SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY
SAULT STE MARIE, ON

COURSE OUTLINE

Course Title: PLANT & ANIMAL DIVERSITY

Code No.: FOR217 **Semester:** 3

Programs: FORESTRY, PARKS AND FISH & WILDLIFE TECHNICIAN

Authors: DON HALL, HAROLD COOPER

Date: SEPT 98 **Previous Outline Date:** JUNE 96

Approved: _____ Sept 14, 1998
Dean, Natural Resources Programs — Date

Total Credits: 3 **Total Credit Hours:** 48
Length of Course: 2 hrs/week X 16

PLANT & ANIMAL DIVERSITY — FOR217-3

COURSE NAME — CODE NUMBER

I. COURSE DESCRIPTION:

This is a study of the environment from the biological point of view. It will include the identification and the ecological relationships of forest flora (including mosses, lichens, ferns, and aquatic plants) and fauna (including fish, waterfowl, birds, and mammals) of Ontario. Natural history and cultural importance of selected species will be discussed.

II. LEARNING OUTCOMES:

Upon successful completion of this course, the student will:

1. Identify ground flora including common lichens, mosses, club mosses, horsetails, ferns and aquatic plants and state their significance and typical habitats.
2. Identify common fauna of Ontario including aquatic invertebrates, fish, waterfowl, birds and mammals.
3. Briefly state the ecological values and habitats of the above species.

III. TOPICS TO BE COVERED:

1. Club mosses, Lichens and Horsetails
2. Mosses and Liverworts
3. Ferns
4. Aquatic Plants
5. Aquatic Invertebrates
6. Freshwater Fish
7. Waterfowl
8. Songbirds, Shorebirds, Gamebirds and Raptors
9. Mammals
10. Native Herbalogy and Traditional Use of Plants

IV. LEARNING ACTIVITIES:

TOPIC 1: Freshwater Fish

Upon successful completion of this unit, the student will be able to:

1. Identify about 30 species of common freshwater fishes. (McClane's Field Guide to F.W. Fish")
2. Construct a chart with the common fish species showing habitat, spawning characteristics and value. (video)

PLANT & ANIMAL DIVERSITY — COURSE NAME

FOR217-3 — CODE NUMBER

TOPIC 2: Club Mosses, Lichen and Horsetails (E.B. Study Guide)

Upon successful completion of this unit, the student will be able to:

1. Briefly explain the life cycles of club mosses and horsetails.
2. Identify 5 species of club mosses.
3. Classify lichen by growth form and identify 6 species to genus level.

TOPIC 3: Mosses and Liverworts

Upon successful completion of this unit, the student will be able to:

1. Discuss the life cycle of moss and liverworts. ,
2. Identify 10 to 12 mosses and liverworts of Northern Ontario, and relate these mosses to their sites. (E. B. Study Guide)
3. Discuss the role and potential value of Sphagnum moss.

TOPIC 4: Ferns

Upon successful completion of this unit, the student will be able to:

1. Identify 14 species of ferns and describe their sites. (Fern Finder field guide)
2. Use a moderately complex key to identify ferns without use of a glossary. (E.B. Study Guide)
3. Draw and label the life cycle of a fern.

TOPIC 5: Aquatic Plants

Upon successful completion of this unit, the student will be able to:
1. Distinguish between the grass, sedge and rush families. (E.B. Study Guide)
2. Identify 35 common aquatic plants and relate these plants to habitat and importance. (video)

TOPIC 6: Aquatic Invertebrates

Upon successful completion of this unit, the student will be able to:
1. Identify 25 aquatic invertebrates. (E.B. Study Guide)
2. Associate these invertebrates with their preferred sites and ecological roles.(video)

PLANT & ANIMAL DIVERSITY — COURSE NAME

FOR217-3 — CODE NUMBER

IV. LEARNING ACTIVITIES: (cont'd)

TOPIC 7: Waterfowl

Upon successful completion of this unit, the student will be able to:

1. List 5 features that distinguish between puddle ducks and diving ducks (E.B. Study Guide)
2. Identify 24 specimens of waterfowl. (Ducks at a Distance or other field guide)
3. Describe the location and principal birds of the four North American flyways.
4. Distinguish between breeding plumage and eclipse plumage.

TOPIC 8: Songbirds, Shorebirds, Game, Birds and Raptors

Upon successful completion of this unit, the student will be able to:

1. Identify field features of about 50 species of birds found in Northern Ontario. (Field Guide to Eastern Birds)
2. Distinguish between game birds and non-game birds. (Video)
3. Compare buteos, accipiters and falcons.

TOPIC 9: Mammals

Upon successful completion of this unit, the student will be able to:

1. State examples and characteristics of the major orders of mammals.(E.B. Study Guide)
2. Identify about 35 species of mammals from 35 mm slides and study mounts. (video)
3. State the preferred habitats of common Ontario mammals.

TOPIC 10: Native Herbalogy

Upon successful completion of this unit, the student will be able to:

1. Demonstrate an understanding of traditional native uses of plants used for food or medicinal purposes from your area.
2. Identify approximately 15 plants that are considered edible or of medicinal value.

PLANT & ANIMAL DIVERSITY — FOR217-3

COURSE NAME — CODE NUMBER

V. EVALUATION METHODS:

TEST #1	Lichens, Club Mosses, Mosses, Ferns	20%
TEST #2	Aquatic Invertebrates, Aquatic Plants	20%
TEST #3	Fish	20%
TEST #4	Birds, Mammals	20%
PLANT COLLECTION		20%

GRADES - A+ = 90%+ A = 80%-84+% B = 70%-79% C = 60%-69% R = <60%

VI. REQUIRED STUDENT RESOURCES:

Plant Diversity Study Guide
McClanes Field Guide to F.W. Fishes of North America

Suggested References:

Field Guides for: Eastern Birds Mammals

VII. ADDITIONAL RESOURCE MATERIALS AVAILABLE IN THE COLLEGE LIBRARY BOOK SECTION:

Banfield A.W.F. Mammals of Canada. National Mus. of Nat. Sciences Tor. 1974 QL721.B215

Godfrey E. Birds of Canada. National Museum of Natural Sciences 1986 QL685.G63

Hotchkiss N. Common Marsh Underwater & Floating-leaved Plant. Dover Pub. NY NY 1972 QK115.H6

PLANT & ANIMAL DIVERSITY | FOR217-3

COURSE NAME | CODE NUMBER

Magee, D.E. 1981. Freshwater Wetlands. Univ. of Mass. press.
QK117.M24

Needham, J.G. 1962. Freshwater Biology. Holden-Day Inc., California
108pp. QH96.N38

Pennak, R.W. 1953. Fresh-Water Invertebrates of the United States.
Ronald Press Co., N.Y. QL141.P45

Scott, W.B., Crossman, E.J. 1973. Freshwater Fishes of Canada.
Information Canada. 966pp. QL626.S34

VIII. 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 or 491 so that support services can be arranged for you.

Plagiarism

Students should refer to the definition of "academic dishonesty" in the "Statement of Students 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.

In order to protect students from inadvertent plagiarism, to protect the copyright of the material referenced and to credit the author of the material, it is the policy of the department to employ a documentation format for referencing source material.

Advanced Standing

Students who have completed an equivalent post-secondary course should bring relevant documents to the Coordinator, Natural Resources Programs.

COURSE NAME CODE NUMBER

Retention of Course Outlines

It is the responsibility of the student to retain all course outlines for possible future use in gaining advanced standing at other post-secondary institutions.

Substitute course information is available at the Registrar's Office.

IX. PRIOR LEARNING ASSESSMENT:

Please contact the Prior Learning Assessment Office (E2203) for further information.