Minnesota State University Moorhead

GEOS 305: Oceanography

A. COURSE DESCRIPTION

Credits: 3

Lecture Hours/Week: 3

Lab Hours/Week: *.*

OJT Hours/Week: *.*

Prerequisites: None

Corequisites: None

MnTC Goals: Goal 10 - People/Environment

Introduction to oceanography, with emphasis on: ocean-atmospheric interaction and global climate, plate tectonics and morphology of the ocean basins, marine geology, energy resources, environmental problems due to sea level rise, coastal erosion, oil spills, and life in the sea. One field trip to observe shoreline processes is required. A special fee will be assessed to students participating in the field trip to cover the transportation costs. MnTC Goal 10.

B. COURSE EFFECTIVE DATES: 12/28/2001 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

1. Origins of the Earth System
2. Plate Tectonics and the structure of the Earth and Oceans
3. Physical and Chemical Ocean Structure
4. Major Ocean Processes (Waves, Tides, and Currents)
5. Interactions between the Atmosphere and Oceans
6. Coastlines
7. Life in the Oceans
8. Environmental Issues related to the Oceans
9. Sustainability and Ocean Resources

D. LEARNING OUTCOMES (General)

1. Student can solve a variety of oceanographic problems using a variety of approaches
2. Student can explain how particular geological and oceanographic conclusions were drawn
3. Student can engage in critical thinking and reasoning as applied to oceanographic problems
4. Student can understand and interpret geological and oceanographic features in the field
5. Student can read and interpret a variety of oceanography relevant graphs and diagrams
6. Students can understand the importance and consequences of ocean resources
7. Students understand the concept of sustainability as it pertains to ocean and geologic processes and natural resources

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

Goal 10 - People/Environment

1. No Competencies Indicated
2. Explain the basic structure and function of various natural ecosystems and of human adaptive strategies within those systems.
3. Discern patterns and interrelationships of bio-physical and socio-cultural systems.
4. Describe the basic institutional arrangements (social, legal, political, economic, religious) that are evolving to deal with environmental and natural resource challenges.
5. Evaluate critically environmental and natural resource issues in light of understandings about interrelationships, ecosystems, and institutions.
6. Propose and assess alternative solutions to environmental problems.
7. 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