



Insect research & Scientific Engagement

ENY 2890

3 credits, no prerequisites

Location: Entomology and Nematology
Department, Steinmetz Hall 1031

Meeting time: *Tuesdays and Thursdays,*
Period 7, 1:55 pm to 2:45 pm



Teaching team for Spring 2018.

All instructors are available to meet with students by appointment.

Dr. Christine Miller, Professor and Principle Investigator, cwmiller@ufl.edu,
Office hours: 2:45 to 3:30 Tues, 2101 Steinmetz Hall

Dr. Ginny Greenway, Postdoctoral Associate, egreenway@ufl.edu
Contact Dr. Greenway for help with Canvas issues

Mr. Michael Vickers, Ph.D. Candidate, michaelvickers@ufl.edu

Contact Mr. Vickers for help with absences, illnesses, personal issues.

Ms. Haleigh Ray, Ph.D. Candidate, hlay12@ufl.edu

Contact Ms. Ray for help with interview and CREATE questions

Ms. Daniela Wilner, M.S. Student, danielawilner@ufl.edu

Contact Ms. Wilner for help with presentations and for blog-related questions

Ms. Haley Lenga, Experienced Undergraduate Researcher, sarah.h.lenga@ufl.edu

Contact Ms. Lenga for help with data collection and measurement issues

Course description

This is a Classroom Undergraduate Research Experience (CURE) course. Students become part of a research team, collecting publishable data on evolutionary biology, ecology, and behavior using insects. This course bridges the divide between the classroom and the science laboratory. This course will prepare students for advanced opportunities in science.

This course mimics a laboratory research experience in several ways: 1) students gather data that will be used in scientific studies and published in the primary scientific literature, 2) our class meetings resemble lab meetings where researchers come together to discuss important topics in science, 3) your instructors (including experienced undergraduate students, graduate students, and a postdoctoral researcher) will also serve as your research mentors, with the mentoring structure resembling that of a research laboratory.



While this course has elements that resemble laboratory research experiences, it finds its home in the classroom. As such, we will incorporate some of the more positive elements of classroom learning. For example, the learning experience will have greater structure than is commonly provided in laboratories, and students will collect data almost immediately (in many laboratories, beginning assistants do not collect data for a semester or longer!). Additionally, this course will include a larger community of beginning researchers than is typically found in a laboratory. You will have many opportunities to exchange ideas with your cohort and become part of a learning community. Committed and hard-working students leave this course prepared to join research teams at UF and beyond.

Course learning objectives:

By the end of the course, dedicated students will:

- [1] Be able to explain in depth how scientists engage in research
- [2] Identify how their work as part of this course will contribute to the scientific body of knowledge
- [3] Develop enhanced critical thinking skills to assess the relevance and importance of scientific findings
- [4] Design a simple experiment
- [5] Recognize of the major challenges for conveying scientific findings to the general public and be able to explain how to overcome these challenges
- [6] Demonstrate competency in at least one method of data collection using insects
- [7] Be able to identify several other research opportunities on campus
- [8] Identify, describe, and explain global and intercultural conditions and interdependencies.
- [9] Analyze and interpret global and intercultural issues.
- [10] Communicate effectively with members of other cultures.

Materials:

- **Required:** Access to a laptop or desktop computer for data entry. A computer in a computer lab on campus should be fine for this purpose.
- **Required:** InterAcademy Partnership (2016). Doing global science: a guide to responsible conduct in the global research enterprise. Princeton University Press: Princeton, NJ, <http://interacademycouncil.com/24026/29429.aspx>
- All other reading materials and media will be available on Canvas or freely available on the internet.



Evaluation of learning/research accomplishment:

Source of points	Points possible	Due dates
“What are the benefits and challenges of conducting science across borders?” Assignment #1	20	Jan. 14 th
Presentation of primary literature (a four-part assignment)	100	Sign up
Canvas quizzes (10 quizzes, 10pts/each)	100	Mondays, 11:55pm
In-class assignments (5pts/each)	100	Sporadic
Data collection accuracy	100	Throughout
C.R.E.A.T.E. Assignments (6 assignments, 10pts/each)	60	See schedule
Transcript of interview with international researcher	25	April 4 th
Help with classroom set-up (rotating)	10	Sign-up
“What are benefits and challenges of conducting science across borders?” Reflective essay, including excerpts from the interview with the international researcher.	60	April 19 th
Total	575	

Up to **10** bonus points are available for attending a UF international science event and preparing a 2 page, single space reflection essay. These must be turned in by April 3rd to be eligible to receive the bonus points.

Grade and associated percent ranges %

A	93-100	A-	90-92	B+	88-89
B	83-87	B-	80-82	C+	78-79
C	73-77	C-	70-72	D+	68-69
D	63-67	D-	60-62	E	<60

Explanation of course activities and grading:

Evaluation of performance is based on fifteen assessments and participation in the course. This course does not have exams.

Participation is important, and this is reflected in your course grade! Excused absences are consistent with university policies in the undergraduate catalog (<https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>) and require appropriate documentation. Students are expected to be active participants in this

course. In-class assignments will provide students an opportunity to contribute and receive points for those contributions. Please note that we will expect all students to participate in discussions and will design activities to facilitate this process. This is a “flipped classroom” course.

Preparation for in-class discussions. **Online quizzes** must be completed the night prior to weekly discussions. These will involve answering a set of questions based on the reading(s) and providing thoughtful discussion points or questions that you plan to bring up in the next class. These assignments are designed to help students focus on the material that will be addressed during the class discussions and prepare students to participate fully in the discussions. These assignments will be posted by Friday evening and must be completed the night before class (or you will lose 5 points/day).

Presentations are an opportunity for students to deeply analyze a peer-reviewed scientific paper and present the material to the class, gaining public speaking skills and critical thinking skills. Students will work in groups of four, and each group must choose a topic from the provided list by early in the semester. An instructor will work with the students to prepare presentations.

Interviews give you a chance to meet 1:1 with an international researcher, usually a graduate student, and discuss some of the challenges they have faced while working across international borders. Transcripts are graded for format and for following the guidelines available on Canvas. This interview will also become part of your final essay for the class, “What are the benefits and challenges of conducting research internationally?” Essay #2.

Data collection accuracy is graded to ensure that we actually can use these data to make scientific conclusions. It is easy to get sloppy in data collection if there is no accountability. You will receive a lot of guidance in how to collect data accurately. You are expected to make an appointment with the designated instructor if you are having any problems. Each week you will be assigned work to do. We will check a subset of your work for accuracy. If your recorded data is considered accurate or very close, you will receive accuracy points. As an additional means of ensuring data accuracy, many insects will be measured by multiple students in the course. Each weekly set of measurements is due on Sunday night. *You should plan to allocate approximately 5 hours to data collection weekly outside of class time.*

Due dates are firm, unless you have a valid excuse (again, see UF policy, <https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx>). If you know you have a conflict with something, inform us right away! We follow a **5pt/day** deduction late work policy.

Class/Research Schedule. Tuesday meetings are typically guided classroom discussions on a topic, Thursdays are typically for data collection and presentations.

This is the schedule for this semester as we have planned; however, we reserve the right to make modifications and changes where we see fit as constraints or

opportunities arise. It is the students' responsibility to visit Canvas weekly to get updates and the plan for the week.

Week	Day	Topic	Canvas online quiz due Monday night
Week 1	Tuesday	Welcome to the course, introductions and discussion on the nature of science. Asking a question when science does not know the answer.	
	Thursday	Continued discussion and introduction to virtual study abroad: Guest speaker, Daniela Wilner	
Week 2	Tuesday	Research this semester: Evolutionary biology	Yes
	Thursday	Interpretation and analysis of scientific manuscripts (CREATE method)	
Week 3	Tuesday	Research this semester: Sexual selection	Yes
	Thursday	Begin data collection: practice	
Week 4	Tuesday	Global science: why work across borders?	Yes
	Thursday	Data collection: show your stuff	
Week 5	Tuesday	Objectivity and evaluation in science	Yes
	Thursday	Data collection in class	
Week 6	Tuesday	Science and the media and whom will this study inform?	Yes
	Thursday	Data collection in class	
Week 7	Tuesday	Science communication to a broad audience	Yes
	Thursday	Data collection in class	
Week 8	Tuesday	Science ethics	Yes
	Thursday	Preparation for interviews	

Week 9		Spring Break	
Week 10	Tuesday	Public trust & distrust of science across borders	Yes
	Thursday	Preparation for group presentations	
Week 11	Tuesday	Climate change: what is the discussion?	Yes
	Thursday	Data collection is done!! Exploring data: Graphing and Data analysis	
Week 12	Tuesday	Your future research: discussion of opportunities, concerns, and applications (research panel)	Yes
	Thursday	Presentations I	
Week 13	Tuesday	Guest speakers: International Undergraduate and Graduate Students	
	Thursday	Presentations II	
Week 14	Tuesday	Guest speakers: International Undergraduate and Graduate Students	
	Thursday	Presentations III	
Week 15	Tuesday	Research this semester: what have we found? Let's look at your data.	
	Thursday	Our scientific findings, wrap up	
Week 16	Tuesday	Focus Groups: Sign up for a time	
	Thursday	Focus Groups: Sign up for a time	

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>

Attendance 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>.

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. These evaluations are conducted online at <https://evaluations.ufl.edu>. Evaluations are typically open for students to complete during the last two or three weeks of the semester; students will be notified of the specific times when they are open. Summary results of these assessments are available to students at <https://evaluations.ufl.edu/results>. We also will ask students to please complete optional pre-course and post-course surveys and to attend focus groups.

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.

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/

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/cwc/ Counseling Services Groups and Workshops Outreach and Consultation Self-Help Library Wellness Coaching
- U Matter We Care, www.umatter.ufl.edu/
- Career Resource Center, First Floor JWRU, 392-1601, www.crc.ufl.edu/

Student Complaints: https://www.dso.ufl.edu/documents/UF_Complaints_policy.pdf

