General Ecology
BIO250 – Spring 2012
(TTh 11:10-12:25 AMB 210)

Instructor
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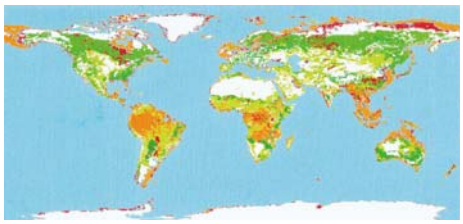
(or by appointment)



Teaching Associates

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Learning Objectives. By the end of this course, you'll understand the major ecological patterns in nature and the factors that cause them. Your writing skills, analytical and quantitative abilities, and talents in the field will be reinforced and you will have learned the basics to be a practicing ecologist and an ecologically aware citizen.

Any student who feels that she or he may need accommodations for any sort of physical or learning disability, please speak with me after class, make an appointment to see me, or stop by my office.

Classroom communication. Check the Blackboard site (Online@UT) and your email frequently. All of the readings, handouts and out-of-class assignments will be available on the site, as well as answers to follow-up questions and unclear concepts.

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. What is covered in lecture is more important than what's in the textbook. Additional readings from the ecological literature (R1-R8) will be made available on Blackboard, and are required reading. **Book website: http://www.sinauer.com/ecology/**

Assessment

To assess how well you meet these objectives, you will have 2 comprehensive exams, in-class discussions of and quizzes on the primary literature, and you will spend time in the computer lab enhancing your quantitative skills. You'll also do several small research projects and one major research project in the field.

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. All exams are comprehensive. The exams will also include material from the book that I might not have focused on in class; I will provide a list of review topics before each exam.

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 will happen during class and cannot be made up. Quizzes will generally be 1-3 questions and worth 5-10 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.

	Points possible
Mid-term exams (2 -100 pts each)	200
Final Exam	100
Quizzes/Assignments	150
Lab	200
(Lab projects 50)	
(Experimental ecology paper 25)	
(Group project participation 25)	
(Group project presentation 25)	
(Group project paper 75)	
Bonus points possible from seminar series	(10)
Total	650

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

The Seminar Series (a.k.a., bonus points). Most Fridays at 3:30, the Department of Ecology and Evolutionary Biology has a seminar in Science and Engineering 307. This is a tremendous opportunity for you to learn about many different topics in ecology and to see how different people convey their findings.

Once you've attended one of these seminars, write a one-page summary of it and email it to Noelia (mbarrios@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 (posted on Bb). I'll let you know which Fridays have speakers talking about ecological topics.

Lecture Schedule

Date	Lecture	Readings
12-Jan	The science of ecology	
17-Jan	Doing ecology	**R1**, 1
19-Jan	The physical environment	2, 3
24-Jan	Coping with the environment	4, 5
26-Jan	Evolutionary ecology I	6
31-Jan	Evolutionary ecology II	**R2**
2-Feb	Life history	7
7-Feb	Populations	8
9-Feb	Population growth & dynamics	9, 10
14-Feb	Extinction	**R3**
16-Feb	**Exam**	
21-Feb	The Community I	15
23-Feb	The Community II	16
28-Feb	Species diversity	18
1-Mar	Competition	**R4,** 11
6-Mar	Facilitation/Mutualism	12
8-Mar	Predation & Herbivory	14
13-Mar	Parasitism/Disease ecology	13
15-Mar	Indirect interactions	**R5**
20-Mar	**Spring break**	
22-Mar		
27-Mar	Biogeography	17
29-Mar	Biological invasions	**R6**
3-Apr	**Exam**	
5-Apr	Production	19
10-Apr	Energy flow & food webs	20
12-Apr	Nutrient supply & cycling	**R7,** 21
17-Apr	Landscape ecology	23
19-Apr	Global ecology	24
24-Apr	Conservation biology	22
26-Apr	Urban ecology & Summary	**R8**

8-May **Final Exam 10:15-12:15**

R1-R8 corresponds to assigned papers from the primary literature that **must be** read before coming to class. You can download them from the Blackboard site.

Labs

The aim of labs is to learn how ecologists do ecology, reinforce principles learned in lecture and to learn to think creatively, critically, and quantitatively by identifying and understand ecological patterns in the field.

- The Lab will always meet, if there is bad weather we will rearrange topics so make sure you meet at H302 regardless!
- Many of the labs will be spent in the field (with mud, rain, cold/high temperatures, biting insects, etc.). Please be prepared – bring water, some snacks, a hat, sunscreen, bug spray and do not wear open-toed shoes or shorts.
- Do not miss labs. If you have to miss a lab for a good reason, make sure you let your TA know in advance so that we can discuss alternative arrangements.

Lab Schedule

Date (week of)	Topic	Where?
Jan. 16	Generating Hypotheses /Experimental Design	Lab H302
Jan. 23	Statistics and graphics	Lab H302
Jan. 30	Experimental ecology	Lab H302
Feb. 6	Peer Review (**1st draft of Exp. Ecology paper due in class**)	Lab H302
Feb. 13	Community analyses	Lab H302
Feb. 20	Sampling I (**final draft of Exp. Ecology paper due in class**)	Field
Feb. 27	Sampling II	Field
Mar. 5	Initiation of final group project (GP) plans	Field
Mar. 12	GP workday (GP proposals due)	Field
Mar. 19	**Spring Break**	
Mar. 26	GP meeting with TA	Lab H302
Apr. 2	GP workday	Field
Apr. 9	GP workday	Field
Apr. 16	GP meetings with TA	Lab H302
Apr. 23	Final GP presentations	Lab H302

The Final Group Project. By the 8th week, you and 2 others will have gone to the field and decided on an ecological study for a final project. You will then have one month to collect the data and prepare the paper and a group presentation. During that time your group is required to meet with your TA or me at least 2 times. We are happy to review plans, statistical analyses, figures, drafts of the paper at any time during this process. The final group project paper to be emailed to TA 30 April by 5:00pm. More instructions on this final project in lab.