Minnesota State University Moorhead

BIOL 346: An Ecological Perspective

A. COURSE DESCRIPTION

Credits: 3

Lecture Hours/Week: 3

Lab Hours/Week: 0

OJT Hours/Week: *.*

Prerequisites: None

Corequisites: None

MnTC Goals: Goal 10 - People/Environment

This course seeks to help students understand basic ecological principles, and to use these principles to understand our current environmental problems. An integration of scientific, economic, political and ethical considerations will help students to appreciate the policies and practices necessary to achieving a sustainable future. MnTC Goal 10.

B. COURSE EFFECTIVE DATES: 01/09/2008 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

1. Ecological Principles
2. Sustainability
3. Resource Management
4. Environmental Quality
5. Environmental Economics

D. LEARNING OUTCOMES (General)

1. Explain the concept of sustainability.
2. Identify and evaluate possible pathways to a sustainable future and demonstrate an awareness of the tradeoffs necessary to achieve a sustainable future.
3. Identify the structure, function, and processes of ecosystems (the physical environment and biological community of which human society is a part and on which it depends).
4. Assess and analyze the environmental problems of a technological society using the framework of well-founded physical and biological principles.
5. Describe the relationships between environments and socio-cultural groups, and identify how natural resource challenges are being addressed by the social, legal, economic, political, cultural, and religious systems within societies.
6. Understand the following concepts as related to sustainability: Science, Matter and Energy, Ecosystems, Evolution, Biodiversity, Climate, Community and Population Ecology, Sustaining Biodiversity, Food, Soil and Pest Management, Water and Water Pollution, Energy, Toxicology, Air Pollution, Climate Change, and Environmental Economics.

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

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