BIOL 3361: Limnology

A. COURSE DESCRIPTION

Credits: 4
Lecture Hours/Week: *.*
Lab Hours/Week: *.*
OJT Hours/Week: *.*

Prerequisites:
This course requires all three of these prerequisite categories
1. CHEM 2211 - Principles of Chemistry I
   And
2. CHEM 2212 - Principles of Chemistry II
   And
3. 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 1211, BIOL 1212, 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 Biota
   3. Benthos
   4. Cations
   5. Dissolved Gases
   6. Dissolved Solids, & Salinity
   7. EPA Habitat Assessment
   8. Facets & History of Limnology
   9. Heat/Thermperature
  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, Nitrogen, & 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