

SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY

SAULT STE. MARIE, ONTARIO



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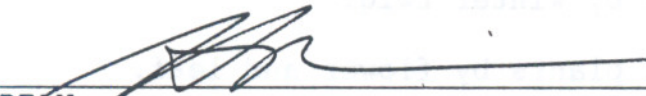
COURSE TITLE: DESCRIPTIVE DENDROLOGY II

CODE NO.: FOR 107-3 SEMESTER: 2

PROGRAM: FORESTRY

AUTHOR: DERROLL MURPHY/DON HALL

DATE: JULY 1992 PREVIOUS OUTLINE DATED: JUNE 1991

APPROVED:  DEAN

DATE: July 16 1992

DESCRIPTIVE DENDROLOGY II

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TOTAL CREDIT HOURS: 48

PREREQUISITE(S): FOR102-3

I. 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.

II. STUDENT PERFORMANCE OBJECTIVES:

Upon successful completion of this course, the student will:

1. Identify all major tree species of Ontario in the winter conditions.
2. Recognize major associated plant and shrub species.
3. Discuss forest sites under headings such as shade tolerance, stocking and crown class.
4. Describe methods used for assessing site quality.

III. TOPICS TO BE COVERED:

1. Identification of trees by bark twig and silhouette.
2. Identification of shrubs by winter twig.
3. Identification of forest plants by flower and leaf.
4. Silvics of eastern Canadian tree species.
5. Basic silviculture.

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IV. LEARNING ACTIVITIES:

1. Give shade tolerance for common Ontario tree species.
2. Draw and label a typical tree seed.
3. Explain seed physiology under the following headings:
 - Function of seed coat
 - Seed opening
 - Moisture content and requirements
 - Effects of temperature, oxygen and light
4. Draw and label seedlings, showing characteristics of epigeous and hypogeous germination.
5. Explain proper seed handling procedures such as: depulping, dewinging and stratification.
6. Describe main silvicultural systems, and discuss their derivations, applications and associated problems.
7. Describe the three major categories of forests, based on their origins.
8. Define the following terms:
 - stand
 - cover type
 - sub canopy
 - regeneration
 - physiographic type
 - type
 - canopy
 - main stand
 - advanced growth
9. Discuss biological and economical aspects of pure, mixed, even, and uneven aged stands.
10. Identify and explain four major methods of assessing site quality.
11. Explain the more important aspects of forest soils as they relate to growth of trees.

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IV. LEARNING ACTIVITIES: (cont'd)

12. Discuss in detail, factors which affect a forest site under the following headings:
 - Climatic
 - Edaphic
 - Physiographic
 - Biotic
13. Describe stocking and density as they relate to forest stands.
14. Recognize and define the five crown classes.
15. Describe silvical characteristics of major Eastern Canadian tree species such as: size, longevity, major uses, site requirements, common associates, distribution and ecological values.
16. Identify the following twenty, commercially important tree species in the winter conditions, to a 90% accuracy.

Ce	Ew	Po	Bd	Bf	Mh	Ms	Ta	Aw	Ab
Or	Ow	He	Pj	Pr	Pw	Sb	Sw	Bw	By
17. Identify sixty associated plant species in major forest communities. (Riker mounts and laminated specimens)
18. Identify commercially important tree species of this area by features such as:
 - silhouettes
 - seedlings
 - bark(Slides, field trips (need snowshoes), Greenhouse)
19. Assess seed and stock viability by cutting and germination tests.
20. Identify up to fifty-three deciduous species by twig and fruit.
21. Discuss the more important silvical characteristics of major western Canadian tree species.
22. Describe structure and arrangement of flowers and associated terminology used in keys.

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V. EVALUATION METHODS:

Identification Tests	60%
Lecture Tests	30%
Assignments	10%

Grades:

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, students will be subject to a fast R. A rewrite will be necessary if a minimum of a C grade is not obtained. To be eligible for a rewrite, marks must be within 10% of a C grade. The highest obtainable grade if a rewrite is required is a C.

Handins of descriptive sheets, lab drawings or key quizzes are required at most classes therefore students should attend all classes.

VI. REQUIRED STUDENT RESOURCES:

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

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

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

Anonymous: Seeds of Woody Plants in the United States, U.S. Dept. of Agriculture Handbook, 450-883 pp.
SD402.U5

Arnold L.N., Martin A.C., Herbert S.Z.: American Wildlife & Plants, General Publishing, 500 pp.
QL756.M27 (One copy is available for library use only, ask at the main desk.)

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

Fowells H.A.: Silvics of Forest Trees of the United States, U.S. Dept. of Agriculture. SD395.U5

Grimm W.C.: Recognizing Native Shrubs, Stackpole Penn. 1966 QK481.G8

Harlow Harrar & White: Textbook of Dendrology, 6th ed., McGraw Hill, 510 pp. QK481.H32

VIII. SPECIAL NOTES:

Hard hats must be worn on all field trips.

Students with special needs (e.g. physical limitations, visual impairments, hearing impairments, learning disabilities) are encouraged to discuss required accommodations confidentially with the instructor.

Your instructor reserves the right to modify the course as he/she deems necessary to meet the needs of students.