

General Ecology Syllabus

BIO260 – Fall 2016

Instructor

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Office hours: Tu 8:00-9:00 & Th 13:30-14:30 (or by appointment)

Graduate Teaching Assistant

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Office hours: M 8:30-9:30 & F 945-1045 in Dabney 573. Please knock loudly because this is a lab and the doors are shut and locked.

Meeting Times

TTh 12:40-13:30 Walter Life Sciences Building M307

Course Summary

Ecology is the scientific study of the interactions between organisms and their environment. This course will introduce you to fundamental concepts and models in the field of ecology. There will be a strong emphasis on understanding the process of science through reading and critical evaluation of the primary literature. By the end of this course, you will understand the major ecological patterns in nature and the factors that cause them. Your writing skills and analytical and quantitative abilities, will be reinforced and improved. You will leave this course as a more ecologically aware citizen, with a deeper curiosity about how the world works, and the foundation necessary for becoming a practicing ecologist.

Course Philosophy

With a continually increasing rate of new information and discoveries in the field of ecology, no one can master all of the factual and theoretical information currently available. Scientists must instead organize and synthesize information in ways that help them solve problems. This course focuses on developing skills to help you evaluate and integrate information. The emphasis is on critical thinking and understanding the process of scientific inquiry. You will learn some new vocabulary and facts along the way, but the intention is to improve your ability to synthesize information during the process of problem-solving rather than engaging in rote memorization. You will be expected to read the textbook and other assigned readings before class, so class time can be used for lecture, case studies, and activities that reinforce the concepts from the readings and provide practice in critical thinking and scientific inquiry.

Learning Objectives

Students successfully completing this course will be able to:

- (1) recognize the major ecological patterns in nature and what causes them
- (2) apply the scientific process to ecological problems
- (3) engage in critical thinking and discussion of primary scientific literature in ecology
- (4) make informed predictions on how organisms respond to environmental conditions and

biotic interactions

Classroom communication

Check the Canvas site and your email frequently. All of the readings, handouts and out-of-class assignments will be available on the site.

Please allow up to 2 working days for responses to emails. Email may not be answered after the workday is over or on the weekends, so please be patient outside of normal work hours. *Even better than email is posting your questions to the course discussion board on Canvas. Someone else may answer you sooner, such as your peers or the TA. It also helps because questions can be answered once and read by everyone.*

Textbook/Readings

We're using *Ecology* by Cain, Bowman & Hacker (CBH). The lectures will make more sense if you do the reading before coming to class. Additional readings from the ecological literature will be made available on Canvas, and are required reading.

Book website: <http://www.sinauer.com/ecology/>

Assessment

Assessment is an important part of the learning process. To assess what you understand and what you do not, and to see if you meet the course objectives, you will have in-class assignments, quizzes, homework, 2 comprehensive exams and a comprehensive final exam.

Exams

Exams will focus on reasoning, problem solving, interpreting graphs, and demonstrating an understanding of concepts. The format of exams will include short-answer, essay, multiple choice, and simple math problems. Bring a calculator to every exam. All exams are comprehensive. The exams will also include material from the book that I might not have focused on in class.

Only under very special circumstances will make-up exams be available and only if I am notified in advance of the scheduled exam date. They will be essay format only and must be taken within 5 days of the scheduled exam date.

Quizzes/Homework/In-class assignments

Quizzes and in-class assignments will happen during class and cannot be made up. Quizzes will generally be 1-3 questions and worth 15 pts. If you get the answer correct, you get full credit. If you write anything ecological down, you get half credit. If you're not there, you get 0.

Homework assignments are due IN CLASS only on the day they are due. In-class assignments will be turned in that day. For quizzes, homework, and in-class assignments, you can get a maximum of 150 points even though 165 points will be assigned. This means you will be able to miss a class for something like the flu without it affecting your grade.

The Seminar Series (a.k.a., bonus points)

Most Fridays at 3:30p, the Department of Ecology & Evolutionary Biology has a seminar in Science and Engineering 307. This is an excellent opportunity for you to learn about different topics in ecology and to see how scientists convey their findings.

Once you've attended one of these seminars, write a one-page summary of it and email it to Leigh (lmoorhea@vols.utk.edu) - these write-ups are due one week after the seminar. You may get up to 2 bonus points for each one. You can get points for attending 5 seminars. If you can't make the seminars, you may read a paper by that speaker and submit a one-page summary. We will let you know which Fridays have speakers talking about ecological topics.

Grade disputes

If you disagree with how an exam or homework question was graded, you must come to me within one week of the day the exam or homework was returned (whether you picked it up or not that day). You must make an argument in writing for why you think the answer should receive more points. If your dispute is about an arithmetic mistake when points were being added together, you do not have to submit a written justification.

	Points possible
Mid-term exams (2-100 pts each)	200
Final Exam	150
Quizzes, Homework, In-class assignments	150
Bonus points possible from seminar series	(10)
Total	500

There will be no curve. Your grades will be based on the following:

A	93-100	C	73-76
A-	90-92	C-	70-72
B+	87-89	D+	67-69
B	83-86	D	63-66
B-	80-82	D-	60-62
C+	77-79	F	0-59

Lecture Schedule

Date	Lecture	Readings
18-Aug	The science of ecology	
23-Aug	Doing ecology	1
25-Aug	The physical environment	2, 3
30-Aug	Coping with the environment I	4
1-Sep	NO CLASS - GAME DAY	
6-Sep	Coping with the environment II	5
8-Sep	Evolutionary ecology I	6
13-Sep	Evolutionary ecology II	TBA
15-Sep	Life history	7
20-Sep	Populations	9
22-Sep	Population growth & dynamics	10
27-Sep	Exam	
29-Sep	The Community I	16
4-Oct	The Community II	17
6-Oct	NO CLASS - FALL BREAK	
11-Oct	Species diversity	19
13-Oct	Competition	12
18-Oct	Commensalism/Mutualism	15
20-Oct	Predation & Herbivory	13
25-Oct	Parasitism/Disease ecology	14
27-Oct	Indirect interactions	R5
1-Nov	Biogeography	18
3-Nov	Biological invasions	TBA
8-Nov	Exam	
10-Nov	Production	20
15-Nov	Energy flow & food webs	21
17-Nov	Nutrient supply & cycling	22
22-Nov	Landscape ecology	24
24-Nov	NO CLASS - THANKSGIVING	
29-Nov	Global change ecology	25
1-Dec	Conservation biology & Summary	23

Wed. 7-Dec

Final Exam 10:15-12:15

Disability Services

If you need course adaptations or accommodations because of a documented disability, or if you have questions or concerns about disabilities or emergency information to share, please contact the Office of Disability Services: 100 Dunford Hall; 865-974-6807 or 865-622-6566 for video phone; Email: ods@utk.edu; Website: <http://ods.utk.edu/>).

Counseling Center

College is a stressful time. If you are feeling significant levels of stress or anxiety that have led to mood changes, depression, loss of appetite, problems sleeping, or you have experienced a problem with relationships, family worries, loss, or a personal struggle, please seek help from the counseling center. Getting help is a smart and courageous thing to do for yourself and for those who care about you.

Phone: **865 974-2196**

Email: counselingcenter@utk.edu

Website: <http://counselingcenter.utk.edu/>

Address: 1800 Volunteer Boulevard

Academic Assistance

Tutoring: The Division of Biology does not offer tutoring services. Contact the Student Success Center or the Academic Support Unit of the Office of Multicultural Student Life for information about tutoring opportunities.

Student Success Center: The comprehensive source for information, services, and resources to assist your success at UT:

Phone **865 974-6641**

Email: studentsuccess@utk.edu

Website: <http://studentsuccess.utk.edu>

Address: 812 Volunteer Boulevard, Greve Hall, room 324

Office of Multicultural Student Life:

Website: <http://multicultural.utk.edu/services/tutoring/>

Academic integrity

Academic dishonesty of any sort will not be tolerated. Plagiarism includes the copying of phrases, portions of sentences or the main ideas from anyone or any work submitted for a grade (exams, papers, quizzes, etc).

(http://catalog.utk.edu/content.php?catoid=1&navoid=156#hono_stat). The official Honor Statement of students attending UTK is:

An essential feature of the University of Tennessee, Knoxville, is a commitment to maintaining an atmosphere of intellectual integrity and academic honesty. As a student of the university, I pledge that I will neither knowingly give nor receive any inappropriate assistance in academic work, thus affirming my own personal commitment to honor and integrity.

Syllabus

This syllabus is subject to change throughout the course - see Canvas for the most up-to-date version.