
ENY 3007C/5160C
Life Science for Educators
3 credits

Spring 2019
Instructor: **Jennifer Weeks**
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Overview

How does science differ from other methods of learning and knowing? How do people learn science, and what do they remember? How do you formulate an effective lesson plan? How can educators encourage students to think like scientists, and use evidence to inform their opinions? What can we learn about biology as a whole by studying *insects*?

During this course, we will explore the scientific process and how students learn science. We will learn how we can use insects to engage students and enhance science learning. We will also use insects to explore fundamental, complex biological topics that students often struggle with, including ecology and evolution. In this course, students will strengthen their foundation in basic biology through readings, discussions, and lectures, and they will develop lesson plans for elementary, middle, or high school students.

Course Objectives

By the end of the course, students will be able to:

1. Describe general aspects of the physiology, ecology and evolution of insects.
2. Identify the major insect orders.
3. Analyze readings from the primary literature on science education to examine how people learn and common misconceptions regarding science.
4. Evaluate media coverage of science findings for timeliness, accuracy, bias, and authority .
5. Create and critique educational resources related to biology and entomology to communicate science to informal audiences in educational environments.

Prerequisites: None

Required Text: None, readings will be available on the Canvas course site.

Course Requirements:

1. You are required to use your UF-assigned email address for all communication in this course.
2. You will be required to watch the movie *Flock of Dodos*, which is available through the UFLibrary.
3. You will also be required to purchase a Painted Lady Butterfly 5-Larvae Culture (Item #144005) from Carolina Biological (<http://tinyurl.com/mdh5ts2>). Anticipated cost: \$24.95

Couse Website: This course will be conducted entirely online through the Canvas learning management tool. You are responsible to check Canvas daily for announcements and updates. Please be aware that you can go into your Canvas and personalize the settings to determine how frequently you receive communications to your UF email account from Canvas. Make sure you have those settings on DAILY so that you receive important announcements in a timely manner.

Grades and Evaluation

Assessment Type	Points
Proctored Online Exams (not cumulative) (3 @ 100 pts. ea.)	300
Syllabus Scavenger Hunt	10
Introduction in Discussion	10
Assignments (7 @ 40 points each)	280
Reading Guides (14 @ 10 points)	140
Discussions (2 @ 30 points each)	60
Total	800

Grade	Percentage
A	90 and up
B+	87-89.9
B	80-86.9
C+	77-79.9
C	70-76.9
D+	67-69.9
D	60-66.9
E	Below 60

Date	Course Material	Assignments	Due Date
Week 1 Jan 7	Getting Started	Introductions in Discussion Syllabus Scavenger Hunt	Sun Jan 13 Sun Jan 13
Week 2 Jan 14	Nature of Science Scientific Method	Reading Guide 1 Reading Guide 2	Sun Jan 20 Sun Jan 20
Week 3 Jan 21	How People Learn Misconceptions in Science	Reading Guide 3 Reading Guide 4 Module 1 Discussion opens	Sun Jan 27 Sun Jan 27 Sun Jan 27
Week 4 Jan 28	Instructional Strategies Evaluating Science in the News	Reading Guide 5 Module 1 Discussion closes Module 1 Exam Opens	Sun Feb 3 Sun Feb 3 Sun Feb 3
Week 5 Feb 4	What are Insects? Why Study Insects?	Module 1 Exam closes Reading Guide 6 Assignment 1: Evaluating Science	Mon Feb 4 Sun Feb 10 Sun Feb 10
Week 6 Feb 11	Insect Structure and Function	Assignment 2: Citizen Science in the Classroom	Sun Feb 17
Week 7 Feb 18	Insect Classification	Assignment 3: Insect Photo Collection Module 2 Discussion opens	Sun A Sun Apr 21pr 21
Week 8 Feb 25	Insect Physiology	Module 2 Discussion closes Assignment 4: Butterfly Rearing	Sun Mar 3 Sun Apr 21
Week 9 Mar 4	SPRING BREAK	No assignments	
Week 10 Mar 11	Insect Ecology	Reading Guide 7 Module 2 Exam opens	Sun Mar 17 Sun Mar 17
Week 11 Mar 18	Evolution	Module 2 Exam closes Reading Guide 8 Reading Guide 9	Mon Mar 18 Sun Mar 24 Sun Mar 24
Week 12 Mar 25	Insects and Evolution	Reading Guide 10 Assignment 5: Evolution	Sun Mar 31 Sun Mar 31
Week 13 Apr 1	Evolution and Education	Reading Guide 11 Reading Guide 12	Sun Apr 7 Sun Apr 7 Sun Apr 7
Week 14 Apr 8	Educational Assessments	Reading Guide 13 Reading Guide 14	Sun Apr 14 Sun Apr 14
Week 15 Apr 15	Designing Lessons	Insect Photo Collection Science Educator Interview Module 3 & 4 Exam opens	Sun Apr 21 Sun Apr 21 Sun Apr 21
Week 16 Apr 22	No new topics Wrap up pending assignments	Module 3 & 4 Exam closes Butterfly Rearing Observations	Wed Apr 24 Wed Apr 24

First Week Details

If you are new to Canvas, I have provided some orientation videos for you on the course homepage. The first week of class there are two small tasks to complete before you can begin the course.

1. **INTRODUCE OF YOURSELF (10 points)** within the Discussion board. Include your name, major, anticipated graduation, interest in the course, experience with agriculture, entomology, and education.
2. Complete the **SYLLABUS SCAVENGER HUNT (10 points)** and submit through the designated assignment link.

Assessment Details

ASSIGNMENTS (280 points)

There are 7 assignments over the course of the semester worth 40 points each. The due dates for those assignments are listed in the weekly outline in the syllabus and in the Canvas course calendar. Please note that some are long-term assignments that require advanced planning over the course of the semester so read through all the assignments at the start of the course. You will want to look at the long-term assignments to plan out how you will get them done by the end of the semester. These assignments involve purchasing live insect kits early on to make observations, finding and photographing insects, and interviewing a science educator.

The detailed instructions for each assignment can be found within the Canvas link for that assignment. Read over the rubric before you begin work so you can tailor your efforts based on how I will evaluate you so you can earn full marks for the assignment.

READING GUIDES (140 points)

For each reading, you are provided a reading guide with questions so you understand what I want you to get out of each assigned reading. I am having you turn those in at the end of each week as a low-stakes assignment to earn 10 points each week. I will provide feedback each week to address any questions you may have in the ANNOUNCEMENTS and will provide you feedback in private if you did not earn points and need to change your response style for the next submission to earn full credit. I am hoping this will provide a positive incentive to keep up with the readings and help me address any misconceptions you may have with the content. I will accept reading guides up to a week late for half credit.

DISCUSSIONS (60 points)

There will be two class discussions. Each discussion has two deadlines. At the end of the first week it is open, you must post an initial response. In the second week, you must follow up by responding to three classmates.

EXAMS (300 points)

There are three, non-cumulative **PROCTORED EXAMS** (100 points each). They are a combination of multiple choice and short answer questions. These exams will always open on Day 1 at 7 am and Day 2 at midnight so that you have TWO DAYS in which to complete your exam. The exams must be taken during the allotted time period with the exception of excused absences. You are required to sign up with ProctorU to access the exam. Your appointment must be made at least 3 days in advance of the exam opening or you will incur additional charges from ProctorU.

Absences and Make-Up Work

Assignment deadlines are listed in the course outline above as well as on the calendar on the course website. It is your responsibility to make sure assignments are submitted through the assignment links (NOT to my email account). I do accept late assignments, but you lose 20% of the points for each day after deadline. Exams and discussions cannot be completed after deadline. If you miss one of these elements, you will need an excused absence to make it up. Requirements for 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>

To initiate a complaint involving an online course: <http://www.distance.ufl.edu/student-complaint-process>

Course Evaluations and Student Complaints

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>.

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.

<i>University Counseling & Wellness Center</i> www.counseling.ufl.edu/cwc/	3190 Radio Rd.	392-1575
<i>Career Resource Center</i> www.crc.ufl.edu/	First Floor JWRU	392-1601
<i>Services for Students with Disabilities</i> www.dso.ufl.edu/drc/	0001 Reid Hall	392-8565

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.