SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE, ON

# COURSE OUTLINE

COURSE TITLE: PLANT BIOLOGY/ECOLOGY

CODE NO: BIO128 SEMESTER: WINTER

PROGRAM: FORESTRY, FISH AND WILDLIFE, PARKS, RENEWABLE

AUTHOR: JERRY A. ZUCHLINSKI

DATE: DECEMBER, 1996 PREVIOUS OUTLINE DATED: NONE

APPROVED: J Faulkner Dec 16/96

DEAN DATE

TOTAL CREDITS: 3

PREREQUISITES:

LENGTH OF COURSE: 3 HOURS/WEEK TOTAL CREDIT HOURS: 45

I. **COURSE DESCRIPTION:** This course provides students with the ability to evaluate biological and ecological information through an examination of the structure and function of plants from cellular to ecosystem level. Emphasis is on biological adaptations associated with reproduction, nutrition, dispersal and growth; and, ecological relationships demonstrated in various aquatic and terrestrial environments. Laboratory sessions are a combination of indoor and outdoor activities designed to provide experience in microscopic technique, field data collection and data summarization.

II. **LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:**

**A. Learning Outcomes:**

1. Research and reference biological and ecological information and present that information in written form with correct technical usage.

2. Using appropriate equipment and technique; collect, interpret and document biological and ecological data from the field and in the laboratory.

**B. Learning Outcomes and Elements of the Performance:**

Upon successful completion of this course the student will demonstrate the ability to:

1. Research and reference biological and ecological information and present that information in written form with correct usage.

**Potential elements of performance**

- correctly use biological and ecological terminology presented in the course
- correctly apply biological and ecological terminology to renewable resource management strategies
- identify various plant cells, tissue types, and other structures associated with plants and their allies
- identify plants at various levels of classification (as presented) by their taxonomic characteristics
- identify and correctly describe various life processes (as presented) such as annual growth, cell division, fertilization etc.

This learning outcome will constitute 50% of the course's grade.

2. Using appropriate equipment and technique; collect, interpret and document biological and ecological data from the field and in the laboratory.

**Potential elements of performance**

- conduct biological and ecological experiments
- correctly record data
- prepare scientific drawings from microscope slides and properly identify designated features
- present data in self-explanatory tables, graphs and figures
- prepare technical reports which describe biological and ecological observations

This learning outcome will constitute 50% of the course's grade.

**III. TOPICS:**

***Note:** These topics are not necessarily intended to be explored in isolated learning units or in the order below and are subject to change at the instructors discretion.

1. Classification of plants and plant allies.
2. The Kingdom Monera
3. Algae
4. Fungi and Lichens
5. The Kingdom Plantae
6. Structure and function of stems, leaves, flowers and roots of vascular plants
7. General principles of ecology
8. Abiotic factors affecting plants
9. Biotic factors affecting plants

**IV. REQUIRED RESOURCES/TEXTS/MATERIALS**

1. Introductory Plant Biology by Kingsley R. Stern, Wm. C. Brown Publishers.
2. BIO128 Lab Manual, Sault College of Applied Arts and Technology in house publication.
3. Blank white paper, 8.5" x 11" for lab drawings, tables and graphs

## V. EVALUATION PROCESS/GRADING SYSTEM

**MAJOR ASSIGNMENTS AND TESTING**

Mid-term test - 20%

Ecological essay - 20%

Lab Assignments - 60%
Total **100%**

A total of 12 lab projects will be conducted over the course of the semester. The total value of labs represents 60% of the total mark.

Labs will be evaluated on the basis of neatness, accuracy, and thoroughness.

Lab values will be reduced at a rate of 10% per day for late submissions for a period of 5 days after the due date. After 5 days the lab will be evaluated as a zero. All labs must be submitted regardless of grade to pass the course.

**METHODS OF ASSESSMENT (GRADING METHOD)**

The following letter grades will be assigned:

| | | |
|---|---|---|
| A+ | Consistently outstanding | (90% - 100%) |
| A | Outstanding achievement | (80% - 89%) |
| B | Consistently above average achievement | (70% - 79%0 |
| C | Satisfactory or acceptable achievement in all areas subject to assessment | (60% - 69%) |
| R | Repeat - The student has not achieved the objectives of the course and the course must be repeated | (Less than 60%) |
| CR | Credit exemption | |
| X | A temporary grade, limited to situations with extenuating circumstances, giving a student additional time to complete course requirements | |

**NOTE:** Students may be assigned a "R" grade early in the course for unsatisfactory performance.

## VI. SPECIAL NOTES:

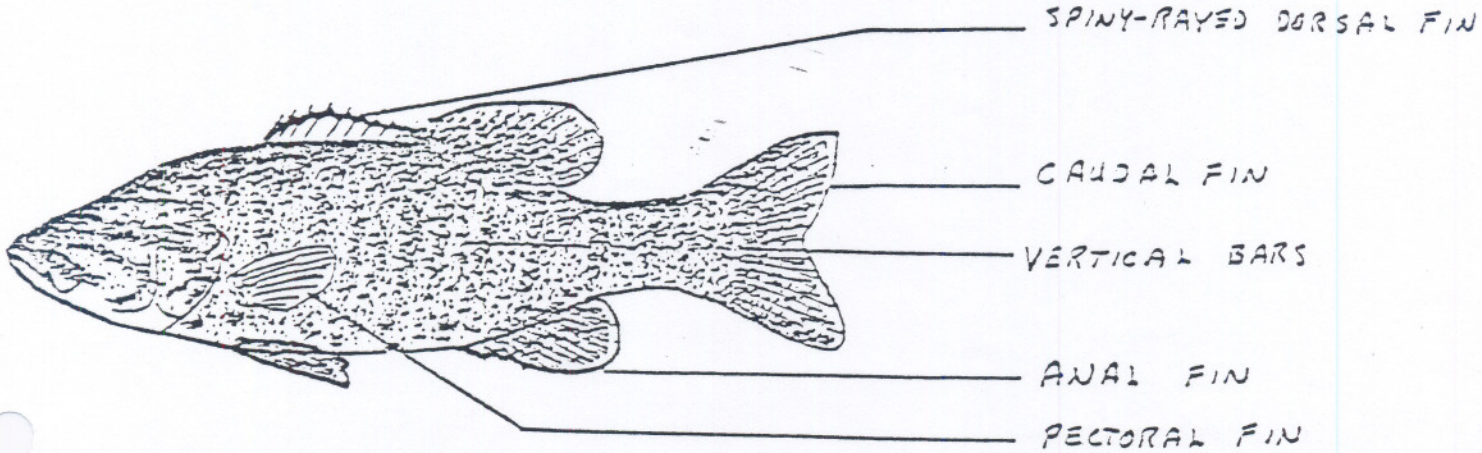
Special Needs

If you are a student with special needs (eg. physical limitations, visual impairments, hearing impairments, learning disabilities), you are encouraged to discuss required accommodations with the instructor and/or contact the Special Needs Office, Room E1204, Ext 493, 717, 491 so that support services can be arranged for you.

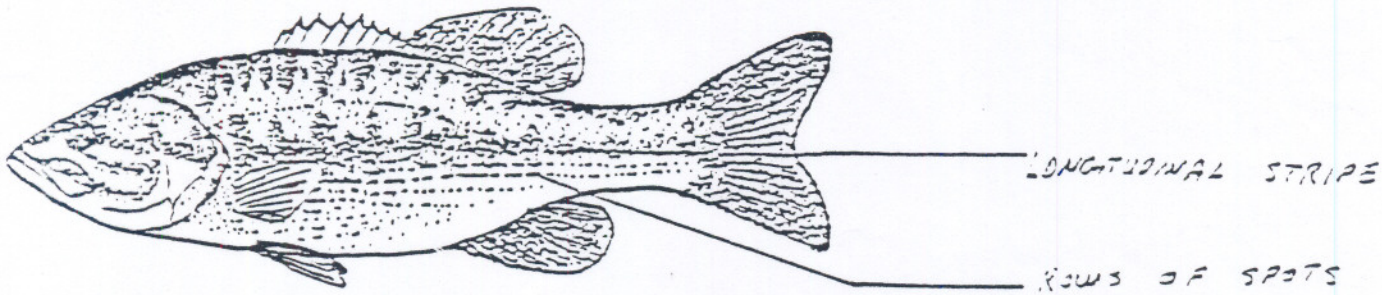
John Doe 2A

# BIOLOGY LAB #13 FISH

KINGDOM - ANIMALIA
PHYLUM - CHORDATA
CLASS - OSTEICHTHYES




Micropterus dolomieui, SMALL MOUTH BASS, LATERAL VIEW FROM PRESERVED SPECIMEN, 0.5X, TO SHOW COLORATION + EXTERNAL CHARACTERISTICS.




Micropterus salmoides, LARGEMOUTH BASS, LATERAL VIEW FROM PRESERVED SPECIMEN, 0.4X, TO SHOW COLORATION DIFFERENCES FROM SMALLMOUTH BASS.

Plagiarism

Students should refer to the definition of "academic dishonesty" in the "statement of Student Rights and Responsibilities".

Students who engage in "academic dishonesty" will receive an automatic failure for that submission and/or such other penalty, up to and including expulsion from the course, as may be decided by the professor.