

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

COURSE OUTLINE

COURSE TITLE: SILVICULTURE

CODE NO.: FOR 200-4 SEMESTER: III

PROGRAM: ABORIGINAL RESOURCE TECHNICIAN

AUTHOR: B. CURRELL

DATE: NOVEMBER 1996 PREVIOUS OUTLINE DATED: NOVEMBER 1994

APPROVED:  NOV. 29/96
DEAN, SCHOOL OF SCIENCES & NATURAL RESOURCES DATE

SILVICULTURE

FOR 200-4

COURSE NAME

COURSE NUMBER

TOTAL CREDIT HOURS: 64

PREREQUISITE(S): NONE

I. PHILOSOPHY/GOALS:

This course will explain the silvicultural systems used in Ontario to manage both Boreal and Great-Lakes St. Lawrence forest region tree species.

Emphasis will be placed on harvesting methods as they affect subsequent regeneration, on methods of ecological site classification and on ways of evaluating regeneration success. A final, but important topic will describe site preparation options on ways of preparing the ground for subsequent reforestation.

II. STUDENT PERFORMANCE OBJECTIVES:

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

1. Describe the importance of silviculture in Ontario and explain who is responsible for its implementation.
2. Explain how forest policy has changed in Ontario over the last 20 years and describe how this has affected forest management.
3. List and describe recent developments in the area of First Nations forest management and explain the impact of these developments.
4. Assess Northern Ontario forest sites and provide ecological descriptions of their vegetation and soils.
5. Explain which silvicultural harvesting system or systems would be most appropriate to use when managing a variety of different forest types.
6. Carry out surveys of harvested areas to assess regeneration success.
7. Describe the biological importance of site preparation.
8. Explain and evaluate the site preparation options available to Ontario forest managers.
9. Describe in what situations and how timber harvesting can be modified to encourage natural forest regeneration.

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III. TOPICS TO BE COVERED:

TOPIC NO.

TOPIC DESCRIPTION

1

Introduction to Silviculture

- Importance of forestry and reforestation
- Ontario reforestation programs
- Aboriginal reforestation programs

TEST 1

2

Ecological Site Classification

- The importance of classifying forest sites
- Introduction to Site classification systems used in Ontario
- Procedure for classifying North-eastern Ontario sites

3

Silvicultural Harvesting Systems

- Silvicultural harvesting systems used in Ontario
- Logging Methods used in Ontario

TEST 2

4

Regeneration Surveys

- Reasons for surveying regeneration
- Types of regeneration surveys carried out in Ontario
- Procedures for carrying out O.M.N.R. 5th year stocking assessments

5

Site Preparation

- Reasons for site preparing cutover areas
- Description of how site preparation can change soil and site conditions
- Introduction to site preparation methods

TEST 3

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

TOPIC NO.	TOPIC DESCRIPTION
6	Mechanical Site Preparation (Scarification) <ul style="list-style-type: none">- Description, method of operation, results expected for common scarifying machines- Sites where each machine is suited- Prime movers identified and described
7	Prescribed Burning <ul style="list-style-type: none">- Reasons for carrying out prescribed burns and results expected- Prescribed burn plans- Methods of carrying out prescribed burns
8	Natural Regeneration Techniques in the Boreal Forest <ul style="list-style-type: none">- Group seed trees, patch cutting- Alternate strip cutting of Black spruce- Cut to length harvesting- Careful logging on lowland sites<ul style="list-style-type: none">- CLAAG, H.A.R.O.- Careful logging of upland sites

TEST 4

IV. REQUIRED STUDENT RESOURCES

Silviculture Study Guide, 1996 edition

Silviculture Videotape 1

- includes "Who's Looking after My Forest" plus slide presentations reinforcing topics 3, 5, 6 and 7

Silviculture videotape 2 - Careful Logging Techniques

V. EVALUATION METHODS:

70% Tests

- Test 1 (10%) - following topic 1
- an introductory test showing how tests will be prepared and evaluation
- Test 2 (20%) - following topic 3
- Test 3 (20%) - following topic 5
- Test 4 (20%) - following topic 8

Assignments 30% -

- Review of "Who's Looking After My Forest"
- N.E. Ontario Site Classification Exercise
- Management prescription keying exercise
- Regeneration survey layout and tallying exercise
- An exercise in using Electronic Data Recorders will be carried out during your lab week at Sault College

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.