

Syllabus: BIO 448.01, Ecology
Term I, 2002/03, 3 credits

Instructor: Stokes S. Baker, Ph.D.
Office: 211 Ford Life Sciences Building
Lecture: 11:00 to 11:50 AM, MWF
 LS118, Ford Life Science Building

Phone: (313) 993-1142
E-mail: bakerss@udmercy.edu
Office Hours: 12:00 to 1:00 PM, MWF;
 11:20 to 12:45, TR
 (Additional hours by appointment, or **just drop by**)

Text: Smith, Robert Leo. 2003. Elements of Ecology, 5th ed. Benjamin/Cummings, San Francisco. ISBN 0-321-06878-5. To order on-line go to <http://www.aw.com/catalog/academic/product/1,4096,0321068785,00.html>

Description

A lecture course designed to introduce students to major concepts in the science of ecology. Major topics include natural selection and speciation; physical environmental factors (e.g. light, water, chemicals); populations and their dynamics; communities; and ecosystem dynamics. Upon completion of this course, the student will be able to:

- explain basic concepts in the discipline of ecology
- explain the meaning behind mathematical models that describing ecological principles

Methods

This is a traditional lecture course. Home work assignments consisting of readings from the text, spread sheet calculations, and web-based simulations will be assigned. Materials from class presentations and homework assignments will be assessed on the exams.

Lecture Topics:

<u>Chapter</u>	<u>Title</u>	<u>Pages</u>
Part I.	Introduction	
1.	The Nature of Ecology	3 - 10
2.	Adaptation and Evolution	11 - 33
Part IV.	Populations	
9.	Properties of Populations	171 - 184
10.	Population Growth	185 - 201
11.	Intraspecific Population Regulation	203 - 218
12.	Life History Patterns	219 - 235
Ecological Application	Cheating Nature	236 - 238
IV.		
Part V.	Communities	
13.	Community Structure	241 - 267
14.	Interspecific Competition	269 - 288
15.	Predation	289 - 308
17.	Processes Shaping Communities	329 - 348
19.	Landscape Ecology	367 - 388
Ecological Application V.	Asteroids, Bulldozers, and Biodiversity	389 - 392

<u>Chapter</u>	<u>Title</u>	<u>Page</u>
Part VI.	Ecosystems	
20.	Ecosystem Productivity	395 – 416
21.	Nutrient Cycling	417 – 432
22.	Biogeochemical Cycles	433 – 448
Ecological Application VI.	Time to Rethink the Lawn	461 - 463
Part II.	The Physical Environment	
3.	Climate	37 – 54
5.	Soil	79 – 95
4.	The Abiotic Environment	55 - 78

Computer Requirements and Resources:

By being a student at the University of Detroit Mercy (UDM) you have Internet access through the university's computer labs. I strongly suggest you sign-up for a computer account. I also assume you know how to use Internet browsers, such as Netscape Navigator[™] or Microsoft Explorer[™]. Additionally, exercises involving spread-sheet calculation with Microsoft Excel will be assigned. If you do not know how to use these programs, please feel free to talk to the instructor.

The following resources are available to you:

<u>Internet Resource</u>	<u>URL</u>
Course web site: Contains copy of syllabus, some of the handouts, links to the textbook's web site, and other resources.	http://knowledge.udmercy.edu You must log onto the course web site the first week of classes. To do so, you will need to have an active Email account. Instructions on signing onto Blackboard will be distributed the first day of class.
Textbook web site: Chapter description, on-line simulations, and practice quizzes.	http://occawlonline.pearsoned.com/bookbind/pubbooks/ecologyplace To access this site, you need to activation your Biology Place account using the ID and Password found on the first page of your textbook.

Evaluations:

Your grade for this course will be based upon four (4) examinations as follows:

- Exam I 100 pts.
 - Exam II 100 pts.
 - Exam III 100 pts.
 - Exam IV 200 pts.* Final exam week
- Total: 500 pts.**

*Exam IV will be a comprehensive final and will consist of two parts. Part A, worth 100 points, will cover the last quarter of the lecture material. Part B, worth 100 points, will be comprehensive. If the score in Part B is higher than the score received one of the previous exam (Exam I, Exam II, or Exam III) then that score will replace the lowest score with the score obtain with Part B.

Attendance:

Make-up exams will only be given if you miss an exam for a legitimate excuse (e.g., illness, death in the family). You must notify me within 24 hours of the exam time to schedule a make-up exam. Otherwise, missed exams will receive a score of 0 points.

Grades:

You are guaranteed the following minimum grades based upon the following percentile scale:

A = 95 to 100%	A- = 94 to 90%	
B+ = 89 to 85%	B = 84 to 80%	B- = 79 to 75%
C+ = 74 to 70%	C = 69 to 65%	C- = 64 to 60%
D+ = 59 to 55%	D = 54 to 50%	
F = 49 to 0%		

To calculate your grade, use the following formula: $\% = (\text{points received} / \text{points possible}) \times 100$

Important Dates:

<u>Schedule event</u>	<u>Date</u>
Celebrate Spirit	Thursday, Sept. 12, Assembly in Calihan Hall at 11:30 AM
Exam I	Monday, Sept. 23
Last day to withdraw without "W"	Friday, Sept. 27
Exam II	Friday, Oct. 11
Technology Discovery Day	Friday, October 18, No class.
Midterm grades due	Tuesday, Oct. 22 (Note: Expect to receive your grades about a week later)
Exam III	Friday, Nov. 8
Last day to withdraw	Friday, Nov. 22
Thanksgiving Recess	Friday, Nov. 29
Exam IV	Wednesday, Dec. 11, 11:00 AM to 12:50 PM

Class Cancellation Policy:

Class will only be canceled if the President’s office closes the university, or if the Dean’s office cancel class due to a special event (e.g., Technology Discovery Day).

Courtesy:

You must be courteous to your fellow classmates, teaching assistant and instructor. To this end, talking during lectures is not permitted. If you are disturbing others in class, the instructor will request that you leave the laboratory.

Academic Integrity

I expect you to follow the norms of academic conduct. You will adhere to the policies outlined in Appendix A of the 2002/03 Student Handbook of Policies and Procedures. I recommend that you read this appendix. Students caught plagiarizing or cheating will received a grade of zero for that assignment.

The following activities are considered cheating:

1. Looking at someone else's exam.
2. Looking at notes, books, or electronic data storing devices during an exam.
3. Transferring information to another student using wireless technology.
4. Looking at an answer on another student's calculator.
5. Giving information to another student during an exam.
6. Talking during an exam.
7. Telling students enrolled in different sections of the course what you observed on the exams or quizzes.
8. The sharing of outputs from computer programs. (If you copied the file, it is not your own work!)
9. The handing in of assignments completed by another person and claiming it is your own work.