



BAKER COLLEGE

STUDENT LEARNING OUTCOMES

SCI2710 Environmental Science
3 Semester Credit Hours

Student Learning Outcomes and Enabling Objectives

1. Discuss scientific practices.
 - a. Describe the process of scientific investigation within the context of a physical or natural science.
 - b. Recognize the use and misuse of scientific information.
 - c. Recognize the nature of science as tentative, subjective, social, and empirical.
2. Explore the development of environmental policy and how the policy changes over time.
 - a. Discuss how development of environmental policy is driven by stakeholders.
 - b. Discuss the implementation of major environmental laws.
 - c. Identify federal and state environmental agencies and policies.
3. Explore the fundamentals of ecology, i.e., the interactions of living and nonliving components in the environment.
 - a. Describe ecosystems and biomes.
 - b. Explain how evolution informs our understanding of the environment.
4. Explore the past, present, and current state of the environment.
 - a. Describe natural processes that influence the environment, i.e. geologic, astronomical, and climate change over geologic time.
 - b. Describe human impacts on the environment, i.e., pollution, anthropogenic climate change, and habitat destruction.
5. Investigate environmental health hazards.
 - a. Identify potential environmental health hazards, such as emergent diseases, pesticides, antibiotic resistance, and toxic chemicals.
 - b. Describe the movement, distribution, and fate of toxins in the environment.
 - c. Explain acceptable risk as determined by federal and state health agencies.
6. Examine sustainability, i.e. the interactions between economic, social, and biological factors.
 - a. Discuss sources of energy and their impacts on the environment.
 - b. Describe proper land use and conservation methods.

- c. Describe how solid and hazardous waste is managed.

Big Ideas and Essential Questions

Big Ideas

- The Nature of Science and Scientific Process
- Environmental policy
- Fundamentals of ecology
- Dynamic state of the environment
- The Environment and Health
- Sustainability

Essential Questions

1. Why is considering reputable evidence important when we use science to draw conclusions, solve problems, or make decisions about our environment and world?
2. How do different stakeholders come to a consensus around policy to define how humans interact with the environment?
3. How do organisms interact with and affect their living and physical environments?
4. How and why does the environment change over time?
5. How do environmental disruptions affect ecosystems and the health of humans and other organisms?
6. What can humans do to ensure preservation of and coexistence with the environment?

These SLOs are not approved for experiential credit.

Effective: Fall 2022