

BIO 140 Environmental Biology

COURSE DESCRIPTION:

Prerequisite: ENG 090 and RED 090, or DRE 098; and MAT 070 or DMA 010, 020, 030, 040, 050, 060; or satisfactory score on placement test.

Corequisite: BIO 140A

This course introduces environmental processes and the influence of human activities upon them. Topics include ecological concepts, population growth, natural resources, and a focus on current environmental problems from scientific, social, political, and economic perspectives. Upon completion, students should be able to demonstrate an understanding of environmental interrelationships and of contemporary environmental issues. *This course has been approved to satisfy the Comprehensive Articulation Agreement general education core requirement in natural sciences/mathematics.* Course Hours Per Week: Class, 3; Lab, 0 Semester Hours Credit: 3

LEARNING OUTCOMES:

Upon completion of BIO 140, the student should be able to:

1. Discuss current environmental issues with an understanding of the basic ecological concepts involved.
2. Use an interdisciplinary approach to analyze environmental issues/problems; show knowledge of the interplay between the ecological, political, social, cultural and economic aspects of environmental problems.
3. Develop a worldview related to an understanding of current environmental issues and how global problems affect us locally.
4. Demonstrate an understanding of core ecological principles, and define scientific principles and concepts as related to environmental studies and sustainability.
5. Participate in basic field ecology research and experiments according to the scientific method.

OUTLINE OF INSTRUCTION

- I. Science and the scientific method
- II. The biosphere
 - A. Biomes
 - B. Ecosystems
 - C. Biodiversity
 - D. Evolution and extinction
- III. Environmental Resources

- A. Water
- B. Land
- C. Energy

IV. Environmental Threats

- A. Global Climate change
- B. Population dynamics
- C. Disease
- D. Pest and pest control
- E. Pollution and waste management

V. Environmental Biology and Public Policy

- A. Risk assessment
- B. Assigning economic values to natural resources
- C. Sustainability
- D. Geopolitics

REQUIRED TEXTBOOKS AND MATERIALS:

To be selected by Instructor/Discipline Chair.