

Spokane Community College

COURSE LEARNING OUTCOMES (CLO) AND OUTLINE

Course Title: Environmental Biology

Prefix and Course Number: Biol 100

Version Date: 10/26/2023

Course Learning Outcomes

By the end of this course, a student should be able to:

- Explain the scientific method and how science differs from other ways of knowing. Apply the scientific method and deductive reasoning to answer questions and develop hypotheses about the natural world.
- Demonstrate basic laboratory skills required to conduct experiments to test hypotheses.
- Describe the major characteristics of living organisms and the general characteristics of each kingdom in the classification system for biological organisms.
- Describe the basic chemistry of life including atoms, chemical bonds, dehydration and hydrolysis reactions, and the structure and function of the four main biological macromolecules.
- Identify the primary components of the cell and the role of each: cell membrane, nucleus, mitochondria, and chloroplast.
- Describe how organisms obtain and use energy including cellular respiration and photosynthesis. Describe the flow of energy as it enters an ecosystem and moves from producers to consumers and decomposers.
- Describe the roles of water, carbon, and nitrogen in organisms. Describe the flow of nutrients in biological and ecological systems.
- Describe the ecological level of biological organization and functioning of ecosystems, and identify ways that disruptions, including those caused by human activity, can affect ecosystem functions.
- Describe the scientific basis for evolutionary theory and the role of natural selection in ecosystem organization.
- Discuss and write analytical papers on issues affecting the natural world.