

# Anoka-Ramsey Community College

## BIOL 1133: Environmental Science Lab

### A. COURSE DESCRIPTION

Credits: 1

Lecture Hours/Week: \*.\*

Lab Hours/Week: 3

OJT Hours/Week: \*.\*

Prerequisites: None

Corequisites: None

MnTC Goals: Goal 03 - Natural Science

(MnTC Goal 3)

Prerequisites: BIOL 1103 or co-requisite

Recommended Skills, Abilities, or Coursework: MATH 0240 with a grade of C or better, or the appropriate score on math placement test. Ability to do college level reading and writing as demonstrated by meeting enrollment requirements for ENGL 1121

This is an investigative, problem-solving lab extension of the topics covered in BIOL 1103 Lecture. Investigations include field studies, experiments, and analyzing and reporting outcomes. This course can be used with BIOL 1103 (Lecture) to satisfy a general education lab requirement.

**B. COURSE EFFECTIVE DATES:** 09/29/2014 - Present

### C. OUTLINE OF MAJOR CONTENT AREAS

1. Field work including:
  - a. Stream, woodland, and other local ecosystem information-gathering
2. Identification of environmental problems based on interpretation and observation
3. Field and laboratory investigations including:
  - a. Local problems and issues
  - b. Formulation of hypotheses based on problems identified
  - c. Collection, compiling and presentation of experimental and observational data
  - d. Importance of replication in experimental design
  - e. Simple quantitative means of addressing variability in data
  - f. Connections and patterns within observations and data
  - g. Communication of results of investigations in written and oral form
4. Distinguishing among variables including
  - a. Dependent, independent, and controlled
5. Potential impacts on society of problems investigated and solutions identification

### D. LEARNING OUTCOMES (General)

1. Demonstrate an understanding of our environment by problem identification through interpretation of observations using the scientific investigation method including collecting, organizing, and presenting data
2. Demonstrate an understanding of major course content

## **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.

## **F. LEARNER OUTCOMES ASSESSMENT**

As noted on course syllabus

## **G. SPECIAL INFORMATION**

None noted