

Entomology Syllabus

Instructor:

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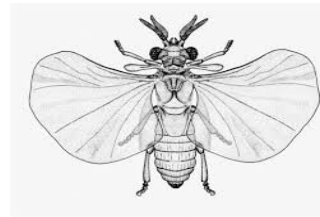
CEL Instructor:

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Teaching Assistant:

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Class meets: TuTh / 09:10AM-10:30AM, Crocker Science Center (CSC) 25

Text: Daly and Doyen's Introduction to Insect Biology, Fourth Edition. James B. Whitfield and Alexander Purcell III. Oxford University Press.

Course Web site: Canvas.

Course Outcomes

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

- discuss the evolutionary relationships of insects to other groups of invertebrates, especially the major groups of arthropods and the relationships of arthropods to other major invertebrate phyla.
- discuss the evolutionary relationships of insect orders in the major groups of insects (Paleoptera, Neoptera, Polyneoptera, Paraneoptera and the Holometabola) and the factors that led to the diversification of these groups.
- identify the five basic insect mouthparts and discuss how they have been modified during evolution and the role these modifications have played in insect feeding

behavior and diversification.

- discuss the evolutionary origin and mechanics of insect locomotion, sensory systems, and sound production.
- discuss the diversity of insect development and the role polyphenisms play in insect evolution and diversification.
- discuss the coevolutionary interactions between insects and plants, both mutualistic and antagonistic.
- discuss the origins and behavioral ecology of social insects and why their study is fundamental to our understanding of social behavior in general.
- demonstrate an appreciation of the diversity and utility of insects in many aspects of your life.
- Discuss the importance of community-based work to the public and scientific communities' understanding and conservation of insects.

Assignments and Grading

Course grade will be determined from your percentage score out of **400** total points. Cumulative scores of 90%, 80%, 70% or 60% will guarantee grades of not less than A-, B-, C- and D, respectively.

Quizzes (5 @ 20 points each)	100
CEL work and assignments	100
Insect natural history paper & presentation	100
Take-home final	100
Total	400

Quizzes. Quizzes will take place during the first 20 mins of class on five occasions evenly distributed throughout the course. Questions will be cumulative but will emphasize the material covered during the previous three weeks. Format will be short to medium answer questions. Quizzes will be graded and returned to you within one week.

CEL Project & Self-Reflection Essay/Discussion. All students will be required to participate in a Community Engaged Learning (CEL) project during the course. CEL is a high impact teaching practice that enhances and deepens students' understanding of an academic discipline by facilitating the integration of theory and practice. This teaching method provides students with hands on learning experiences that develop life skills and with opportunities to engage in critical reflection. CEL also gives students the intellectual space to understand and contribute to the public purpose of their chosen major or discipline.

This semester there will be two aspects to our CEL project. First, we will work on building a digital collection of insects found in the university area through the app iNaturalist. The second part of the project will either consist of community outreach to educate people on the importance of insects; or assist the community project called "Utah Pollinator Pursuit" by helping pin and identify native bumble bees collected from all over Utah! Details of these projects and the self-reflection essay/discussion will be explained in class by Dr. Amanda Hoepfner (amanda.hoepfner@utah.edu), the Community

Engaged Learning Coordinator for the School of Biological Sciences, on the first day of class.

Insect Natural History Paper & Presentation. Each student will be required to write a short paper on the natural history of an insect species selected by a fellow student in the class. Students will be required to give a 5-minute PowerPoint presentation to the class. How students will select insect species will be explained during class.

Take-home Final. Format of the final will be long-answer essay questions. It may involve questions that require you to integrate all that you have learned about insects during the semester. It may also ask you to evaluate a scientific paper on insects.

Entomology Lecture Schedule

Date	Topic	WP chapter
Aug	24 Tu Introduction	1
	26 Th Morphology, Integument	2,3
	31 Tu Physiology, Growth	4,5,6
Sep	2 Th Reproduction. CEL Reflection Discussion	4
	7 Tu QUIZ #1. Taxonomy & Systematics	15
	9 Th Terrestrial Arthropods	16,18-21
	14 Tu Polyneoptera	22-31
	16 Th Polyneoptera (cont.)	
	21 Tu Paraneoptera	32-35
	23 Th QUIZ #2. Paraneoptera (cont.)	
	28 Tu Holometabola	36-38
	30 Th Coleoptera	39-40
Oct	5 Tu Hymenoptera	41
	7 Th Hymenoptera (cont.)	
	10-17 Fall Break	
	19 Tu Sociality	7
	21 Th QUIZ #3. Diptera	42-44
	26 Tu Diptera (cont.)	
	28 Th Lepidoptera	45-46
Nov	2 Tu Guest lecture	
	4 Th Mimicry	
	9 Tu Diversity and Adaptations	8
	11 Th QUIZ #4. Insects and Plants	9
	16 Tu Entomophagous insects	10
	18 Th Insects and microbes	11
	23 Tu Medical entomology	12
	25 Th Thanksgiving	
	30 Tu Pest management	13
Dec	2 Th Insect conservation. CEL Reflection Discussion	14
	7 Tu QUIZ #5. Student presentations	
	9 Th Take-home final; Student presentations	
	14 Tu Turn in take-home final by 10:00am	

Diversity / Inclusivity Statement

It is the intent of the instructors that students from all diverse backgrounds and perspectives be well served by this course, that students' learning needs be addressed both in and out of class, and that the diversity that students bring to this class be viewed as a resource, strength and benefit. It is our intent to present materials and activities that are respectful of diversity: gender, sexuality, disability, age, socioeconomic status, ethnicity, race, and culture. Your suggestions are encouraged and appreciated. Please let us know ways to improve the effectiveness of the course for you personally or for other students or student groups.

University Policies

1. ***The Americans with Disabilities Act.*** The University of Utah seeks to provide equal access to its programs, services, and activities for people with disabilities. If you will need accommodations in this class, reasonable prior notice needs to be given to the Center for Disability Services, 162 Olpin Union Building, (801) 581-5020. CDS will work with you and the instructor to make arrangements for accommodations. All written information in this course can be made available in an alternative format with prior notification to the Center for Disability Services.
2. ***University Safety Statement.*** The University of Utah values the safety of all campus community members. To report suspicious activity or to request a courtesy escort, call campus police at 801-585-COPS (801-585-2677). You will receive important emergency alerts and safety messages regarding campus safety via text message. For more information regarding safety and to view available training resources, including helpful videos, visit safeu.utah.edu.
3. ***Addressing Sexual Misconduct.*** Title IX makes it clear that violence and harassment based on sex and gender (which includes sexual orientation and gender identity/expression) is a civil rights offense subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories such as race, national origin, color, religion, age, status as a person with a disability, veteran's status or genetic information. If you or someone you know has been harassed or assaulted, you are encouraged to report it to the Title IX Coordinator in the Office of Equal Opportunity and Affirmative Action, 135 Park Building, 801-581-8365, or the Office of the Dean of Students, 270 Union Building, 801-581-7066. For support and confidential consultation, contact the Center for Student Wellness, 426 SSB, 801-581-7776. To report to the police, contact the Department of Public Safety, 801-585-2677(COPS).
4. ***Undocumented Student Support Statement.*** Immigration is a complex phenomenon with broad impact—those who are directly affected by it, as well as those who are indirectly affected by their relationships with family members, friends, and loved ones. If your immigration status presents obstacles to engaging in specific activities or fulfilling specific course criteria, confidential arrangements may be requested from the Dream Center. Arrangements with the Dream Center will not jeopardize your student status, your financial aid, or any other part of your residence. The Dream Center offers a wide range of resources to support undocumented students (with and without DACA) as well as students from mixed-status families. To learn more, please contact the Dream Center at 801-213-3697 or visit dream.utah.edu.

5. **Drop/Withdrawal.** The course withdrawal policy is the same as the University of Utah policy described in the Class Schedule. Friday, September 4, is the last day to drop with no tuition and no notation on the transcript, add the course, or elect the CR/NC or audit option. Friday, October 16, is the last day students can withdraw from classes, but tuition will be assessed. Friday, November 27, is the last day to reverse a CR/NC option.
6. **Academic Misconduct.** All suspected cases of academic misconduct including cheating, answering clicker questions for someone else, and plagiarizing will be dealt with according to rules in the student code, University policy 6-400(V). Please know that looking into someone else's exam is cheating and will be dealt with seriously as stated above. By accepting admission to the University, you have agreed to abide by the University rules provided to you in the student handbook. Cheating and plagiarism are serious offenses and can result in getting a zero on the assignment, failing a class, a note in your record, or being expelled. Here is the link: <http://www.admin.utah.edu/ppmanual/8/8-10.html>
7. **Wellness Statement.** Personal concerns such as stress, anxiety, relationship difficulties, depression, cross-cultural differences, etc., can interfere with a student's ability to succeed and thrive at the University of Utah. For helpful resources contact the Center for Student Wellness at <http://www.wellness.utah.edu> or 801-581-7776.
8. **Veterans Center.** If you are a student veteran, the U of Utah has a Veterans Support Center located in Room 161 in the Olpin Union Building. Hours: M-F 8-5pm. Please visit their website for more information about what support they offer, a list of ongoing events and links to outside resources: <http://veteranscenter.utah.edu>. Please also let me know if you need any additional support in this class for any reason.
9. **LGBT Resource Center.** The LGBT Resource Center acts in accountability with the campus community by identifying the needs of people with a queer range of (a)gender and (a)sexual experiences and responding with university-wide services. Their website is <http://lgbt.utah.edu> and you can contact them at lgbtrc@sa.utah.edu or 801-587-7973.
10. **Learners of English as an Additional/Second Language.** If you are an English language learner, please be aware of several resources on campus that will support you with your language and writing development. These resources include: the Writing Center (<http://writingcenter.utah.edu>); the Writing Program (<http://writing-program.utah.edu>); the English Language Institute (<http://continue.utah.edu/eli>). Please let me know if there is any additional support you would like to discuss for this class.

Course Policies

1. **Rescheduling Quizzes and Exams.** Rescheduling of quizzes and exams is allowed only under extreme extenuating circumstances, such as serious illness or injury. Written documentation, such as a doctor's note, is required in each case. Rescheduled quizzes and exams are also allowed for school-sponsored activities, such as athletics, if a letter from the sponsoring unit is provided.
2. **Regrading Quizzes and Exams.** Quizzes and exams are graded with care against a predetermined key. We will correct any addition or other overt errors on quizzes

and exams, but we will NOT regrade them.

3. **Attendance & Punctuality.** The University and your instructors expect all students to attend all class meetings. Students are expected to acquaint themselves and satisfy the entire range of academic objectives and requirements as defined by this syllabus. Given the nature of this course, regular attendance is required and adjustments cannot be granted to allow non-attendance. However, if you need to seek an ADA accommodation to request an exception to this attendance policy due to a disability, please contact the Center for Disability and Access (CDA). CDA will work with us to determine what, if any, ADA accommodations are reasonable and appropriate.
4. **Electronic Devices in Class.** Students are encouraged to use their primary electronic devices (laptops/tablets) to access course content. Devices may only be used for course-related material during class, and the instructor holds the right to ask you to leave the classroom if you are using your device for other purposes.
5. **Equipment Failure.** It is your responsibility to maintain your electronic equipment for participation in the course assignments.
6. **Computer and Canvas Literacy Expectations.** Students are expected to be computer and internet literate to take this course, including canvas navigation skills. For Canvas orientation, see <https://utahtacc.zendesk.com/hc/en-us/articles/205654094>. Call 581-4000 for CIS help or bring your laptop to Knowledge Commons on second floor of Marriott Library for help.
7. **Online Classroom Equivalency.** Discussion threads, emails and canvas are all considered equivalent to classrooms, and student behavior within those environments shall conform to the student code. Specifically:
 - a) Posting photos or comments off-topic in a classroom are also off-topic in an online forum.
 - b) Off-color language and photos are never appropriate.
 - c) Using angry or abusive language is not acceptable and will be dealt with according to the student code.
Do not use ALL CAPS, except for titles since it is an equivalent of shouting online, as is overuse of punctuation marks such as exclamations!!!!!! And question marks?????
 - d) Course e-mails and other online course communications are part of the classroom and as such are University property and subject to the Student Code. Privacy regarding these communications between correspondents must not be assumed and should be mutually agreed upon in advance, in writing.

COVID

Biology 5480 will be meeting in person during the designated class time. According to the CDC, wearing a mask remains an effective means of preventing infection for both unvaccinated and vaccinated people. Regardless of what someone chooses (mask or no mask), the university seeks to foster a sense of community and asks everyone on campus to be respectful of individual decisions on mask wearing.

While Utah law prohibits state universities from requiring COVID-19 vaccinations, all members of the University of Utah community are encouraged to receive a COVID-19 vaccine.

- Vaccination is proving highly effective in preventing severe COVID-19 symptoms,

hospitalization, and death from coronavirus.

- Vaccinations are available to everyone 12 years and older. Appointments are open in the U of U Health system for patients as well as additional vaccine providers throughout Utah. For up-to-date campus vaccination information go to: <https://alert.utah.edu/covid/vaccine/>

Under university policies:

- COVID-19 Campus Guidelines. Current information about the university's response to COVID-19 can be found at: <https://coronavirus.utah.edu>
- On-campus vaccination information: <https://alert.utah.edu/covid/vaccine/>
- COVID testing information: <https://alert.utah.edu/covid-19-testing/>
- Self-reporting forms: In order to help monitor the spread of COVID-19 and respond appropriately, the university requires that all students, faculty and staff complete a reporting form if they have been exposed to, are being tested for or have been diagnosed with COVID-19. The form can be found through: <https://coronavirus.utah.edu>
- Exposure guidelines: If you have been exposed to COVID-19, you should read and follow the guidelines posted under Guidance for the Campus Community at: <https://coronavirus.utah.edu>

Note: This syllabus is meant to serve as an outline and guide for our course. Please note that I may modify it with reasonable notice to you. I may also modify the Course Schedule to accommodate the needs of our class. Any changes will be announced in class and posted on Canvas under Announcements.