SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY

SAULT STE. MARIE, ONTARIO

COURSE OUTLINE

Course Title: AQUATIC BIOLOGY

Code No.: BIO 125-3

Program: WATER RESOURCES

Semester: I

Date: MAY, 1986

Author: H. A. COOPER

New: _____ Revision: X

APPROVED: _____ June 12/86
Chairperson Date

WATER RESOURCES
BIO 125-3
AQUATIC BIOLOGY

CALENDAR DESCRIPTION

AQUATIC BIOLOGY	BIO 125-3
Course Name	Course Number

PHILOSOPHY/GOALS:

This course will introduce the student to the diversity of life found in or around the aquatic environment. Structure and adaptations related to habitat are emphasized. The student will also learn to identify major indicator species of each group of organisms, using appropriate keys.

METHOD OF ASSESSMENT (GRADING METHOD):

Five term tests consisting of Identification and theory material	- 70%
Weekly Laboratory assignments	- 20%
Special Field assignments (Invertebrate collection, aquatic and riparian vegetation collection)	- 10%
	100%

Grading: A = 80% + consistently
B = 70 - 79%
C = 60 - 69%
I = Less than 60%

One rewrite test or exam will be held after regular classes are completed. If student accumulated mark over the semester is 55-60%, he/she may rewrite his/her worst unit test. If accumulated mark is less than 55%, student must write a final exam on entire course.

TEXTBOOK(S):

Needham, J.G., and P.R. Needham, 1962, A Guide to the Study of Freshwater Biology, Holden-Day Inc., San Francisco, 108 p.

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Topic	Periods	Description	Reference
1.	3	Introduction to Aquatic Biology - course outline and evaluation - basic life processes - cell parts and use of the microscope	Any introd. biology text
2.	3	Single-Celled Organisms and Autotrophs I - Monerans - characteristics, identification and typical aquatic sites of blue-greens and bacteria - Protista (subkingdom algae) - characteristics identification, importances and typical habitats of euglenoids and golden algae and diatoms	2
3.	3	Green Algae - characteristics, identification, importance and typical sites of green algae and desmids	2
4.	6	Riparian Vegetation - description and identification of woody and herbaceous plants of importance for watershed or wetland management	3
5.	6	Aquatic Vegetation - identification, importances and typical habitats of the most common species	4
6.	3	Heterotrophic Life Forms in Water Protozoa - characteristics, identification and habitat	2
7.	3	Invertebrates of Lakes and Rivers I Crustaceans - characteristics, identification of site indicator species	2

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Topic	Periods	Description	Reference
8.	3	Aquatic Insects I - structure, adaptations, habitat types - identification of those with incomplete metamorphosis	2
9.	3	Aquatic Insects II - structure, adaptations, habitats of more advanced insects (complete metamorphosis)	
10.	3	Miscellaneous Invertebrates - structure, adaptations and habitats of invertebrata of various phyla	2
11.	3	Vertebrates, Parasites and Diseases Fish I - fish structure and anatomy - dissection	5
12.	3	Fish II - identification and basic biology of common sport, commercial and coarse fish	5
13.	3	Common Parasites and Diseases of Fish - identification and life cycles of major parasites, viral, fungal and bacterial diseases	

SUGGESTED REFERENCES:

1. Arms, K. and P.S. Camp, 1982, Biology, 2nd ed., H-R-W Publ., New York, 942 p.

2. Needham, J.G., and P.R. Needham, 1962, A Guide to the Study of Freshwater Biology, Holden-Day Inc., San Francisco, 108 p.

3. Hosie, R.C., 1973, Native Trees of Canada, Can. Dept. of Environment, Ottawa, 380 p.

4. Anon, n.c., Manual of Ontario Aquatic Plants, draft copy, Ontario Ministry of Natural Resources, Toronto, 80 p.

5. Scott, W.B., 1972, Freshwater Fishes of Eastern Canada, University of Toronto Press, Toronto, 137 p.