



1. Title: **Mathematics and Science: Ecology**

2. Summary of Goals—Learning Outcomes:

At the completion of courses for an Ecology major at Golden West College, the successful student should be able to:

- Discuss the flow of energy through an ecosystem through the use of diagrams such as food webs, food chains, or energy flow diagrams.
- Outline the basics of matter cycles including the hydrologic cycle, the nitrogen cycle, and the carbon cycle.
- Understand the influences that humans have on various ecosystems.
- Engage in dialogue regarding strategies that may be used to reduce human impact on natural ecosystems.
- Read, comprehend, and scrutinize primary ecological scientific literature.

3. Course Listing (25 total units):

Required Courses

BIOL G180, Cell and Molecular Biology 5 units

BIOL G110, Ecology and Field Biology 3 units

GEOL G110, Physical Geology 4 units

BIOL G182, Zoology

OR

BIOL G183, Botany 4 units

CHEM G180, General Chemistry A 5 units

MATH G160, Introduction to Statistics 4 units

Strongly advised (adds governmental/political perspectives to scientific issues):

Ecology G100, Human Ecology 3 units

Required Subtotal: 25 units

Completion of GE Requirements: 21-41 units

Additional Electives (as needed to reach 60):

Degree Total: 60 units