

Professor: Brett Goodwin

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Lectures: Mon., Wed. & Fri. 9:00-9:50, O’Kelly 334

Office hours: to be determined

Web page: via Blackboard (lecture outlines, announcements, etc.)

Textbook:

Molles, M.C. Jr. 2004. *Ecology: Concepts and Applications*, 3rd 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. First, the course will focus on the ecology of individuals (how do individuals interact with their environment?). Second, we will focus on the ecology of populations (how are populations described? how do they function? how do they interact?). Finally, we 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 be able to describe or explain basic ecological principles, be able to apply ecological theories and knowledge to understand the world around you, assess ecological knowledge, and apply your understanding of ecology to novel situations.

Evaluation:

In class assignments	10%	A ≥ 90%
Content tests (on line)	20%	B ≥ 80%
Midterm Exams (15% and 20%).....	35%	C ≥ 70%
Final Exam	35%	D ≥ 60%

In class assignments: Through out the course we will be actively engaging the material via exercises such as case studies, analyzing and interpreting data, and short in-class writing assignments. These assignments will be turned in for grade (graded pass/fail).

Content tests: There will be short tests covering the required reading (administered on-line via BlackBoard) before we cover the material in class. The tests will focus on facts such as definitions, relationships, basic concepts, etc. The tests will be announced throughout the semester and there will be a short window of opportunity to take the test (2 to 3 days). I will use the results of these tests both as part of your grade and as way to fine tune what we discuss in lecture.

Exams: Exams will be a mixture of multiple choice and short-answer questions aimed at assessing your understanding of and ability to use the concepts we have discussed and worked on in class. 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.

Tentative Lecture Schedule:

Week of	Topic	Reading Molles
Aug. 23	Introduction, What is ecology?	ch. 1
Aug. 30	The physical world	ch. 2, 3
Sep. 6	Labor Day (Sep. 6 – no class) Physiological ecology: Heat	ch. 4
Sep. 13	Physiological ecology: Water, Energy & Nutrients	ch. 5, 6
Sep. 20	Behavioral Ecology: Foraging & Social Relations	ch. 6, 7
Sep. 27	Midterm 1 (Sep. 29) Population Ecology: Distribution, Abundance & Growth	ch. 9, 11
Oct. 4	Population Ecology: Dynamics	ch. 10
Oct. 11	Population Ecology: Life Histories	ch. 12
Oct. 18	Population Ecology: Competition	ch. 13
Oct. 25	Population Ecology: Exploitation	ch. 14
Nov. 1	Midterm 2 (Nov. 3) Community Ecology: Abundance, Richness & Diversity	ch. 16
Nov. 8	Community Ecology: Succession Ecosystem Ecology: Primary Production & Energy	ch. 20 ch. 18
Nov. 15	Ecosystem Ecology: Food webs & Nutrients	ch. 17, 19
Nov. 22	Thanksgiving (Nov. 26 – no class) Landscape Ecology	ch. 21
Nov. 29	Geographic Ecology	ch. 22
Dec. 6	Global Ecology Reading & Review Day (Dec. 10)	ch. 23
Dec 13	Final Exam (Dec. 14 at 8:00 am)	

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. A second act of academic dishonesty will result in a mark of 0 in the course.