

Spring 2022
Behavioral Ecology and Systematics of Insects
(ENY 4453, 6454)

W 1:55-3:50pm, F 1:55-2:45pm,
Steinmetz Hall, Rm 1027

Instructor: Dr. Marc Branham
Rm 2005, Steinmetz Hall
Office hours: Monday 3:30-5:00pm, or by appointment
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The goal of this course is to provide you with a sound theoretical and practical understanding of behavioral ecology and how phylogenetic methods can be employed to develop hypotheses of how various characters (whether morphological or behavioral) have evolved. While the course is not a class on “Phylogenetic methods” it is meant to teach students what a powerful tool phylogeny reconstruction is and the types of studies (and questions) it can be applied to. This designed to provide students with an understanding of the scientific method as a system of inquiry and evolutionary theory as methods to study character change within biological systems.

Required Text: None. We will read a variety of literature (both literature reviews and primary literature) focusing on the topics of behavioral ecology and systematics of insects. These selected readings will be distributed in class on the Tuesday of the week they will be discussed.

Learning Objectives:

- Develop an understanding of evolutionary processes that shape insect behavior
- Use examples from insect behavior to illustrate the scientific method
- Understand how to interpret character evolution across a phylogeny
- Describe various ways insects have evolved to meet specific challenges associated with mate choice, competition, communication and navigation.
- Develop experience in problem solving, forming testable hypotheses and general experimental design

Final Grading Scale:

Percentage	93-100	A
	90-92	A-
	87-89	B+
	83-86	B
	80-82	B-
	77-79	C+
	73-76	C
	70-72	C-
	67-69	D+

63-66	D
60-62	D-
59-below	E

For further information about the current UF Grading Policies for assigning grade points, go to <http://www.registrar.ufl.edu/catalog/policies/regulationgrades.html>.

Grading Criteria:

Undergraduate

Exam #1	20%
Exam #2	20%
Final Exam	35%
Exercises and quizzes	15%
Class participation (exercises, discussions, etc.)	10%

Graduate

Exam #1	20%
Exam #2	20%
Final Exam	35%
Exercises and quizzes	10%
Organize and lead discussion	10%
Class participation (exercises, discussions, etc.)	5%

Course Schedule:

Week	Topic
1 (Jan. 5, 7)	The Nature of Science and the Scientific Method
2 (12, 14)	Evolution and the Natural Selection
3 (19, 21)	Inheritance and Behavior
4 (26, 28)	Insect Defensive Behavior
5 (Feb. 2, 4)	Sexual Selection – Female Choice
6 (9, 11)	Sexual Selection – Male-Male Competition
7 (16, 18)	Sexual Selection – After Copulation
8 (23, 25)	EXAM 1 (March 23) Documentary Film – Beetle Mania (Feb. 25)

9	(March 2, 4)	Phylogenetic Systematics
10	(9, 11)	<i>SPRING BREAK</i> (March 7-11)
11	(16, 18)	Insect Parental Care
12	(23, 25)	Sociality in Insects (Guest Lecture)
13	(March 30, April 1)	Insect Communication
14	(6, 8)	Insect Navigation
15	(13, 15)	EXAM 2 (April 13) READING DAY, (no class) (April 15)
16	(20)	Guest Lecture
	(22)	No Class, READING DAYS (April 21-22)
17	April 28	FINAL EXAM (12:30-2:30pm) Rm 1027

Exams:

Exams will be written and composed of at least one (if not more) of the following type questions: multiple choice, short answer or essay. Short answer and essay will be the most common. **Only the Final Exam is cumulative.**

Exercises and Quizzes:

Quizzes will only cover material presented in lecture or lab from the most recent class period. Material covered will correspond to the activity assigned for that week. Quizzes will normally be given at the start of class on Fridays and the format of these quizzes is short answer and/or essay. No quizzes can be made up without prior approval, but the lowest quiz score will be dropped. Exercises will generally focus on the students applying concepts recently presented, either individually or in a group setting.

Graduate Student Requirement – leading a class discussion on a paper of their choice:

The goal of the student lead discussions are to provide an opportunity for students to investigate a topic within behavioral ecology that they are interested in, beyond the general treatment it will receive in my lecture - and tease apart these topics with their classmates. Graduate students are required to select a published paper on a topic of interest to them (which falls under the scope of one of the topics covered on the course syllabus) and lead a 30min. class discussion covering this paper. Graduate students are encouraged to meet with the instructor early in the course to discuss topic/paper selection. Each discussion will be graded roughly in line with evaluations submitted by the students enrolled in the class where present during the discussion. (More on the specifics concerning how discussions will be graded will be provided at a later date.) The goal of this exercise is for the graduate students to lead a discussion focused on facilitating an understanding of the content of the selected paper. This is not intended to be a lecture

presented by the graduate student. All students in the class are required to participate in these discussions (e.g. a percentage of your course grade is devoted to class participation.)

Attendance:

Students are responsible for all material distributed in and/or discussed in class. In the case of skipped classes, students are advised to obtain lecture notes and handouts from classmates unless there is a legitimate excuse, in which case I will be happy to help. Make-ups are not given except under circumstances of excused absence. Letting me know of a conflict or problem ahead of time may be all it takes to reach an arrangement.

Additional General Information: The following information applies to courses at the University of Florida.

Online Course Evaluation Process

Student assessment of instruction is an important part of efforts to improve teaching and learning. At the end of the semester, students are expected to provide feedback on the quality of instruction in this course using a standard set of university and college criteria. Students are expected to complete course evaluations online via GatorEvals. Guidance on how to give feedback is available at: <https://gatorevals.aa.ufl.edu/students/> Students will be notified when the evaluation period opens and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via <https://ufl.bluera.com/ufl/> Summaries of course evaluation results are available to students at: <https://gatorevals.aa.ufl.edu/public-results/>

Academic Honesty

As a student at the University of Florida, you have committed yourself to uphold the Honor Code, which includes the following pledge: “We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honesty and integrity.” You are expected to exhibit behavior consistent with this commitment to the UF academic community, and on all work submitted for credit at the University of Florida, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment." It is assumed that you will complete all work independently in each course unless the instructor provides explicit permission for you to collaborate on course tasks (e.g. assignments, papers, quizzes, exams). Furthermore, as part of your obligation to uphold the Honor Code, you should report any condition that facilitates academic misconduct to appropriate personnel. It is your individual responsibility to know and comply with all university policies and procedures regarding academic integrity and the Student Honor Code. Violations of the Honor Code at the University of Florida will not be tolerated. Violations will be reported to the Dean of Students Office for consideration of disciplinary action. For more information regarding the Student Honor Code, please see: <http://www.dso.ufl.edu/sccr/process/student-conduct-honor-code>.

Software Use

All faculty, staff and students of the university are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary

damages and/or criminal penalties for the individual violator. Because such violations are also against university policies and rules, disciplinary action will be taken as appropriate. For issues with technical difficulties for Canvas, please contact the UF Help Desk at:

- <http://helpdesk.ufl.edu>
- (352) 392-HELP (4357)
- Walk-in: HUB 132

Services for Students with Disabilities

The Disability Resource Center coordinates the needed accommodations of students with disabilities. This includes registering disabilities, recommending academic accommodations within the classroom, accessing special adaptive computer equipment, providing interpretation services and mediating faculty-student disability related issues. Students requesting classroom accommodation must first register with the Dean of Students Office. The Dean of Students Office will provide documentation to the student who must then provide this documentation to the Instructor when requesting accommodation

0001 Reid Hall, 352-392-8565, <https://disability.ufl.edu/>

Campus Helping Resources

Campus Helping Resources Students experiencing crises or personal problems that interfere with their general wellbeing are encouraged to utilize the university's counseling resources. The Counseling & Wellness Center provides confidential counseling services at no cost for currently enrolled students. Resources are available on campus for students having personal problems or lacking clear career or academic goals, which interfere with their academic performance.

- University Counseling & Wellness Center, 3190 Radio Road, 352-392-1575, www.counseling.ufl.edu Counseling Services Groups and Workshops Outreach and Consultation Self-Help Library Wellness Coaching
- U Matter We Care, www.umatter.ufl.edu/
- Career Connections Center, First Floor JWRU, 392-1601, <https://career.ufl.edu/>.
- Student Success Initiative, <http://studentsuccess.ufl.edu>.

Student Complaints

- Residential Course: <https://sccr.dso.ufl.edu/policies/student-honor-code-studentconduct-code/>
- Online Course: <http://www.distance.ufl.edu/student-complaint-process>

Remember: your student fees have already paid for these services. Using them when needed is getting the best value for your money.

COVID Response

We will have face-to-face instructional sessions to accomplish the student learning objectives of this course. Students are expected to wear masks, refrain from physical contact with other students (touching) and wash hands frequently. *This as well as other components of this syllabus are subject to change as the COVID19 pandemic develops.*

All positive COVID-19 cases, including positive at home tests, should call 352-273-9790 University Health, for further guidance.