

Syllabus: Entomology 403/803
Management of Horticultural Crop Insects
Spring 2022

Instructor: Dr. Thomas J. Weissling (Tom)
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Office Hours. The best way to reach me is by email or text. If you text, just let me know who you are. If you call and I do not answer, leave a message and I will get back to you as soon as possible. You can always contact me to arrange a meeting.

Virtual office hours. I want to try this out. One hour a week, I will be available online (zoom) to answer any questions, or just chat. I don't know what the best day or time will be but let's at least start off scheduling this for 3 pm Central Time on Thursdays...starting January 20. I know this time won't work out for everyone...my apologies.

Spring 2022 Schedule

- There are 15 weeks of classes
- First Lecture: January 18
- Spring Break: March 13 – 20 (no lectures)
- Last Lecture: May 6
- Finals Week: May 9 - 13
- Final Exam: Available May 6, due May 12

If you ever need extra time to complete quizzes or exams, please let me know.

ABOUT THE COURSE

We 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 pest identification and biology, but we will also discuss 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

Canvas 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). Narrated MP4's will be used to deliver lectures, which will include text and images. 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 may be used to assess student comprehension of lecture and reading materials.

TEXTBOOKS

THERE ARE NO REQUIRED TEXT BOOKS.....readings or links to readings will be posted on Canvas. Suggested Reference: Cranshaw, W. & D. Shetlar. *The Ultimate Guide to Backyard Bugs: Garden Insects of North America*. 2nd Ed. This book can be purchased at Amazon.com or other online sources.

DISCUSSION BOARD

I sometimes use the discussion board on Canvas. On it I post scenarios, interesting articles or papers, and questions. Participation is not mandatory, but is definitely helpful. A few quiz questions may be generated from some of the discussion threads.

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

ASSESSMENTS

Weekly Quizzes: Every Friday, starting January 21 there will be a quiz. Quizzes are *open book* and will be due the Wednesday after you receive them. Quizzes should be returned to me by e-mail attachment or via the Canvas assignment drop**. Each quiz will cover that week's lecture, reading, and class discussion materials. There will not be a quiz during Spring Break or the last week (week 15). Each quiz is worth 50 points. Question format may include true/false, written definitions, short answer, multiple choice, matching, essay, or fill in the blank. Graduate and undergraduate students may have different quizzes.

** If I have time to figure it out, some of your quizzes may be posted on, and taken in canvas

Throughout the course, we will discuss the importance of proper identification of horticultural pests. Therefore, insect identification questions will also be included in some of the weekly quizzes. Identifications will be made to family level at the minimum, and in some cases, you will be asked to ID to genus and species...or at least common name.

Quiz Schedule.

Quiz (Week)	Date Available	Date Due
1	Jan. 21	Jan. 26
2	Jan. 28	Feb. 2
3	Feb. 4	Feb. 9
4	Feb. 11	Feb. 16
5	Feb. 18	Feb. 23
6	Feb. 25	March 2
7	March 4	March 9
8**	March 11	March 23
9	March 25	March 30
10	April 1	April 6
11	April 8	April 13
12	April 15	April 20

13	April 22	April 27
14	April 29	May 4

Pest Profile: By week 4, you will choose an insect or closely related arthropod of horticultural importance from a list that I will provide. For the insect you choose, you will gather the following information: identifying characteristics for the adult and immature, description of damage it does to plants (if any), a summary of its life cycle, procedures for assessing (sampling) populations, economic thresholds (if any), and discussion of feasible management methods/control measures. You will compile the information into a detailed pest profile. The profile should be written with public education in mind. A video segment may be created instead of a written summary. The profile is worth 100 points and is due by April 18. I will provide further instruction on Canvas.

Exam: There will be one exam...a comprehensive final. Question formats will include multiple choice, definitions, matching, true/false, short answer and essays. Some of the questions may require online research. *Undergraduate students will be taking a different exam than graduate students.* The final exam will be *open book*, and worth 100 points. You will have 6 days to complete. The exam should be returned by email or through Canvas.

The final will be available May 6 and due May 12

Point Breakdown

Assessment	Quantity	Points Per	Total Points
Weekly Quizzes	14	50	700
Final Exam	1	100	100
Pest Profile	1	100	100
Total			900 points

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.

GRADING SCALE

Grade	Scale (%)	Grade	Scale (%)	Grade	Scale (%)
A+	97.5 - 100	C+	77.5 – 79.9	F	59.9 or less
A	92.5 – 97.4	C	72.5 – 77.4		
A-	90 – 92.4	C-	70 – 72.4		
B+	87.5 – 89.9	D+	67.5 – 69.9		
B	82.5 – 87.4	D	62.5 – 67.4		
B-	80 – 82.4	D-	60 – 62.4		

Lecture topics. There may be some minor adjustments along the way. Print this page and keep it close by.

Check canvas announcements for weekly topics

Week	Lecture Topic
1	Course Overview
	Introduction to horticultural settings and associated pests
	Insect biology and ecology (in relation to horticulture)
	Insect mouthparts and plant feeding
2	Signs and symptoms: 3 lectures...I think
3	Insect Identification
	Web resources and social media
	Overview of pest profiles, picking your pests, library searches and citations
4	Integrated Pest Management (IPM) Overview Parts 1 - 3
Turf Pests	
5	Overview of Turf Pests
	Root feeders Parts 1 - 2
	Stem feeders
6	Foliage feeders
	Surface disruptors and misc. turf pests
	Management of turf pests
Horticultural Crop Pests	
7	Pests of leguminous crops Parts 1 - 2
	Pests of solanaceous crops Part 1
8	Pests of solanaceous crops Part 2
	Pests of cucurbitaceous crops
	Pests of cruciferous crops
9	Pests of umbellifers
	Pests of corn
	Greenhouse pests Part 1
10	Greenhouse pests Part 2
	Pests of fruit and nut trees Parts 1 - 2
11	Pests of vineyards
	Cannabis pests
	Management of horticultural crop pests
Landscape Pests	
12	Pests of trees and shrubs Parts 1 - 2
	Invasive tree pests
13	Pests of landscapes...and management
	Household Invaders (from the landscape)
	Pests of Water Landscapes (short lecture)
Odds and Ends	
14	Spotted Wing Drosophila
	Miscellaneous and non-arthropod pests
	Pests of sunflowers (if time)
15	Planting for conservation
	Insect pollinators

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 the Services for Students with Disabilities (SSD) office 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)

ACADEMIC HONESTY

Students are expected to adhere to guidelines concerning academic dishonesty as specified in Entomology's Academic Integrity Policy (<http://entomology.unl.edu/dishonesty.shtml>). As a student at UNL, you enjoy rights and protections under the student code of conduct (<http://stuafs.unl.edu/dos/code>) and are obligated to conduct yourself in compliance with the code. Academic dishonesty can involve cheating; fabrication or falsification of information; plagiarism; or misrepresenting illness, injury, accident, etc., to avoid and/or delay an examination/quiz or the timely submission of academic work and assignments. Disciplinary action imposed may range from a warning (written or oral) to assigning the student a final course grade of F for the semester. The instructor may choose to assign zero or partial credit for a specific assignment, quiz, examination or written report in which academic dishonesty was involved.

If a student wishes to appeal a claim of academic dishonesty, the following process must be followed. First, the student must submit a written appeal to the instructor of the course and state their reason(s) for appealing. If this student appeal cannot be resolved with the course instructor, then the student must immediately submit their appeal statement within seven days to the Department's Curriculum Committee for their recommendation. If a satisfactory solution to this appeal is still not reached with the Department Curriculum Committee, the student's written appeal will then be forwarded to the Department Head. If a satisfactory solution is still not achieved at the Department Head level, the student may then submit their written appeal statement to the College of Agricultural Sciences and Natural Resources (CASNR) Dean's Office. The appeal process for the College of Agricultural Sciences and Natural Resources will then be followed as outlined by the College.

Students are encouraged to contact the instructor for clarification of these guidelines if they have questions or concerns

COUNSELING AND PSYCHOLOGICAL SERVICES.

UNL offers a variety of options to students to aid them in dealing with stress and adversity. [Counseling and Psychological & Services](#) (CAPS) is a multidisciplinary team of psychologists and counselors that works collaboratively with Nebraska students to help them explore their feelings and thoughts and learn helpful ways to improve their mental, psychological and emotional well-being when issues arise. CAPS can be reached by calling 402-472-7450. [Big Red Resilience & Well-Being](#) provides one-on-one well-being coaching to any student who wants to enhance their well-being. Trained well-being coaches help students create and be grateful for positive experiences, practice resilience and self-compassion, and find support as they need it. BRRWB can be reached by calling 402-472-8770.

DIVERSITY AND INCLUSION.

The University of Nebraska-Lincoln does not discriminate on the basis of race, ethnicity, color, national origin, sex (including pregnancy), religion, age, disability, sexual orientation, gender identity, genetic information, veteran status, marital status, and/or political affiliation.

FACE COVERINGS STATEMENT.

As of July 17, 2020 and until further notice, all University of Nebraska–Lincoln (UNL) faculty, staff, students, and visitors (including contractors, service providers, and others) are required to use a facial covering at all times when indoors except under specific conditions outlined in the COVID 19 face covering policy found at: <https://covid19.unl.edu/face-covering-policy>. This statement is meant to clarify classroom policies for face coverings:

To protect the health and well-being of the University and wider community, UNL has implemented a policy requiring all people, including students, faculty, and staff, to wear a face covering that covers the mouth and nose while on campus. The classroom is a community, and as a community, we seek to maintain the health and safety of all members by wearing face coverings when in the classroom. Failure to comply with this policy is interpreted as a disruption of the classroom and may be a violation of UNL's Student Code of Conduct.

Individuals who have health or medical reasons for not wearing face coverings should work with the Office of Services for Students with Disabilities (for students) or the Office of Faculty/Staff Disability Services (for faculty and staff) to establish accommodations to address the health concern. Students who prefer not to wear a face covering should work with their advisor to arrange a fully online course schedule that does not require their presence on campus.

Students in the classroom:

1. If a student is not properly wearing a face covering, the instructor will remind the student of the policy and ask them to comply with it.
2. If the student will not comply with the face covering policy, the instructor will ask the student to leave the classroom, and the student may only return when they are properly wearing a face covering.
3. If the student refuses to properly wear a face covering or leave the classroom, the instructor will dismiss the class and will report the student to Student Conduct & Community Standards for misconduct, where the student will be subject to disciplinary action.

Instructors in the classroom:

1. If an instructor is not properly wearing a face covering, students will remind the instructor of the policy and ask them to comply with it.
2. If an instructor will not properly wear a face covering, students may leave the classroom and should report the misconduct to the department chair or via the TIPS system for disciplinary action through faculty governance processes.

*Courses that have been granted an exception to the Face Covering Policy for pedagogical reasons are excluded. Exceptions to the Face Covering Policy are only granted after an approved health safety plan is developed.

INFORMATION FOR EMERGENCY RESPONSES: Fire Alarm (or other evacuation)

In the event of a fire alarm: Gather belongings (Purse, keys, cellphone, N-Card, etc.) and use the nearest exit to leave the building. Do not use the elevators. After exiting notify emergency personnel of the location of persons unable to exit the building. Do not return to building unless told to do so by emergency personnel.

Tornado Warning: When sirens sound, move to the lowest interior area of building or designated shelter. Stay away from windows and stay near an inside wall when possible.

Active Shooter Evacuate: if there is a safe escape path, leave belongings behind, keep hands visible and follow police officer instructions. **Hide out:** If evacuation is impossible secure yourself in your space by turning out lights, closing blinds and barricading doors if possible. **Take action:** As a last resort, and only when your life is in imminent danger, attempt to disrupt and/or incapacitate the active shooter.

UNL Alert: Notifications about serious incidents on campus are sent via text message, email, unl.edu website, and social media. For more information go to: <http://unlalert.unl.edu>.

*Additional Emergency Procedures can be found here:
http://emergency.unl.edu/doc/Emergency_Procedures_Quicklist.pdf*

INCLEMENT WEATHER POLICY

Online courses will continue as scheduled, but if you are having problems with internet access because of inclement weather, please let me know when you can.

<https://bf.unl.edu/policies/inclement-weather>