DOC.#342

SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY

SAULT STE. MARIE, ONTARIO

COURSE OUTLINE

COURSE TITLE: APPLIED FOREST MANAGEMENT

CODE NO.: FOR370-4 SEMESTER: 5

PROGRAM: INTEGRATED RESOURCE MANAGEMENT TECHNOLOGY

AUTHORS: BOB CURRELL/MARK HARVEY

DATE: DECEMBER 1992 PREVIOUS OUTLINE DATED: NEW

APPROVED: _____ Dec 15/92

DEAN, SCHOOL OF SCIENCES & NATURAL RESOURCES — DATE

APPLIED FOREST MANAGEMENT — COURSE NAME

FOR370-4 — COURSE NUMBER

TOTAL CREDIT HOURS: 64

PREREQUISITE(S):

I. PHILOSOPHY/GOALS:

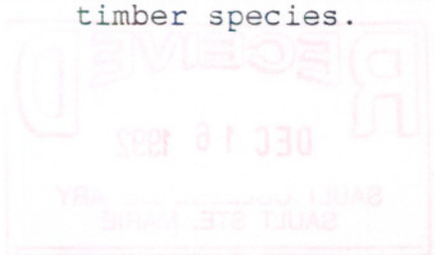
This course is designed to prepare students for participation in the silvicultural management of Ontario's forests.

Combining field trips, lectures and lab exercises, the course describes methods used to classify, regenerate and tend forest lands, using ecosystem and sustainable forestry practices.

II. STUDENT PERFORMANCE OBJECTIVES:

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

1. Describe modified harvesting systems which may be sued in the Boreal forest in order to protect advance growth and promote natural regeneration.
2. Describe techniques used for regenerating and management of the major boreal timber species and associated ecosystems.
3. Give a detailed explanation of the silvicultural techniques available for Red and White pine management.
4. Describe the vegetation management alternatives to herbicide spraying initiated in Ontario as part of the Sustainable Forestry Program.
5. Develop integrated plans for the control of vegetation using chemical, mechanical or biological techniques.
6. Classify forest sites using Forest Ecosystem Classification systems.
7. List the goals and objectives of the tree improvement program designed for implementation in Ontario.
8. Apply concepts of tree improvement used in plus tree selection and seed orchard establishment and management.
9. Conduct an assessment of family tests used in the tree improvement program.
10. Design silvicultural crop plans for several important Ontario timber species.



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III. TOPICS TO BE COVERED:

1. Modified Harvesting Techniques and Careful Logging
   - careful logging techniques
   - strip cutting, shelterwood cutting

2. Boreal Silviculture
   - silvics of major crop and competitor species in the Boreal forest
   - regeneration techniques such as site preparation, seeding, planting and encouraging natural regeneration
   - tending of boreal species, including spacing, thinning and vegetation management
   - silvicultural practices to enhance wildlife habitat

3. White Pine Management
   - harvesting systems used to encourage regeneration
   - regenerating, stand tending and pest control

4. Red Pine Plantation Management
   - planting and tending red pine plantation
   - identification and control of red pine pests

5. Vegetation Management
   - identification and silvical characteristics of important competitor species
   - herbicides control of competitor species
     - Glyphosate, Hexazinone, 2-4-D, Trichlopyr
     - application methods, timing, crop and weed species sensitivity
   - VMAP (Alternates to Chemical Weed Control)
     - biological, mechanical and system based control methods will be discussed

6. Site Classification
   - forest ecosystem classification systems used in Ontario
   - review of soil and vegetation features of importance to field site classification

7. Crop Planning
   - students will design crop plans for the management of important Boreal Ontario timber species
     - including; preharvest inspections, silvicultural harvesting systems, regeneration and tending treatments

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III. TOPICS TO BE COVERED: (cont'd)

8. Tree Improvement
   - goals and principles behind Ontario's tree improvement program
   - methods of maintaining and improving genetic quality of forests
     - seed collection areas, seed production areas
   - Seed orchards
     - plus tree selection
     - seedling seed orchards, clonal seed orchards
     - design, establishment and management of seed orchards
   - Family Tests of seed orchard stock

IV. EVALUATION METHODS:

Tests 60%	- 3 unit tests, following Topics 4, 6 and 8 - worth 20% each
Quizzes 5%	- to evaluate reading assignments - following guest lectures, etc.
Assignments 35%	- including: - Boreal Silviculture Presentations - Site Classification exercises - Soil description lab - Crop planning project - Grafting lab - etc.

Marking Scheme:

A+ = 91-100% A = 81-90% B = 71-80% C = 61-70% R = <60%

V. REQUIRED STUDENT RESOURCES:

Field Manual for Describing Soils

VI. SPECIAL NOTES:

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.