

Fond du Lac Tribal and Community College
COURSE OUTLINE

I. Catalog Information

A. Title of Course: Aquatic Biology B. Course Designator: BIOL 2060

C. Number of Credits: Lecture 2 Lab 1 D. Control Number: 24/24

E. Catalog/Course description:

This course is an introduction to the biology, chemistry, and physics of lakes and streams. Students will describe and analyze lakes and other aquatic environments. Field and lab methods will be used to obtain information on environmental conditions in aquatic environments and measure the abundance of organisms, especially plankton, using field/lab instruments, sampling devices, microscopy, water chemistry, data analysis. Lecture and Lab.

F. Course prerequisites:
BIOL 1101 General Biology I or consent of instructor

G. Date Approved: _____
Date Revised: 07/10/10

II. Course Materials (Recommended course materials and resources. List all that apply, e.g. textbooks, workbooks, study guides, lab manuals, videos, guest lecturers)

Course materials will be selected by faculty members to reflect the most up-to-date materials available.

III. Learning Goals, Outcomes, and Assessment Minimum of one goal and two learning outcomes in each competency. *If your course does not meet one of the Competencies Across the Curriculum, please justify your rationale.* Minimum of two assessment measures for each learning outcome. Add other goals and outcomes as needed. If this course is part of the Minnesota Transfer Curriculum (MnTC), attach the MnTC goals, outcomes, and your assessment measures to this form; if possible, use them to complete the information below.

A. Information Literacy (the ability to use print and/or non-print tools effectively for the discovery, acquisition, and evaluation of information as well as core computer tools for the manipulation and presentation of information.)

1. Learning Goals:

Goal: Effectively use lab, library and internet materials to engage in the study of biology.

2. Learning Outcomes and Assessments:

Outcome 1: Students will practice and be able to explain scientific procedures in data collection, analysis and dissemination.

Assessment: Written exams

Assessment: Lab Reports

Outcome 2: Students will be able to explain and present examples of the importance of the scientific method in biological studies including the review of scientific literature.

Assessment: Written exams

Assessment: Lab Reports

B. Ability to Communicate (the ability to listen, read, comprehend, and/or deliver information in a variety of formats.)

1. Learning Goals:

Goal: Students will be able to effectively communicate ideas and concepts central to the study of biology.

2. Learning Outcomes and Assessments:

Outcome 1: Students will be able to define and apply terminology associated with biology.

Assessment: Written exams

Assessment: Lab Reports

Outcome 2: Students will communicate effectively in writing, speech, and visual presentations within a variety of contexts.

Assessment: Written exams

Assessment: Lab Reports

C. Problem Solving (the ability to conceptualize, apply, analyze, synthesize, and/or evaluate information to formulate and solve problems.)

1. Learning Goals:

Goal: To evaluate the importance of the scientific method and thought, in biological science.

2. Learning Outcomes and Assessments:

Outcome 1: Students will identify scientific issues and use scientific approaches and strategies.

Assessment: Written exams

Assessment: Lab Reports

Outcome 2: Students will demonstrate an understanding of the scientific research process

Assessment: Written exams

Assessment: Lab Reports

D. Culture (knowledge of Anishinaabe traditions and culture, knowledge of one's own traditions and culture, knowledge of others' traditions and cultures, and/or respect for global diversity.)

1. Learning Goals:

Goal: To introduce students to various cultural perspectives of biological science.

2. Learning Outcomes and Assessments:

Outcome 1: Students will be able to discuss the role of biological science in today's society

Assessment: Written exams

Assessment: Outside assignments

Outcome 2: Students will gain knowledge of different cultural views of biology.

Assessment: Written exams

Assessment: Outside assignments

Documentation for MnTC - None

IV. Course Content (Outline the major topics covered in this course.)

Lecture topics:

- Scope of aquatic biology
- Aquatic ecosystems
- Formation of aquatic ecosystems
- Light in aquatic ecosystems
- Heat in aquatic ecosystems
- Flow in aquatic ecosystems
- Adaptations of aquatic biota
- Dissolved gasses
- Nutrients in aquatic systems
- Streams and rivers
- Plankton
- Production
- The Nekton
- Aquatic food webs
- Wetlands and estuaries
- Comparative and applied limnology
- Human impacts on aquatic ecosystems

Lab topics to closely follow lecture material

(revised October 2009)