

# Bemidji State University

## BIOL 3830: Aquatic Plants and Algae

### A. COURSE DESCRIPTION

Credits: 4

Lecture Hours/Week: \*.\*

Lab Hours/Week: \*.\*

OJT Hours/Week: \*.\*

Prerequisites: None

Corequisites: None

MnTC Goals: None

Survey of the morphology, physiology, taxonomy, systematics, and ecology of algae and aquatic vascular plants. Lecture, laboratory, and field study. Prerequisites: BIOL 1400 and BIOL 1500.

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

### C. OUTLINE OF MAJOR CONTENT AREAS

1. Algae: "Minor" Algal Division
2. Algae: Cyanobacteria, Chlorophyta, Chromophyta, Rhodophyta
3. Aquatic Plant Habitats
4. Aquatic Vascular Plants & Algae
5. Asexual/Sexual Reproduction
6. Benthic Algal ecology
7. Bryophytes
8. Classification/Alternation of Generations
9. Emergent: Lake, Sedge Meadows, Peatlands
10. Evolution of Aquatic Plants
11. Growth Adaptations
12. Gymnosperms
13. Heterophylly
14. Invasive Species
15. Medicinal/Food Properties of Select Aquatic Plants
16. Physicochemical Environments
17. Phytoplankton Ecology
18. Phytoplankton
19. Plant ID
20. Pteridophytes
21. Submerged
22. Use of Taxonomic Keys

**D. LEARNING OUTCOMES (General)**

1. understand the major taxonomic groups found in aquatic systems.
2. understand ecological relationships among organisms and between organisms and the environment.
3. develop skills in the use of laboratory and field techniques commonly used in biology.
4. evaluate the outcomes of scientific experiments and surveys via mathematical and statistical analysis.
5. understand and explain the mechanism of natural selection.
6. identify the fundamental characteristics of organismal structure and function within the kingdoms of life and within select phyla within those kingdoms.
7. demonstrate the ability to explain the ecological relationship between organisms and their environment.
8. develop the skills and broad knowledge base necessary to make complex decision when assessing aquatic systems.

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

None

**F. LEARNER OUTCOMES ASSESSMENT**

As noted on course syllabus

**G. SPECIAL INFORMATION**

None noted