

# SYLLABUS

# ENTMLGY 4601

General Insect Pest Management

Autumn 2023 (full term)

2 credit hours

Hybrid

## COURSE OVERVIEW

### Instructor

Instructor: Dr. Ellen Klinger

Email address: [klinger.80@osu.edu](mailto:klinger.80@osu.edu) (preferred contact method)

Office: Kottman Hall 255

Office hours: by appointment for either in person or zoom meeting; e-mail or use my [bookings link](#)

### Graduate Teaching Assistant

Instructor: Brooke Donzelli

Email address: [donzelli.3@buckeyemail.osu.edu](mailto:donzelli.3@buckeyemail.osu.edu)

Office hours: Virtual, e-mail instructor to arrange appointment

### Prerequisites

ENTMLGY 1101, 1111, 3000, 4000, or 4600.

### Course description

An exploration of insect pests that affect crops, landscapes, public health, and domestic animals, and the biological, cultural, and chemical tactics used to manage them. Content includes: strategies and tactics of pest management; biological control; chemical control

by insecticides; behavioral control; cultural, mechanical, physical controls; host plant resistance; regulatory and genetic controls; pest monitoring; decision making in pest management; combined tactics used in managing medical and veterinary pests, structural and nuisance pests, pests of grain and forage crops, vegetable and fruit crops, greenhouse crops, turfgrass, and landscape plants. Pest management tactics emphasized will be those that have historical value, demonstrate new approaches, or are a proven success.

## Course learning outcomes

By the end of this course, students should successfully be able to:

- Explain the advantages and disadvantages of a range of pest management tactics including biological, cultural, mechanical, and chemical approaches.
- Students will explain how tactics are combined to manage multiple pests in representative ecosystems.
- Students will describe common methods used for monitoring pests and explain how monitoring information is used to make pest management decisions.
- Students will identify common insect pests and diagnose common pest problems.
- Students will describe ways to find information about pest identification and management

## HOW THIS HYBRID COURSE WORKS

**Mode of delivery:** Lectures and some supplementary materials for this course are online. All online material is asynchronous. Laboratory activities will take place in person. Lecture exams and quizzes will take place online; lab exams and quizzes will take place in person.

**Pace of online activities:** This course is divided into **weekly modules** that are released on Wednesdays. All lectures and select lab activities (as indicated on the syllabus) will include materials that are asynchronous and will be due after one week (the following Wednesday; 11:59PM). For this self-paced material, students are expected to keep pace with weekly deadlines but may schedule their efforts freely within that time frame.

**Pace of in-person activities:** Lab activities will include in-person experiments, observations and demonstrations. There will be maintenance of one of these experiments outside of the designated lab period. Any laboratory worksheets will be turned in virtually via Carmen and will have clear due dates.

All weekly activities (in person and online) will be accompanied by a **weekly overview** module page on Carmen, clearly outlining the expectations for students. This page will include links to all quizzes and assignment submission pages. This page is a good way for students to gauge their expected workload for the week.

**Credit hours and work expectations:** This is a **2-credit-hour course**. According to Ohio State policy ([go.osu.edu/credithours](http://go.osu.edu/credithours)), students should expect around 3 hours per week of time spent on direct instruction (Approximately 1 hour for lecture material and 2 hours on lab material in addition to 3 hours of homework (reading and assignment preparation, for example) to receive a grade of (C) average.

**Attendance and participation requirements:** Because this is a hybrid course, your attendance is based on your online activity and in-person participation. The following is a summary of students' *expected* participation:

- **Participating in online activities for attendance: AT LEAST ONCE PER WEEK**  
You are expected to log in to the course in Carmen every week. (During most weeks you will probably log in many times.) If you have a situation that might cause you to miss an entire week of class, discuss it with me *as soon as possible*.
- **Attendance at lab: 1-2 TIMES PER WEEK**  
You are expected to be present at each in-person laboratory session. Occasionally you may be required to do some additional in-person work (attend to experiments), and any additional work will be arranged with the students.
- **Office hours and live sessions: OPTIONAL**  
The instructor will host office hours by student appointment. During this time, students may ask for clarification of course material, or the instructor may review certain concepts or topics. Attendance to office hours is optional.

## COURSE MATERIALS AND TECHNOLOGIES

### Textbooks

#### Recommended/optional

The following books are great resources and can be valuable resources for students interested in IPM. Material from these texts may enhance learning during the class, but these texts are not required for this class.

- Radcliffe's IPM World Textbook (on-line): <https://ipmworld.umn.edu/>
- Flint M. L. and Gouveia P. 2001. IPM in Practice: Principles and Methods of Integrated Pest Management. University of California, Statewide Integrated Pest Management Project, Publication 3418. Oakland, California.
- Pfadt, Robert E. 1998. Fundamentals of Applied Entomology. 4<sup>th</sup> Edition. Prentice Hall, 742 pp.
- Metcalf, Robert L., and Robert A. Metcalf. 1993. Destructive and Useful Insects, Their Habits and control, 5<sup>th</sup> edition. McGraw-Hill, Inc.
- Pedigo, Larry P, and Rice, M. 2008. Entomology and Pest Management (6th edition). Prentice Hall. 784 pp.

# Course technology

## Technology support

For help with your password, university email, Carmen, or any other technology issues, questions, or requests, contact the Ohio State IT Service Desk. Standard support hours are available at [ocio.osu.edu/help/hours](https://ocio.osu.edu/help/hours), and support for urgent issues is available 24/7.

- **Self-Service and Chat support:** [ocio.osu.edu/help](https://ocio.osu.edu/help)
- **Phone:** 614-688-4357(HELP)
- **Email:** [servicedesk@osu.edu](mailto:servicedesk@osu.edu)
- **TDD:** 614-688-8743

## Technology skills needed for this course

- Basic computer and web-browsing skills
- Navigating Carmen ([go.osu.edu/canvasstudent](https://go.osu.edu/canvasstudent))
- CarmenZoom virtual meetings ([go.osu.edu/zoom-meetings](https://go.osu.edu/zoom-meetings))
- Recording a slide presentation with audio narration ([go.osu.edu/video-assignment-guide](https://go.osu.edu/video-assignment-guide))
- Recording, editing, and uploading video ([go.osu.edu/video-assignment-guide](https://go.osu.edu/video-assignment-guide))

## Required equipment

- Computer: current Mac (MacOs) or PC (Windows 10) with high-speed internet connection
- Webcam: built-in or external webcam, fully installed and tested
- Microphone: built-in laptop or tablet mic or external microphone
- Other: a mobile device (smartphone or tablet) to use for BuckeyePass authentication

## Required software

- Microsoft Office 365: All Ohio State students are now eligible for free Microsoft Office 365. Full instructions for downloading and installation can be found at [go.osu.edu/office365help](https://go.osu.edu/office365help).

## Carmen access

Instructors will give all communication to via CarmenCanvas (referred in this syllabus as Carmen). It is highly recommended that you log into Carmen multiple times in a week, or to allow forwarding of Carmen announcements to your e-mail.

You will need to use BuckeyePass ([buckeyepass.osu.edu](https://buckeyepass.osu.edu)) multi-factor authentication to access your courses in Carmen. To ensure that you are able to connect to Carmen at all times, it is recommended that you take the following steps:

- Register multiple devices in case something happens to your primary device. Visit the BuckeyePass - Adding a Device help article for step-by-step instructions ([go.osu.edu/add-device](https://go.osu.edu/add-device)).
- Request passcodes to keep as a backup authentication option. When you see the Duo login screen on your computer, click **Enter a Passcode** and then click the **Text me new codes** button that appears. This will text you ten passcodes good for 365 days that can each be used once.

Download the Duo Mobile application ([go.osu.edu/install-duo](https://go.osu.edu/install-duo)) to all of your registered devices for the ability to generate one-time codes in the event that you lose cell, data, or Wi-Fi service

## Delivery of online material

- Lecture videos will be available in both streaming and downloadable formats. In addition, upon request, students may have full written transcripts provided.
- Worksheets and other written materials will be available in both .docx and .pdf versions. If a student requires another format, they should contact the instructor.
- Online images will be used frequently in this class. If a student requires downloadable pictures, they will be made available as requested by the student.

If none of these options will meet the needs of your situation, you can contact the IT Service Desk at 614-688-4357(HELP) and IT support staff will work out a solution with you.

# GRADING AND FACULTY RESPONSE

## How your grade is calculated

Grades will be calculated based on the assignments below:

ASSIGNMENT CATEGORY	POINTS	PERCENT OF GRADE (APPROXIMATE)
Lecture Quizzes (10 points each)	170	21%
Worksheets (20 points each)	120	15%
Lab assignments (20 points each)	120	15%
User Group Discussion	10	1%
Lab Quizzes (10 points each)	80	10%
IPM Project plan	70	9%
Lab final	50	6%
Midterm	80	10%
Final	100	13%
Total	<b>800</b>	<b>100%</b>

*See course schedule below for due dates.*

## Descriptions of major course assignments

### Lecture Quizzes

**Description:** Lecture quizzes are placed in weekly modules and are taken through Carmen. Students are expected to take quizzes each week, and quizzes will be closed after each weekly due date. Quizzes will be timed, and students should review their notes before starting the quiz.

**Academic integrity and collaboration:** Students may take these quizzes open book. Each student can take the quiz 2 times. The highest score will be recorded. Students must not take quizzes with another student.

## Worksheets

**Description:** Worksheets will be assigned to students throughout the semester. In most cases, students will work through the material on the sheet and complete answers. All worksheets will be turned in via Carmen assignments.

**Academic integrity and collaboration:** Student should refrain from working in groups on these assignments. The exception is group work reviewed with the instructor during optional weekly office hours or during labs.

## Lab assignments

**Description:** Some laboratory components will have corresponding worksheets. These worksheets require students to use information gained from and reflect upon experiences in the laboratory component of this class. All worksheets will be turned in via Carmen assignments.

**Academic integrity and collaboration:** Your instructor will direct you when the lab is assigned if you may work with others. If group work is allowed, the instructor will give you parameters as to how students should interact and delineate a clear method of communication between students.

## User Group Discussion

**Description:** Students will engage in a debate regarding insect management practices from the viewpoints of a specific user group. These groups will be determined by your instructor and class time will be given to prepare your group's viewpoint about a topic. Your grade for this assignment will reflect your participation in your group's discussion as well as in a reflection you submit on Canvas. Before the discussion you will receive a rubric to help you understand what constitutes good participation.

**Academic integrity and collaboration:** You will prepare your material with a group, so students are expected to collaborate and work together on this project. Books and notes are allowed while preparing.

## Lab ID quizzes

**Description:** In real life, entomologists need to sight identify insects while in the field. Insect identification quizzes will be given for the student to demonstrate that they can correctly identify pest insects and give basic descriptive characteristics. These identifications will be from actual insects or from high quality insect photos. The instructors will give students an abbreviated species list to study from.

**Academic integrity and collaboration:** These quizzes are given during lab time and are in-person and closed book.

## IPM project plan

**Description:** Students will investigate and complete scientific research on key pests and beneficial insects of a self-chosen crop or system. Skills and data to conduct this research will be gained from prior class worksheets. After completing the research, students will answer some questions on potential IPM future actions in their theoretical system.

**Academic integrity and collaboration:** Each student is expected to choose a unique system. Students are not prohibited from discussing their assignment with each other, but students should turn in their own work, even if they share pest or beneficial insects with another system.

## Laboratory Final

**Description:** This laboratory final will cumulatively assess the knowledge you have gained from worksheets, lab experiments and insect identification.

**Academic integrity and collaboration:** This exam will simulate a real-world experience using an “escape room” style exam. Students will work in groups together to solve issues. Part of your grade will be dependent on your group meeting certain benchmarks, the remainder of the grade will be based on individual answers you submit at the end of the class period.

## Midterm and Final exams

**Description:** Midterm and final exams will assess student learning in lectures and supplemental readings. Any material from laboratory or worksheet activities that will be tested on the exam will be clearly indicated to the student two weeks before the exam. A portion (20 points) of the Final Exam will cover cumulative lecture material.

**Academic integrity and collaboration:** These tests will be two parts: one part is composed of multiple choice, short answer and fill in the blank questions. This part will be timed and administered via Carmen. They are open book, but due to the nature of the timed exam, student will need to have immediate recall of topics. The second part will be composed of short or long answers and will be take home. Notes and references will be allowed on this part of the exams. Students must not work together on these exams.



## Late assignments

Late submissions will be subject to a 10% point reduction per 24 hour period they are late, without an excused absence (see Absence policy). If there is a circumstance that will prohibit you from completing an assignment on time, notify your instructor as soon as possible.

## Absence policy

You are expected to attend all in-person labs. Absences from the online class portion are designated as an event that causes a student to be unable to complete weekly module materials (lecture quizzes, lab quizzes, worksheets) within the designated week time frame. It is the student's responsibility to inform the instructor for reasons for an excused absence from the in-person lab or online portion of the class as soon as possible. Legitimate excused absences include the following: participation in an activity of an official University organization, verifiable illness (see below), verifiable family emergencies, subpoenas, jury duty, military service, and professional development (e.g., grad school visits). It is the student's responsibility to notify the instructor of any expected, excused absence as far in advance as possible.

A verifiable illness is an absence due to illness that is accompanied by a note or documentation by a qualified medical individual. The instructor will not require note from a medical individual until the **second** (does not have to be sequential) absence due to illness, or illness of a student's family member, **with the exception** of a student's inability to complete a midterm, final exam or lab final on time. If a student is unable to take an exam within the exam window, the instructor may require the student to provide documentation of the illness regardless of the student's prior attendance in the class, even if it is their first absence. Students who miss a lab for an excused reason will need to make up the missed work. Your instructor will provide direction on how to do this.

Unexcused absences will result in a depreciation of any assigned materials from that class session or online week by 50%.

## Grading scale

93–100: A  
90–92.9: A-  
87–89.9: B+  
83–86.9: B  
80–82.9: B-  
77–79.9: C+  
73–76.9: C

70–72.9: C-  
 67–69.9: D+  
 60–66.9: D  
 Below 60: E

## Instructor feedback and response time

I am providing the following list to give you an idea of my intended availability throughout the course. (Remember that you can call **614-688-4357(HELP)** at any time if you have a technical problem.)

- **Grading and feedback:** For large weekly assignments, you can generally expect feedback within **7 days**.
- **Email:** I will reply to emails within **24 hours on weekdays (M-F)**.

## OTHER COURSE POLICIES

### Academic misconduct / integrity policy

See **Descriptions of major course assignments**, above, for my specific guidelines about collaboration and academic integrity in the context of this online class.

#### Ohio State's academic integrity policy

Academic integrity is essential to maintaining an environment that fosters excellence in teaching, research, and other educational and scholarly activities. Thus, The Ohio State University and the Committee on Academic Misconduct (COAM) expect that all students have read and understand the University's Code of Student Conduct, and that all students will complete all academic and scholarly assignments with fairness and honesty. Students must recognize that failure to follow the rules and guidelines established in the University's Code of Student Conduct and this syllabus may constitute Academic Misconduct.

The Ohio State University's Code of Student Conduct (Section 3335-23-04) defines academic misconduct as: Any activity that tends to compromise the academic integrity of the University, or subvert the educational process. Examples of academic misconduct include (but are not limited to) plagiarism, collusion (unauthorized collaboration), copying the work of another student, and possession of unauthorized materials during an examination. Ignorance of the University's Code of Student Conduct is never considered an excuse for academic misconduct, so I recommend that you review the Code of Student Conduct and, specifically, the sections dealing with academic misconduct.

If I suspect that a student has committed academic misconduct in this course, I am obligated by University Rules to report my suspicions to the Committee on Academic Misconduct. If COAM determines that you have violated the University's Code of Student Conduct (i.e., committed academic misconduct), the sanctions for the misconduct could include a failing grade in this course and suspension or dismissal from the University.

If you have any questions about the above policy or what constitutes academic misconduct in this course, please contact me.

## **Copyright for instructional materials**

The materials used in connection with this course may be subject to copyright protection and are only for the use of students officially enrolled in the course for the educational purposes associated with the course. Copyright law must be considered before copying, retaining, or disseminating materials outside of the course.

## **Creating an environment free from harassment, discrimination and sexual misconduct.**

The Ohio State University is committed to building and maintaining a community to reflect diversity and to improve opportunities for all. All Buckeyes have the right to be free from harassment, discrimination, and sexual misconduct. Ohio State does not discriminate based on age, ancestry, color, disability, ethnicity, gender, gender identity or expression, genetic information, HIV/AIDS status, military status, national origin, pregnancy (childbirth, false pregnancy, termination of pregnancy, or recovery therefrom), race, religion, sex, sexual orientation, or protected veteran status, or any other bases under the law, in its activities, academic programs, admission, and employment. Members of the university community also have the right to be free from all forms of sexual misconduct: sexual harassment, sexual assault, relationship violence, stalking, and sexual exploitation.

To report harassment, discrimination, sexual misconduct, or retaliation and/or seek confidential and non-confidential resources and supportive measures, contact the Office of Institutional Equity:

1. Online reporting form at [equity.osu.edu](http://equity.osu.edu),
2. Call 614-247-5838 or TTY 614-688-8605,
3. Or Email [equity@osu.edu](mailto:equity@osu.edu)

The university is committed to stopping sexual misconduct, preventing its recurrence, eliminating any hostile environment, and remedying its discriminatory effects. All university employees have reporting responsibilities to the Office of Institutional Equity to ensure the university can take appropriate action:

- All university employees, except those exempted by legal privilege of confidentiality or expressly identified as a confidential reporter, have an obligation to report incidents of sexual assault immediately.
- The following employees have an obligation to report all other forms of sexual misconduct as soon as practicable but at most within five workdays of becoming aware of such information: 1. Any human resource professional (HRP); 2. Anyone who supervises faculty, staff, students, or volunteers; 3. Chair/director; and 4. Faculty member.

## Diversity Statement

The Ohio State University affirms the importance and value of diversity of people and ideas. We believe in creating equitable research opportunities for all students and to providing programs and curricula that allow our students to understand critical societal challenges from diverse perspectives and aspire to use research to promote sustainable solutions for all. We are committed to maintaining an inclusive community that recognizes and values the inherent worth and dignity of every person; fosters sensitivity, understanding, and mutual respect among all members; and encourages each individual to strive to reach their own potential. The Ohio State University does not discriminate on the basis of age, ancestry, color, disability, gender identity or expression, genetic information, HIV/AIDS status, military status, national origin, race, religion, sex, gender, sexual orientation, pregnancy, protected veteran status, or any other bases under the law, in its activities, academic programs, admission, and employment.

To learn more about diversity, equity, and inclusion and for opportunities to get involved, please visit:

- <https://odi.osu.edu/>
- <https://odi.osu.edu/racial-justice-resources>
- <https://odi.osu.edu/focus-on-racial-justice>
- <https://cbasc.osu.edu/>

In addition, this course adheres to **The Principles of Community** adopted by the College of Food, Agricultural, and Environmental Sciences. These principles are located on the Carmen site for this course; and can also be found at <https://go.osu.edu/principlesofcommunity>. For additional information on Diversity, Equity, and Inclusion in CFAES, contact the CFAES Office

for Diversity, Equity, and Inclusion (<https://equityandinclusion.cfaes.ohio-state.edu/>). If you have been a victim of or a witness to harassment or discrimination or a bias incident, you can report it online and anonymously (if you choose) at <https://equity.osu.edu/>.

## **Counseling and consultation services / mental health**

As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance or reduce a student's ability to participate in daily activities. The Ohio State University offers services to assist you with addressing these and other concerns you may be experiencing.

If you or someone you know are suffering from any of the aforementioned conditions, you can learn more about the broad range of confidential mental health services available on campus via the Office of Student Life's Counseling and Consultation Service (CCS) by visiting [ccs.osu.edu](https://ccs.osu.edu) or calling 614-292-5766. CCS is located on the 4th Floor of the Younkin Success Center and 10th Floor of Lincoln Tower. You can reach an on-call counselor when CCS is closed at 614-292-5766 and 24 hour emergency help is also available 24/7 by dialing 988 to reach the Suicide and Crisis Lifeline.

For students in the College of Food, Agricultural, and Environmental Sciences, David Wirt, [wirt.9@osu.edu](mailto:wirt.9@osu.edu), is the CFAES embedded mental health counselor on the Columbus campus. To contact David, please call 614-292-5766. Students should mention their affiliation with CFAES if interested in speaking directly with David.

## **Religious Accommodations**

Our inclusive environment allows for religious expression. Students requesting accommodations based on faith, religious or a spiritual belief system in regard to examinations, other academic requirements or absences, are required to provide the instructor with written notice of specific dates for which the student requests alternative accommodations at the earliest possible date. For more information about religious accommodations at Ohio State, visit [odi.osu.edu/religious-accommodations](https://odi.osu.edu/religious-accommodations).

## **Safe and Healthy Buckeyes**

Health and safety requirements: All students, faculty and staff are required to comply with and stay up to date on all university safety and health guidance (<https://safeandhealthy.osu.edu>).

Non-compliance will result in a warning first, and disciplinary actions will be taken for repeated offenses.

## **Weather or short-term closing**

Should in-person classes be canceled, I will notify you as to which alternative methods of teaching will be offered to ensure continuity of instruction for this class. Communication will be via an announcement on Carmen Canvas.

## **ACCESSIBILITY ACCOMMODATIONS FOR STUDENTS WITH DISABILITIES**

### **Requesting accommodations**

The university strives to make all learning experiences as accessible as possible. In light of the current pandemic, students seeking to request COVID-related accommodations may do so through the university's request process, managed by Student Life Disability Services. If you anticipate or experience academic barriers based on your disability (including mental health, chronic, or temporary medical conditions), please let me know immediately so that we can privately discuss options. To establish reasonable accommodations, I may request that you register with Student Life Disability Services. After registration, make arrangements with me as soon as possible to discuss your accommodations so that they may be implemented in a timely fashion. SLDS contact information: [slds@osu.edu](mailto:slds@osu.edu); 614-292-3307; [slds.osu.edu](http://slds.osu.edu); 098 Baker Hall, 113 W. 12th Avenue.

In addition, please feel free to discuss class performance or your ability to complete a class task with your instructor. My priority is to facilitate a positive learning environment. Do not hesitate to e-mail me ([klinger.80@osu.edu](mailto:klinger.80@osu.edu)) if you have questions or concerns.

## Accessibility of course technology

This online course requires use of CarmenCanvas (Ohio State's learning management system) and other online communication and multimedia tools. If you need additional services to use these technologies, please request accommodations with your instructor.

- Canvas accessibility ([go.osu.edu/canvas-accessibility](https://go.osu.edu/canvas-accessibility))
- Streaming audio and video
- CarmenZoom accessibility ([go.osu.edu/zoom-accessibility](https://go.osu.edu/zoom-accessibility))
- Collaborative course tools

## COURSE SCHEDULE

Refer to the Carmen course for up-to-date assignment due dates (next page).



Week/ Module	Week starting with	Lecture Topic ( <i>Recorded lectures posted on Carmen; asynchronous</i> )	Lab Activities <u>In-person</u> Thursday afternoons	Assignments due	Weekly due dates
1	8/22/23 (Tue)	1. Introduction to insect pest management	Lab 1: Review identification of 15 insect orders  Lab 2: Review identification of arthropod classes	Syllabus Quiz Lecture Quiz 1	Wed. 8/30; 11:59 pm
2	8/28/23	2. Cultural, mechanical & physical controls	Lab 3: Identification of immature insects Lab 4: Identifying insect damage  <i>Intro to IPM project</i>	Lecture Quiz 2  ID Quiz 1 (orders and arthropod classes)	Wed. 9/6; 11:59 pm
3	9/5/23 (Tue)	3. Biological control  4. Behavioral control	Outdoor sampling techniques- Meet at Waterman farm (location subject to change)	Lecture Quiz 3 Lecture Quiz 4  W1: Worksheet on ag stats & crop profiles  Crop selection for IPM project due	Wed. 9/13 11:59 pm
4	9/11/23	5. Chemical control by insecticides	Lab 5A: Lacewing predation exercise, part 1: count eggs  Lab 6: Identification of natural enemies	Lecture Quiz 5  ID Quiz 2 (immatures)  W2: Worksheet on journal articles	Wed. 9/20 11:59 pm



Week/ Module	Week starting with (material available on Carmen earlier)	Lecture Topic (Recorded lectures posted on Carmen; asynchronous)	Lab Activities In-person Thursday afternoons	Quizzes/Exams (other than lecture quizzes)	Weekly due dates
5	9/18/23	6. Host plant resistance  7. Regulatory and genetic controls & eradication	Lab 7: Identification of vegetable crop pests  Lab 8: Microbial control	Lecture Quiz 6 Lecture Quiz 7  ID Quiz 3 (Natural Enemies)  W3: Worksheet on toxicity	Wed. 9/27 11:59 pm
6	9/25/23	8. Insect pest monitoring	Lab 5C: Lacewing predation exercise  Lab 9: Identification of stored product pests  Lab 10: Bioassays with insects	Lecture Quiz 8  <b>MID-TERM EXAM</b> (lectures #1-7)  ID Quiz 4 (Vegetable pests)  LW1: Lacewing predation	Wed. 10/4 11:59 pm
7	10/2/23	9. Decision making in pest management	Lab 11: Insecticide bioassay exercise	Lecture Quiz 9  ID Quiz 5 (Stored Product Pests)  W4: Worksheet insecticide labels	Wed. 10/11 11:59 pm
8	10/9/23	10. Managing pests of grain & forage crops	NO LAB: FALL BREAK	Lecture Quiz 10  W5: Worksheet on trap trends	Wed. 10/18 11:59 pm

Week/ Module	Week starting with (material available on Carmen earlier)	Lecture Topic (Recorded lectures posted on Carmen; asynchronous)	Lab Activities In-person Thursday afternoons	Quizzes/Exams (other than lecture quizzes)	Weekly due dates
<b>9</b>	10/16/23	11. Managing pests of humans & domestic animals	Lab 12: Sprayer calibration exercise  Lab 13: Identification of grain & forage crop pests	Lecture Quiz 11  W6: Worksheet on thresholds  LW2: Insecticide Bioassay  6 references due for IPM project	Wed. 10/25 11:59 pm
<b>10</b>	10/23/23	12. Managing pests of urban ornamental plants & turfgrass  13. Managing pests of greenhouses	Lab 14: Identification of medical & veterinary pests  Lab 15: Parasitoid exercise  Lab 16A: Position traps for monitoring exercise in greenhouse	Lecture Quiz 12 Lecture Quiz 13  ID Quiz 6 (grain and forage)  LW3: Sprayer calibrations LW4: Worksheet on rate calculations	Wed. 11/1 11:59 pm
<b>11</b>	10/30/23	14. Managing termites in structures	Lab 17: Identification of turfgrass pests Lab 18: Identification of greenhouse pests Lab 19: Identification of tree pests	Lecture quiz 14  ID Quiz 7 (Med/Vet)  LW5: Parasitoid exercise worksheet	Wed 11/8 11:59 pm
<b>12</b>	11/6/23	15. Managing pests of vegetable & fruit crops  16. Pest management in organic systems	Lab 20: Identification of structural & nuisance pests Lab 21: termite pheromone demonstration Lab 16B: Scouting & trapping exercise in greenhouse, part 2	Lecture Quiz 15 Lecture Quiz 16  ID Quiz 8- (turfgrass and tree pests)	Wed. 11/15 11:59 pm

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Week/ Module	Week starting with (material available on Carmen earlier)	Lecture Topic (Recorded lectures posted on Carmen; asynchronous)	Lab Activities In-person Thursday afternoons	Quizzes/Exams (other than lecture quizzes)	Weekly due dates
<b>13</b>	11/13/23	17. The future of pest management	Lab 22: Identification of fruit crop pests  User Group Debate	Lecture Quiz 17	Tue. 11/21* 11:59 pm *T-giving holiday
<b>14</b>	11/20/23	Thanksgiving week- no assignments this week.			
<b>15</b>	11/27/23	Review sessions as needed	<b>LAB PRACTICAL EXAM</b>	IPM project due  LW6: Greenhouse scouting and trapping	Wed. 12/6 11:59 pm
	12/4/23			<b>FINAL EXAM</b> (lectures 8-17; 20 points cumulative)	Wed 12/13; 11:59 pm