


SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY  
SAULT STE. MARIE, ONTARIO

COURSE OUTLINE

Course Title: DESCRIPTIVE DENDROLOGY II  
Code No.: FOR 107-3  
Program: FORESTRY  
Semester: 2  
Date: JUNE, 1988  
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New: \_\_\_\_\_ Revision: X

APPROVED:   
Chairperson

June 7/88  
Date

CALENDAR DESCRIPTION

DESCRIPTIVE DENDROLOGY

FOR107-3

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Course name

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Course Number

PHILOSOPHY/GOALS:

A systematic study of tree and shrub winter identification features. After successfully completing this course, students should be able to identify all Ontario commercial species in the field in the winter, as well as many of the less important trees and shrubs. Students will have a good basic knowledge of ground flora and most aspects of forest sites.

METHOD OF ASSESSMENT (GRADING METHOD)

Tree & Shrub Identification:  
40% of mark

Lecture tests:  
30% of mark

A+ 95%  
A 90%  
B 80%  
C 70%

A+ 90  
A 85%  
B 70%  
C 55%

Plant Identification: 20% of mark

A+ 95%  
A 90%  
B 80%  
C 70%

Lab drawings, Descriptive sheets, and Seed report: 10% of mark

Lab and field tests will be accumulative. If a test is missed for a good reason, be sure and notify the instructor so you will not be given a zero grade for that particular test. If more than two tests are missed without a satisfactory reason, student will be subject to a fast R. A rewrite will be necessary if a minimum of a C grade is not obtained in Identification and Lecture tests. To be eligible for a rewrite, marks must be within 10% of a C grade. The highest obtainable grade on a rewrite is a C.

TEXTBOOK(S)

Hosie R. C., 1979. Native Trees of Canada, 8th. ed., Can. Forest. Ser. 380 pp.

White J. H., 1980. The Forest Trees of Ontario, 7th ed., M.N.R., 114 pp.

Peterson & Mckenny, 1968. A Field Guide to Wildflowers, Houghton Mifflin, 420 pp.

<u>SPECIFIC OBJECTIVES</u>	<u>TECHNICIAN COMPETENCY BENCHMARK</u>
Give shade tolerance for common Ontario tree species	2968.06
State and explain common tree improvement techniques such as: gene conservation, seed zones, provenance research, breeding programs, plus tree selection, mutation breeding, use of exotics and hybridization.	2968.06
Explain the strategies involved in Ontario's tree improvement program.	2968.06
Draw and label a typical tree seed.	2968.03
Explain seed physiology under the following headings: - Function of seed coat - Seed opening - Moisture content and requirements - Effects of temperature, oxygen and light	2968.03
Draw and label seedlings, showing characteristics of epigeous and hypogeous germination.	2968.03
Explain proper seed handling procedures such as: depulping, dewinging and stratification.	2968.03
Describe main silvicultural systems, and discuss their derivations, applications and associated problems.	2968.02
Describe the three major categories of forests, based on their origins.	2968.02

Define the following terms:	2965.01
- stand	
- cover type	
- sub canopy	
- regeneration	
- physiographic type	
- type	
- canopy	
- main stand	
- advanced growth	
Discuss impediments to silvicultural progress in Canada.	2968.05
Discuss biological and economical aspects of pure, mixed, even, and uneven aged stands.	2968.05
Construct a curve, which graphically represents a given stand structure.	2968.02
Identify and explain four major methods of assessing site quality.	2968.04
Define soil terminology such as:	2968.02
- capillary	2965.01
- gley	
- loess	
- podzol	
Discuss in detail, factors which affect a forest site under the following headings:	2968.02
- Climatic	2970.01
- Edaphic	
- Physiographic	
- Biotic	
Describe stocking and density as they relate to forest stands.	2968.13
Recognize and define the five crown classes.	2968.13
Describe silvical characteristics of major Eastern Canadian tree species such as: size, longevity, major uses, site requirements, common associates, distribution and ecological values.	2968.02
Identify the following twenty, commercially important tree species in the winter conditions, to a 90% accuracy.	2970.01
Ce    Ew    Po    Bd    Bf    Mh    Ms    Ta    Aw    Ab	
Or    Ow    He    Pj    Pr    Pw    Sb    Sw    Bw    By	

Identify sixty associated plant species in major forest communities.	2967.04
Identify commercially important tree species of this area by features such as:	2967.04
- silhouettes	
- seedlings	
- bark	
Assess seed and stock viability by cutting and germination tests.	2968.03
Identify up to fifty-three deciduous species by twig and fruit.	2970.01 2967.04

REFERENCE TEXTS:

Arnold L.N., Martin A.C., Herbert S.Z.: American Wildlife & Plants, General Publishing, 500 pp.

Anonymous: Seeds of Woody Plants in the United States, U.S. Dept. of Agriculture Handbook, 450-883 pp.

Harlow Harrar & White: Textbook of Dendrology, 6th ed., McGraw Hill, 510 pp.

Fowells H.A.: Silvics of Forest Trees of the United States, U.S. Dept. of Agriculture.

Cunningham G. C.: Forest Flora of Canada, Bulletin 121, Dept. of Northern Affairs, 144 pp.

LECTURES

Topic No.	Periods	Topic Description	Reference
1	1	<u>SEEDS</u> -structure -types of germination -viability	
2	1	<u>SILVICS</u> -History -progrss	
3	3	<u>OTANDO</u> -pure and mixed -even and uneven	
4	2	<u>SITE</u> -plant indicators -volume or yield -soil -height growth	
5	4	<u>FACTORS AFFECTING SITE</u> -climatic -edaphic -physiographic -biotic -fire	
6	1	<u>STOCKING &amp; DENSITY</u> -differences -extent of crowding -yields -crown classification	
7	4	<u>SILVICS</u> -silvics of major eastern species	
8	1	<u>SEEDLINGS</u> -establishment -survival	

DESCRIPTIVE DENDROLOGY

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LABS

TOPIC NO.	PERIODS	TOPIC DESCRIPTION	REFERENCE
1	14	<u>TWIGS</u> - identification of approximately 47 species - descriptive sheets to cover twigs, bark, flowers, fruit	
2	2	<u>VIABILITY &amp; GERMINATION</u> - seeds tested and germinated - report on results	
3	10	<u>FOREST PLANTS</u> - identification - communities	
4	4	<u>FIELD TRIPS</u>	
5	2	<u>SEEDLINGS</u> - identification of major tree species	