

# Anoka-Ramsey Community College

## **BIOL 1110: Field Biology**

### **A. COURSE DESCRIPTION**

Credits: 3

Lecture Hours/Week: 2

Lab Hours/Week: 3

OJT Hours/Week: \*.\*

Prerequisites: None

Corequisites: None

MnTC Goals: Goal 03 - Natural Science, Goal 09 - Ethical/Civic Resp  
(MnTC Goals 3 and 9)

This is an introduction to identification of native plants and animals. Emphasis is placed on ecological relationships. Local and regional field trips are conducted to study forest, grassland and aquatic ecosystems. Course will be taught with one of three different rotating themes. Students may take the course up to three times with a different theme each time.

**B. COURSE EFFECTIVE DATES:** 06/01/1998 - Present

## **C. OUTLINE OF MAJOR CONTENT AREAS**

1. Identification of native plants and animals including:
  - a. Fungi
  - b. Nonvascular plants
  - c. Vascular plants
  - d. Invertebrates
  - e. Vertebrates
2. General principles of taxonomy including:
  - a. The contemporary classification system
  - b. Data used in classifying organisms
  - c. Use of field keys to identify organisms
3. Interactions between organisms at the community and ecosystem levels including:
  - a. Food chain and food web interactions
  - b. Biogeochemical cycling
  - c. Symbiotic relationships
  - d. The process of biological succession
4. Analysis of forest, grassland and aquatic ecosystems including:
  - a. Investigation of abiotic factors
  - b. Identification of biotic components
5. Basic principles of natural ecosystem management including:
  - a. Historical use of ecosystems
  - b. Effect of human modification of ecosystems
  - c. Principles of ecosystem restoration
  - d. Contemporary management of ecosystems
  - e. Ethical dimensions and views regarding human effects on ecosystems and management
6. Science as a process including:
  - a. Use of field equipment
  - b. Recording field observations
  - c. Design of field experiments
  - d. Interpretation of field data
  - e. Presentation of experimental results
  - f. Ethics and integrity of scientific process
7. Service-Learning
  - a. Collaboration with community partner(s)
  - b. Application of course content in service-learning opportunity

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

1. Describe the process of science with an emphasis on field biology studies
2. Demonstrate an understanding of major areas of course content
3. Engage in service to the community related to field biology

## **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 09 - Ethical/Civic Resp

1. Examine, articulate, and apply their own ethical views.
2. Analyze and reflect on the ethical dimensions of legal, social, and scientific issues.

## **F. LEARNER OUTCOMES ASSESSMENT**

As noted on course syllabus

## **G. SPECIAL INFORMATION**

None noted