

Syllabus

8 January 2019

Course title (number)

Principles of Ecology (PCB 4043), 3 credits

Pre-requisites

BSC 1010, 1010L, 1011, 1011L, CHM 2045

Course logistics

- Term: Spring 2019
- Location: BU building, room 120
- Class time: Tuesday and Thursday 09:30-10:50

Instructor

- Dr. Dale Gawlik
- Contact information: Sanson Science room 220, dgawlik@fau.edu, 561-297-3333, <http://www.science.fau.edu/biology/gawliklab/>; <http://www.science.fau.edu/biology/envirosoci/>
- Office hours: Tuesdays and Thursdays 11:00-12:30 and other times by appointment. Because an occasional conflict with regular office hours could occur, students may wish to call ahead to confirm their visit.

Graduate Teaching Assistant

- Betsy Evans
- Contact information: Sanson Science (SC) 290, bevans2014@fau.edu; <http://www.science.fau.edu/biology/gawliklab/>, 561-297-2597.
- Office hours: Tuesdays and Thursdays 3:00-5:00 and other times by appointment.

Online resources

Canvas for PCB 4043 and SimUText software. Students should check the Canvas site at least weekly to keep current with changes in the course and to obtain course material. The web site contains the syllabus, lecture notes, handouts, and many useful links. It also offers students the opportunity to monitor their grades at any time.

Required materials to be secured by the student

- SimUText, SimBiotic Software, Ithaca, NY. Purchase through FAU Bookstore or directly from SimBio for \$89. See Canvas Announcements for purchase instructions.
- I>clicker remote.

Course objectives

Students that have completed the course should be able to:

1. Recall the fundamental concepts of ecology
2. Justify the use of models in ecology
3. Quickly identify patterns from visual representations of data

4. Understand how ecology is relevant to the quality of human life and the sustainability of all living things on the planet

Course description

The course will be taught using active teaching techniques in a “flipped class” framework. In place of a text book, students will read and complete activities weekly ahead of class time using the electronic *SimUText interactive chapters and labs*. During class, students will listen to lectures and participate in discussions through traditional oral dialog and by responding to *I>clicker questions*, often as part of the think-pair-share technique or in small groups. The instructor will use the results of the graded questions in the SimUText chapters to identify content that is least understood by students. The subsequent week’s lectures will therefore be tailored to focus on the material most in need of further explanation.

SimUText interactive chapters and labs. In place of a traditional text book each student is required to purchase the software for SimUText interactive chapters and labs. SimUText is an inquiry-based approach to learning ecology that allows students to conduct simulated experiments like those conducted by practicing ecologists. Instructions for purchasing the software are available in the Announcements on Canvas. Students can download SimUText to their own computers, they can load it to a thumb drive and run it on a computer of their choice, or they can run it from one of the machines on which it is installed in an FAU computer lab.

There is very good tech support from SimBio, the company that produces SimUText, through their web page. The link to SimBio’s tech support is on the Student Portal web page where students subscribe to their SimUText, it’s in the SimUText software program where students run the chapters and lab, and it’s on the SimBio website at: <http://simutext.zendesk.com>. Also, the teaching assistant will be available during her scheduled sessions to instruct students on how to use simulation model software and to help with other SimUText questions.

SimUText chapters and labs are grouped into and labeled as “Assignments”, each with a specific due date. Late submissions will be docked 50% of total points. Each SimUText assignment consists of questions labelled as “graded” and “ungraded”. To encourage students to explore SimUText and get the full value of the interactive resource, they are awarded participation points for each ungraded question answered, regardless of whether the answer was correct.

*Note that SimUText exercises are not a team assignment. Each student is expected to complete their own work and SimUText has several built in features to reduce cheating. Working together on assignments will be considered a breach of academic integrity.

I>clickers: I>clicker questions will be given during most classes. Some questions will be graded whereas others are to promote discussion or help me determine how well the class understands a concept. **Five of the lowest scores on graded questions will be dropped** from the calculation of the final grade.

Each student must **REGISTER THEIR I>CLICKER REMOTE THROUGH CANVAS BY JANUARY 22** so I can associate the responses with a student. Because I>clicker questions are a tool for promoting an active dialog in a large class, **it is not possible to make up I>clicker**

questions missed because of an absence. However, remember that the 5 lowest I>clicker scores are dropped so there is no penalty for missing a day of class.

*Please be mindful that sharing I>clicker remotes among students or using another student's I>clicker is a breach of academic integrity.

Class participation: Active teaching techniques rely heavily on student participation in discussions and demonstrations. Even though the class size is large, student participation through oral dialog is strongly encouraged. Each student brings to class their unique experiences and perspectives on ecology. Sharing these diverse views will add greatly to the course content and it is a good habit for any student considering going on to graduate school. Although I do not take attendance, students are expected to conform to FAU's attendance policy as described in the Undergraduate Catalog. Also, former students have found that it is easier to perform well in this class they participate daily in the class lectures and activities.

Exams: There will be three multiple choice exams plus a comprehensive final exam, all weighted equally. On test days, students are responsible for bringing a **scantron sheet, pencil, and photo ID**. No electronic devices of any type, including watches, are allowed. Exams will include material from the SimUText assignments and anything covered during class time. If the final exam score is higher than the lowest regular exam score, the final exam score will be substituted for the regular exam score. Because the final can substitute for the lowest exam, there will be no reason to have make up exams. However, if a student misses an exam for an excused absence and they want to take an additional exam, they will be able to take an essay format makeup exam during one of the reading days. The instructor should be notified of a missed exam prior to the absence. The instructor must be notified within 24 hours of the missed exam period to avoid the test grade being recorded as a 0. Any doctor's note to be used for an excused absence must include a legibly written doctor's name, address, and a contact name and number for verification.

Course evaluation method

Grades will be based on a student's performance on 7 course components, with each component accounting for a percentage of the final grade as per the table below. The number of graded I>clicker questions is unknown at the onset of the class because the number is adjusted for each topic based on how well the class understands them. **Therefore, a student's final grade will be determined by multiplying the proportion of points received for each course component by the course component weight, and summing that product across all course components.**

Course component	% of Grade (weight)
I>clicker registration by Jan 22	0
SimUText graded questions	48
SimUText ungraded participation points	2
I>clicker questions	10
Exam 1	10
Exam 2	10
Exam 3	10
Final Exam	10
Total %	100

Final percentages will be converted to letter grades as below.

Grade	Final Percentage
A	92-100
A-	90-91
B+	88-89
B	82-87
B-	80-81
C+	78-79
C	72-77
C-	70-71
D+	68-69
D	62-67
D-	60-61
F	<60

Course topical outline (see Canvas calendar for updates). The schedule of topics to be discussed is subject to change during the semester, depending on the needs of the class; however, the exam dates are firm. Dates with assignments due are shaded and in bold.

DATE	IN-CLASS TOPICS	SIMUTEXT ASSIGNMENT
Jan 8	Syllabus SimUText tutorial Introduction to ecology	Experimental Design Evolution in ecology
13		Experimental Design due
15	Experimental design	Evolution in ecology
17	Experimental design	Understanding Population Growth Evolution in Ecology due
22	Evolution in ecology	Understanding Population Growth I>clicker registration due
24	Evolution in ecology	Biogeography Understanding Population Growth due
29	Population growth	Biogeography
31	Population growth	Life History Biogeography due
Feb 5	Biogeography	Life History
7	Exam 1	Behavioral Ecology Life History due
12	Life history	Behavioral Ecology
14	Life history	Predation, Herbivory, Parasitism Behavioral Ecology due

19	Behavioral ecology	Predation, Herbivory, Parasitism
21	Behavioral ecology	Competition Predation, Herbivory, Parasitism due
26	Predation, Herbivory, Parasitism	Competition
28	Predation, Herbivory, Parasitism	Isle Royale Competition due
Mar 5	Spring Break (no class)	
7	Spring Break (no class)	
12	Competition	Isle Royale
14	Competition	Community Dynamics Isle Royale due
19	Isle Royale	Community Dynamics
21	Exam 2	Physiological Ecology (Sect 1&2) Nutrient Cycling Community Dynamics due
24		Physiological Ecology (Sect 1&2) due
26	Community dynamics Physiological ecology	Nutrient Cycling
28	Community dynamics Physiological ecology	Climate Change Nutrient Cycling due
Apr 2	Nutrient cycling	Climate Change
4	Nutrient cycling	Ecosystem Ecology Climate Change due
9	Climate change	Ecosystem Ecology
11	Climate change	Ecosystem Ecology due
16	Ecosystem ecology	
18	Exam 3	
23	Reading day (no class)	
25	Final Exam (7:45-10:15 AM) BU 120	

Time requirements

Students that want to receive an A should attend each class period and expect to spend about 6-9 hours per week on this course outside of class. Time outside of class should be allocated each week for completing the SimUText activities and for reviewing lecture notes.

Communication devices

In keeping with University policy, cell phones should be disabled or set to silent in class.

Letters of reference

The most widely accepted measure of a student's performance in class is the final grade, which is noted on transcripts. Thus, I do not provide letters of reference based only on my knowledge of a student's performance in class. I do, however, provide letters of reference for students I observe participating in research projects or other professional activities outside the classroom.

FAU Attendance Policy Statement

Students are expected to attend all of their scheduled University classes and to satisfy all academic objectives as outlined by the instructor. The effect of absences upon grades is determined by the instructor, and the University reserves the right to deal at any time with individual cases of non-attendance. Students are responsible for arranging to make up work missed because of legitimate class absence, such as illness, family emergencies, military obligation, court-imposed legal obligations or participation in University-approved activities. Examples of University-approved reasons for absences include participating on an athletic or scholastic team, musical and theatrical performances and debate activities. It is the student's responsibility to give the instructor notice prior to any anticipated absences and within a reasonable amount of time after an unanticipated absence, ordinarily by the next scheduled class meeting. Instructors must allow each student who is absent for a University-approved reason the opportunity to make up work missed without any reduction in the student's final course grade as a direct result of such absence.

FAU Code of Academic Integrity

Students at Florida Atlantic University are expected to maintain the highest ethical standards. Academic dishonesty is considered a serious breach of these ethical standards, because it interferes with the university mission to provide a high quality education in which no student enjoys an unfair advantage over any other. Academic dishonesty is also destructive of the university community, which is grounded in a system of mutual trust and places high value on personal integrity and individual responsibility. Harsh penalties are associated with academic dishonesty. For more information, see University Regulation 4.001.

http://www.fau.edu/ctl/4.001_Code_of_Academic_Integrity.pdf

FAU Disability Policy

In compliance with the Americans with Disabilities Act Amendments Act (ADAAA), students who require reasonable accommodations due to a disability to properly execute coursework must register with Student Accessibility Services (SAS) and follow all SAS procedures. SAS has offices across three of FAU's campuses – Boca Raton, Davie and Jupiter – however disability services are available for students on all campuses. For more information, please visit the SAS website at www.fau.edu/sas/.

FAU Counseling and Psychological Services (CAPS) Center

Life as a university student can be challenging physically, mentally and emotionally. Students who find stress negatively affecting their ability to achieve academic or personal goals may wish to consider utilizing FAU's Counseling and Psychological Services (CAPS) Center. CAPS provides FAU students a range of services – individual counseling, support meetings, and psychiatric services, to name a few – offered to help improve and maintain emotional well-being. For more information, go to <http://www.fau.edu/counseling/>.