

Inver Hills Community College

BIOL 1117: Environmental Science (with lab)

A. COURSE DESCRIPTION

Credits: 4

Lecture Hours/Week: 3

Lab Hours/Week: 2

OJT Hours/Week: *.*

Prerequisites: None

Corequisites: None

MnTC Goals: Goal 03 - Natural Science, Goal 10 - People/Environment

Introduces students to fundamental concepts in ecology focusing on human impact and exploitation of the environment stressing the limits of the biosphere with respect to resources, energy, and pollution.

Activities may include discussion, group activities, guest speakers and films. One semester credit of lab includes field trips and analysis of factors using the campus landscape. This course is open to all students and meets the Minnesota Professional Educator Licensing and Standards Board (PELSB) 8710.3200, Subp. 3, Standard J1, J2 a, b, c, d, e, f, J3, J4 J5, J6, H1 a, b, c, H2 a, b, H3 a, b, c, d, H4 a, b, H5 a, b, H6 a, b, H7 a, b, c, d.

B. COURSE EFFECTIVE DATES: 01/01/1998 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

1. Air resources and pollution: 10%
2. Basic principles of ecology: 20%
3. Energy resources- renewable and nonrenewable: 10%
4. Environmental ethics: Planning for a sustainable future: 10%
5. Food, soil, agriculture: 10%
6. Human population dynamics: 10%
7. Plant and animal resources: 10%
8. Water resources and pollution: 10%
9. Air resources, climate change and pollution: 10%

D. LEARNING OUTCOMES (General)

1. Explain ecological principles
2. Discuss the relationship between population, resource use, and pollution
3. Describe the mechanism of, and processes contributing to, climate change, its impact, and potential solutions
4. Describe synergistic relationships among social, legal, political, religious, and environmental sectors
5. Relate personal awareness to human impact on the environment in a way that also serves as a basis for becoming informed, responsible and scientifically literate citizens in an increasingly high technology society
6. Analyze specific international problems, illustrating the cultural, economic, and political differences that affect their solution
7. Describe the role of a world citizen and the responsibility world citizens share for their common global future
8. Design experiments to test hypotheses
9. Analyze data & report results
10. Demonstrate current standard lab/field safety practices and procedures

E. Minnesota Transfer Curriculum Goal Area(s) and Competencies

Goal 03 - Natural Science

1. Demonstrate understanding of scientific theories.
2. Formulate and test hypotheses by performing laboratory, simulation, or field experiments in at least two of the natural science disciplines. One of these experimental components should develop, in greater depth, students' laboratory experience in the collection of data, its statistical and graphical analysis, and an appreciation of its sources of error and uncertainty.
3. Communicate their experimental findings, analyses, and interpretations both orally and in writing.
4. Evaluate societal issues from a natural science perspective, ask questions about the evidence presented, and make informed judgments about science-related topics and policies.

Goal 10 - People/Environment

1. Explain the basic structure and function of various natural ecosystems and of human adaptive strategies within those systems.
2. Discern patterns and interrelationships of bio-physical and socio-cultural systems.
3. Describe the basic institutional arrangements (social, legal, political, economic, religious) that are evolving to deal with environmental and natural resource challenges.
4. Evaluate critically environmental and natural resource issues in light of understandings about interrelationships, ecosystems, and institutions.
5. Propose and assess alternative solutions to environmental problems.
6. Articulate and defend the actions they would take on various environmental issues.

F. LEARNER OUTCOMES ASSESSMENT

As noted on course syllabus

G. SPECIAL INFORMATION

None noted