

BIOL 112 - Introduction to Ecology Course Outline

Catalog This course explores basic principles of ecology and environmental biology, including study of major biomes and habitat types, biological diversity, interactions of organisms with the physical environment, plant and animal interactions, nutrient cycling and energy flow in ecosystems, and the interdependence of organisms in biological communities. The role of humans in the environment will also be examined. This is an introductory course for science majors as well as non-majors.

- I. Energy flow through ecosystems including trophic levels
- J. Cycling of material within ecosystems, including the carbon cycle and the nitrogen cycle.
- K. Environmental health issues
- L. Pollution
- M. Principles of population ecology
 - a. Logistic population growth
 - b. Reproductive strategies
 - c. Carrying capacity
- N. Management of natural resources including energy and water
- O.

4. Methods of Instruction:

Activity:

Discussion: Group discussion of relevant research and topics

Lecture: Lecture covering topics in course content with images

Online Adaptation: Activity, Discussion, Journal, Lecture

4. Methods of Evaluation:

Example 1: Draw a food web containing organisms in a Napa County fresh water pond.

Example 2: Midterm exam will cover topics including significant events in environmental law, principles of natural selection, and food webs.

Letter Grade or P/NP

5. Assignments: State the general types of assignments for this course under the following categories and provide at least two specific examples for each section.

A. Reading Assignments

Reading assignments from textbooks and from relevant news articles and scientific journals.

Example 1: Read chapters 4 and 5 from textbook to prepare for lecture on ecosystems

Example 2: Read journal article from "Science" concerning global climate change

B. Writing Assignments

Homework assignments

Attendance of public meetings

Example 1: Attend a city council meeting

Example 2: Review the research concerning global climate change and write a report discussing the impact on human populations around the world.

C. Other Assignments

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6. Required Materials

A. EXAMPLES of typical college-level textbooks (for degree-applicable courses) or other print materials.

Book #1:

Author: Relyea, R., R. Ricklefs.

Title: Ecology: The Economy of Nature

Publisher: Macmillan

Date of Publication: 2018

Edition: 8th

B. Other required materials/supplies.