

**General Ecology  
(BIOL 3863)  
Fall 2009  
Syllabus & Schedule**

**Instructor:**

**Dr. Michelle Evans-White**

**SCEN 623**

**575-4706**

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**Office hours: MW 9:30-10:30**

**Prerequisites:** 7 hours of Biological Sciences coursework; University Chemistry I&II.

**Scope of course:** Ecology, like many contemporary areas of science, is a multidisciplinary field of study that is almost boundless in its inquiry. This is because ecology encompasses biotic and abiotic structures, their function and how they interact to move energy and nutrients thereby regulating living organisms. This course will, therefore, explore organisms as individuals, populations, communities and ecosystems, and the interactions between organisms and their environment. The emphasis of this course will be on basic ecological principles and processes that are generally useful in understanding the world around us and in more advanced studies in the ecological sciences. Major topics will include adaptive strategies of organisms, population dynamics, species interactions, community structure and function, ecosystem ecology, productivity, food webs, biogeochemical cycles, and human influences on ecosystems.

**Course Objectives:**

1. Teach basic ecological principles and processes that will give the student the basic building blocks needed to form ecological hypotheses.
2. Teach basic ecological methodology that gives the student an understanding about how to appropriately test hypotheses across biological, spatial, and temporal scales.
3. Student is able to use their knowledge of basic ecological principles, methods, and current scientific information to make informed decisions about their lifestyles and current ecological issues.

**Approach to this class:** We will begin by looking at the scope and history of ecology. The traditional organization of ecology often follows from the individual to populations to communities to ecosystems. We will follow this framework with a more integrated approach by exploring how the world organisms live in, and how whole ecosystems are put together, focusing on the flow of energy and nutrients. This is often a “harsh” world we live in, and we need to understand the most important physical features of the environment and how organisms interact with this environment if we want to understand how life is supported and why organisms look and behave the way they do. We will look at the physiological, morphological, and behavioral aspects of organisms that allow them to cope with this “harsh” world. We must understand how organisms work if we are to understand what pressures have acted upon them in their environment. Once we

understand the pressures and responses of organisms we can investigate some of the emergent properties of organisms by looking at specific collections of organisms such as populations and communities. Ecosystems are constructed of both organisms (biotic) and their physical (abiotic) environment. Our investigation of energy and nutrient flow in ecosystems will enable us to investigate the role of both physical and biological factors on specific biogeochemical cycles. These concepts relating to ecosystem function and biogeochemistry will be built upon as we look in more detail at both terrestrial and aquatic ecosystems and their food webs. With this treatment of the ecosystems that organisms both depend upon and contribute to, we will then consider the role of humans in the global environment. We will conclude the course with a discussion of impacts humans have had on ecosystems and the global environment, which will serve to draw together various aspects of the course.

**Lectures:** MWF 8:30-9:20, SCEN 402

**Text:** *Essentials of Ecology* (3<sup>rd</sup> Edition) by Townsend, Begon, and Harper

**Grading:** Your grade will be based on three in-class examinations (100 points each) and a final exam (100 points). The final exam will primarily cover material from the last section of the course but will contain some cumulative aspects due to the cumulative nature of the material covered.

Grading will be approximately:	A	90-100%
	B	80-89%
	C	70-79%
	D	60-69%

Exams will be based upon lecture material and assigned reading. Each exam will be composed of matching, true/false, and multiple choice.

**Do not miss an exam.** A make-up exam will be given to an individual only under rare circumstances and if the person has contacted me before the regularly scheduled exam. You must make up the exam within a week after you miss an exam or you will receive a 0. **Missing an exam earns a score of 0.**

UNDER NO CIRCUMSTANCES WILL ANY GRADE BE ALTERED FOR ANY REASON EXCEPT A GRADING ERROR. When your grade is returned, check the addition of your score. If you think your grade should be changed, you have 1 week from the day the work is returned to see me. Make no notes or alterations on your work if you seek re-grading.

**Disclaimer:** The information contained in this syllabus does not constitute a contractual agreement. Exam dates, course content, and grading policy may be changed at the discretion of the instructor.

**Inclement weather policy:** In the case of bad weather, the class will be canceled if the university closes, if Fayetteville schools close, or if you receive an email notification from me prior to 7:30 am of that morning.

**Academic dishonesty:** Academic dishonesty includes any effort to circumvent the evaluation procedures of the course to improve a grade for yourself or your peers. Cheating includes but is not limited to unauthorized examination of written materials, misrepresentation of the cause of an absence during an exam, submitting the work of another partially or entirely as your own, and alteration of an exam answer to be submitted for re-grading. You are encouraged to report academic dishonesty. Anonymity will be protected. Students caught cheating may be given a failing grade in the course and may be subject to dismissal or further discipline. If you have any questions of what constitutes academic dishonesty, please ask me or refer to the brochure entitled “Academic Honesty” available from the Division of Student services.

### Tentative Schedule

Month	Day	Chapter	Month	Day	Chapter
August	24	1	Oct	16	9
	26	1 and 2		19	9 and 10
	28	2		21	10
	31	3		23	10
Sept	2	3	26	10 and 11	
	4	3 and 4	28	11	
	7	Labor Day	30	11	
	9	4	Nov	2	11
	11	4		4	Review
	14	Review		6	Exam 3
	16	Exam 1		9	nutrient cycles
	18	5		11	nutrient cycles
	21	5		13	nutrient cycles
	23	6		16	12
25	6	18		12	
28	7	20		12	
30	7	23		13	
Oct	2	8	25	Thanksgiving	
	5	8	27	Thanksgiving	
	7	8	30	13	
	9	Review	Dec	2	14
	12	Exam 2		4	14
	14	9		7	Review

Final Exam, Dec. 12, 7:30-9:30 am