

# Biol399: Plant-Insect Interactions

## Fall 2019 Syllabus

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Dr. Laura Sirot



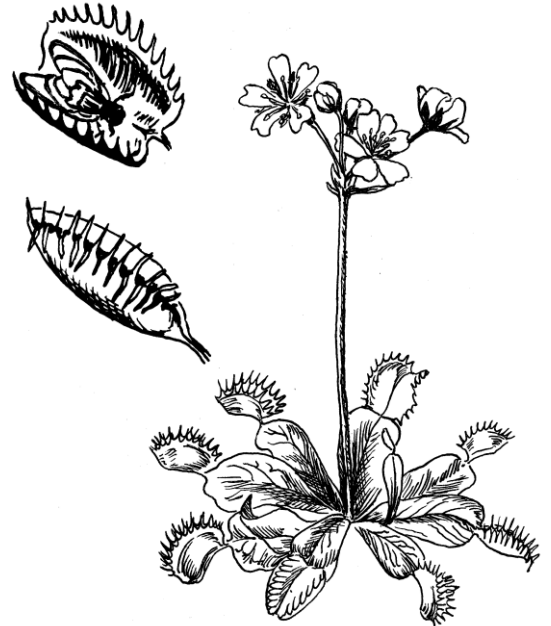
### Time and location

Lecture and lab: T. & Th. 1:00-3:50 pm; 260/270 Ruth W. Williams Hall

Course TA: [REDACTED]

### About this course

This course will focus on the evolution and ecology of plant-insect interactions in basic and applied contexts. Throughout the course, we will emphasize both content and skill knowledge through a combination of lectures, discussions, lab activities, and field trips. For both plants and insects, skills learned will include morphology, family characteristics, the use of keys and basic collecting techniques. We will explore major themes in the area of plant-insect interactions, including pollination biology, plant-herbivore interactions, plant carnivory, and agricultural pest management.



### Course texts

There is no required textbook for this course. Each week you will be reading primary literature research and review articles. These articles will be posted on Moodle.

### Learning Goals for this Course:

**The major headings in this list are based on the Biology Department's and College's goals for what you will have learned by the time you graduate. The subheadings are the specific goals for this course.**

**Content: Students will comprehend fundamental biological principles and their implications and retain the knowledge essential to a broad understanding of biology**

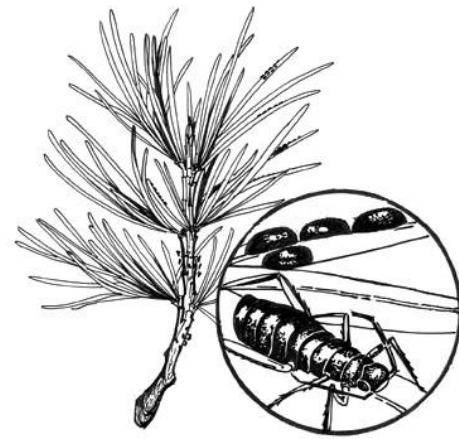
- Understand the diversity of plant and insect groups
- Identify major plant and insect groups
- Describe life cycles, body plans, and reproductive modes of major plant and insect groups
- Learn about the responses and behavior that are involved in plant-insect interactions
- Understand how these interactions have shaped evolutionary trajectories of groups
- Appreciate how basic biological understandings can be used to solve real-world problems

**Methods:** Students will be familiar with scientific methods of inquiry and the philosophy of science, including methodologies for distilling and integrating biological information. Students will be able to design and conduct an independent scientific investigation.

- Make and record detailed observations of plants, insects, and their interactions
- Develop the ability to pose interesting and answerable questions about plant-insect interactions
- Discover what is known already about these questions by effectively reading scientific literature
- Carefully read, analyze, and discuss primary literature articles
- Think integratively and fluidly across multiple levels of biology (molecular, cellular, physiology, anatomy, development, ecology, evolution, behavior)
- Develop a written proposal that provides the background and methodology for addressing a research question
- Provide constructive criticism to improve the research proposals of peers

**Communication:** Students will be able to communicate scientific information effectively

- Discuss scientific findings and results with fellow scientists
- Develop skills both for effectively communicating science to both the scientific community and a broader audience
- Understand and present findings of other researchers in a clear and effective manner



**Tentative class schedule:**

This schedule will likely change. For up-to-date information refer to Moodle. You are responsible for checking Moodle and staying up-to-date on readings and assignments as the schedule changes.

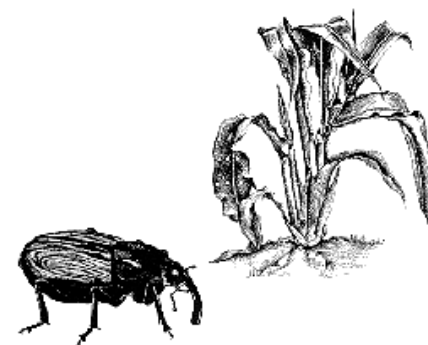
<u>Date</u>	<u>General topic</u>	<u>Lab activities</u>	<u>Assignment due</u>
Th. Aug. 22	Introduction to course	Field trip: Oak Hill Park	
T. Aug. 27	Introduction to plants	Greenhouse	
Th. Aug. 29	Introduction to plants	Observing plants in lab	
T. Sept. 3	Introduction to insects	Observing insects in lab	<b>Quizzam 1 (plants)</b>
Th. Sept. 5	Introduction to insects	Observing insects in lab	
T. Sept. 10	Pollination	Field Trip: Secret Arb	<b>Quizzam 2 (insects)</b>
Th. Sept. 12	Pollination	Field Trip: Local gardens	<u>Paper discussion 1</u>
T. Sept. 17	Pollination	Campus Pollination Project	<u>Paper discussion 2</u>
Th. Sept. 19	Pollination	Campus Pollination Project	
T. Sept. 24	Consumption	Field Trip: CoW campus	<u>Paper discussion 3</u>
Th. Sept. 26	Consumption	Campus Pollination Project	<b>Quizzam 3 (pollination)</b>
T. Oct. 1	Presentations	Student & Partner Lab Presentations	
Th. Oct. 3	Consumption		<u>Paper discussion 4</u>

**FALL BREAK**

<b>Date</b>	<b>General topic</b>	<b>Lab activities</b>	<b>Assignment due</b>
T. Oct. 15	Plants as homes	Field Trip: Wooster Memorial	
Th. Oct. 17	Insect reproduction	Observing insects in lab	<u>Paper discussion 5</u>
T. Oct. 22	Partner lab I introduction	<i>Visit partner lab I*</i>	<b>Comprehensive quizzam</b>
Th. Oct. 24	Partner lab I	Partner lab I activities	<u>Partner lab I paper</u>
T. Oct. 29	Partner lab II introduction	<i>Visit partner lab II*</i>	
Th. Oct. 31	Partner lab II	Partner lab II activities	<u>Partner lab II paper</u>
T. Nov. 5	Partner lab III introduction	<i>Visit partner lab III*</i>	<i>Partner lab I proposal due*</i>
Th. Nov. 7	Partner lab III	Partner lab III activities	<u>Partner lab III paper</u>
T. Nov. 12	Partner lab IV introduction	<i>Visit partner lab IV*</i>	<i>Partner lab II proposal due*</i>
Th. Nov. 14	Partner lab IV	Partner lab IV activities	<u>Partner lab IV paper</u>
T. Nov. 18	Case study 1 paper	Preserving Plants and Insects	<i>Partner lab III proposal due*</i>
Th. Nov. 21	Case study 2 paper	Work on Peer Review I	
T. Nov. 25	Case study 3 paper	Work on Peer Review II	<i>Partner lab IV proposal due*</i>
Th. Nov. 27	THANKSGIVING BREAK		
T. Dec. 3	Peer reviews	Proposal peer reviews	
Th. Dec. 5	Course wrap up	Reception for Partner Labs	

### Final Written and Oral Proposals: Tues. Dec. 10<sup>th</sup> 1 pm

\*a student only visits his/her assigned partner lab. Partner lab visits occur outside of scheduled class time. A student only submits a proposal for his/her assigned partner lab.



### Grade components

This is subject to change. Please check Moodle for the most up-to-date assignment totals.

<b>Item</b>	<b>Percentage of final grade</b>
In class quizzams:	
Quizzams x3 (7% each)	21%
Comprehensive quizzam	14%
Pollination proposal	12%
Participation/Professionalism (online and in class)	5%
Paper discussions and homework	10%
Partner lab:	
Engagement with partner labs	4%
Partner lab proposal first submission	7%
Proposal peer-reviews x2 (5% each)	10%
Partner lab proposal final submission	17%

**Grading scale:**

A = 100-93% A- = 93-90%  
B+ = 89-87% B = 87-83% B- = 83-80%  
C+ = 79-77% C = 77-73% C- = 73-70%  
D = 69-60% F < 60%

**Re-grade policy:** If you believe that an error has been made in grading your course work please contact us within a week from the date the assignment was returned to you.

**General course information**

Please check your COW email and the course Moodle page daily for new announcements or reminders. You are responsible for staying up to date with all information that we announce through Moodle and over email.

**Dressing and preparing for class:** You need to come to class ready to be in the lab or in the field. Therefore, you must wear long pants and either hiking boots or tennis shoes. Many field sites will have insects including mosquitoes, bees, and ticks. The field sites often have poison ivy. We suggest limiting your exposed skin and tucking in your shirt and pant legs. You are responsible for checking the weather before lab and dressing appropriately. *We will have lab outside even in the rain or snow.*

**\*\*\* Please inform us if you have any medical conditions that could arise during a lab (e.g. bee/nut allergies).\*\*\***

**Missed and late quizzams/assignments:** Make-up quizzams will only be given with a letter from a doctor or the Dean of Students. You must contact us BEFORE the scheduled quizzam or as soon as possible afterwards if it is a medical emergency; be prepared to make-up the quizzam as soon as possible. Missing a quizzam without an excused and documented absence will result in you receiving zero points for the quizzam. All assignments turned in late will lose 10% of the total points each day unless there are extenuating circumstances which can be verified.

**Class etiquette:** We expect you to remain attentive and engaged throughout the class session. Cell phones must remain on silent and unused during lecture and lab unless otherwise instructed. Laptop use is by permission of instructors only, and will not be allowed if used for non-class related purposes. No tobacco use during class time. Drinks in spill-proof containers are okay. No food will be allowed in the lab classroom.

**Class and lab attendance:** There is no attendance policy for this course as this is an upper-level course and you are expected to attend all class sessions. If you are chronically absent, we reserve the right to deduct points. If you have to miss class due to a college-sanctioned event or an extenuating circumstance, please inform us at least a week ahead of time. You are responsible for all of the material missed, and assignments must be submitted before the deadline to avoid late penalties. Although we would rather you show up late than not at all, tardiness is disruptive to the class. If you are chronically tardy, we reserve the right to deduct points. Many class sessions will take place off-campus, and we will not wait for tardy students. If you miss the vehicle, then you have missed lab, and it will count as an unexcused absence.

## General course information continued

**The Learning Center – APEX:** The Learning Center, which is in APEX (Gault library) offers a variety of academic support services, programs and 1:1 meetings available to all students. Popular areas of support include time management techniques, class preparation tips and test taking strategies. In addition, the Learning Center coordinates peer-tutoring for several academic departments. Students are encouraged to schedule an appointment at the APEX front desk or visit the Learning Center Website for additional options.

An additional support that the Learning Center offers is English Language Learning. Students can receive instruction or support with English grammar, sentence structure, writing, reading comprehension, reading speed, vocabulary, listening comprehension, speaking fluency, pronunciation, and American culture through 1:1 meetings with the Learning Center staff, ELL Peer Tutoring, ELL Writing Studio courses, and other programming offered throughout the year. Students seeking ELL support are encouraged to visit the APEX front desk.

The Learning Center also coordinates accommodations for students with diagnosed disabilities. At the beginning of the semester, students should contact the Learning Center [REDACTED] to make arrangements for securing appropriate accommodations. Although the Learning Center will notify professors of students with documented disabilities and the approved accommodations, students are encouraged to speak with professors during the first week of each semester. If a student does not request accommodations or does not provide documentation to the Learning Center, faculty are under no obligation to provide accommodations.

**Academic Integrity:** Each student in this course is expected to abide by the Code of Academic Integrity as printed in the Scots Key. We have a zero tolerance policy for academic dishonesty, including plagiarism and cheating. Because laboratory exercises often involve group work and group study sessions can be useful, you are encouraged to study with other students to discuss information and concepts covered in class. ***However, any work submitted by a student in this course for academic credit must be the student's own work.*** Penalty for violation of this Code may result in no credit for the assignment, failure of the course, and/or disciplinary action by the College. Here are some specific *examples* (not an exhaustive list!) of academic dishonesty:

- Copying another student's assignment – either a current or past student.
- Collaborating with another student on a homework assignment without express permission from your instructors.
- Paraphrasing/copying any text from any resource without providing a reference.
- Extensive paraphrasing/copying of text from any resource (even if you provide a reference).
- Turning in the same assignment to multiple courses, in the same or different semesters, without prior consent from all professors.

**Title IX reporting policy:** The College of Wooster is committed to fostering a campus community based on respect and nonviolence. In accordance with Title IX, Wooster is legally obligated to investigate incidents of sexual harassment and sexual assault that occur on our campus. Faculty who become aware of any incident of sexual violence (including harassment, rape, sexual assault, relationship violence, or stalking) are required by law to notify Wooster's Title IX Coordinator. For more information about your rights and reporting options at Wooster, including confidential and anonymous reporting options, please visit <http://www.wooster.edu/offices/titleix/>.

