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270-01 271-01 Introduction to Entomology & Lab

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**Introduction to Entomology**

Lecture: T, TH 11:30 to 12:45 107 Albers  
Lab: T, TH 1:30-3:20 202 Albers  
5 credit hours; co-enrollment in lecture and lab is required

Instructor: Ann M. Ray, Ph.D.  
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NOTE: I do not have any office hours or appointment times on Wednesday, because that is my sacred research time. This doesn’t mean (as RateMyProfessor.com says) I don’t care about my students. It means that I need to devote one day each week to being an entomologist, so that I can be a good teacher, and so I can get tenure.

**Course Description**

This lecture portion of this course provides an introduction to the taxonomy, morphology, physiology, behavior, ecology, and evolution of insects and related arthropods.

The laboratory portion of the course provides instruction in techniques to identify, collect, curate, and observe insects and related arthropods.

**Textbook**

None Required. HOWEVER...

Strongly recommended: Photographic Atlas of Entomology & Guide to Insect Identification by James L. Castner, ISBN: 978-0962515040 (This is a valuable tool for studying for lab practicals. I have several copies in the lab, but you can’t take them out of the lab since people steal things).

Recommended: Borror and DeLong’s Introduction to the Study of Insects, 7th edition. You could get away with an earlier edition (and save a couple hundred dollars—I recognize this is an expensive book). This is a traditional textbook, and probably the most widely used textbook for introductory entomology courses. So…this is sort of like the Campbell Biology of the field of entomology. If you are planning to continue in entomology or in environmental science, ecology, even public health or parasitology, you might want to own this book. It is most useful as a reference for keying insects and for learning about the natural history of groups.

Another good textbook is Daly and Doyen’s Introduction to Insect Biology and Diversity. This used to be the textbook for the course, but I found that it was WAAAAY over the heads of most introductory students.  

I will also refer occasionally to Jan Pechenik’s A Short Guide to Writing for Biology.

**Online Resources**

You can access Canvas through the XU website. Scores and announcements will also be posted here. I will post lecture PowerPoints and other notes on Canvas. All students should be advised that lecture PowerPoints are DRAFTS and are subject to change. PowerPoint slides are not stand-alone documents, you will not succeed in the course by memorizing them, and you will be expected to take notes in class.

**Accommodations**

I welcome the opportunity to accommodate the needs of all learners. If you have a documented disability, please contact the LAC at 745-3214 to make appropriate arrangements. Please do this early in the semester to avoid delays.

**Attendance and participation**

I expect you to attend class. Participation accounts for 30 points of your total grade and you must attend to participate. Participation grades are solely at my discretion and I reserve the right to deduct additional points for truly excessive absences. Aspects that I will consider in determining participation grades may include (but are not limited to) attendance,
punctuality, enthusiasm, answering and asking questions in class, good faith effort in lab activities, being a good lab citizen, maintaining a positive attitude, and engaging with the material and with peers.

I also expect you to be respectful of your peers and of me. Turn your cell phone to silent. Try not to sleep. Avoid texting, Snapchatting, looking at BuzzFeed, or otherwise browsing the internet. Wireless-enabled devices can be used to take notes, look up supporting materials, or to make sound recordings of the lecture. I reserve the right to ban technology that interferes with the learning environment.

Exams?
Huge midterm exams stress everyone out and lead to cramming. So, I am going to try something new. Instead of big crazy exams, we will have 25 quiz points each week. Most often, I will give you traditional, closed notes, in-class quizzes. Sometimes, I will give you a take home quiz or a group quiz, or combinations. In the weeks leading up to the due date for the Evolution assignment, your proposals and outlines will count as the quiz points. Normally, quizzes will be scheduled, but I reserve the right to give pop quizzes. I will drop the lowest quiz score. The paper proposal and outline are required and the scores for those two assignments cannot be dropped.

Quizzes will cover information from lectures and material from any additional readings, activities, or assignments. You will also be expected to integrate and apply information from lab during lecture quizzes. Quizzes may contain multiple choice, true/false, short answer and essay questions.

Lab practicals will take place during the scheduled lab time. They will usually take one hour, and lab activities will be planned after the practicals are completed.

I would like everyone to take the quizzes/practicals at the scheduled time. There will be no written make up quizzes, but one quiz grade will be dropped (use it wisely). If I am forced by some outside entity, all conflict/make up activities (regardless of reason) will be oral, and will be awkward.

If you miss a practical for any reason, you must email me as soon as possible to explain your absence. **IF YOU DO NOT EMAIL ME WITHIN 36 HOURS OF THE QUIZ/PRACTICAL, YOU WILL NOT BE ALLOWED TO MAKE UP THE PRACTICAL AND YOU WILL RECEIVE A SCORE OF 0 FOR THAT PRACTICAL.**

If you miss the final quiz with a suitable excuse, you will receive an Incomplete for the course (or I will drop that quiz score). At the beginning of next semester, you must contact me within one week for a make-up quiz. If you miss the final quiz without a suitable excuse, your grade for that quiz will be 0.

Insect Collection
An insect collecting guide and a rubric for the insect collection are posted separately on Canvas. Insect collections are due the final Friday of classes at 4 pm. Late collections will be penalized 20 points per day (including weekend days) and collections will not be accepted after 5 pm, Monday of finals week. Failure to turn in an insect collection will result in an automatic failing grade for the lab.

Academic Honesty
Don’t cheat. Demonstrate integrity. Cheating hurts other students and harms the reputation of the university. Cheating is insulting to me. Cheating embarrasses everyone. Therefore, the penalty for academic dishonesty in this course is 0 points on the assignment/quiz or a failing grade in the course (depending on the severity/nature of the offense). For example: copying and pasting large amounts of text from a peer’s paper and turning it in as your own work for a major assignment constitutes severe academic dishonesty, and would result in a failing grade for the class. Writing the answers to your practical on your hands is less severe and will result in a failing grade on the quiz. Per university policy, academic dishonesty will be reported to the dean’s office. If I catch you cheating, you tie my hands. I have no choice but to report academic dishonesty, because I will get in big trouble if I don’t. It is your responsibility to educate yourself about what constitutes academic dishonesty.

Grading
There are a total of 620 possible points for lecture and 400 points for lab. Lecture and lab grades will be calculated separately and you will receive separate grades for lecture and lab.

I will not track you down or beg you to turn in assignments. If you forget, or leave your assignments at home, or have a med school interview or whatever, it is your responsibility to remember to turn in your homework. “I couldn’t find you” or “I don’t have a printer” or “I drink too much” are not excuses. Acceptance of late work is solely at my discretion. It’s a gamble to turn in work late because I may or may not accept it, and I may or may not deduct points for it.

Lecture
16 quizzes x 25 points each: 400 total points
Insect evolution review article: 100 points
Insects in culture group presentation: 50 points
Written summary of group presentation, with correctly formatted references (one per group): 40 points
Participation: 30 points

Lab
Practicals (number TBD): 200 total
Insect collection: 100 points
Quizzes/assignments: 100 points (weighted score)

Grading Scale
A = 93% and above
A- = 90-92%
B+ = 88-91%
B = 84-87%
B- = 80-83%
C+ = 77-79%
C = 73-76%
C- = 70-72%
D+ = 67-69%
D = 63-66%
D- = 60-63%
F = below 60%

Schedule (posted separately)

Student Learning Outcomes
When you are finished with Introduction to Entomology lecture and lab, you should be able to:

- Describe the physical characteristics and life histories of arthropod classes and orders, and families of insects (lecture & lab: quizzes and practicals)
- Identify arthropods to class, and selected hexapods to order and family (lecture & lab: quizzes and practicals)
- Employ a variety of insect collection methods (lab: insect collection)
- Demonstrate proper insect curation techniques (lab: insect collection)
- Describe the key physiological and behavioral adaptations that contribute to the evolutionary success of insects (lecture & lab: assignments, quizzes and practicals)
- Explain the ecological roles of insects in terrestrial and aquatic ecosystems (lecture & lab: exams, quizzes and practicals)
- Evaluate the role of insects in the evolution of other organisms, especially humans and other vertebrate animals (lecture & lab: quizzes, assignments, quizzes; review article; presentations)
- Demonstrate proficiency in gathering, analyzing, and synthesizing scientific literature (lab activities; review article; presentation)
- Demonstrate proficiency in writing a scientific review article for an audience of peers (review article)
• Read and interpret graphical data pertaining to insects and related arthropods (lab exercises; lecture: quizzes)
• Relate knowledge of entomology (obtained by accomplishing the previous goals) to future careers, culture, and/or society (quizzes, insect collection, presentations)

I reserve the right to make changes to this syllabus.