

**Professor:** Brett Goodwin

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**Lectures:** Mon., Wed. & Fri. 10:00-10:50, Leon 109

**Office hours:** to be determined

**Web page:** via Blackboard (lecture outlines, practice questions, etc.)

**Textbook:**

Molles, M.C. Jr. 2002. *Ecology: Concepts and Applications*, 2<sup>nd</sup> ed. McGraw-Hill, New York.

**Prerequisites:** BIOL 150 and BIOL 151

**Course Description and Objectives:**

The purpose of this course is to provide a strong foundation in ecology as a scientific discipline. As such, the course will survey the different subdisciplines practiced in the field of ecology today. The first third of the course will focus on the ecology of individuals (how do individuals interact with their environment?). The second third will focus on the ecology of populations (how are populations described? how do they function? how do they interact?). And the final third of the course will focus on the ecology of communities, ecosystems and landscapes (how are communities of many species described? how do energy and nutrients flow through communities?). Throughout the course we will discuss specific examples and attempt to understand these examples in the light of current ecological theory. Also, we will discuss how ecological knowledge is gained (i.e., the scientific method).

By the end of the course you should understand basic ecological principles, be able to use ecological theories and knowledge to understand the world around you, assess ecological knowledge, and apply your understanding of ecology to novel situations.

**Evaluation:**

		A ≥ 90%
Paper .....	20%	B ≥ 80%
Midterm Exams (20% each).....	40%	C ≥ 70%
Final Exam .....	40%	D ≥ 60%

**Paper:** You will be asked to write a short paper (3 double-spaced pages). There will be three due dates for papers. You need only write one paper but can write a second or a third. You will receive the highest grade of any papers you write. More details will follow.

**Exams:** Exams will be mostly short-answer questions. The midterms will be non-cumulative. Half of the final exam will cover the last third of the course and the other half will cover the entire course.

**Extra-credit questions:** Roughly weekly I will ask a thought-provoking question based on the lecture material. You will have a short amount of time in which to answer the question and e-mail me your answer. A correct or thoughtful response will earn extra credit on the exams.

**Tentative Lecture Schedule:**

<b>Week of</b>	<b>Topic</b>	<b>Reading Molles</b>
Jan. 13	Introduction, What is ecology?	ch. 1
Jan. 20	<b>Martin Luther King Jr. Day (Jan. 20 - no class)</b> The physical world	ch. 2, 3
Jan. 27	The physical world cont. Physiological ecology: Heat	ch. 4
Feb. 3	Physiological ecology: Water, Energy & Nutrients	ch. 5, 6
Feb. 10	Behavioral Ecology: Foraging & Social Relations <b>Paper 1 (ecology of individuals) due (Feb. 14)</b>	ch. 6, 7
Feb. 17	<b>President's Day (Feb. 17 - no class)</b> Behavioral Ecology cont. <b>Midterm 1 (Feb. 21)</b>	
Feb. 24	Population Ecology: Distribution, Abundance & Growth	ch. 9, 11
Mar. 3	Population Ecology: Dynamics & Life Histories	ch. 10, 12
Mar. 10	Population Ecology: Competition	ch. 13
Mar. 17	<b>Spring Break (no classes)</b>	
Mar. 24	Population Ecology: Exploitation <b>Paper 2 (population ecology) due (Mar. 28)</b>	ch. 14
Mar. 31	Population Ecology: Mutualism <b>Midterm 2 (Apr. 2)</b> Community Ecology: Abundance, Richness & Diversity	ch. 15 ch. 16
Apr. 7	Community Ecology: Succession Ecosystem Ecology: Primary Production & Energy	ch. 20 ch. 18
Apr. 14	Ecosystem Ecology: Food webs & Nutrients <b>Easter Holiday (Apr. 18 - no class)</b>	ch. 19
Apr. 21	<b>Easter Holiday (Apr. 21 - no class)</b> Landscape Ecology	ch. 21
Apr. 28	Geographic Ecology <b>Paper 3 (community etc. ecology) due (May. 2)</b>	ch. 22
May 5	Global Ecology <b>Reading &amp; Review Day (May 9)</b>	ch. 23
May 12	<b>Final Exam (May 12 8:00 am)</b>	

Any student that needs special accommodations for learning or has special needs should discuss these needs with me as soon as possible.

Academic dishonesty (see the Code of Student Life) will result in a mark of 0 on the exam/paper.