

## **Sample Syllabus: Entomology 403/803 Management of Horticultural Crop Insects**

### **INSTRUCTORS:**

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**Office Hours for Tom:** The best way to reach Tom is by email or text to his mobile...he prefers text, just let him know who you are. If you email, expect a response within a few hours, although he sometimes take a little longer. If you call and he does not answer, leave a message and he will get back to you as soon as possible. Calls at home are fine up until about 10 pm central time.

If you are on campus, come by his office in 214 Entomology Hall.

**Office Hours for Erin:** The best way to reach Erin is by email. Expect a response within a few hours, although it may take a bit longer. If you call, leave a message and she will get back with you as soon as possible.

If you are on campus, come by her office in 305C Entomology Hall.

### **ABOUT THE COURSE**

This course will focus on identification, biology, ecology and management of insect pests of horticultural crops, including vegetables, deciduous fruits and nuts, trees and shrubs, greenhouse crops, turf and ornamentals. Emphasis will be on Integrated Pest Management (IPM) strategies employed to maintain pests below damaging levels while minimizing the use of traditional insecticides. I strive to promote problem solving and critical thinking skills in this class.

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**

1. Learn key concepts and background knowledge that will help you make enriched decisions in your career as a horticulturalist, entomologist, or other field.
2. Recognize beneficial and harmful arthropods associated with horticultural plantings and understand the basics of pest biology (life cycles, behavior, damage, resources need to survive).
3. Understand the principles of Integrated Pest Management and how they relate to horticultural crop settings.
4. Characterize different types of plant injury and associate it with the arthropod pest that is responsible.
5. Analyze given situations and provide a plan to solve complex pest management problems using critical and creative thinking.

6. Identify and employ all facets of modern pest management programs, including sampling, interpretation of available thresholds, and multiple management strategies
7. 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 and videos** will be assigned. Each student is expected to take good lecture notes and to complete all reading assignments and view all supplementary videos for each module. 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

Cranshaw, W. (2004). *The Ultimate Guide to Backyard Bugs: Garden Insects of North America*. Princeton University Press.

This book can be purchased through *Amazon.com* or other online sources.

## STUDENT ASSIGNMENTS AND EXAMS

**Quizzes/Exams:** There will be 4 within semester subject assessment quizzes (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 may take a different exam 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 horticultural 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.

**Pest Profiles:** Each student will complete 12 pest profiles (15 points each) based on the textbook, including one “Beneficial Species” profile from Chapter 11. Instructions and dates due will be posted in Blackboard. Below is a breakdown of how many are required from each chapter:

1. Chapter 3: Three (3) pests
2. Chapter 4: One (1) pest
3. Chapter 5: One (1) pest
4. Chapter 6: Two (2) pests
5. Chapter 7: One (1) pest
6. Chapter 8: One (1) pest
7. Chapter 9: One (1) pest
8. Chapter 10: One (1) pest
9. Chapter 11: One (1) beneficial insect

**Extra Credit:** There will be a 5 point Extra Credit Assignment available to students who would like to take

advantage of it. It involves playing and evaluating a video game about IPM. More information is available on Blackboard under "Extra Credit."

### Point Breakdown

Assessment	Quantity	Points Per	Total Points
Mid-Semester Quizzes	4	50	200
Final Exam	1	100	100
Identification Quizzes	5	20	100
Pest Profiles	12	15	180
Total			<b>580 points</b>

Letter grades will be assigned based on straight percentages of 100 - 90% A range, 89 - 80% B ranges, etc. The department of entomology and the Office of Graduate Studies requires that graduate students 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: (I have not included dates for quizzes...I will post dates as soon as possible)**

### **Module 1: Biology, Management and Media**

Textbook: Read Chapters 1 and 2

- Topic 1 Introduction to horticultural settings and associated pests
- Topic 2 Insect biology and ecology (in relation to horticulture)
- Topic 3 Insect feeding and plant damage
- Topic 4 Integrated Pest Management overview
- Topic 5 Insect Identification
- Topic 6 Web resources and social media (twitter)

#### **Subject Quiz 1**

### **Module 2: Turf**

- Topic 1 Overview of Turf Pests
- Topic 2 Root feeders
- Topic 3 Stem feeders
- Topic 4 Foliage Feeders

#### **ID Quiz 1**

- Topic 5 Management of Turf Pests

#### **Subject Quiz 2**

### **Module 3: Horticultural crops**

- Topic 1 Pests of leguminous crops
- Topic 2 Pests of solanaceous crops
- Topic 3 Pests of cucurbitaceous crops
- Topic 4 Pests of cruciferous crops

#### **ID Quiz 2**

- Topic 5 Greenhouse and floral pests
- Topic 6 Pests of deciduous fruits
- Topic 7 Pests of nuts
- Topic 8 Miscellaneous

#### **ID Quiz 3**

- Topic 9 Management

#### **Subject Quiz 3**

### **Module 4: Landscape**

- Topic 1 Pests of trees and shrubs

#### **ID Quiz 4**

- Topic 2 Pests of landscape production/plantings
- Topic 3 Pests of floral production/plantings
- Topic 4 Miscellaneous

#### **ID Quiz 5**

- Topic 5 Management

#### **Subject Quiz 4**

### **Module 5: Wrapping it up**

- Topic 1 Insect pollinators
- Topic 2 Miscellaneous

**Comprehensive Final Exam...emailed to you April 29th....due May 6th**

#### **About the Discussion Board:**

I use the discussion board area of Blackboard frequently. On it I post scenarios, interesting articles or papers, and questions. Participation is not mandatory, but is definitely appreciated. However, exam questions may be generated from some of the discussion.

In addition, I will provide you with an open forum where you can ask questions, or chat with you peers.

#### **Additional Information:**

#### ***PLEDGE OF INSTRUCTIONAL STANDARDS***

*Entomology instructors will provide our students a complete syllabus meeting all UNL standards, our classes will be based on current science and will follow published schedules and descriptions, and our instructors will be timely in returning grades and in responding to our students.*

**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.*

*“Students are expected to adhere to guidelines concerning academic dishonesty as specified in Entomology policy (insert web link) in accordance with Section 4.2 of the University Student Code of Conduct (<http://stuafs.unl.edu/ja/code/>).”*