

ENTMLGY 4000-0010: General Entomology Lecture Online (3 Credit Hours)

Instructor:

Dr. Joseph M. Raczkowski
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Lecturers:

Dr. Joe Raczkowski
Dr. Megan Meuti
Dr. Pete Piermarini
Dr. Reed Johnson
Dr. Sarah Short

Description:

The course serves both as a single, concise exposure to the subject and as a foundation for advanced work in entomology (systematics, evolution, ecology, management). Lectures cover all fundamental aspects but emphasize basic biological phenomena, including diversity, evolution, classification, structure, function, development, reproduction, behavior, and ecology.

This course is 100% on-line. All lectures, exams and quizzes will be posted on Carmen.

Course Policies:

Viewing all lectures is mandatory.

If you must miss an exam for a university-sanctioned event, you must supply appropriate documentation no less than one week before the event. If illness/emergency prevents you from taking an exam/quiz, please contact Dr. Raczkowski, **within 24 hours** of the due date of the exam. Documentation for a student's absence is required.

Learning Objectives:

Successful students will be able to:

Discuss and explain major events in arthropod and insect evolution and unique aspects of their biology that have contributed to their diversity.

Evaluate phylogenetic arguments for the placement of various invertebrate taxa.

Compare and contrast human and insect respiratory, endocrine, digestive, circulatory, and reproductive systems.

Examine the role that insects have played in the fields of genetics and molecular biology.

Generate hypotheses on the origins of social behavior different insect groups.

Articulate the positive and negative impacts that insects have on agriculture as well as on human and veterinary medicine.

Predict the best methods for managing insect pests in different contexts.

Textbooks:

Required:

1. The Insects: An Outline of Entomology, 4th Edition. 2010. P.J. Gullan and P.S. Cranston. Wiley-Blackwell

Grading

Quizzes (5)	20%
Exam 1	20%
Exam 2	20%
Writing Assignments	15%
Final Exam	25% (comprehensive)

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
<60	E

Schedule

August 25 – 28	Welcome, Arthropod Characteristics and Importance
August 31 – September 4	External Structure, Muscles and Locomotion, Quiz 1
September 7 – 11	Labor Day , Circulatory/Respiratory Digestive/Excretory
September 14-18	Reproduction, Nervous Systems and Mechanoreception, Quiz 2
September 21 – 25	Chemoreception and Photoreception, Writing Assignment 1
September 28 – October 2	Taxonomy (Orders and Families), Quiz 3
October 5 – 9	Migration, Behavior
October 12 – 16	Social Behavior, Termites, Writing Assignment 2
October 19 – 23	Wasps, Ants, Exam 1
October 26 – October 30	Beekeeping and Honey Bee Biology
November 2 – 6	Enemies of Insects, Insect Defense, Quiz 4
November 9 – 13	Medical and Veterinary Entomology, Veterans Day
November 16 – 20	Plant Feeders, Plant Defense, Quiz 5
November 23 – 25	Pest Management, Writing Assignment 3, Thanksgiving Break
November 30 – December 4	Mutualisms, Exam 2
December 7 – December 10	Final Exam

Due Dates

Quiz 1	September 4
Quiz 2	September 18
Writing Assignment 1	September 25
Quiz 3	October 2
Writing Assignment 2	October 16
Exam 1	October 23
Quiz 4	November 6
Quiz 5	November 20
Writing Assignment 3	November 25
Final Exam	Exam 2

Readings

*from Gullan and Cranston

Arthropod Characteristics and Importance – Chapter 1
External Structure – Chapter 2
Muscles and Locomotion – Chapter 3 (3.1.1 - 3.1.4)
Circulation and Respiration – Chapter 3 (3.4 & 3.5)
Digestion and Secretion/Excretion – Chapter 3 (3.6 – 3.7)
Reproduction – Chapter 3 (3.8), Chapter 5 (5.8-5.11)
Nervous System and Mechanoreception – Chapter 4 (4.1 – 4.2)
Chemoreception and Photoreception (4.3 – 4.4)
Taxonomy – Chapter 7 (7.2) and Taxoboxes
Migration – Chapter 6 (6.7)
Behavior – Chapter 4 (4.5)
Social Behavior – Chapter 12 (12.1, 12.2.1, 12.4)
Termites – Chapter 12 (12.2.4)
Wasps – Chapter 12 (12.2.2)
Ants – Chapter 12 (12.2.3)
Beekeeping and Honey Bee Biology – (12.2.2)
Enemies of Insects – no readings
Insect Defense – Chapter 14
Medical and Veterinary Entomology – Chapter 15
Plant Feeders – Chapter 11 (11.1 -11.4)
Plant Defense – no readings
Pest Management – Chapter 16
Mutualisms – Chapter 11 (11.4)

Course technology

For help with your password, university e-mail, Carmen, or any other technology issues, questions, or requests, contact the OSU IT Service Desk. Standard support hours are available at <https://ocio.osu.edu/help/hours>, and support for urgent issues is available 24x7.

- Self-Service and Chat support: <http://ocio.osu.edu/selfservice>
- Phone: 614-688-HELP (4357)
- Email: 8help@osu.edu
- TDD: 614-688-8743

Baseline Technical Skills for Course

- Basic computer and web-browsing skills
- Navigating Carmen

Required Equipment

- Computer: current Mac (OS X) or PC (Windows 7+) with high-speed internet connection

Required Software

- Microsoft Office 365: All Ohio State students are now eligible for free Microsoft Office 365 ProPlus through Microsoft's Student Advantage program. Full instructions for downloading and installation can be found <https://ocio.osu.edu/kb04733>.

Faculty 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-HELP at any time if you have a technical problem.)

- Grading and feedback: you can generally expect feedback within 7 days.
- E-mail: I will reply to e-mails within 24 hours on school days.

Academic Misconduct

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

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
Safe and Healthy Buckeyes

Copyright disclaimer

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.

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>), which includes wearing a face mask in any indoor space and maintaining a safe physical distance at all times. Non-compliance will result in a warning first, and disciplinary actions will be taken for repeated offenses.

Disability 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; 614-292-3307; slds.osu.edu; 098 Baker Hall, 113 W. 12th Avenue.

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 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 Prevention Hotline at 1-(800)-273-TALK or at suicidepreventionlifeline.org.

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.

Creating an environment free of 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.

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 a bias incident, you can report it online and anonymously (if you choose) at <https://studentlife.osu.edu/bias/report-a-bias-incident.aspx>.