

Insect Ecology Lecture
ENY 4201, Fall 2022, 3 credit

Delivery: face-to-face

Lecture time and location: MWF, 11:45am-12:35pm, Steinmetz 1031

Instructor: Phil Hahn, **office:** Steinmetz 2109, **phone:** (352) 273-3960, **email:** hahnp@ufl.edu,
zoom meeting room: <https://ufl.zoom.us/j/7044620919>

Office Hours: After lecture or email to arrange a time. All meetings will occur in my office or via Zoom (<https://ufl.zoom.us/j/7044620919>).

Lecture: All students are expected to attend in person.

Course Description: This course is an introduction to ecological concepts with emphasis on insects. The relationships of insects with their biotic and physical environments, along with the roles of insects in nature, will be emphasized. The basics of ecological research will be covered.

Learning Outcomes:

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

- Explain fundamental ecological principles in population, community, landscape, and ecosystem ecology using insects as examples
- Describe the theoretical underpinning for understanding the causes and consequences of how insects interact with other species
- Translate ecological literature into lay public-accessible scientific news
- Apply fundamental ecological principles underlying the development and application of insect pest management and insect conservation
- Evaluate and critique primary ecological literature for content and scientific quality

Prerequisites:

BSC 2005(C) or BSC 2010(C)

Corequisite:

ENY 4201L

Required Materials:

Lecture: Speight, M.R., M.D. Hunter and A.D. Watt. 2008. *Ecology of Insects: Concepts and Applications*. 2nd ed. Wiley-Blackwell. Available to all students as an e-book for checkout from UF libraries.

Attendance and Make-Up Work: Students are expected to attend all sessions in person. Please contact the instructor in advance if you plan to miss a class. Requirements for class attendance and make-up assignments and other work are consistent with university policies that can be found at: <https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>

Structure of the Course

This course is designed to be very interactive so expect to be actively engaging with the material, either by asking questions, describing ecological processes, or discussing concepts with the instructor and peers. Mondays and Wednesdays will be spent presenting and discussing new content. Lectures will utilize PowerPoint presentations, the whiteboard, handouts, discussions, and group activities. Occasionally, there will be additional readings, short videos, or other instructional materials utilized during class. Once per week (Fridays) we will discuss a scientific paper.

Assessment & Evaluation

Discussion: Fridays will be spent discussing an assigned paper from the scientific literature related to that week's topic. Discussion days may vary, for example if a holiday disrupts the schedule, so make a note of discussion dates in Canvas and the syllabus. There will be one presentation and discussion per week led by a group of graduate students. Undergraduate students are expected to participate in discussing the papers but will not be responsible for leading a presentation. For participation points, all students will be expected to answer general questions about the paper and be prepared to share their answers. Discussion points will be awarded for sharing an answer to one of these questions.

Insect Ecology in the News (blog posts and responses): Once during the semester, students will write a blog post based on a scientific paper. Students will work in consultation with the instructor to select a recent paper from the ecological literature related to a topic from lecture and write a press release of the article (400-500 words for undergraduate students). In the two weeks following the blog posts, undergraduate students will be expected to read and respond to two blog posts.

Writing assessments: Writing assessments will be take-home open book assessments. Questions will be a mix of short-answer, long-answer, and essay questions. All students will have at least 48 hours to complete the assessments.

Available points and critical dates

Category	Points	Percent of grade	Due Date
Discussion participation (13 total, 10 points per discussion)	130	25%	Semester long
Insect Ecology in the News Blog Post	50	9%	Oct 18
Insect Ecology in the News Responses (2 total, 25 points each)	50	9%	Nov 12
Writing assessment 1	100	19%	Sept 26
Writing assessment 2	100	19%	Oct 27
Writing assessment 3	100	19%	Dec 11-17
Total	530		

Final Grade – Lecture

Scale: percentage	Letter grade	Minimum points required
93-100	A	493
90-92.99	A-	477
87-89.99	B+	461
83-86.99	B	440
80-82.99	B-	424
77-79.99	C+	408
73-76.99	C	387
70-72.99	C-	371
60-69.99	D	318
0-59.99	E	≤ 317

Weekly Course Schedule

Week	Date	Lecture module	Lecture Topic	Lecture Assessment
1	24-Aug	1	Overview of Insect Ecology	
2	29-Aug	2	Insects and climate	
3	5-Sep	3	Life history strategies <i>Monday holiday</i>	
4	12-Sep	4	Resource niche and competition	
5	19-Sep	5	Plant-herbivore interactions I	Writing assessment 1
6	26-Sep	5	Plant-herbivore interactions II	
7	3-Oct	6	Mutualisms <i>Friday Homecoming</i>	
8	10-Oct	7	Predator-prey interactions I	
9	17-Oct	7	Predator-prey interactions II	News blog
10	24-Oct	8	Community ecology I	Writing assessment 2
11	31-Oct	8	Community ecology II	
12	7-Nov	8	Landscape ecology I	Blog responses
13	14-Nov	9	Landscape ecology II	
14	21-Nov	9	Ecosystem ecology I <i>Wed & Fri holiday</i>	No Discussion
15	28-Nov	10	Ecosystem ecology II	
16	5-Dec		Wrap-up and review	
	10-16 Dec		Final exam week	Writing assessment 3

****Schedule subject to change****

Reading List for Discussion (numbers correspond to week):

1. van Klink et al. 2020. Meta-analysis reveals declines in terrestrial but increases in freshwater insect abundances. *Science* 368: 417-420.
News article: <https://www.sciencenews.org/article/insect-apocalypse-declines-biodiversity>
2. Stenkovski et al. 2020. Bee phenology is predicted by climatic variation and functional traits. *Ecology Letters* 23: 1589-1598.
<https://www.eurekalert.org/news-releases/915664>
3. Shah et al. 2017. Climate variability predicts thermal limits of aquatic insects across elevation and latitude. *Functional Ecology* 31: 2118-2127.
4. Deraison et al. 2015. Herbivore effect traits and their impact on plant community biomass: an experimental test using grasshoppers. *Functional Ecology* 29: 650-661.
5. Baer, K.C. and J.L. Maron. 2018. Pre-dispersal seed predation and pollen limitation constrain population growth across the geographic distribution of *Astragalus utahensis*. *Journal of Ecology* 106: 1646-1659.
<https://jecologyblog.com/2020/06/24/harper-prize-shortlist-2019-katie-baer/>
6. Calixto et al. 2020. Optimal defense theory in an ant-plant mutualism: Extrafloral nectar as an induced defense is maximized in the most valuable plant structure. *Journal of Ecology* 109: 167-178.
7. Wagner et al. 2015. Facultative endosymbionts mediate dietary breadth in a polyphagous herbivore. *Functional Ecology* 29: 1402-1410.
8. Sanders et al. 2018. Low levels of artificial light at night strengthen top-down control in insect food web. *Current Biology* 28: 2474-2478.
9. Tigreros et al. 2017. Maternally induced intraclutch cannibalism: an adaptive response to predation risk? *Ecology Letters* 20: 487-494.
10. Hein, A.M. and J.F. Gillooly. 2011. Predators, prey, and transient states in the assembly of spatially structured communities. *Ecology* 92: 549-555.
11. Grab et al. 2019. Agriculturally dominated landscapes reduce bee phylogenetic diversity and pollination services. *Science* 363:282-284.
12. Hawn et al. 2018. Connectivity increases trophic subsidies in fragmented landscapes. *Ecology Letters* 21: 1620-1628.
15. Metcalfe et al. 2014. Herbivory makes major contributions to ecosystem carbon and nutrient cycling in tropical forests. *Ecology Letters* 17: 324-332.

Grades and Grade Points: More information on UF grading policy may be found at:

[UF Graduate Catalog](#)

[Grades and Grading Policies](#)

Course Evaluation

Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. [Click here for guidance on how to give feedback in a professional and respectful manner](#). Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via ufl.bluera.com/ufl/. [Summaries of course evaluation results are available to students here](#).

University Honesty Policy: UF students are bound by The Honor Pledge which states, “We, the members of the University of Florida community, pledge to hold ourselves and our peers to

the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment." [The Honor Code](#) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor or TAs in this class.

Online recording policy: Our class sessions will be audio visually recorded for students in the class to refer back and for enrolled students who are unable to attend live. Students who participate with their camera engaged or utilize a profile image are agreeing to have their video or image recorded. If you are unwilling to consent to have your profile or video image recorded, be sure to keep your camera off and do not use a profile image. Likewise, students who un-mute during class and participate orally are agreeing to have their voices recorded. If you are not willing to consent to have your voice recorded during class, you will need to keep your mute button activated and communicate exclusively using the "chat" feature, which allows students to type questions and comments live. The chat will not be recorded or shared. As in all courses, unauthorized recording and unauthorized sharing of recorded materials is prohibited.

Software Use: All faculty, staff, and students of the University are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against University policies and rules, disciplinary action will be taken as appropriate. We, the members of the University of Florida community, pledge to uphold ourselves and our peers to the highest standards of honesty and integrity.

Student Privacy

There are federal laws protecting your privacy with regards to grades earned in courses and on individual assignments. For more information, please see the [Notification to Students of FERPA Rights](#).

Statement of diversity, equity, and inclusion: It is my goal that students from diverse backgrounds, as well as differences in learning styles and personality, will be welcomed and well served in this course. My definition of diversity includes race, ethnicity, gender, sexual orientation, physical ability, cultural, academic or economic background. I plan to present the material in such a way that it is accessible and relatable to all students. I encourage you to contact me if you have suggestions for how I can improve upon this goal. It is also expected that students will treat each other with respect and no harassment of any kind will be allowed. To report harassment, inappropriate behavior, or discuss issues with a neutral party, please contact the UF [RESPECT Team](#).

Students Requiring Accommodations:

Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the Disability Resource Center. It is important for students to share their accommodation letter with their instructor and discuss their access needs, as early as possible in the semester.

Student Feedback and Complaints:

I am always interested to hear feedback from students on how to improve this course. The goal, overall, is for students to get as much out of this course as possible. Please contact me with any thoughts or comments you have that might improve the course. When possible, I will incorporate this feedback immediately. Other times, changes may be implemented to improve future versions of this course. To register formal complaints, please refer to the following:

- Residential Course: <https://sccr.dso.ufl.edu/policies/student-honor-code-student-conduct-code/>
- Online Course: <https://distance.ufl.edu/getting-help/>

In-Class Recording Policy:

Students are allowed to record video or audio of class lectures. However, the purposes for which these recordings may be used are strictly controlled. The only allowable purposes are (1) for personal educational use, (2) in connection with a complaint to the university, or (3) as evidence in, or in preparation for, a criminal or civil proceeding. All other purposes are prohibited. Specifically, students may not publish recorded lectures without the written consent of the instructor.

A “class lecture” is an educational presentation intended to inform or teach enrolled students about a particular subject, including any instructor-led discussions that form part of the presentation, and delivered by any instructor hired or appointed by the University, or by a guest instructor, as part of a University of Florida course. A class lecture does not include lab sessions, student presentations, clinical presentations such as patient history, academic exercises involving solely student participation, assessments (quizzes, tests, exams), field trips, private conversations between students in the class or between a student and the faculty or lecturer during a class session.

Publication without permission of the instructor is prohibited. To “publish” means to share, transmit, circulate, distribute, or provide access to a recording, regardless of format or medium, to another person (or persons), including but not limited to another student within the same class section. Additionally, a recording, or transcript of a recording, is considered published if it is posted on or uploaded to, in whole or in part, any media platform, including but not limited to social media, book, magazine, newspaper, leaflet, or third party note/tutoring services. A student who publishes a recording without written consent may be subject to a civil cause of action instituted by a person injured by the publication and/or discipline under UF Regulation 4.040 Student Honor Code and Student Conduct Code.

Campus Resources:

Health and Wellness

U Matter, We Care:

If you or a friend is in distress, please contact umatter@ufl.edu or 352 392-1575 so that a team member can reach out to the student.

Counseling and Wellness Center: counseling.ufl.edu/cwc, and 392-1575; and the University Police Department: 392-1111 or 9-1-1 for emergencies.

Sexual Assault Recovery Services (SARS)

Student Health Care Center, 392-1161.

University Police Department at 392-1111 (or 9-1-1 for emergencies), or police.ufl.edu.

Academic Resources

E-learning technical support, 352-392-4357 (select option 2) or e-mail to Learning-support@ufl.edu.

Career Resource Center, Reitz Union, 392-1601. Career assistance and counseling.

Library Support, Various ways to receive assistance with respect to using the libraries or finding resources.

Teaching Center, Broward Hall, 392-2010 or 392-6420. General study skills and tutoring.

Writing Studio, 302 Tigert Hall, 846-1138. Help brainstorming, formatting, and writing papers.

Student Complaints Campus

On-Line Students Complaints