THE OHIO STATE UNIVERSITY
College of Food, Agricultural, and Environmental Sciences
Department of Entomology

ENTMLGY 1111: BIOLOGY OF INSECTS, ANIMALS, AND FUNGI AFFECTING BUILDINGS

AUTUMN 2022

4 credit hours

This course fulfills the General Education (GE) rationale for the GE Foundations: Natural Sciences category. For students in the Legacy GE program, this course also fulfills the Legacy GE requirements.

Course overview

Instructor

Dr. Benjamin Philip
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Office: 257A Howlett Hall
Office Phone: (614) 688-4973
Office hours: by appointment

Teaching Assistant

Lydia Fyie
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Pre-requisites: none, freshman standing or higher.

Exclusions: Not open to students with credit for 1101, 3000, 4000, or 4600.

Class meeting schedule:

Lecture: Tu, Th 12:45-2:05 (Kottman 103)

Lab: We 11:30-1:20 (Agriculture Admin Bldg 247) **OR** We 1:50-3:40 (Agriculture Admin Bldg 247) **OR** Th 10:20-12:10 (Kottman 334)

Brief Course description

Acquaint construction engineers with the incredible biological diversity found on Planet Earth using insects as examples and biological models. Management of building attacking and inhabiting insects, animals and fungi will be covered.

Full Course description

The purpose of this course is to acquaint construction engineers, who plan to build future buildings, with the incredible biological diversity found on Planet Earth using the largest group of living animals, the insects, as examples and biological models. Insects have been used to investigate all kinds of

biological processes - genetics, neural and sensory physiology, population growth and development, evolutionary processes, hormonal action, behavior and more! Insects are also important to human life because they can destroy our crops, clothing and houses; they may attack humans and domesticated animals, as well as serve as transmitters of major human and animal diseases. Human buildings are susceptible to attack by insects and fungi and their modified environments provide habitat for insects, birds, mammals, molds and mildews. A significant portion of this course will cover the biology of these organisms, how to detect them and present techniques that can reduce their invasion, establishment and damage.

This is a course in the Natural Sciences that fosters an understanding of the principles, theories and methods of modern science, the relationship between science and technology, the interactions of living organisms (using insect and human perspectives) and their effects on the environment.

General Education Goals and Expected Learning Outcomes (ELO)

This course fulfills ALL Goals (i.e., Goals 1 and 2) and ALL Expected Learning Outcomes (i.e., ELOs 1.1, 1.2, 1.3, 2.1, 2.2, 2.3) for the Foundations, Natural Science GE category.

GE Goal 1: Successful students will engage in theoretical and empirical study within the natural sciences, gaining an appreciation of the modern principles, theories, methods, and modes of inquiry used generally across the natural sciences.

Expected Learning Outcome 1.1: Successful students are able to explain basic facts, principles, theories and methods of modern natural sciences; describe and analyze the process of scientific inquiry.

Expected Learning Outcome 1.2: Successful students are able to identify how key events in the development of science contribute to the ongoing and changing nature of scientific knowledge and methods.

Expected Learning Outcome 1.3: Successful students are able to employ the processes of science through exploration, discovery, and collaboration to interact directly with the natural world when feasible, using appropriate tools, models, and analysis of data.

GE goal 2: Successful students will discern the relationship between the theoretical and applied sciences, while appreciating the implications of scientific discoveries and the potential impacts of science and technology.

Expected Learning Outcome 2.1: Successful students are able to analyze the inter-dependence and potential impacts of scientific and technological developments

Expected Learning Outcome 2.2: Successful students are able to evaluate social and ethical implications of natural scientific discoveries

Expected Learning Outcome 2.3: Successful students are able to critically evaluate and responsibly use information from the natural sciences.

This course fulfills goals 1 and 2, and learning outcomes associated with the goals of the foundations of the Natural Science GE through a variety of activities.

- Lectures and outside source material will allow students to receive new information in a variety of modalities.
- Weekly quiz questions are designed to inform the student and instructor during the semester on student progress towards the learning outcomes.

- Questions on exams are designed to assess student progress on learning objectives.
- Lab activities are designed to provide hands-on activities that enable students to apply concepts and ideas that are introduced in lecture.
- Investigation of scientific ideas through the "insects in the news" and termite experiment lab write up provide students the opportunity to analyze scientific information and experimental results while crtitically evaluating their merits.

Course Specific Learning Outcomes

By the end of this course, students should successfully be able to (with reference to the related general education learning objectives (ELO) above):

- Recognize cellular to organismal characteristics that are used to group and separate the major biological groups, from microbes to higher plants and animals. (ELO 1.1, 1.2)
- Identify the major groups of insects and explain how they differ in their life cycles, evolved characteristics, and adaptations to the environment. (ELO 1.1)
- Explain how insects and other animal groups (especially humans) perform basic processes of digestion, excretion, respiration, growth, neural transmission, sensing the environment, and locomotion. (ELO 1.1)
- Explain the importance of sexual reproduction in creating biodiversity, the transfer/ modification of heritable traits from parents to offspring and describe how insects contributed to our understanding of evolutionary biology and molecular genetics . (ELO 1.2, 2.1)
- Describe the differences between innate behavioral responses, learned behavior and social behavior as demonstrated by insects and other animals (especially humans). (ELO 1.1)
- Describe general population growth processes and evaluate how human interventions (e.g. pesticide use) can positively or negatively influence this growth. (ELO 2.1, 2.2)
- Describe how insect, vertebrate animals and fungi are able to inhabit and survive in and round human-constructed habitats. (ELO 1.1)
- Decide on appropriate pest control actions when encountering insect, vertebrate animal and fungal pests. (ELO 1.2)
- Describe how to use preventive techniques to manage insect, vertebrate animal and fungal pests of homes, buildings and facilities. (ELO 2.1)
- Develop a testable hypothesis regarding termite behavior and successfully conduct an experiment designed based on their predictions. (ELO 1.3)
- Critically evaluate scientific information presented in popular media and successfully provide support for their evaluation. (ELO 2.3)

How this course works

Mode of delivery: This course is held in person at the assigned time. If the University moves to an online mode of instruction, the lecture and lab will be held synchronously (therefore there are required sessions when you must be logged in online).

Credit hours and work expectations: This is a 4-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 in lecture and 2 hours per week for lab instruction and activities. Additionally, please expect reading/homework/studying of 8 hours per week.

Attendance and participation requirements: Part of your grade in this class is based on your engagement and professionalism. This is more than simple attendance – I expect you to arrive to class on time and prepared to actively participate in the daily activities. The following is a summary of students' expected participation:

- Participating in lectures: TWICE PER WEEK

  Additionally, you are expected to log in to the course in Carmen several times every week. If you have a situation that might cause you to miss an entire week of class, discuss it with me as soon as possible.

- Participating in online laboratory sessions: ONCE PER WEEK

  All lab activities will be conducted during scheduled class time. You are required to participate.

Course materials

Required

Cranshaw, W. and R. Redak. 2013. Bugs Rule! Princeton University Press, Princeton, New Jersey, USA. 480 pp. ISBN-13: 978-0691124957 (print or electronic versions available)

Online at Carmen

Readings, as required.

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 necessary for this specific course

- Basic computer and web-browsing skills
- Navigating Carmen (go.osu.edu/canvasstudent)

- CarmenZoom virtual meetings (go.osu.edu/zoom-meetings)
- Recording a slide presentation with audio narration (go.osu.edu/video-assignment-guide)
- Recording, editing, and uploading video (go.osu.edu/video-assignment-guide)
- Using standard office suite for PC (Word, Excel, PowerPoint, etc.) or Mac (Pages, Numbers, Keynote, etc.
- Attaching images to documents and emails.

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.

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.

Grading, Instructor Feedback & Response Times

Grade point allocation and % of total

Assignment or category	Points	% of Total
Engagement and Professionalism (Attendance & Contributions)	**100**	**10%**
Quizzes	**100**	**10%**
Lab Activities	**200**	**20%**
Lab Write Up	**50**	**5%**
"Insects in the News"	**50**	**5%**
Exam 1	**150**	**15%**
Exam 2	**150**	**15%**
Final Exam (cumulative)	**200**	**20%**
Total	**1000**	**100%**

See course schedule, below and at CARMEN, for due dates and any updates

Instructor feedback and response times

My intended availability and response times are below:

Grading and feedback

For exams, quizzes or significant assignments, you can generally expect feedback within **7 days**.

E-mail

I expect to reply to e-mails within **24 hours on school days**.

Office hours

Please schedule office hours **3-5 days** in advance.

Exams and Quizzes

These are announced ahead of time (see schedule), as is the material that will be covered. Exams will be administered during the scheduled class period. Quizzes will be administered via Carmen. They are closed book. If you must miss an exam or quiz for a university-sanctioned event, you must supply appropriate documentation no less than one week before the event. If you are too ill to take an exam, or have an emergency that interferes with taking quizzes or exams as scheduled, contact Dr. Philip within 24 hours of the class period when the exam was scheduled.

Case Study and Insects in the News

The **Insects in the News** assignments are conducted individually (not in groups). I will post a template and instructions on Carmen regarding how to select and report on an item in the recent news that focused in some way on insects. The template will guide you as to how to summarize your report, its source, why you selected it, and why it is of interest/importance. Points for each required item are given in the template.

Weekly Lab Activities and Lab Write-Up

There will be a lab activity each week (unless otherwise indicated on the schedule). These labs will have questions associated with the activities, which are graded. Some labs will be conducted individually, whereas others will be done in small groups. Makeup lab activities are not given; however, only your top 10 scoring lab activities will count towards the final grade. There will be one lab write-up based on the "Termite- I walk the line" experiment.

Late assignments

All assignments are *due at the date and time designated for each*; late work is subject to grade reduction of 10% each day it is late. All completed assignments must be posted to our course's Carmen site unless otherwise specified. If you must miss a deadline for a university-sanctioned event, you must supply appropriate documentation no less than one week before the event. If you are too ill or have an emergency that interferes with turning in an assignment as scheduled, please contact Dr. Philip, within 24 hours of the class period in which the assignment was due.

Grades

Grading scale

Your final grade is based on the scale below. *Grades are not rounded up*. A curve should not be expected.

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	

Attendance, participation, discussion

Engagement and Professionalism

Part of your grade in this class is based on your engagement and professionalism. This is more than simple attendance– I expect you to arrive to class **on time** and prepared to actively participate in the daily activities. My expectations are below:

- **Attendance**: **EVERY LECTURE AND LAB PERIOD**
  I will be covering important material in lecture and lab, so please do not miss class. I generally do not allow make-ups for quizzes, and make-up exams are only given for pre-approved absences. Any other assignments that are not completed and submitted on time are assessed a late penalty (described below). Frequent absences will prevent active participation, which will be reflected in that grade component (loss of points begins after 2 lecture absenses or 1 lab absence, with 2 points per class and 5 points per lab lost per absence).
- **Carmen**: **AT LEAST EVERY OTHER DAY**
  Be sure you are logging in to the course in Carmen a few times each week. I will use the Carmen site to post important course information, and it is your responsibility to access it. If you have trouble, ask me or contact the IT help desk (8-HELP).
- **Office hours**: **OPTIONAL**
  Office hours are optional and by arrangement, but you are strongly encouraged to meet with me during the semester. I am happy to provide assistance.

Discussion and communication guidelines

The following are my expectations for how we will communicate. Please remember to be respectful and thoughtful.

- **Tone and civility**: We will maintain a supportive learning community where everyone feels safe and can disagree amicably. Avoid inflammatory statements and sarcasm.
- **Citing your sources**: When we have discussions, be prepared to cite your sources to support your view.
- **Email Etiquite**: All emails should begin with a greeting (exp. Hi Dr. Philip), contain complete sentences with proper grammar, and be signed with your name (exp. Thanks, Joe Frank). Emails with attachments and no text will not be opened.

Academic integrity policy

Policies for this course

- **Quizzes and exams**: All quizzes and exams must be completed yourself, without any external help or communication. Anyone caught cheating (whether it is seeking or providing answers) will be reported to the Committee on Academic Misconduct and a grade of 0 (zero) will be assessed for that assignment (or quiz or exam). I will not tolerate cheating of any kind in this course.

- **Written assignments**: ALL of your written assignments must be your (or your group's) original work and may be checked through Carmen's plagarism check. You should follow the style as directed for citations. All written assignments should use proper grammar, spelling, and punctuation. You are encouraged to ask a trusted person to proofread your assignments before you turn them in, but no one should revise/ rewrite your work.
- **Reusing past work**: In general, you are prohibited in university courses from turning in work from a past class to your current class, even if you modify it. If you want to build on past research or revisit a topic you've explored in previous courses, please discuss the situation with me in advance.
- **Falsifying research, work, or results**: All research you conduct is intended to be a learning experience; you should never feel tempted to make your results or your library research look more successful than it was.
- **Collaboration and informal peer-review**: The course may include opportunities for formal collaboration with your classmates. While study groups and peer-review of major written projects is encouraged, remember that comparing answers on an assignment is not permitted. If you are unsure about a particular situation, ask me.
- **Group projects**: This course will include a group project (eg. Termite Lab Write-Up), which can be stressful for students when it comes to dividing work, taking credit, and receiving grades and feedback. I will make guidelines for group work as clear as possible.
- **Late submissions**: Any work that is submitted after the due date will be assessed a penalty of 10% per day that it is late.

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 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.

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

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/.

Safe and Healthy Buckeye

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.

Land Acknowledgement Statement

We would like to acknowledge the land that The Ohio State University occupies is the ancestral and contemporary territory of the Shawnee, Potawatomi, Delaware, Miami, Peoria, Seneca, Wyandotte, Ojibwe and Cherokee peoples. Specifically, the university resides on land ceded in the 1795 Treaty of Greeneville and the forced removal of tribes through the Indian Removal Act of 1830. As a land grant institution, we want to honor the resiliency of these tribal nations and recognize the historical contexts that have and continue to affect the Indigenous peoples of this land.

Week	Day	Date	Topic	Pre-Class Readings	Due Dates
1	T	8/23	Course overview; Why study insects; General Education	Ch. 1	
	LAB		LAB: Arthropods – Browse Chapter 1 of textbook!		
	Th	8/25	Phyla and taxonomy of arthropods	Browse Ch. 1	
2	T	8/30	Insect success	Ch. 4	
	LAB		LAB: Insect Collection		
	Th	9/1	External anatomy, part 1 **(quiz 1)**	Ch. 2	
3	T	9/6	External anatomy, part 2	Ch. 2	
	LAB		LAB: Insect Anatomy		
	Th	9/8	Growth and metamorphosis, part 1 **(quiz 2)**	Ch. 4 (pp. 58-65)	
4	T	9/13	Growth and metamorphosis, part 2	Ch. 4 (pp. 65-74)	
	LAB		LAB: Data analysis		
	Th	9/15	Insect diapause **(quiz 3)**	Ch. 4 (pp. 71-74)	
5	T	9/20	Internal anatomy, part 1	Ch. 3	
	LAB		LAB: Internal Anatomy		
	Th	9/22	Internal anatomy, part 2 **(quiz 4)**	Ch. 3	
6	T	9/27	**EXAM 1—MATERIAL THROUGH 9/22**		
	LAB		LAB: Insect ID		
	Th	9/29	Insect physiology		
7	T	10/4	Insect physiology / Genetics		
	LAB		LAB: “Femme Fatale” Lab		
	Th	10/6	Genetics **(quiz 5)**		
8	T	10/11	Sexual selection		
	LAB		**NO LAB**		
	Th	10/13	**NO CLASS (FALL BREAK)**		
9	T	10/18	Non-insect arthropods	Chs. 5 + 6	
	LAB		LAB: Insect Products		
	Th	10/20	Beetles, Part 1 **(quiz 6)**	Ch. 14	“Insects in the News” Article Selection DUE

Week	Day	Date	Topic	Pre-Class Assignment	Due Dates
10	T	10/25	Beetles, Part 2	Ch. 14	
	LAB		LAB: Termites- “I walk the line” (Intro)		
	Th	10/27	Diptera **(quiz 7)**	Ch. 18	
11	T	11/1	Hymenoptera	Ch. 15	
	LAB		LAB: Forensic Entomology		
	Th	11/3	Insects as recyclers, Forensic entomology	Ch. 18 (pp. 415-418)	
12	T	11/8	**EXAM 2— MATERIAL 9/29 THROUGH 11/3**		
	LAB		LAB: Pesticide labels and toxicity		
	Th	11/10	Biocontrol		
13	T	11/15	IPM and pesticide safety (**quiz 8**)		“Insects in the News” DUE
	LAB		**NO LAB**		
	Th	11/17	Household pests & occasional invaders, part 1		
14	T	11/22	Household pests & occasional invaders, part 2 **(quiz 9)**		
	LAB		**NO LAB (THANKSGIVING)**		
	Th	11/24	**NO CLASS (THANKSGIVNG)**		-
15	T	11/29	Wood destroying insects, part 1		
	LAB		LAB: Termites- I walk the line (Experiment)		
	T	12/1	Wood destroying insects, part 2		
16	T	12/6	Non-insect pests of the home **(quiz 10)**		
	T	12/13	**FINAL EXAM <u>2:00 to 3:45</u>**		

**** This schedule is tentative. All changes will be discussed in class and/or on Carmen****