

SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE, ONTARIO



Sault College

COURSE OUTLINE

COURSE TITLE:

PLANT DIVERSITY

CODE NO. :

NRT218

SEMESTER:

3

PROGRAMS:

FORESTRY, FISH AND WILDLIFE AND
PARKS AND OUTDOOR RECREATION TECHNICIAN
ABORIGINAL RESOURCE TECHNICIAN

AUTHOR:

Mark Harvey

DATE:

JUNE 2000

PREVIOUS OUTLINE DATED:

June
1999

APPROVED:

DEAN

DATE

TOTAL CREDITS:

3 CREDITS

PREREQUISITE(S):

NRT102 AND NRT 107

LENGTH OF

COURSE:

16 WEEKS

TOTAL CREDIT HOURS:

48

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For additional information, please contact Joe Fruchter,
Dean School of Business, Hospitality
& Natural Resources (705) 759-2554, Ext. 688

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I. COURSE DESCRIPTION:

Plant Diversity is a survey of natural aquatic and terrestrial ecosystems and associated plant communities found in central Ontario. A wide variety of plants will be identified. Forest and wetland ecosystems will be classified using ecological classification systems designed for use in the local area. Students will gain an appreciation for the biology, ecology of plant communities. Wherever possible emphasis will be given to the traditional and modern uses of non-timber plants as medicines, foods and as the potential for commercial opportunities. The taxonomy, biology and ecology skills and knowledge students pick –up throughout this course will be cumulative. This should help students to enter the job market with a marketable skill set

II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:

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

1. Identify Forest Plant Species.

Potential Elements of the Performance:

The numbers of plants identified may vary slightly due to seasonal effects such as climate on the availability of plant materials

- Identify all trees shrubs and herbaceous plants from previous Dendrology courses NRT102 and NRT107
- Identify 15-20 fern species
- Identify 28-35 mosses
- Identify 3-6 club mosses
- Identify 3-5 horse tails
- Identify 10-15 lichens
- Identify 4-7 grasses
- Identify 5-8 sedges
- Identify 3-5 rushes

2. Identify Thirty 30-40 Aquatic plants

Potential Elements of the Performance:

- Identify 10-15 submergent plant species
- identify 12-15 emergent plant species
- identify 5 -10 floating plant species

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3. Identify up to (8) Terrestrial Ecosystems.

Potential Elements of the Performance:

- using field guides key out 4-7 forest V types in Central Ontario
- Using field guide key out 2-4 wetland ecosites

4. Demonstrate a familiarity with forest ecosystem classification systems used across Canada.

Potential Elements of the Performance:

- List the basic parameters used in ecosystem classification
- Demonstrate knowledge of the ecological land classification system in Ontario
- Demonstrate ability to use vegetation keys in classifying ecosystems to the ecosite level
- relate characteristics of ecosites to moisture and nutrient status using ecosite ordination diagrams
- demonstrate ability to link ecosites to management applications
- identify landforms in the field and identify characteristics of land forms and relate these to biological and geological properties of ecosites

III. TOPICS:

1. In field and in the lab identify up to plants:

- Identify mosses
- Identify ferns
- Identify grasses , sedges and rushes
- Identify club mosses
- Identify horsetails
- Identify emergent aquatic plants
- Identify submergent aquatic plants
- Identify floating aquatic plants
- Identify lichens
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This will constitute 60% of the course grade. Plant identification will be cumulative. Students will be expected to be able to identify all plants covered in the course by the end of the course. Some tests may be open book at the discretion of the instructor

Plant ID tests will take place both inside and out doors including pop quizzes.

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2. Make a plant collection of a specified list of plants
The nature of the plant collection and the location where plants must be collected for this project will be determined on an annual basis .by the instructor. Class time will be given for some of the work needed to complete the collection. An attempt will be made to minimize the effects of a large group of students collecting from high use areas.

This will constitute 15% of the course grade.

3. Use Forest and wetland ecosystem classification field manuals to assist in developing ecological descriptions of forested and wetland sites.
 - Establish vegetation field plots and collect data
 - Use keys to determine V type and W -type
 - Read and comprehend ecosite fact sheets
 - Link ecosite type to wildlife and timber management activities
 - Link surficial geology to ecosite classification and site type
 - Identify , contrast and compare bogs , fens swamps and marshes

This will constitute 15% of the course grade.

4. List the basic key elements of an ecosystem classification system.
 - Interpret the information on a vegetation type fact sheet from the central Ontario FEC manual.
 - List the classification units in ascending order of scale used in the Ontario Ecological Land Classification System.
 - Show relationships between ecological classification units using ecosite ordination diagrams.
 - Use a mathematical approach to describing alpha and beta diversity in plant communities
 - Describe biological processes such as reproduction in selected plants and plant groups
 - Use scientific nomenclature, terminology and taxonomy to describe and classify selected plants

This will constitute 10% of the course grade.

IV. REQUIRED RESOURCES/TEXTS/MATERIALS:

- 1, Field Guide to Forest Ecosystems of Central Ontario
- 2, Wetland Plants of Ontario
- 3, Forest Plants of Central Ontario

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V. EVALUATION PROCESS/GRADING SYSTEM:

The following semester grades will be assigned to students in postsecondary courses:

<u>Grade</u>	<u>Definition</u>	<u>Grade Point Equivalent</u>
A+	90 - 100%	4.00
A	80 - 89%	3.75
B	70 - 79%	3.00
C	60 - 69%	2.00
R (Repeat)	59% or below	0.00
CR (Credit)	Credit for diploma requirements has been awarded.	
S	Satisfactory achievement in field placement or non-graded subject areas.	
X	A temporary grade. This is used in limited situations with extenuating circumstances giving a student additional time to complete the requirements for a course (see <i>Policies & Procedures Manual – Deferred Grades and Make-up</i>).	

There will be 6 plant Id tests
 The best 5 Id tests will count towards the final grade. Students may miss one id test with-out penalty

ID TESTS	60%
PLANT COLLECTION	15
FINAL TEST	15
ASSIGNMENTS	10
Greenhouse	5
V types	5
TOTAL	100%

Please note that in order to receive an A grade or better in this course students will be required to show the ability use the genus and specific epithet spelled correctly when referring to plants covered in this course ON TESTS AND ASSIGNMENTS

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NR Grade not reported to Registrar's office.
This is used to facilitate transcript preparation when, for extenuating circumstances, it has been impossible for the faculty member to report grades.

VI. SPECIAL NOTES:

Special Needs:

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

Retention of course outlines:

It is the responsibility of the student to retain all course outlines for possible future use in acquiring advanced standing at other postsecondary institutions.

PLEASE NOTE:

- Six (6) identification plant tests will be given for a total of 60% of the course grade. Students may miss one ID test without penalty.
- The student's best 5 identification tests will be averaged towards their final grade.
- Special conditions are cited in the course study guide concerning the submission of plant collections and the due date.
- There are no rewrite tests except for exceptional medical or compassionate reasons and at the discretion of the instructor.
- 20% of an ID test may be made -up of specimens from previous tests
- students will not be allowed to enter a classroom late and disrupt other students writing a test.
- Field trips and classroom classes are scheduled class time

Students must attend 80% of the scheduled class time to receive a C grade or better. Field trips are not optional. A student who misses 3 or more field trips may be asked to repeat the entire course.

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- Students must wear appropriate clothing and safety equipment when on out door scheduled field exercises. This will normally include a hard hat, safety boots and a raincoat in wet weather. A student who comes prepared for an out exercise in shoes will be marked absent and will not attend the class and this includes writing teats given in the outdoors.
- Any student who in the judgement of the instructor behaves inappropriately in scheduled classes, uses crude language in an insulting manner or copies the work of another student with-out the instructor's permission may be asked to leave the class and in addition will be subject to all the terms and conditions in the student's rights and responsibilities hand book and may after, reviewing the situation with the instructor, be asked to leave the course with an R grade.

VII. PRIOR LEARNING ASSESSMENT:

Students who wish to apply for advanced credit in the course should consult the instructor.

VIII. DIRECT CREDIT TRANSFERS:

Students who wish to apply for direct credit transfer (advanced standing) should obtain a direct credit transfer form from the Dean's secretary. Students will be required to provide a transcript and course outline related to the course in question.