

ECOLOGY - BIOL 230 COURSE SYLLABUS

COURSE DESCRIPTION: This course is an in depth study of the general principles of Ecology. We will study the scientific method, biomes and ecosystems, population dynamics, predator-prey interactions, and global ecosystems. This course consists of three one-hour lecture and one two-hour lab each week.

INSTRUCTOR: Shubham Datta, PhD

OFFICE: NSC 113

OFFICE HOURS: M, W, F 9:00-10:50, T, 10:00-12:00; and by appointment

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LECTURE: 1:00 to 1:50 am MWF in NSC 103

LAB: 1:00-2:50 am on Tuesday in NSC 103

TEXT: Ecology, Concepts and Applications, Molles, 6th Edition

GRADING: Grading is based on a standard college curve, where students earn a grade based upon the percent of total possible points they obtain. The lecture component of this course consists of 600 points (12 drop quizzes worth 5 points each, assignments worth 100 points, 3 lecture exams worth 100 points each, and one final exam worth 150 points). Drop quizzes and assignments may not be made up, but students will be able to drop the lowest two scores of the twelve drop quizzes given during the semester. There is a one week grace period to make up any missed exam. Any missed exam not made up within the allotted time will be given a zero. Make-up exams may be of an essay nature and are usually considered more difficult. (Note: It is the responsibility of the student to schedule make-up work with the instructor at a time convenient to both parties.) Final letter grades are assigned based on the following criteria:

A =	90-100% of the total points
B =	80-90% of the total points
C =	70-80% of the total points
D =	60-70% of the total points
F =	<60% of the total points

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GOAL:

The goal of this course is to facilitate learning about Ecology so that students better understand and appreciate the inter-relationships between animals and their environment in order to promote the advancement of life sciences in society and to prepare students for a career in life sciences.

OBJECTIVES:

- 1) To learn and retain information essential to a broad knowledge of ecology.
- 2) To understand and utilize scientific methods of inquiry.

- 3) To understand current scientific views of natural phenomenon.
- 4) To practice sound, safe, and sensible laboratory techniques.
- 5) To appreciate the historic development of science.
- 6) To approach and solve problems by utilizing logical thought processes.
- 7) To apply scientific information and principles to everyday life.
- 8) Collect and organize data in a systematic manner.
- 9) To analyze and interpret data in accordance with scientific principles to make informed decisions and ethical choices.
- 10) To recognize the relationship between science and technology.

TENTATIVE COURSE OUTLINE

<u>DATE</u>	<u>TOPIC</u>	<u>READING</u>
8-22	Introduction	
8-24	Introduction: What Is Ecology?	Chpt. 1
8-27	Introduction: What Is Ecology?	Chpt. 1
8-29	Life on Land	
8-31	Life on Land	Chpt. 2
9-3	NO CLASS - LABOR DAY	
9-5	Life in Water	Chpt. 3
9-7	Life in Water	Chpt. 3
9-10	Temperature Relations	Chpt. 4
9-12	Water Relations	Chpt. 5
9-14	Energy and Nutrient Relations	Chpt. 6
9-17	Social Relations	Chpt. 7
9-19	Exam 1	
9-22	Population Genetics and Natural selection	Chpt. 8
9-25	Population Genetics and Natural selection	Chpt. 8
9-27	Population Distribution and Abundance	Chpt. 9
9-29	Population Distribution and Abundance	Chpt. 9
10-2	Population Dynamics	Chpt. 10
10-4	Population Dynamics	Chpt. 10
10-6	NO CLASS - ASSESSMENT DAY	
10-9	Population Growth	Chpt. 11
10-11	Population Growth	Chpt. 11
10-13	Life Histories	Chpt. 12
10-16	Exam Review and start Competition	Chpt. 13
10-18	Exam Review and start Competition	Chpt. 13
10-20	EXAM II	
10-23	Competition	Chpt. 13
10-25	Competition	Chpt. 13
10-27	Exploitative Interactions	Chpt. 14
10-30	Exploitative Interactions	Chpt. 14
11-1	Mutualism	Chpt. 15
11-3	Species Abundance and Diversity	Chpt. 16

11-6	Species interactions and Community Structure	Chpt. 17
11-8	Primary Production and Energy Flow	Chpt. 18
11-10	NO CLASS - VETERANS DAY	
11-13	Nutrient Cycling and Retention	Chpt. 19
11-15	Succession and Stability	Chpt. 20
11-17	Succession and Stability	Chpt. 20
11-20	Review	
11-22	EXAM III	
11-24	NO CLASS - THANKSGIVING	
11-27	Landscape Ecology	Chpt. 21
11-29	Landscape Ecology	Chpt. 21
12-1	Geographic Ecology	Chpt. 22
12-4	Geographic Ecology	Chpt. 22
12-6-8	Review for Exam	
12-11	Final Exams	