

# BI 103 : GENERAL BIOLOGY: ECOLOGY

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## Transcript title

General Biology: Ecology

## Credits

4

## Grading mode

Standard letter grades

## Total contact hours

60

## Lecture hours

30

## Lab hours

30

## Recommended preparation

MTH 60 or MTH 98 or placement into Math level 10.

## Course Description

Designed to fulfill general education requirements, this course is intended for non-major students whose program requires biology courses. Focus is on ecological concepts including interactions between organisms and the abiotic environment, co-evolutionary adaptations, and Central Oregon flora and/or fauna. Scheduled labs may include outdoor field trips. Need not be taken in sequence.

## Course learning outcomes

1. Explain how organisms respond to changes in their environment.
2. Assess how populations and communities of organisms interact.
3. Recognize global and/or regional examples of biotic communities.
4. Identify representative flora and/or fauna of Oregon.
5. Recognize the general patterns of energy flow through, and chemical cycling of ecosystems.
6. Evaluate the relationship between abiotic and biotic factors in ecosystems.
7. Use scientific data to analyze human impacts on organisms, populations, communities and ecosystems.
8. Sustainability outcome: Explain the interconnectedness of environmental, social, and economic systems in the context of resource management (food, freshwater, wildlife), waste management, and wildlife conservation.
9. Sustainability outcome: Analyze the major environmental, social, and economic challenges and potential solutions of our time using a systems thinking approach.

## Content outline

1. Why is it important to study Ecology?
2. Population Ecology
3. Ethology
4. Species Interactions

5. Community Ecology
6. Biodiversity
7. Oregon Ecosystems
8. Energy Flow through Biological Systems
9. Sustainable Food Systems
10. Biogeochemical Cycles
11. Fire Ecology
12. Decomposition
13. Freshwater Systems
14. Earth's Climate System
15. Climate Change
16. Endangered and Invasive Species
17. Disease Ecology
18. The Future of Conservation

## Required materials

None.

## General education/Related instruction lists

- Science Lab