

ENY 2890 Section-339C Insect Research

Scientific Engagement Through Honey Bee Health Research

Spring 2020

Course Overview

Time: Period 8 (3:00 – 3:50), Tuesday and Thursday

Location: Honey Bee Research Facility, Bldg 964 Rm 105

1881 Natural Area Dr., Gainesville, FL, 32611 <http://campusmap.ufl.edu/#/index/0970>

INSTRUCTORS:

All instructors are available to meet with students by appointment.

Cameron Jack (cjack@ufl.edu), Lecturer, Honey Bee Research Facility Rm 114

Dr. Jamie Ellis (jdellis@ufl.edu), Professor, Honey Bee Research Facility Rm 116

Emily Noordyke (enoordyke@ufl.edu) M.S. student, Honey Bee Research Facility Rm 110

Samantha Pryer (spryer@ufl.edu), Ph.D. student, Steinmetz Hall Rm 2129

TA – Kaylin Kleckner (Kaylin.kleckner@ufl.edu)

COURSE PREREQUISITES: None

COURSE DESCRIPTION AND LEARNING OBJECTIVES:

This is a Classroom Undergraduate Research Experience (CURE) course. During this course students will be introduced to important topics in science and provided with an opportunity to conduct publishable research in the field of honey bee health. We want students to go forth prepared to join other research teams at UF and feel confident in their abilities to contribute in their desired scientific fields. To achieve this goal, this class is organized as a flipped classroom, offering both online and in-classroom learning experiences.

Motivated students will be able to:

1. Describe how scientists conduct research,
2. Identify the challenges associated with conveying scientific findings to general audiences,
3. Conduct a thorough literature review from reputable sources,
4. Demonstrate proper data collection techniques,
5. Summarize the importance of accurate data entry and analysis,
6. Interpret the importance and relevance of scientific findings,
7. Communicate research findings effectively through oral presentation, and
8. Design a simple experiment.

Students' successful achievement of these learning objectives will be evaluated via online quizzes, individual and group writings, participation in all classroom activities and a video presentation.

REQUIRED MATERIALS: Access to a laptop or desktop computer for online quizzes and assignments. A computer in a computer lab on campus should be fine for this purpose. There are no required texts for this course as all reading materials and media will be available on Canvas or freely available on the internet.

COURSE COMMUNICATION: Please ensure that your Canvas profile is set to receive notifications (i.e. please check the appropriate box to receive all notifications). To do this, click on your name in the upper right corner of the Canvas homepage after logging into Canvas. Next, click “notifications” on the left. This will take you to the Notification Preferences page. Then, click the check symbol for at least the following notifications: Due Date, Course Content, Announcement, and Grading.

SPECIAL NOTE ON CONTACT VIA EMAIL: Due to UF privacy laws, you must use your GatorLink account or the Canvas mail system when emailing the Instructors or TA. Emails sent from other accounts (gmail, hotmail, etc.) will not be answered by the Instructors or TA.

Grading:

Assignment	Break-down	Points
Online quizzes	10 quizzes, 10 pts/each	100
Critical thinking exercises	5 assignments, 25 pts/each	125
Group scientific writing assignments	4 assignments, 50 pts/each (40 pts group paper, 10 pts individual effort)	200
Video presentation	5 students will review, 20 pts each	100
Video presentation peer review	5 reviews, 5 pts/each	25
	Total Points	550

ONLINE QUIZZES:

*There will be 10 online quizzes throughout the duration of the class (see weekly schedule) to help students prepare for in-class discussions. Each quiz is worth 10 points and will include five questions based on the reading(s). Quizzes are open note. Students are required to watch the lecture(s) and complete the quiz prior to the beginning of each class. **Quizzes are due by 3:00 pm the day of the corresponding class.** No late quiz submissions will be accepted without a university excused absence.*

CRITICAL THINKING EXERCISES:

At various points in the semester, students will be required to complete five critical thinking exercises designed to help students reflect on and/or synthesize subjects covered in this course. Each assignment will be structured differently so students should read the directions carefully before beginning the assignments. Proper terminology, spelling, and grammar are expected in all assignments. A rubric for grading the reflective writing assignments will be provided at the

time the assignment is given. **The critical thinking exercises will be due by 3:00 pm the day of the corresponding class.**

GROUP WRITING ASSIGNMENTS:

*As communication via scientific writing is essential for all conducting research, students will gain experience by writing a scientific article together with their classmates. Students will be assigned to groups who will work together to complete four writing assignments, each focusing on a section used in most published scientific articles (introduction, materials and methods, results, discussion). Each group will turn in one written copy and all members of the group will receive the same score from total of 40 points. Additionally, students within each group will anonymously score the other members in their group based on participation, contributions and professionalism, making up the remaining 10 points. Each assignment will be structured differently but all will be about one page in length. Proper terminology, spelling, and grammar are expected in all assignments. A rubric for grading the reflective writing assignments will be provided at the time the assignment is given. **The writing assignments will be submitted online via Canvas and are due by 3:00 pm the day of the corresponding class.***

VIDEO PRESENTATIONS AND PEER REVIEW:

As oral communication of scientific research is essential, students will gain experience by presenting the research findings from a scientific article of their choice, but relevant to the focus of the class. Students will record themselves presenting the research contained in the article. Each presentation should contain broken up into sections found in most published scientific articles (introduction, materials and methods, results, discussion). The presentations will be 8-10 minutes long (typical oral presentation time for most conferences). Appearance, organization, timeliness, grammar and clarity of speech are expected in oral presentations. Videos will be uploaded to YouTube and a video link will be turned into Canvas. Each student will review at least 5 other student videos and score them based on a presentation rubric to be provided at the time the assignment is given.

GRADING SCALE:

FINAL GRADING		
% grade	Letter grade	Points needed to achieve letter grade
100-93	A	≥ 511.5
90-92	A-	495.5 – 511.4
87-89	B+	478.5 – 495.4
83-86	B	456.5 – 478.4
80-82	B-	440.5 – 456.4
77-79	C+	423.5 – 440.4

73-76	C	401.5 – 423.4
70-72	C-	385.5 – 401.4
67-69	D+	368.5 – 385.4
63-66	D	346.5 – 368.4
60-62	D-	330.5 – 346.4
0-59	E	0 – 330.4

*For information on current UF policies for assigning grade points, see <https://catalog.ufl.edu/ugrad/current/regulations/info/grades.aspx>

MAKE-UP ASSIGNMENTS:

Requirements for class attendance and make-up exams, assignments, and other work in this course are consistent with university policies that can be found at: catalog.ufl.edu/UGRD/academic-regulations/attendance-policies/

Course Schedule:

Class #	Day/Date	Topic	Assignments Due
1	Tuesday 7 Jan.	Class introductions; syllabus review; What is science?	
2	Thursday 9 Jan.	How do we recognize good science?	Quiz 1 (syllabus)
3	Tuesday 14 Jan.	The scientific method; structure of a scientific journal article	
4	Thursday 16 Jan.	What is your question? Why does it matter?	Quiz 2
5	Tuesday 21 Jan.	Honey bee biology – Observation hives	CTE 1
6	Thursday 23 Jan.	Honey bee health and pesticides	Quiz 3

7	Tuesday 28 Jan.	What question will we investigate?	
8	Thursday 30 Jan.	Reviewing the literature: Finding good sources	Quiz 4
9	Tuesday 4 Feb.	Core elements of good experimental design	
10	Thursday 6 Feb.	Data collection methods; proper data entry	
11	Tuesday 11 Feb.	Statistics: the language of science	CTE 2
12	Thursday 13 Feb.	Review statistical terminology	Quiz 5; Literature review section
13	Tuesday 18 Feb.	Science ethics; Importance of ethics	
14	Thursday 20 Feb.	Public trust and distrust of science, case studies	Quiz 6
15	Tuesday 25 Feb.	Science and Safety	CTE 3
16	Thursday 27 Feb.	Bee marking party	Materials and methods section
Spring Break			
17	Tuesday 10 March	Experiment start:	
18	Thursday 12 March	Begin collecting data; Hive observations in class	Quiz 7
19	Tuesday 17 March	Importance of oral communication: how to present to a scientific audience	
20	Thursday 19 March	Graphing and figures; Hive observations in class	Quiz 8
21	Tuesday 24 March	Interpretation of results; Hive observations in class	Quiz 9
22	Thursday 26 March	Analyzing our class data: what have we got so far? Hive observations in class	CTE 4

23	Tuesday 31 March	How to communicate simply; hive observations in class	Results section
24	Thursday 2 April	How to present to a non-scientific audience; Hive observations in class	Quiz 10
25	Tuesday 7 April	Why conduct international research? Hive observations in class	CTE 5
26	Thursday 9 April	Guest speakers; Hive observations in class	
27	Tuesday 14 April	Research opportunities at UF; Hive observations in class	
28	Thursday 16 April	Guest speakers; Experiment end: Final hive observation	Discussion section
29	Tuesday 21 April	Course evaluations; Our research and class wrap up	Video presentation
30	Tuesday 27 April	Finals week – no class	Peer review video presentation

SCHEDULE DISCALIMER: This schedule represents current plans and objectives. These plans may need to change throughout the semester due to unforeseeable circumstances. Such changes will be communicated though announcements on Canvas.

UF Policies:

ONLINE COURSE EVALUATION PROCESS:

Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at 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 ufl.bluera.com/ufl/. Summaries of course evaluation results are available to students at gatorevals.aa.ufl.edu/public-results/.

ACADEMIC HONESTY:

UF students are bound by The Honor Pledge which states, “We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students 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.” The Honor Code (sccr.dso.ufl.edu/process/student-conduct-code/) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any

condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor or TAs in this class.

Getting Help:

SERVICES FOR STUDENTS WITH DISABILITIES:

Students with disabilities requesting accommodations should first register with the Disability Resource Center (352-392-8565, dso.ufl.edu/drc) by providing appropriate documentation. Once registered, students will receive an accommodation letter which must be presented to the instructor when requesting accommodation. Students with disabilities should follow this procedure as early as possible in the semester.

E-LEARNING AND TECHNICAL SUPPORT:

For issues with technical difficulties for Canvas, please contact the UF Help Desk at:

- Learning-support@ufl.edu
- (352) 392-HELP
- <https://lss.at.ufl.edu/help.shtml>

Any requests for make-ups due to technical issues MUST be accompanied by the ticket number received from LSS when the problem was reported to them. The ticket number will document the time and date of the problem. You MUST e-mail your instructor within 24 hours of the technical difficulty if you wish to request a make-up.

Other resources are available at <http://www.distance.ufl.edu/getting-help> for:

- Counseling and Wellness resources
- Disability resources
- Resources for handling student concerns and complaints
- Library Help Desk support

HEALTH AND WELLNESS RESOURCES:

U Matter, We Care: If you or someone you know is in distress, please contact <mailto:umatter@ufl.edu>, 352-392-1575, or visit umatter.ufl.edu/ to refer or report a concern and a team member will reach out to the student in distress.

Counseling and Wellness Center: Visit counseling.ufl.edu/ or call 352-392-1575 for information on crisis services as well as non-crisis services.

Student Health Care Center: Call 352-392-1161 for 24/7 information to help you find the care you need, or visit shcc.ufl.edu/.

University Police Department: Visit police.ufl.edu/ or call 352-392-1111 (or 9-1-1 for emergencies).

UF Health Shands Emergency Room / Trauma Center: For immediate medical care call 352-733-0111 or go to the emergency room at 1515 SW Archer Road, Gainesville, FL 32608; ufhealth.org/emergency-room-trauma-center.

ACADEMIC RESOURCES:

E-learning technical support: Contact the UF Computing Help Desk at 352-392-4357 or via e-mail at <mailto:helpdesk@ufl.edu>.

Career Connections Center: Reitz Union Suite 1300, 352-392-1601. Career assistance and counseling services career.ufl.edu/.

Library Support: cms.uflib.ufl.edu/ask various ways to receive assistance with respect to using the libraries or finding resources.

Teaching Center: Broward Hall, 352-392-2010 or to make an appointment 352- 392-6420. General study skills and tutoring. teachingcenter.ufl.edu/

Writing Studio: 2215 Turlington Hall, 352-846-1138. Help brainstorming, formatting, and writing papers. writing.ufl.edu/writing-studio/

Student Complaints On-Campus: sccr.dso.ufl.edu/policies/student-honor-codestudent-conduct-code/

On-Line Students Complaints: distance.ufl.edu/student-complaint-process/