

SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY
SAULT STE MARIE, ON



COURSE OUTLINE

Course Title: FOREST RENEWAL

Code No.: NRT 241 Semester: 4

Program: FORESTRY TECHNICIAN

Author: MARK HARVEY

Date: JAN 2000 previous Outline Date: JAN 99

Approved: _____
Dean, Natural Resources Date
Programs

Total Credits: 4
Length of Course: 3 HRS/WEEK X 16 WEEKS
Total Credit Hours: 64

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For additional information, please contact Joe Fruchter, Dean, Natural Resources Programs, (705) 759-2554, Ext. 688.

I. Course Description

This course is largely a companion course to Silviculture NRT200. It deals primarily with the regeneration and management of Ontario's forests. Emphasis is placed on planning and carrying out forest renewal operations in a safe and ecologically responsible manner. Students are also given the background required to understand the biological relationships found in forested landscapes. Sustainability of the forest resource both biologically, socially and economically is stressed throughout. Students will be given instruction leading to the Ministry of Environment, Forestry Exterminators License exam through Ridgetown College and the University of Guelph.

II. STUDENT PERFORMANCE OBJECTIVES (OUTCOMES):

a) Learning Outcomes

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 operations.
- 3) Be competent to train unskilled silvicultural work crews.
- 4) Be able to identify the ecological and economic significance of applying a variety of silvicultural options.
- 5) Be able to safely, effectively and in an environmentally responsible manner apply pesticides in the forest.

b) Learning Outcomes and Elements of the Performance- Upon successful completion of this course the student will demonstrate the ability to:

1. Design and plan a forest tending operation -

Potential Elements of the Performance:

- plan a juvenile spacing operation
- plan a pre-commercial and commercial thinning operation
- calculate optimal live crown to tree ratios for pruning
- develop crop plans for timber production

This learning outcome will constitute 15% of this course's grade.

2. Apply pest management techniques and pesticides in the Forest In a Safe , Effective and Environmentally acceptable manner and in accordance with all relevant legislation -

Potential Elements of the Performance:

- Identify economically important forest insect pests

- identify economically important forest plant pests
- identify economically important fungal and animal forest pests
- write prescriptions for pest management activities in the forest
- understand clearly the MOE Pesticides Act and Reg. 914
- List characteristics and properties of pesticides registered for forest use in Canada.
- Understand the significance of the Pest Control Products Act in Forest Pest Management
- demonstrate ground pesticide application techniques used in the forest
- apply the principles of integrated forest pest management in decision making processes
- calibrate pesticide application equipment
- complete pesticide application and mixing problems accurately
- select pesticide application equipment and pesticides for a specific need and purpose

This learning outcome will constitute 55% of the course's grade.

3. Demonstrate the ability to successfully conduct and administrate an operational tree planting operation -

Potential Elements of the Performance:

- Select planting stock
- develop contracts for the production of planting stock and tree planting
- integrate planting with other forest regeneration strategies
- match forest site conditions to planting practices.
- demonstrate the proper care and use of planting equipment
- demonstrate the proper care and handling of planting stock
- grow containerized nursery stock to specifications
- propagate nursery stock using vegetative techniques

This learning outcome will constitute 20% of the course's grade

4. List and define principles and practices of tree improvement -

Potential Elements of the Performance:

- identify seed zones in Ontario and the significance of provenance
- identify plus trees and collect scions
- graft using the side veneer grafting technique
- list the purpose for and the characteristics of seed orchards and family tests

This learning outcome constitutes 10% of the course's grade

III TOPICS

- 1, Spacing and Thinning
- 2, Pruning
- 3, Crop Planning
- 4, Pesticide Classification
- 5, Pesticide Acts and Legislation
- 6, Forest Pest Control
- 7, Integrated Forest Pest Management
- 8, Pesticide Application Techniques
- 9, Mixing and Calibration Problems
- 10, Pesticide Safety Storage and Handling
- 11, Pesticides Toxicity
- 12, Pesticides and the Environment

IV EVALUATION METHODS:

TESTS and Quizzes 60%

Pesticide quizzes 35%

- | | |
|----|---|
| 1. | 5 |
| 2 | 5 |
| 3 | 5 |
| 4, | 5 |
| 5, | 5 |
| 6, | 5 |
| 7, | 5 |

Term test 25%

LABS and projects 40%

- | | |
|--------------------------------|-----|
| Lab 1-2 Insect Pests | 5% |
| Lab 2-1 Crop Planning | 5% |
| Lab 4-1 Tree Planting | 5% |
| Tree Crop project | 15% |
| Vegetative propagation project | 10% |

The instructor may be required to make minor changes to the evaluation methods to respond to the changing needs of the students and other changes required to provide a quality educational experience.

The following semester grades will be assigned to students in post-secondary courses:

<u>Grade</u>	<u>Definition</u>	<u>Grade Point Equivalent</u>
A+	90 - 100%	4.00
A	80 - 89%	3.75
B	70 - 79%	3.00
C	60 - 69%	2.00
R (Repeat)	59% or below	0.00
CR (Credit)	Credit for diploma requirements has been awarded.	
S	Satisfactory achievement in field placement or non-graded subject areas.	
U	Unsatisfactory achievement in field placement or non-graded subject areas.	
X	A temporary grade. This is used in limited situations with extenuating circumstances giving a student additional time to complete the requirements for a course (see <i>Policies & Procedures Manual – Deferred Grades and Make-up</i>).	
NR	Grade not reported to Registrar's office. This is used to facilitate transcript preparation when, for extenuating circumstances, it has been impossible for the faculty member to report grades.	

Late assignments may not be accepted at the discretion of the instructor.

Late assignments accepted will be marked down.

80% CLASS Attendance is mandatory to achieve a C grade or higher.

Attendance will be taken during the 2nd hour of the 3 hour class or lab . Only students present at this time will be recorded as present for attendance record purposes.

The Ridgeway College Forestry Exterminators Licence Exam will be given at Sault College before May 1, 1999. This exam **WILL NOT** be part of the grade assigned to students in this course and will be optional.

V. PRIOR LEARNING ASSESSMENT:

FOREST RENEWAL

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Please contact the Prior Learning Assessment Office (E2203) for further information.

VI. REQUIRED STUDENT RESOURCES:

- Forest Renewal Study Guide and Lab Manual
- Ontario Pesticide Training Manual Certification Core Manual
- Ontario Pesticide Training Certification Forestry Module

VII. ADDITIONAL RESOURCE MATERIAL AVAILABLE IN THE COLLEGE LIBRARY:

Periodical Section

Silviculture Magazine
Forestry Chronicle

Audiovisual Section

Distance Educational Silviculture Videotape 2

Turgeon, J.J. and DeGroot P. 1994. Management of Insect Pests of Cones in Seed Orchards in Eastern Canada. OMNR/Forestry Canada, Sault Ste. Marie, Ontario. Queen's Printer 98 p.

VIII. SPECIAL NOTES:

Students in NRT241 will be trained to prepare them to write the Ridgetown College Ontario Pesticide Certification Exam for Forestry. Those students who wish to write this exam and are successful are eligible to purchase the Ministry of environment Forestry Exterminators Licence. Students will be required to pay \$150.00 to be eligible to write the Ridgetown test. This includes text books.

The MOE Forestry Exterminator's licence is available at a cost of \$90:00 for a 5 year licence

Special Needs

If you are a student with special needs (e.g. Physical limitations, visual impairments, hearing impairments, learning disabilities), you are encouraged to discuss required accommodations with the instructor and/or contact the Special Needs Office, Room E1204, Ext. 493, 717 or 491 so that support services can be arranged for you.

Plagiarism

Students should refer to the definition of “academic dishonesty” in the “Statement of Students Rights and Responsibilities.”

Students who engage in “academic dishonesty” will receive an automatic failure for that submission and/or such other penalty, up to and including expulsion from the course, as may be decided by the professor.

In order to protect students from inadvertent plagiarism, to protect the copyright of the material referenced and to credit the author of the material, it is the policy of the department to employ a documentation format for referencing source material.

Advanced Standing

Students who have completed an equivalent post-secondary course should bring relevant documents to the Coordinator, Natural Resources Programs.

Retention of Course Outlines

It is the responsibility of the student to retain all course outlines for possible future use in gaining advanced standing at other post-secondary institutions.

Substitute course information is available at the Registrar’s Office.