

Bemidji State University

BIOL 3361: Limnology

A. COURSE DESCRIPTION

Credits: 4

Lecture Hours/Week: *.*

Lab Hours/Week: *.*

OJT Hours/Week: *.*

Prerequisites:

This course requires all five of these prerequisite categories

1. BIOL 1400 - Cellular Principles

And

2. One of these two

BIOL 1212 - Introductory Biology II

BIOL 1500 - Diversity of Life

And

3. One of these two

CHEM 1111 - General Chemistry I

CHEM 2211 - Principles of Chemistry I

And

4. One of these two

CHEM 1112 - General Chemistry II

CHEM 2212 - Principles of Chemistry II

And

5. BIOL 2610 - General Ecology

Corequisites: None

MnTC Goals: None

Introduction to the biology, chemistry, geology, and physics of lakes and streams. Lecture, field, and laboratory work. Prerequisites: BIOL 1400, BIOL 1500, BIOL 2610, CHEM 1111 or CHEM 2211, CHEM 1112 or CHEM 2212, or consent of instructor.

B. COURSE EFFECTIVE DATES: 08/22/2016 - Present

C. OUTLINE OF MAJOR CONTENT AREAS

1. Anions
2. Aquatic Biotz
3. Benthos
4. Cations
5. Dissolved Gases
6. Dissolved Solids, & Salinity
7. EPA Habitat Assessment
8. Facets & History of Limnology
9. Heat/Thmperature
10. Lake Conservation & Management
11. Lake Typology
12. Lake Zonation
13. Lotic Systems
14. Meofuana
15. Nutrients
16. Phytoplankton
17. Productivity
18. Redox
19. Silica, Nitrogren, & Phosphorus
20. The CO2 System
21. Water Movement in Lakes/Stratification
22. Water as a Solvent
23. Water
24. Wetlands
25. geomorphology
26. pH, Alkalinity

D. LEARNING OUTCOMES (General)

1. understand the physical and chemical properties of water, and how water, dissolved gases, ions, and nutrients affect ecological processes.
2. learn to use basic field, lab, and analytical equipment and procedures for measuring important physical, chemical, and biological parameters of lakes and streams.
3. understand the relationship between physical and chemical water quality parameters and fish, plankton, and benthos production, and use them as environmental indicators.
4. understand the geological processes that affect the form and function of lakes and streams.
5. develop a working vocabulary of limnological terms.
6. learn to identify common plankton, benthos, and periphyton.

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

None

F. LEARNER OUTCOMES ASSESSMENT

As noted on course syllabus

G. SPECIAL INFORMATION

None noted