A. Course Description

Credits: 4

Prerequisites: MATH 098 Introduction to Mathematical Thinking AND WRIT 131 Writing I
OR WRIT 131 Writing I OR MATH 102 Mathematics of Sustainability AND WRIT 131 Writing I

Lab Hours/ Weeks: Corequisites: None

Lecture Hours/ Week :

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

An introduction to the science of conservation biology applied to the ecology of Minnesota, focusing on Minnesota's natural ecosystems and the connections between humans and the environment. Lab activities vary with the season and the instructor's expertise. Field trips to forest, prairie and/or wetland ecosystems are a required part of class; check the class schedule for the dates and times of field trips. Includes lab. Intended for general education students.

B. Course Effective Dates: 08/14/2011 - Present

C. Outline of Major Content Areas:

See Course Description for major content areas.

D. Learning Outcomes (General)

1. Communicate their experiential findings, analyses, and interpretations both orally and in writing.
2. Demonstrate quantitative reasoning skills and competency with the use of arithmetic and statistics at a level appropriate for graduates of bachelors degree programs.
3. Demonstrate understanding of scientific theories and knowledge in conservation biology at the level necessary for informed citizenship.
4. Describe and explain Minnesota's natural ecosystems, including forests, prairies, and wetlands, the life histories and adaptations of natives organisms found there, (including the ability to identify on sight at least twenty organisms native to Minnesota), and the issues that affect the past, present and future of natural ecosystems in Minnesota.
5. Describe the basic institutional arrangements (social, legal, political, economic, religious) that are developing in response to environmental and natural resource challenges.
6. Evaluate critically environmental and natural resource issues in light of understandings about interrelationships, ecosystems, and institutions.
7. Evaluate societal issues from a natural science perspective, ask questions about the evidence presented, and make informed judgments about science-related topics and policies.
8. Formulate and test hypotheses by performing a field experiment in ecology, including the collection of data, statistical and graphical analysis of results, and an interpretation of its sources of error and uncertainty.
9. Propose and assess alternative solutions to environmental problems; Articulate and defend the actions they would take on various environmental issues.
10. Use properly the tools that naturalists use, including field guides and keys, hand lenses, microscopes, binoculars, and topographic maps.

E. Learning Outcomes (MN Transfer Curriculum)
Goal 03 - Natural Science

1. 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.
2. Demonstrate understanding of scientific theories.
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. Propose and assess alternative solutions to environmental problems.
2. Explain the basic structure and function of various natural ecosystems and of human adaptive strategies within those 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.

G. Special Information

Note: First day attendance required except by instructor permission. Overlap: Student cannot receive credit for both NSCI 201 Nature Study and NSCI 201 Minnesota Ecology and Conservation Biology.