Biology 318 – Ecology
Syllabus – Fall, 2008

Welcome to Ecology, Biology 318.

You will have several tools available to you this semester. This syllabus is your first tool. It takes you through each of the topics we will cover. It tells you what to read (and where to find it). A second tool is the textbook, which contains the background material for the course. A third tool is provided by the lectures, which select, amplify, and explain the some of the material in the text. In "lecture", I will try to illustrate the *main* points with slides or examples, but I will *not* try to *comprehensively* explain all of the material in your text. This is a junior-level course and you are able to **READ**. Of course, there will be material that you will still have questions about, and I hope to encourage you to bring those questions to class so that we can all address them. If, as a class, everyone participates in carefully reading the text and bringing to class the material that is most difficult, it will prevent me from giving you boring lectures on the material that you already understand and allow me to concentrate on the stuff that is more difficult. Yet another tool is the homework that expands your problem-solving ability and tests your comprehension of the material.

Ecology, like all of biology, is becoming more and more mathematical. We will make extensive use of computers to help understand complicated topics. In part, you will be using software I developed to model such things as population growth. This software does not assume much in the way of computer skills on your part. In other areas, however, you will need to make use of the computers to complete your assignments. I assume you are competent in using a word processor and a spreadsheet. **If you are not, let me know immediately** and make arrangements to pair up with someone in the class who is familiar with these tools.

The "normal" pattern for the course will be two introductory "lectures" or slide shows each week, roughly covering 1 or 2 chapters from the text. If possible, there will be a time period set aside to work in the computer lab and to ask questions.

Course Goals:

1. To learn the basic principles of ecology. Success will be measured by your grades on tests.
2. To develop mathematical skills in relation to biology. Success will be reflected in your homework grades.
3. To develop critical thinking skills, particularly in the areas of experimental design and analysis. Progress will be evident in your homework and in your projects.
4. To improve communication skills both in reading and analyzing scientific papers. This will be evaluated in your annotated bibliography.
5. To learn how to effectively use computers to analyze, assemble, and format information in a professional fashion. Your mastery of these skills will be reflected in your homework grades.
6. To improve your ability to work in teams by collaborating on the homework assignments.

Instructor Information:

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Phone numbers: Try to reach me at these numbers (in this order):
Office: 376-4743
Home: (up till 10 p.m.) - 374-8687
E-Mail: mcshaffd@marietta.edu web pages: http://mcnet.marietta.edu/~mcshaffd/

Note on Voice and Email: Voice mail is handy for leaving information; it is an abuse of the technology to use it as a means of passing on responsibility. By the way, a voice mail message is fine for CYA excuse messages (Dr. McShaffrey, I'm sick this morning and I won't be in class (cough! cough!)). I find it easier to reply to email.

Office Hours: I welcome you to simply drop by my office! I post a copy of my schedule outside my door and on the web); you can use it to see when I am most likely to be free, sign up for a time, and stop by at that time. If the door is open, come on in! If, for some reason, I am busy, I will set up an appointment with you for later. If you run into a problem that is going to keep you from getting to sleep, feel free to call me at home (but please try to find these problems before 10PM, if possible! ☺).

Grading:

There are 900 points available in this class, tentatively distributed as follows:

Homework:	10 x 40	= 400
Annotated Bibliography	1 x 100	= 100
Quizzes	10 x 10	= 100
Mid-term Exams:	2 x 100	= 200
Final Exam:	1 x 200	= 200
Totals:		= 1,000

Bonus Points (extra credit):

Marietta Natural History Society Programs	5 points each
Nature Walks	5 points each
Service Learning Project	15 points
(Maximum of 25 points)	

Exams will be short answer, multiple choice, and essay.

Attendance:

Attendance may be taken at any class meeting. This helps me in counseling students who are having trouble in the class, and allows me to report attendance to the Academic Standing Committee, athletic coaches, etc. A token one point will be deducted for each absence (excused or unexcused); for most students this can easily be made up by a single extra credit event. Be aware that missing class may have repercussions beyond that single point, however.

Absolute maximum of 25 bonus points per individual.
Late Assignments will be given a grade of 5 points.
I reserve the right to give an "F" for the course to any student who does not complete <u>any</u> assignment to my satisfaction.[1]

Service Learning option:

One option of this class is to participate in some service activity that has something to do with the environment. This is not volunteering - you are getting 15 bonus points for it. The activity must take at least 4 hours, and ***<u>must</u>*** be approved in advance. It may be used to fulfill requirements for other classes. A form for prior approval is found in the assignment package; you may photocopy it for use, or print the original from this file on the server. To receive credit, you must turn in a 1-page typed summary of what you learned. Your grade will be based on the quality of the project, your participation, and the quality of the paper in terms of presentation and insights gained. Normally, this service will be performed at the field station.

Homework Expectations:

***Cardinal Rule*: Take pride in your work! Before turning in an assignment, ask yourself if the quality and appearance of work is such that you would submit it to a prospective employer as a sample of what you can do.**

All homework will be typed on 8.5 x 11" paper.

Use of word processors is required. Use of computers to graph data is required. Graphs should be integrated directly into the paper (not mechanically pasted in). Obviously, most assignments requiring graphs will have to be done on a word processor. It is strongly advised that you use the word processors and spreadsheets available on the college network. I may not be able to help you resolve problems arising from the use of software other than that used by the college. In particular, avoid using Microsoft Works. Often, the best place to start is to copy the questions from the appropriate file on the server, and add your answers.

Sometimes you will be asked to sketch a graph or draw a diagram. These should be done neatly, on graph paper.

Show your work. If you don't show your work, I cannot give partial credit. If only the final answer is present, and it is wrong, no credit will be given. On the other hand, if the work is shown, and I can see where the mistake was made, up to 95% of the credit may be given despite a wrong final answer.

Leave ample room on the page for corrections. ***Double-space typed work.***

Set off specific numeric answers by underlining them or boxing them. Be sure that the layout of your answer makes it obvious which question is being answered where.

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[1] Always read the fine print!!!

You will be working in teams, but don't cheat yourself by depending on others to do your work for you - and don't constantly do work for someone else. All members of a team must contribute.

For ***independent*** assignments, ***final preparation of what you will turn in must be done independently***. I will accept photocopies of computer printouts from members of a team, but not photocopies of the answers, analysis, working equations, etc.

The old expression, no pain, no gain, has some application to homework. The assignments you are being given are designed to stretch - not break - your thinking skills somewhat. The questions are supposed to be difficult, otherwise, you wouldn't be learning anything - would you trust a physical training program that didn't leave you a little sore? Don't give up! Think about the problems and work through them. Work in groups. Start on the assignments early. If you are really stuck, ***give me a call or stop by***.

Plagiarism: Plagiarism is the misrepresentation of work done by others as your own. This can come in a variety of forms, including:

1. Copying another student's work.
2. Copying from a source without quotes or attribution.
3. Paraphrasing from a source without attribution (or insufficiently paraphrasing).
4. Including photos or other images made by someone else without attribution.
5. A member of a team not contributing an equal amount but leaving his/her name on the product.

Plagiarism is one of many forms of academic dishonesty – Academic dishonesty is not allowed at Marietta College and will be dealt with appropriately. Sanctions may include a lowered grade (including a 0) for an assignment, failing the course, or even expulsion from the college. See page 138 of the 2008-2009 catalog.

Note: If you copy another student's work or cheat in any way, I will flunk your sorry butt for the course and you could be expelled. Really.

Any student needing additional help should consult one of the many sources of support available to you. These include me (the instructor), the Academic Resource Center, the Writing Center, your classmates, the textbook's online resources, the college counseling center, your advisor, and Jedi master Yoda. Anyone with documented learning disabilities (or anyone who suspects they may have such a disability) should consult me and the ARC as to appropriate accommodations.

"Students who believe that they may need accommodations due to a documented disability should contact the Academic Resource Center (Andrews Hall, Third floor, 376-4700) and the instructor as soon as possible to ensure that such accommodations are implemented in a timely manner. You must meet with the ARC staff to verify your eligibility for any accommodation and for academic assistance."

Ecology 2008 Topics

Week/ Module	Date	Topic	Reading	HW
1a	August 26	Introduction	Chapter 1	
1b	August 28	Computers 101	Web Pages	
2a	September 2	Heat, Light and Water	Chapter 2	
2b		Graphing		
2c	September 4	Homeostasis	Chapter 3	
3a	September 9	Global Processes & Biomes	Chapters 4 & 5	
3b		Regression		
3c	September 11	Energy Movement	Chapter 6	HW 1
4a	September 16	Nutrient Cycling	Chapters 7 & 8	
4b				
4c	September 18	Adaptation and Life History	Chapters 9 & 10	HW 2
5a	September 23	Open		
5b		*t*-test		
5c	September 25	Population Structure & Distribution	Chapter 13	HW 3
6a	September 30	Exponential Growth	Chapter 14	
6b				
6c	October 2	**Test 1 - Weeks 1-5, HW 1-3**		
7a	October 7	Modeling		
7b		ANOVA		
7c	October 9	Age-Class Growth	Chapter 14	HW 4
8a	October 14	**Fall Break**		
8b				
8c	October 16	Logistic Growth	Chapter 14	Bibliography
9a	October 21	Predation (visual)	Chapter 17	
9b		Image Analysis/GPS		
9c	October 23	Predation (mathematical)	Chapter 18	HW 5
10a	October 28	Competition (visual)	Chapter 19	
10b				
10c	October 30	Competition (mathematical)	Chapter 19	HW 6
11a	November 4	Mutualism	Chapter 20	
11b		Chi Square		
11c	November 6	Communities	Chapter 21	HW 7
12a	November 11	**Test 2 - Weeks 1-11c, HW 1-6**		
12b				
12c	November 13	Coral Reef/Rainforest		HW 8
13a	November 18	Succession	Chapter 22	
13b				
13c	November 20	Biodiversity & Extinction	Chapters 23 & 25	HW 9
14a	November 25	Open		
14b				
14c	November 27	**Thanksgiving**		
15a	December 2	Development & Ecology	Chapter 26	
15b				
15c	December 4	Costa Rica		HW 10

Final – Wednesday December 10, 2008 – 8:30 – 11:00 AM.