ENVR 2000: Introduction to Environmental Science

A. COURSE DESCRIPTION

Credits: 3
Lecture Hours/Week: 0
Lab Hours/Week: 0
OJT Hours/Week: *.*
Prerequisites: None
Corequisites: None

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

An introduction to environmental science emphasizing biological, physical-chemical and cross-cultural environmental social principles underlying major world environmental, political and economic issues; examination of the impacts of human activities and technology on global environmental and socio-economic stability; application of critical thinking and working with graphic skills and lab-like data analysis related to global environmental, biological, physical-chemical, cultural, and socio-economic topics. [Core Curriculum Goal Area(s) 3 & 10]

B. COURSE EFFECTIVE DATES: 08/21/1997 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

1. Air Resources and Pollution Sources
2. Atmosphere Science
3. Biological Resources and Management/Ecosystem Biodiversity
4. Ecological Footprint Analysis
5. Ecological Principles & Sustainability, Application & Dynamic Equilibrium
7. Environmental Ethics, Values, Environmental Politics and Economics
8. Environmental Problems, Their Causes & Sustainability
10. Greenhouse Effect and Ozone Depletion
11. Hazardous and Toxic Substances, Pest Control
12. Human Population Dynamics, Growth and Management
13. Mineral and Nuclear Resources
14. Public Lands and Management/Sustaining Terrestrial Biodiversity
15. Soil Resource Management
16. Solid Wastes and 3-R Technology
17. Water Resources and Pollution
18. Water and Wastewater Treatment
D. LEARNING OUTCOMES (General)

1. explain basic biogeochemical processes in the environment and social, cultural, and economic influences shaping human impacts on the environment.
2. examine and describe their individual roles on how their use of natural resources affects the local to regional to global scale environment.
3. describe scientific ways of knowing and compare different approaches to interdisciplinary science and how it is used empathetically to solve environmental problems.

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