

# North Hennepin Community College

## EEVS 2000: Introduction to Environmental Science

### A. COURSE DESCRIPTION

Credits: 3

Lecture Hours/Week: 3

Lab Hours/Week: 3

OJT Hours/Week: \*.\*

Prerequisites: None

Corequisites: None

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

This course focuses on the interdisciplinary nature of environmental science by including the biological, geological, and physical-chemical of the discipline. It provides a case-study based examination of the intersection of science, policy, economics, society, culture and diversity as they relate to today's environmental problems. Students will use the process of science to understand global environments and the human impacts on them by the application of primary literature, graphical skills and lab-like data analyses.

### B. COURSE EFFECTIVE DATES: 10/19/2017 - Present

### C. OUTLINE OF MAJOR CONTENT AREAS

1. Content for this course will vary as related to instructor expertise and timeliness but topics that may be covered include, but are not limited to, principles of science, systems and cycles, matter and energy, ecosystems, biodiversity, and environmental principles and sustainability; carbon and/or ecological footprint analysis; population biology and dynamics: the politics, ethics and economics of natural resources and society; land use, management and sustainability; climate change, water, air, and soil pollution, hunger and poverty, food resources, and sustainable practices.
2. Students will also learn about Politics, economics and ethics in urbanization and sustainable cities, other environmental problems, their causes, solutions and sustainability.

## **D. LEARNING OUTCOMES (General)**

1. Demonstrate the process of science by making observations, posing questions and developing hypotheses. (MnTC G-3 a, c; NHCC ELO # 1, 2)
2. Explain and evaluate either orally or in writing the environmental impacts/problems resulting from different types of human activities (e.g., food production, energy production, etc.). (MnTC G-3 c, G-10 a-d; NHCC ELO # 1, 2, 3)
3. Explain the basic structure and function of natural ecosystems and global biogeochemical cycles. (MnTC G-10 a, b, d; NHCC ELO # 1, 2)
4. Propose and evaluate alternative solutions to environmental and natural resource challenges for individuals and society as a whole. (MnTC G-3 d, G-10 a-f; NHCC ELO # 1, 2, 3, 4)
5. Recognize from readings, videos, and class activities the scientific process of acquiring new knowledge and be able to differentiate between scientific observations, hypotheses, predictions and theories. (MnTC G-3 a, c; NHCC ELO # 1, 2)
6. Collect, analyze, interpret and evaluate environmental scientific data. (MnTC G-3 a, c, G-10 4; NHCC ELO # 1, 2, 4)
7. Communicate either orally and/or in writing scientifically backed opinions, results of data interpretations and proposed solutions to environmental problems from primary literature. (MnTC G-3 c, d, G-10 c-f; NHCC ELO # 1, 2, 3, 4)
8. Describe the basic human institutional structures (social, legal, economic, political) that deal with environmental and natural resource challenges. (MnTC G-3 d, G-10 c, d; NHCC ELO # 1, 2, 3)
9. Discuss and describe both orally and in writing the value of both living and non-living components of their own local natural and built environments. (MnTC G-10 a, b, d; NHCC ELO # 1, 2)
10. Evaluate socio-economic impact of environmental issues from a natural science perspective. (MnTC G-3 c, d, G-10 a- d; NHCC ELO # 1, 2, 3)
11. Evaluate the validity of environmental reference material and use these to make informed judgments about environmental science topics and policies. (MnTC G-3 c, d, G-10 a-f; NHCC ELO # 1, 2, 3, 4)
12. Examine their own interaction with and impact on the natural environment, processes and cycles. (MnTC G-10 a, b, d; NHCC ELO # 1, 2, 3)

## **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