

SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY

SAULT STE. MARIE, ONTARIO

COURSE OUTLINE


COURSE TITLE: SILVICULTURE

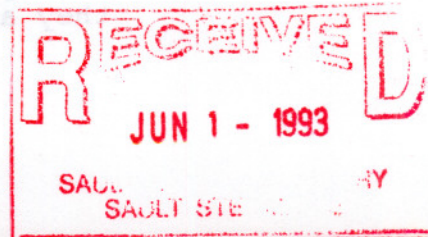
CODE NO.: FOR 200-4 SEMESTER: III

PROGRAM: FORESTRY TECHNICIAN/ABORIGINAL RESOURCE TECHNICIAN

AUTHOR: B. CURRELL

DATE: MAY 1993 PREVIOUS OUTLINE DATED: NOV. 1992

APPROVED:  DATE May 31/93  
DEAN, SCHOOL OF SCIENCES & NATURAL RESOURCES



SILVICULTURE

FOR 200-4

COURSE NAME

COURSE NUMBER

TOTAL CREDIT HOURS: 64

PREREQUISITE(S): NONE

**I. PHILOSOPHY/GOALS:**

A study of silviculture and reforestation showing its place and importance in forestry. The course will describe silvicultural harvesting methods as they affect subsequent regeneration success and then describe in detail the techniques used in Ontario to grow new forests.

**II. STUDENT PERFORMANCE OBJECTIVES:**

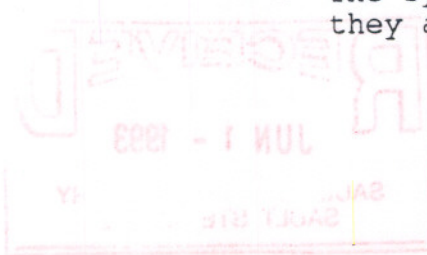
Upon successful completion of this course the student will:

1. Be able to participate effectively in carrying out silvicultural operations.
2. Be able to plan silvicultural projects.
3. Have the ability to train unskilled silvicultural work crews.

NOTE: More detailed objectives are presented at the start of each unit in the Silviculture Study Guide required for this course.

**III. TOPICS TO BE COVERED:**

TOPIC NO.	TOPIC DESCRIPTION
1	<b>Introduction to Silviculture</b> <ul style="list-style-type: none"> <li>- Importance of forestry and reforestation.</li> <li>- Reasons for possible future wood shortages.</li> <li>- Ontario reforestation programs.</li> </ul>
2	<b>Silvicultural Management Systems</b> <ul style="list-style-type: none"> <li>- The systems used to harvest the forest as they affect future regeneration are described</li> </ul>



COURSE NAME

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

TOPIC NO.	TOPIC DESCRIPTION
3	<p><b>Site Classification</b></p> <ul style="list-style-type: none"> <li>- the importance of classifying forest sites is explained</li> <li>- site classification systems used in Ontario are introduced</li> <li>- an explanation of how to use the Claybelt F.E.C. system is provided</li> </ul>
4	<p><b>Regeneration Surveys</b></p> <ul style="list-style-type: none"> <li>- the types of regeneration surveys used in Ontario and the reasons for carrying them out will be presented</li> <li>- procedures for carrying out O.M.N.R. 5th year stocking assessments will be taught</li> </ul>
<b>TEST 1</b>	
5	<p><b>Site Preparation</b></p> <ul style="list-style-type: none"> <li>- the reasons for carrying out cutover site preparation will be shown</li> <li>- a description of how site preparation (SIP) can change soil and site conditions will be provided</li> <li>- site preparation methods will be introduced</li> </ul>
6	<p><b>Mechanical Site Preparation (Scarification)</b></p> <ul style="list-style-type: none"> <li>- a description of over 20 types of scarifying machines will be given</li> <li>- how each operates</li> <li>- results expected             <ul style="list-style-type: none"> <li>- sites where each is best suited</li> </ul> </li> <li>- prime movers (machines used to push or pull scarifiers) will be identified</li> </ul>

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

TOPIC NO.	TOPIC DESCRIPTION
7	<b>Prescribed Burning Site Preparation</b> <ul style="list-style-type: none"><li>- reasons for carrying out this type of site preparation</li><li>- prescribe burn plans will be described</li><li>- ignition methods and patterns</li></ul>
8	<b>Seed Collection and Direct Seeding Operations</b> <ul style="list-style-type: none"><li>- tree seed collection, extraction and storage</li><li>- methods of aerial and ground seeding of Jack pine and Black spruce</li></ul> <b>Test 2</b>
9	<b>Forest Tree Nurseries</b> <ul style="list-style-type: none"><li>- types of nursery stock grown will be described</li><li>- methods of growing container and bareroot nursery stock will be detailed</li></ul>
10	<b>Tree planting</b> <ul style="list-style-type: none"><li>- storage and care of nursery stock</li><li>- correct methods of planting trees</li><li>- methods of evaluating tree planting quality</li></ul>
11	<b>Forest Tending</b> <ul style="list-style-type: none"><li>- silvicultural operations carried out after trees are established in order to maintain or improve their growth and quality will be described<ul style="list-style-type: none"><li>- cleaning and weeding</li><li>- thinning</li><li>- pruning</li></ul></li></ul>

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

TOPIC NO.	TOPIC DESCRIPTION
12	<b>Tree Improvement</b> <ul style="list-style-type: none"><li>- the methods being used to maintain or improve the genetic quality of seed or seedlings used in reforestation programs</li></ul>

**Test 3**

IV. REQUIRED STUDENT RESOURCES

Silviculture Study Guide, 1992 or 1993 edition

Navigational Protractor

Compass

V. EVALUATION METHODS:

- 50% Tests
  - test 1, following topic 4
  - test 2, following topic 8
  - test 3, following topic 12
- 10% Dendrology Tests (2) Trees, shrubs and plants  
N.B. students who have not completed FOR102 and FOR107 will not be graded on this component
- 40% Assignments and Quizzes (including but not necessarily limited to)
  - introductory video review
  - introduction and unit 1 quiz
  - Forest Ecosystem Classification field exercise
  - regeneration cruise
  - site preparation equipment identification
  - prescribe burn fuel loading
  - seeding exercise
  - quizzes following guest lectures
  - tree planting quality assessment

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**VI. ADDITIONAL RESOURCE MATERIALS AVAILABLE IN THE COLLEGE LIBRARY:**

1. Many publications are available related to specific topics in the Government Documents Section.
2. Periodical section  
Forestry Chronicle  
Silviculture Magazine
3. Audiovisual Section  
Site Preparation Equipment Slide Set  
Distance Education Silviculture videotapes 1 and 2  
(videotapes which visually reinforce the course content)

**VII. 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.