



AUBURN UNIVERSITY

ENTM 6220 Section: 001

Insect Ecology

Fall 2026

Faculty Information

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Course Information

Credit Hours: 4

Prerequisites: BIOL3060

Contact Hours: 6

Catalog Description: Ecological interactions of insects and their environment, with emphasis on herbivory, predation, parasitism and mutualism, as well as population and community dynamics. Departmental approval.

Modality: Combined Lecture and Lab

Meeting Information

Meeting Times: 8:00 AM-9:15 AM; 1:00 PM-2:50 PM

Meeting Days: TUES, THURS; WED

Meeting Location: STEM and Agric Science Complex 2116; STEM and Agric Science Complex 2116

Course Description

Students learn how insects interact with their environment. We cover the behavior of individuals, the dynamics of populations, and the structure and function of insect communities.

Course Objectives

The objectives of this course are to:

1. Introduce major concepts and approaches used to understand insect behavior, population dynamics, and community ecology.
2. Develop the ability of students to interpret and evaluate ecological patterns and processes involving insects.
3. Provide opportunities to apply ecological concepts through laboratory activities, data analysis, and examination.
4. Strengthen critical-thinking skills by connecting observations, evidence, and ecological theory across individual, population, and community levels.

Student Learning Outcomes

- SLO 1: Evaluate and interpret insect behavior.
- SLO 2: Explain and predict insect population and dynamics.
- SLO 3: Analyze and evaluate the structure and function of insect societies and communities.
- SLO 4: Practice critical thinking and communication.

Required Materials

Title: Laptop computer that is capable of running Canvas and R

Subtitle: Students are expected to bring a laptop computer to lecture and lab. The laptop must be capable of running Canvas and R, as laboratory exercises and some in-class activities require data analysis in R. Weekly quizzes and exams will also be administered through Canvas. Students who need assistance obtaining an appropriate device should contact the instructors early in the semester.

Recommended Materials

Title: Insect Ecology, Behavior, Populations and Communities

ISBN: 978-0521542609; 052154260X

Authors: Peter Price

Publication Date: 2011

Course Schedule

Week	Date	Type	Agenda
Insect Behavior			
1	8/18	Lec.	Introduction to Behavioral Ecology, Timbergen 4 questions (* fully online)
	8/20	Lec.	Natural Selection and Adaptation (* fully online)
	8/19	Lab	Computational Environment Setup
2	8/25	Lec.	Optimal Strategy and Searching Behavior

Week	Date	Type	Agenda
3	8/27	Lec.	Aggregation, Optimal Group Size, and Mechanism
	8/26	Lab	Video Recording
	9/1	Lec.	Strategic Interactions and Sex Allocation
	9/3	Lec.	Sexual Selection and Mating Interactions
4	9/2	Lab	Video Processing / Video Tracking
	9/8	Lec.	Social Evolution and Cooperation
	9/10	Lec.	Interactions Between Species and Evolutionary Arms Races
	9/9	Lab	Video Tracking / Trajectory Analysis in R
5	9/15	Lec.	Modern Quantitative Behavioral Ecology
	9/17	Lec.	Exam 1
	9/16	Lab	Trajectory Analysis in R / Summary
	Insect Populations		
6	9/22	Lec.	Population Growth
	9/24	Lec.	Life Tables
	9/23	Lab	-
7	9/29	Lec.	Survivorship Curves

Week	Date	Type	Agenda
	10/1	Lec.	Life Histories
	9/30	Lab	Life tables & survivorship curves in R
	10/6	Lec.	Life History Trade-offs,
8	10/8		Fall Break
	10/7	Lab	Demographic modeling in R
	10/13	Lec.	Outbreaks
9	10/15	Lec.	Mechanisms of Population Dynamics
	10/14	Lab	Population dynamics models in R
	10/20	Lec.	Metapopulations & Synthesis
10	10/22	Lec.	Exam 2
	10/21	Lab	Designing a Community Ecology Study
Insect Communities			
11	10/27	Lec.	Insect Diversity
	10/29	Lec.	Biogeography
	10/28	Lab	Field Sampling Insect Communities (Kreher Preserve)
12	11/3	Lec.	Ecological Niches
	11/5	Lec.	Thermal Ecology
	11/4	Lab	Processing Community Samples

Week	Date	Type	Agenda
13	11/10	Lec.	EntSoc National Meeting – No Class
	11/12	Lec.	Nutritional Ecology
	11/11	Lab	Identifying Insect Communities
14	11/17	Lec.	Plant–Insect Interactions
	11/19	Lec.	Invasion Ecology
	11/18	Lab	Community Analysis in R
15	11/23-27		Thanksgiving Break
16	12/1	Lec.	Global Change Ecology
	12/3	Lec.	Exam 3
	12/2	Lab	Community Ecology Discussion & Synthesis

Assessments, Exams, & Evaluations

The course consists of three instructional modules: Behavior, Population, and Community. Each module contributes 200 points to the final course grade. Assessments include quizzes, one exam for each module, and laboratory activities or assignments. Additional instructions, evaluation criteria, and due dates will be provided in Canvas.

Assessment	Behavior	Population	Community	Total	Percentage of Final Grade
Quizzes	40 points	40 points	40 points	120 points	20%
Module exam	100 points	100 points	100 points	300 points	50%
Lab activities/ assignments	60 points	60 points	60 points	180 points	30%
Total	200 points	200 points	200 points	600 points	100%

Course Communication Policy

Course announcements, assignment instructions, and schedule updates will be communicated through Canvas. Students are responsible for regularly checking Canvas.

Grading Standards & Attendance Expectations

Final percentage	Grade
90–100%	A
80–89.99%	B
70–79.99%	C
60–69.99%	D
Below 60%	F

Academic Integrity

Auburn University upholds the highest standards of honesty and integrity in all academic pursuits. Students are expected to conduct themselves in accordance with these principles at all times. Please review Auburn University's Academic Integrity [Policy](#) to familiarize yourself with actions that constitute violations of this policy. Any alleged violations will be reported to the Office of the Provost for review and appropriate action. The Academic Integrity Policy is applicable to all students taking classes at Auburn University with the exception of students that are enrolled in the Doctor of Veterinary Medicine or Doctor of Pharmacy programs.

Generative Artificial Intelligence Tools

AI Policy: Permitted when Assigned in this Course with Attribution

In this course, students are permitted to use Generative AI Tools such as Microsoft Copilot, ChatGPT, Claude, or Gemini for specific assignments, as

designated by the instructor. To maintain academic integrity, students must disclose any use of AI-generated material. As always, students must properly use attributions, including in-text citations, quotations, and references. Students should exercise caution and avoid sharing any sensitive or private information when using these tools. Examples of such information include personally identifiable information (PII), protected health information (PHI), financial data, intellectual property (IP), and any other data that might be legally protected.

A student should include the following statement in assignments to indicate use of a Generative AI Tool: “The author(s) would like to acknowledge the use of [Generative AI Tool Name], a language model developed by [Generative AI Tool Provider], in the preparation of this assignment. The [Generative AI Tool Name] was used in the following way(s) in this assignment [e.g., brainstorming, grammatical correction, citation, which portion of the assignment].”

ADA Compliance

Students who need accommodations should submit their approved accommodations through the AIM Student Portal on AU-Access and communicate directly with faculty about accommodations for their course. It is important for the student to complete these steps as soon as possible; accommodations are not retroactive. Students who have not established accommodations through the Office of Accessibility but need accommodations should contact the Office of Accessibility at ACCESSIBILITY@auburn.edu or (334) 844-2096 (V/TT). The Office of Accessibility is located in Haley Center 1228.

Equal Opportunity Compliance

If you have experienced discrimination, harassment, sexual misconduct, relationship violence, stalking, or another situation affecting your ability to participate fully in the Auburn University community, the Office of Equal Opportunity Compliance (EOC) is available to help. EOC also coordinates

accommodations related to religious observances, pregnancy, and related medical conditions. Information about EOC policies, resources, and religious and pregnancy-related accommodations, including request forms and a map of campus lactation spaces, is available at aub.ie/eoc.

Auburn's non-discrimination and anti-harassment statement is available at this [website](#). Most Auburn University faculty and staff are required to share information about possible discrimination, harassment, retaliation, or sexual misconduct with EOC so that support, resources, and information about available options can be offered to those who may be impacted. Receiving a report does not automatically result in a formal complaint or investigation. Students seeking confidential support may contact Safe Harbor (334-844-7233) or Student Counseling & Psychological Services (334-844-5123). To learn more about EOC services, reporting options, supportive measures, and accommodations, visit aub.ie/eoc, email eoc@auburn.edu, or call 334-844-4794.

Student Conduct

Student conduct promotes a safe, respectful, and accountable campus environment by upholding the [Code of Student Conduct](#) and addressing behaviors that affect the Auburn community. Students may contact the office with non-academic questions or concerns, report potential policy violations, or submit a written student complaint by calling 334-844-1305 or visiting auburn.edu/studentconduct.

Auburn Cares

Do you need support or are you concerned about another person? Auburn Cares is here for you as you navigate academic, financial, mental health, or relationship issues. Auburn Cares is a good first point of contact for students experiencing a difficult situation. Contact Auburn Cares at 334-844-1305 or aub.ie/auburncares to request support today for yourself or another person.

Student Counseling & Psychological Services

Student Counseling & Psychological Services provides confidential, no-cost

mental health counseling and psychiatric services to Auburn students. To schedule an appointment or speak with a counselor immediately 24/7/365, contact Student Counseling & Psychological Services at 334-844-5123.

Mental Health Emergencies

If you or someone else are in immediate danger, call 911. If you would like to speak with someone confidentially, Safe Harbor (334-844-7233) and Student Counseling & Psychological Services (334-844-5123) are both confidential resources. Safe Harbor provides support to students who have experienced sexual or relationship violence by connecting them with academic, medical, mental health, and safety resources. For additional information, visit auburn.edu/safeharbor.

Elasticity Statement

The instructor will make every effort to follow the guidelines of this syllabus as listed; however, the instructor reserves the right to amend this document as the need arises consistent with university policy. In such instances, the instructor will notify students in class and/or via email and will endeavor to provide reasonable time for students to adjust to any changes.

Changes to the syllabus may become necessary as the class progresses. Updates to the course schedule will be provided to students in class and/or via email.

Use of Canvas or Other Technology Tools

We use the course Canvas site to share learning materials, coordinate learning activities, and run the assessments. Canvas is Auburn University's official Learning Management System (LMS). To access Canvas use your AU user ID and password to log into Auburn's Canvas homepage <https://auburn.instructure.com/login/ldap>. When you log in, you will be directed to your dashboard. Click on the link for this course (classes are listed by course name and number). Note: The Login link is also conveniently located in AU Access www.auaccess.auburn.edu and many other university pages.