Insect Classification and Evolution

[IB 468 ]

Syllabus Fall 2023

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Things you can learn in this course

What are major evolutionary innovations of insects?
What defines insects and distinguishes major groups from one another?
How can I identify important species?
What are the relationships between groups of insects?
How does the past help us better understand living biodiversity?
Course description

Overall Course Goals
1. Use phylogenetics as a framework for understanding biodiversity in a wholistic way
2. Be able to identify and describe animals that are evolutionarily, ecologically, and economically important.
3. Integrate knowledge of ecology, behavior, developmental biology, and evolution to compare and contrast major evolutionary innovations among animals and their form-function relationships

Textbook
The course is based around the textbook Daly and Doyen’s Introduction to Insect Biology and Diversity. This textbook is not required but recommended, especially if you have not taken a course in evolutionary biology. However, if you don’t have the textbook, you are required to have an identification book/field guide that covers all major insect groups in North America. The recommended ones are:
- National Wildlife Federation Field Guide to Insects and Spiders & Related Species of North America by Arthur V. Evans
- Peterson First Guide To Insects Of North America

Scheduling
Time: 10:00-11:50am Monday + Wednesday
Room: 4072 Natural History Building
Course schedule

Teaching Assistant
Phillip Hogan
Email: pnhogan2@illinois.edu
For room # and office hours contact your TA

Professor
Dominic Evangelista
Email: dominice@illinois.edu
Lab Website: www.roachbrain.com
Office: 460 Morrill Hall
Office hours: Schedule office hours (online)

Course interaction/Software
Learning management system
Perusall HWs

Everyone must join PeruseAll and enroll in our course (course code: EVANGELISTA-ZHTB9).

Course Policies
Attendance/Participation
Attendance will not be taken officially. You are expected to (a) be present for group work and (b) meaningfully contribute to the final product your group submits. Absences can be excused for religious observances if notification is provided a week ahead of time. Absences are also excused for other reasons (e.g., physical health, mental health, family emergencies, some COVID-19
related circumstances) with doctor’s notes or other proof provided. Even if you are absent you will still need to complete all activities, and to contact your classmates for information on material you missed. Participation points may also be contingent on other assignments throughout the semester.

**Lateness**
Deadlines allow assignments to be more (i) fair for all students, and (ii) easily graded. To incentivize timeliness, the maximum possible grade on an assignment will be reduced by 10% every 24-hour period after the assignment is late.

**Accessibility**
All students are entitled to having fair access and opportunity to all course materials, assignments and assessments within reasonable accommodation. If an accessibility issue prevents you from participating in lab or on the field trips (which are optional) you should discuss this with Dr. Evangelista and/or your TA. We will make special accommodations for those in need. You can also contact the student access office to arrange individual accommodations (e.g., extra time on exams, access to technology): [https://oae.illinois.edu/our-services/accessibility-and-accommodations/](https://oae.illinois.edu/our-services/accessibility-and-accommodations/).

**Academic Integrity Policy**
University of Illinois
The Student Code ([http://studentcode.illinois.edu/article1_part4_1-401.html](http://studentcode.illinois.edu/article1_part4_1-401.html)) outlines cases that constitute violations of academic integrity as well as the process for dealing with accusations, and potential consequences. The violations include: cheating, plagiarism, fabrication, academic interference, facilitating violations from others (e.g., letting someone copy your work), and bribes. Please read the code for specifics of each, the process for dealing with violations, and consequences. Keep in mind that academic integrity violations are reported to the campus-wide system.

**This course**
This course will uphold each of the academic honesty points listed in the U of I Student Code. In accordance with the code, your instructor will determine the appropriate punishment. Penalties for violating this policy will be dealt with based on the weight of the assignment and severity of the infraction. Here is a guide:

- **Major assignments** (i.e., those worth ≥5% of the total course grade)
  - Minimum penalty of 0 on the assignment with no possibility of repeating it
  - Likely penalty of a grade of F in the course

- **Minor assignments** (i.e., those worth ≤5% of the total course grade)
  - Minimum penalty of 0 on the assignment, with option to repeat the assignment

A second minor assignment infraction will be treated as a major assignment infraction, and you thus will risk failing the course.
Grading
Assignments & Grades

Assignment types & description
1. **Exam & Quizzes**
   a. Two exams and four quizzes
   b. Identify given insects and answer questions about insect evolutionary history
2. **Insect collection**
   a. Build an identified and well-curated insect collection
3. **Phylogeny project**
   a. Construct a phylogeny on your insect taxon of choice, and submit it.
4. **HW**
   a. A written assignment, or an analysis of a research paper

Grade scale
This is a guide to how your total % grade at the end of the semester will correspond to your final letter grade.
Note: This is NOT a guide to how you are graded on individual assignments.
Grade Appeals
For all assignments, you should appeal any problem/question you feel is unfair. Appropriate grounds for appeal are:

1. The question/problem is flawed…
   a. The “best answer” as given by the professor is not the best answer
   b. The problem was worded so ineffectively that the “best answer” could not possibly be determined

2. The foundation is flawed…
   a. Given a perfect understanding of the learning objectives (relative to the reading material) it was not possible to determine the “best answer”.
   b. The learning objective being tested was not effectively/appropriately framed
   c. The learning objective being tested was not effectively supported by information in the reading material

3. The grade is flawed…
   a. The question is correct but the professor did not grade the answer correctly.

Ideally, you should write your appeal, but you can just speak to the professor about it in order to save time. For all appeals please refer to one of the above reasons for your appeal. Grounds 1a, 2a, 2b, 2c require that you give supporting information in your textbook, or another reliable source. Grounds 1b and 2b require strongly formulated reasoning. Ground 3a just requires that you show it to me, and I will check it.

Course format explanation
Learning cycle
Knowledge hierarchy
The diagram below shows the hierarchy of knowledge the course is intended to aim for. The broadest topics are at the top and the narrowest uses of the broader knowledge are towards the bottom. All the topics in the course are linked as an exploration of the evolutionary tree of insect life. The three elements under that canopy are systematic, ecological, and physiological aspects of life. Our course will focus mostly on the systematic knowledge but ecological and physiological knowledge will be used throughout as well.

Community Standards
Professor’s expectations of the student
- You are fully informed about what plagiarism is (i.e., you have watched Professor Evangelista’s lecture on plagiarism; you have taken this quiz, viewed your score, and read the explanation of correct answers)
- You have read any assigned textbook sections before attending class. You cannot effectively participate in class if you have not done the readings.
- You will ask questions during class (or in the course group chat) to clarify issues you are unclear about.
- You are aware of where to find course materials (Canvas), how to contact the professor (also Canvas), and the information in this document (the syllabus).
- You will maintain a professional demeanor with the professor, classmates, and your group members.
- You will not dominate the classroom discussions by being aware of other people’s right to speak, inviting others to speak, and being patient.
- You will not violate the University of Illinois code of academic honesty

Group Work Expectations
All points made below are expected from the group, individual and professor. If person or group is not meeting these expectations this will result in: grade reduction (in the case of the student or group), group restructuring (in the case of the group), or verbal reprimand and/or grade increase (in the case of the professor).
Course/Group Ethic

1. I will be a positive influence in my group. I will address personal problems that occur between members of my group.
2. I will be present for group activities because my absence hurts my group members.
3. I will take effective notes and share them with my group members, especially ones who are not present.
4. I will help any group members who need assistance, as long as it doesn’t negatively impact my own ability to complete coursework.
5. I will act with a professional demeanor in my interactions with my group members.

Class Work

7. I will take personal responsibility for my contributions, or lack of contributions to group work.
9. I will always make sure that I have am working on an activity that furthers the goals of the group. If not, I will ask group members how I can help.
10. I will leave room for other group members to participate in some productive capacity.

Learning and Personal Achievement

10. I understand that my learning is ultimately my own responsibility.
11. I should not expect things from my group that I cannot expect from myself.
12. I understand that the explicit help given by my professor is only one part of the learning process.

Professor’s Responsibility

It is my professor’s responsibility to…

1. To assess my knowledge thoroughly and fairly.
2. Promptly inform me of what is expected of me for every class.
3. Clarify misconceptions and bad thinking that cannot be resolved by group discussion.
4. Resolve group conflicts that permanently threaten the well-being of the group.
5. Give me opportunities to be informed of my grades and progress in the course.
6. To ensure that my class is an effective learning environment.

Inclusivity

An effective learning environment is one where students can focus on learning, feel supported by their peers and teacher, and are empowered to take charge of their own learning. If a student cannot focus on learning because they feel judged, belittled, or excluded this is ineffective for learning. As such, exclusionary, derogatory, or other harmful speech (such as racism, sexism, homophobia, transphobia, etc.) will not be tolerated and in some cases subject to University harassment procedures. Since this is a biology course, there are also cases where such speech would demonstrate gross misunderstanding of biological principles and may be grounds for a grade deduction. Every person in the course is responsible for upholding the rights of other students, giving respect to others’ opinions, and utilize a humility as a buffer towards ignorance. We each take responsibility for our own learning, behavior, and human decency.

Support Resources

As members of the Illinois community, we each have a responsibility to express care and concern for one another. If you come across a classmate whose behavior concerns you, whether in regards to their well-being or yours, we encourage you to refer this behavior to the Student Assistance...
As a Community of Care, we want to support you in your overall wellness. We know that students sometimes face challenges that can impact academic performance (examples include mental health concerns, food insecurity, homelessness, personal emergencies). Should you find that you are managing such a challenge and that it is interfering with your coursework, you are encouraged to contact the Student Assistance Center (SAC) in the Office of the Dean of Students for support and referrals to campus and/or community resources. The SAC has a Dean on Duty available to see students who walk in, call, or email the office during business hours. For mental health emergencies, you can call 911 or contact the Counseling Center.

**Family Educational Rights and Privacy Act (FERPA)**
Any student who has suppressed their directory information pursuant to Family Educational Rights and Privacy Act (FERPA) should self-identify to the instructor to ensure protection of the privacy of their attendance in this course. See https://registrar.illinois.edu/academicrecords/ferpa/ for more information on FERPA.

**Sexual Misconduct Policy and Reporting**
The University of Illinois is committed to combating sexual misconduct. Faculty and staff members are required to report any instances of sexual misconduct to the University’s Title IX and Disability Office. In turn, an individual with the Title IX and Disability Office will provide information about rights and options, including accommodations, support services, the campus disciplinary process, and law enforcement options.

A list of the designated University employees who, as counselors, confidential advisors, and medical professionals, do not have this reporting responsibility and can maintain confidentiality, can be found here: https://wecare.illinois.edu/resources/students/#confidential

Other information about resources and reporting is available here: wecare.illinois.edu