



SYLLABUS

ENTMLGY 6410

Insect Ecology and Evolutionary Processes

Autumn 2022 (full term)

3 credit hours

Online

COURSE OVERVIEW

Instructor

Instructor: Dr. Kelley Tilmon

Department of Entomology

Office Location: Virtual

Email address: Tilmon.1@osu.edu (preferred contact method)

Office phone: 330-263-3725

Office hours: virtual, by appointment

Prerequisites

Graduate standing or successful petition status

(<https://gradsch.osu.edu/sites/default/files/resources/pdfs/SeniorPetitionFORM.pdf>)

Course description

Overview of abiotic and biotic factors influencing the diversity, distribution, and abundance of insects with a focus on general ecological and evolutionary principles.

Course learning outcomes

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

- Significance of insects in development of ecological and evolutionary principles
- Major transitions in the evolution of insects and other arthropods
- Biotic and abiotic ecological forces that drive insect evolution
- Molecular, physiological, population, and genetic level responses of insects to ecological forces
- Fundamental principles of insect population dynamics
- Functional role of insects in populations, communities, and ecosystems, including intra- and interspecific interactions, and trophic dynamics
- Develop appreciation for research approaches for studying insect ecology

HOW THIS ONLINE COURSE WORKS

Mode of delivery: This course is 100% online. Delivery will be divided between self-paced viewing of recorded lecture segments (asynchronous) and online discussions at certain identified schedule course times (synchronous). Scheduled class times are Tu Th 11:10-12:30 but most synchronous activities will be held on Th 11:10-12:30 (see course schedule below). A quiz will be administered during most of the synchronous sessions (see course schedule below). Discussions will not be recorded, but students with approved absences will be provided the opportunity to take the quizzes later through arrangements with the instructor.

Pace of online activities: This course is divided into **weekly modules** with viewable material released no later than Monday of the week it is watched. Students are expected to keep pace with weekly deadlines but may schedule their efforts freely within that time frame.

Credit hours and work expectations: This is a **3-credit-hour course**. According to Ohio State policy (go.osu.edu/credithours), students should expect around 3 hours per week of time spent on direct instruction (instructor content and Carmen activities, for example) in addition to 6 hours of homework (reading and assignment preparation, for example) to receive a grade of (C) average.

Attendance and participation requirements: Because this is an online course, your attendance is based on your participation in live online sessions. The following is a summary of students' expected participation. **Live sessions:** All live, scheduled events for the course are required. Exceptions will be made for reasons of illness or with permission of the instructors due to emergency circumstances, determined at the discretion of the instructor. Examples of excusable emergency circumstances include personal illness, the illness of somebody requiring your care, or loss of internet connectivity. Additional emergency circumstances may apply. Students with approved absences will be provided the opportunity to take live quizzes

later through arrangement with the instructor. Dates of live sessions are listed in the course schedule. Students with more than three unexcused absences will lose one letter grade from their final grade for each additional unexcused absence.

COURSE MATERIALS AND TECHNOLOGIES

Textbooks

- No textbook is required

Recommended/optional

- The following optional text may be useful for further reading: *Insect Ecology: Behavior, Populations and Communities*. By: Price, Denno, Finke, and Kaplan ISBN-13: 978-0521542609

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, and support for urgent issues is available 24/7.

- **Self-Service and Chat support:** ocio.osu.edu/help
- **Phone:** 614-688-4357(HELP)
- **Email:** 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)
- CarmenZoom virtual meetings (go.osu.edu/zoom-meetings). You must log in to Zoom sessions using the OSU system and your OSU login, as your login will be linked to grading.

Required equipment

- Computer: current Mac (MacOs) or PC (Windows) with up to date operating system and 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.

Carmen access

You will need to use BuckeyePass (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).
- 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) 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

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.

Other Fees and/or Requirements

- No additional fees or requirements

GRADING AND FACULTY RESPONSE

How your grade is calculated

ASSIGNMENT CATEGORY	PERCENTAGE
Quizzes	25%
Midterm essays	25%
Final essays	25%
Special project	25%
Total	100%

See course schedule below for due dates.

Descriptions of major course assignments

Quizzes

Description: In general, live course discussion sessions will be held on Zoom on Thursdays at 11:10 AM. At the start of each discussion there will be a brief Zoom-based quiz proctored online on the recorded lecture material for that week's module. Quiz dates are indicated in the course schedule. Students with an excused absence during a live quiz will be provided an opportunity to make it up later through arrangement with the instructor.

Academic integrity: Quizzes are to be taken closed-book (i.e., no reference to course or other materials) and without help from other students or non-class members.

Midterm Essays

Description: Open-note, open-lecture, open-book "take home" essays based on recorded lecture material will be due on the date indicated in the course schedule. There will be a series of essay questions and the answers should be compiled into one Word document and turned in on Carmen.

Academic integrity: You may consult course materials and outside materials while composing your essays, but may not consult with other students or non-class members.

Final Essays

Description: Open-note, open-lecture, open-book “take home” essays based on recorded lecture material not covered on the Midterm essays will be due on the date indicated in the course schedule. There will be a series of essay questions and the answers should be compiled into one Word document and turned in on Carmen.

Academic integrity: You may consult course materials and outside materials while composing your essays, but may not consult with other students or non-class members.

Special Project

Description: The special project will involve research on a specified topic delving deeper into an aspect of insect ecology, a written component and a presentation component. You will work in assigned teams to complete this project. Teams assignments will be made near the beginning of the semester and will be available on Carmen. The group project consists of two parts – an in-class presentation, and a related paper. The project as a whole will be worth 25% of your final grade. The presentation will be worth 40% of your project score, and the associated paper will be worth 60% of your project score. Both presentation and paper must be turned in on the class CarmenCanvas site by 12:00 PM on the due date, **December 12**. This is the final exam period for the class and presentations will be given at that time. Topics will have to do with practical aspects of insect ecology. The presentation and the paper are related, and both must be based on research in the scientific literature. Your paper should be fact-based and supported with data, not popular opinion and conjecture. You should synthesize information on the topic, come to some conclusions about it, and propose questions and hypotheses to advance the field that are based on the body of work that you review. This paper should not just summarize and report on available information. The presentation will be a summary of your findings formulated for presentation to your classmates on December 12. The paper will be a more formal, referenced presentation of your findings. You will work with your partners to produce both and share the same grade.

- 1) Work with your team to choose a topic. Draft topics are due in Carmen on **September 22**. The instructor will review them and suggest redirection as needed. This draft should include a one paragraph summary of your planned topic. Your topic should explore some aspect of insect ecology with practical applications, and deal with the ecological underpinnings of the problem. A very broad range of possible topics is open to you! Feel free to visit with Dr. Tilmon as you develop your ideas. Remember that the topic is a team decision.
- 2) Once your topic is approved your team will develop your presentation and paper. Both are due December 12.

Presentation

In-class presentations, delivered on Zoom, will be a maximum of 15 minutes in length including a couple minutes for questions. You are free to structure and present your presentation however you like [except your presentation must be live, not pre-recorded], and you can designate the speaker(s) for the team as you see fit. Your team will be graded on the quality of information you use, how well you make and support the points you wish to emphasize, and the clarity and organization of your presentation. You must submit on Carmen an electronic copy of your powerpoint and also a bibliography of the sources from which you obtained your information (use a standard bibliographic format), by class time on December 12.

Paper

A good research paper does not just regurgitate facts, but synthesizes information from a variety of sources to explore a concept. You are expected to derive most of your information from academic journal papers, and to cite your information properly. Web pages (electronic journal citations excepted) and popular press sources are not acceptable references for research papers. You may follow the citation format for a recognized scientific journal (such as Journal of Economic Entomology). The paper length minimum and maximum are 2000-2500 words (not including the References Cited section). You must submit your paper as a Word document on Carmen by class time on December 12. Some resources related to writing and the class policy on plagiarism are listed below.

OSU Writing Center

The OSU Writing Center is there to help you with your writing. Learn more about the Writing Center at <https://cstw.osu.edu/>

Some Publications about Scholarly Writing

Modern Language Association Handbook for Writers of Research Papers (7th Edition), published by the Modern Language Association of America, 2009.

Writing with Sources: A Guide for Students, (by Gordon Harvey), published by Hackett Publication Co. Inc., 2017.

Some Online Guides to Writing Papers

<https://owl.english.purdue.edu/owl/resource/658/01/>

<http://writing.wisc.edu/Handbook/PlanResearchPaper.html>

Academic integrity: You are expected to behave with academic integrity in the performance of this assignment, with details of cooperation outlined above. Plagiarism in the paper or presentation is a serious academic offence and will not be tolerated. Students are subject to the provisions in the “Code of Student Conduct” available online at

<https://oaa.osu.edu/academic-integrity-and-misconduct/student-misconduct> Failure to comply with these policies will be handled as outlined in the respective documents.

For additional information about what constitutes plagiarism and how to avoid it in your paper, also see the resources available at <http://www.plagiarism.org/> and resources available through the OSU Writing Center. In addition, CarmenCanvas has a tool called TurnItIn which can be used by students to check for inadvertent plagiarism and can be used by instructors to screen student submissions.

Late assignments

Late assignments will receive a penalty of one letter grade per 24 h. For example, an A paper turned in late but within 24 h of the due date will receive a B, within 48 a C and so forth. Exceptions will be made for reasons of illness or with permission of the instructors due to emergency circumstances, determined at the discretion of the instructor. Examples of excusable emergency circumstances include personal illness, the illness of somebody requiring your care, or loss of internet connectivity. Additional emergency circumstances may apply. In the case of excused late assignments adjusted due dates will be issued by the instructor. Please refer to the course schedule for due dates.

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

The instructors may be reached by email at tilmon.1@osu.edu. The instructors will attempt to respond within 48 hours during the instructional week.

The instructor will attempt to return assignments in a timely manner following the due date.

You can call **614-688-4357(HELP)** at any time if you have a technical problem.

OTHER COURSE POLICIES

Discussion and communication guidelines

The following are the expectations for how we should communicate as a class. Above all, please remember to be respectful and thoughtful.

- **Writing style:** For written assignments you should use good grammar, spelling, and punctuation.
- **Tone and civility:** We will maintain a supportive learning community where everyone feels safe and where people can disagree amicably.
- **Cameras on:** During class discussions everyone is expected to have their camera on (unless experiencing a technical problem). This is to foster a collaborative and communicative environment to enhance the learning experience for all.

Academic integrity policy

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

Ohio State's academic integrity policy: Academic Misconduct/Academic Integrity

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.

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 on the basis of 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,
2. Call 614-247-5838 or TTY 614-688-8605,
3. Or Email 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.

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.

Commitment to a diverse and inclusive learning environment: 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>
- <http://mcc.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/>.

Your 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 Counseling and Consultation Services (CCS) by visiting 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 through the 24/7 National Suicide Prevention Hotline at 1-(800)-273-TALK or at suicidepreventionlifeline.org

For students in the College of Food, Agricultural, and Environmental Sciences, David Wirt, wirt.9@osu.edu, is the CFAES embedded mental health counselor. He is available for new consultations and to establish routine care. To schedule with David, please call 614-292-5766. Students should mention their affiliation with CFAES when setting up a phone screening.

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 (slds.osu.edu/covid-19-info/covid-related-accommodation-requests/), 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; 614-292-3307; slds.osu.edu; 098 Baker Hall, 113 W. 12th Avenue.

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)
- Streaming audio and video
- CarmenZoom accessibility (go.osu.edu/zoom-accessibility)
- Collaborative course tools

COURSE SCHEDULE

Refer to the Carmen course for up-to-date assignment due dates.

Week	Dates	Topics, Readings, Assignments, Deadlines
1	Week of August 22	Topic: Introduction to course and to insect ecology
	Tuesday, 8/23	Live lecture session on CarmenZoom 11:10 AM to 12:30 PM
2	Week of August 29	Topic: Introduction to insects on plants
	Thursday, 9/1	Quiz 1 Live discussion session on CarmenZoom 11:10 AM to 12:30 PM
3	Week of September 5	Topic: Plant defenses against herbivory
	Thursday, 9/8	Quiz 2 Live discussion session on CarmenZoom 11:10 AM to 12:30 PM
4	Week of September 12	Topic: Diet breadth, fitness impacts, and coevolution
	Thursday, 9/15	Quiz 3 Live discussion session on CarmenZoom 11:10 AM to 12:30 PM
5	Week of September 19	Topic: Pests and predation I
	Thursday, 9/22	Quiz 4 Live discussion session on CarmenZoom 11:10 AM to 12:30 PM Draft topics for special projects due
6	Week of September 26	Topic: Predation II and biocontrol
	Thursday, 9/29	Quiz 5 Live discussion session on CarmenZoom 11:10 AM to 12:30 PM

7	Week of October 3	Topic: Population genetics (Dr. Andrew Michel)
	Thursday, 10/6	Quiz 6 Live discussion session on CarmenZoom 11:10 AM to 12:30 PM (Dr. Andrew Michel) Midterm essay questions become available by 5:00 PM (on Weeks 1-7)
8	Week of October 10	Independent work time Fall Break (no recorded lectures or discussion sessions)
9	Week of October 17	Topic: Life history
	Thursday, 10/20	Quiz 7 Live discussion session on CarmenZoom 11:10 AM to 12:30 PM
	Friday, 10/21	Midterm essays due by 5:00 PM: Weeks 1-7
10	Week of October 24	Topic: Introduction to community ecology
	Thursday, 10/27	Quiz 8 Live discussion session on CarmenZoom 11:10 AM to 12:30 PM
11	Week of 10/31	Topic: Biodiversity (Dr. Kayla Perry)
	Thursday, 11/3	Quiz 9 Live discussion session on CarmenZoom 11:10 AM to 12:30 PM (Dr. Kayla Perry)
12	Week of November 7	Topic: Niche space (Dr. Kayla Perry)
	Thursday, 11/10	Quiz 10 Live discussion session on CarmenZoom 11:10 AM to 12:30 PM (Dr. Kayla Perry)

13	Week of November 14	Entomological Society of America annual meeting; no recorded lectures or discussion sessions Independently scheduled work time
14	Week of November 21	No recorded lectures or discussion sessions Independently scheduled work time Thanksgiving holiday
15	Week of November 28	Topic: Landscape ecology (Dr. Mary Gardiner)
	Thursday, 12/1	Quiz 11 Live discussion session on CarmenZoom 11:10 AM to 12:30 PM (Dr. Mary Gardiner) Final essay questions become available by 5:00 PM (on Weeks 9-15)
16	Week of December 5	No recorded lectures or discussion sessions Independently scheduled work time
17	Week of December 12	Finals week (December 9-15)
	Monday, 12/12	Special projects, 12:00-1:45 (class final exam slot) Paper uploads due by 12:00 Presentation uploads due by 12:00
	Thursday, 12/15	Final essays due by 5:00 PM: Weeks 9-15