INSECT POLLINATION ECOLOGY

Course Number: ENY6934

Lectures and Discussion: Mondays 12:50-2:45 pm (Periods 6-7)

Location: Room 1031, Department of Entomology & Nematology

Credits: 1

Instructors: Jaret Daniels, Ph.D., Associate Professor/Curator, Florida Museum of Natural History and Department of Entomology & Nematology, email: jdaniels@flmnh.ufl.edu

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Office Hours: By appointment. Please email the instructors for appointment times.

Course description: Some 80% of the earth’s flowering plants rely on animal pollinators, primarily insects (such as bees, ants, flies, beetles, and wasps), to ensure reproduction. This includes the vast majority of the fruit, vegetable, and seed crops that humans consume, as well as many other plants that provide fiber, animal forage, medicine, and fuel. Beyond the direct economic value, insect pollination is essential for maintaining the structure and function of a wide range of natural communities. Alarmingly, managed and wild insect pollinators have suffered declines in recent years prompting calls for proactive strategies to help bolster their populations. Continued declines could adversely affect agricultural systems, result in increased vulnerability of some plant species to extinction, and increase overall ecosystem disruption. This course aims to provide an in-depth overview at the concepts and issues surrounding the increasingly expanding field of insect pollination ecology. At the end of this course, students should have a broader knowledge of an aspect of entomology and ecology seldom covered in detail in other courses. The many issues related to this topic will be addressed from the perspectives of biology, agriculture, management, economics, and conservation.

Course Objectives:

At the end of the seminar, students should be able to do the following:

1. Understand pollinator diversity and the importance of pollinators to global agriculture and ecosystem sustainability
2. Compare and contrast managed and non-managed pollinator biology and ecology
3. Describe the role of managed and non-managed pollinators in promoting ecosystem health and homeostasis
4. Effectively synthesize and evaluate key pollination-themed topics in the scientific literature through student-led discussions and presentations
5. Use pollinators as model organisms to illustrate broader ecological themes
Prerequisites: There are no prerequisites for this class

Course Structure: This seminar course is designed to be as interactive as possible. There will be a combination of formal lectures, assigned readings, discussions, field trips, and student presentations. No exams or quizzes will be given, however, readings will be assigned and it is expected that the student will come to class prepared for discussions.

Distance students will be able to participate via polycomm, which is available at IFAS Research Education Centers (listed at the bottom of this page: http://ifas.ufl.edu/extension-offices-rec-maps.shtml#recs). Distance students will be required to access the system during Monday class times and should note that all attendance and participation requirements apply to both distance and onsite students. In lieu of field trip attendance, distance students will research and write a report on a related topic.

Suggested Resources:


Lecture Titles & Class Schedule

(This schedule is subject to change based on enrollment size and other unforeseen circumstances).

August 26: Introduction: The Field of Pollination Ecology

September 2: Labor Day Holiday – No Class

September 9: Pollinator Natural History, Taxonomy and Behavior: Lecture 1: Bees, Lecture 2: Other Pollinators

September 16: Lecture 1: Pollinator Decline and Conservation, Lecture 2: Pollination as an Ecosystem Service.

September 23: Lecture 1: Pollinators in Agricultural Systems, Lecture 2: Economic Valuation of Pollination (Guest Lecture)

September 30: Field Trip to Blueberry Farm

October 7: Field Trip to Bee Biology Unit

October 14: Review Selected Readings
October 21: Review Selected Readings

October 28: Review Selected Readings

November 4: Review Selected Readings

November 11: Veteran’s Day Holiday – No Class

November 18: Student Presentations – (up to 3)

November 25: Thanksgiving Week – No Class

December 2: Student Presentations (up to 3)

*Note*: Selected readings for class discussions will be assigned at least one week ahead of time.

**Grading Criteria:** There are no exams in this course. Your grade will be computed according to the following criteria:

**Graded Projects** *(This format is subject to change based on enrollment and other unforeseen circumstances)*

1. Oral Presentation and Written Assignment *(60% of overall grade).*

   Each student will get to choose a specific research topic which will be the subject of their 20 minute PowerPoint presentation *(30% of overall grade)* and final summary write up *(30% of overall grade).*

2. Leading Discussion *(20% of overall grade).*

   Each student will be assigned to lead and facilitate discussion during a portion of one class period as it relates to the assigned readings. They will be expected to locate additional related readings, develop specific discussion questions and facilitate the group discussion.

*Participation* in class sessions *(10% of overall grade)*

*Attendance* at class sessions *(10% of overall grade)*

**Policy Related to Class Attendance:** Attendance at class will be noted and points deducted for missed sessions. A student is considered absent if away from class for more than 50% of a class session. A valid excuse will be accepted if produced; the validity of the excuse is based on the discretion of the instructor. Valuable information and discussion will be missed if the student does not attend class.

**Class Demeanor Expected by Instructor:** Please be considerate of your classmates by not disrupting the flow of class discussions or lectures by unrelated chatter. The banging of doors is very distracting to both students and professor, therefore please arrive on time and do not leave early. Turn off mobile phones before coming into classroom. The use of laptops or tablets for note taking is; however, if the student is overly distracted by such device, they will be asked to put it away. UF rules prohibit you having food or drinks in classrooms. Use of tobacco products
(in any form) in the classroom is prohibited. A student may be asked to exit the room on failure to comply with these requirements.
Grades and Grade Points
For information on current UF policies for assigning grade points, see https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx

Absences and Make-Up Work
Requirements for class attendance and make-up exams, assignments and other work are consistent with university policies that can be found at: https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx.

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/honorcodes/honorcode.php.

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.

Campus Helping Resources
Students experiencing crises or personal problems that interfere with their general well-being 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/cwc/

Counseling Services
Groups and Workshops
Outreach and Consultation
Self-Help Library
Training Programs
Community Provider Database
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, www.dso.ufl.edu/drc/

Statement for Distance Courses
Each online distance learning program has a process for, and will make every attempt to resolve, student complaints within its academic and administrative departments at the program level. See http://distance.ufl.edu/student-complaints for more details.