builds upon this background to provide students with a repertoire of pest specific biology and control methodologies that can be used to critically analyze situations requiring the development and implementation of Integrated Pest Management (IPM) programs.

We will discuss how insects function, and relate the basics of what was learned to insect management and control. Specifically, we will examine insect pests by group, emphasizing identification, damage, biology, and management of major...as well as a few minor species.

COURSE OBJECTIVES

After completing the course, you will be able to:

1. Recognize major urban insect (and other invertebrate) and vertebrate pest groups and understand the basics of pest biology (life cycles, behavior, damage, resources needed).
2. Understand the principles of Integrated Pest Management and how they relate to urban, municipal and industrial settings.
3. Analyze and provide a plan to solve complex pest management problems using critical and creative thinking
4. Identify and employ all facets of modern pest management programs, including sampling, interpretation of available thresholds, and multiple management strategies
5. Write effectively to communicate scientific data and information to non-technical audiences.

INSTRUCTIONAL METHOD

Blackboard will be used for delivery of all materials pertinent to this course (lectures, asynchronous discussions, assignments such as readings or links to readings, and assessment materials). Power Point presentations will be used to deliver lectures which will include text and images and will be strengthened by narration to emphasize key points. In addition, readings will be assigned. Each student is expected to take good lecture notes and to complete all reading assignments. Items covered in lectures, but not covered in the assigned readings or handouts are fair game for examination material. Further, all reading material will not be discussed in class lectures, but the student is still responsible for being familiar with these parts of the assignments. Asynchronous discussion threads will be used to assess student comprehension of lecture and reading materials. It is expected that in a discussion format, all students will participate with original inputs.

TEXTBOOKS

THERE ARE NO REQUIRED TEXT BOOKS.....readings or links to readings will be posted on Blackboard.

The Handbook of Pest Control (Eighth Ed., 1997 or Ninth, 2004) and ***Truman's Scientific Guide to Pest Management Operations (Fifth Ed., 1998 or Sixth, 2004)***.are great references but are not mandatory for this course.

The web site is a good source of information <http://pested.unl.edu/pesticide/pages/index.jsp>

We will also be reading from this online text resource <http://www.entomology.ucr.edu/ebeling/>

STUDENT ASSIGNMENTS AND EXAMS

Exams: There will be 4 within semester examinations (50 points each) and a comprehensive final exam (100 points). Exams will be delivered online, taken "open book". The completed exams will be typed out and returned to the instructor by e-mail attachment. Undergraduate students will take a different test than graduate students.

Question formats may include true/false, written definitions, short answer, multiple choice, matching, or fill in the blank, but primary emphasis will be placed on essay questions. Some of the questions on the exams will require online searches and/or some library research.

Identification Quizzes: Throughout the course, we will discuss the importance of proper identification of urban pests. We will have periodic quizzes to assess student ability to make accurate identifications of pests, and to provide a short synopsis of the pest's biology. Identifications will be made to family level at the minimum, and in many cases, you will be asked to ID to genus and species...or at least common name. There will be 5 quizzes, each worth 20 points.

Discussion Board: There will be at least 5 asynchronous discussions threads posted on Blackboard (each worth 20 points). All students are expected to participate in discussions and your efforts will be graded. A rubric outlining my expectations of your participation will be posted before the first discussion. Discussions will be based on readings, and/or lecture materials, and will be designed to stimulate your critical thinking skills. I will begin the discussion and then monitor and guide as necessary. Your contributions are expected to expand on the posted topic, and further stimulate postings. Disagreements are ok, but you must explain why you disagree with a post.

Fact Sheets: Each student will develop a list of 4 insects of urban importance, for which he/she will gather the following information for each: identifying characteristics for the adult and immature, description of damage (if any), summary of life cycle, procedures for assessing (sampling) populations, economic thresholds (if any), and discussion of feasible management methods/control measures. Each summary

should be written with the education of potential clients in mind. Each will be worth 25 points. I will provide an example.

Point Breakdown

Assessment	Quantity	Points Per	Total Points
Mid-Semester Exams	4	50	200
Final Exam	1	100	100
Identification Quizzes	5	20	100
Discussion Board	5	20	100
Fact Sheets	4	25	100
Total			600 points

Letter grades will be assigned based on straight percentages of 100 - 90% A range, 89 - 80% B ranges, etc. The department of entomology requires that graduate students must receive a **B or better grade** in order for the class to count towards graduation.

SCALE

100 – 98 A+	89 - 87 B+
97 – 94 A	86 - 83 B
93 – 90 A-	82 - 80 B-

Tentative lecture topics and dates: dates are dynamic and may be altered to accommodate actual course progress.

Lecture	Date	Topic
-	-	Course Overview
Module 1: Overview		
1	Aug. 24	Introduction to the urban environment and associated pests
2	Aug. 26	Insect biology and ecology (and the urban environment)
3	Aug. 28	Urban pest management

EXAM 1	---	EXAM 1 (mailed September 4, Due September 11)
Module 2: Invaders		
4	Sept. 4	Cockroaches...ID, biology/ecology, management
5	Sept. 11	Ants... ID, biology/ecology, management
6	Sept. 18	Pantry pests... ID, biology/ecology, management
7	Sept. 23	Fabric pests... ID, biology/ecology, management
8	Sept. 25	Miscellaneous
EXAM 2	---	EXAM 2 (mailed September 28, Due October 5)
Module 3: Wood Destroying Organisms		
9	Sept. 28	Termites... ID, biology/ecology, management
10	Oct. 5	Beetles... ID, biology/ecology, management
11	Oct. 12	Carpenter Ants... ID, biology/ecology, management
13	Oct. 16	Fungus
14	Oct. 21	Miscellaneous
EXAM 3	---	EXAM 3 (mailed October 23, Due October 30)
Module 4: Pests of Medical/Veterinary Importance		
15	Oct. 23	Spiders
16	Oct. 26	Ticks and mites
17	Oct. 28	Hemiptera
18	Oct. 30	Fleas
19	Nov. 4	Hymenoptera
20	Nov. 6	Diptera
21	Nov. 11	Miscellaneous
22	Nov. 13	Delusory parasitosis
EXAM 4	---	EXAM 4 (mailed November 16, Due November 23)
Module 5: Everything Else		

23	Nov. 16	Miscellaneous arthropod pests
24	Nov. 18	Vertebrate pests
25	Nov. 23	IPM Programs in Sensitive Environments
26	Dec. 2	Future
Final	---	FINAL EXAM (mailed December 9, Due December 16)

ADA STATEMENT:

Students with disabilities are encouraged to contact Christy Horn for a confidential discussion of their individual needs for academic accommodation. It is the policy of the University of Nebraska-Lincoln to provide flexible and individualized accommodation to students with documented disabilities that may affect their ability to fully participate in course activities or to meet course requirements. To receive accommodation services, students must be registered with the Services for Students with Disabilities (SSD) office, 132 Canfield Administration, 472-3787 voice or TTY (updated 8/20/07)

CHEATING:

The University of Nebraska-Lincoln has a policy about academic dishonesty, as indicated in the Student Code of Conduct (see Undergraduate Bulletin). As a student at UNL, you enjoy rights and protections under the code and are obligated to conduct yourself in compliance with the code.

As the Student Code of Conduct indicates, academic sanctions for misconduct subject to appeal are at the discretion of the instructor, and may include giving the student a failing grade for the course. In this course, the least penalty that will be imposed for misconduct is a one letter grade reduction in the course grade, but in most instances the penalty for cheating will be a failing grade in the course.