

**SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY**

**SAULT STE. MARIE, ON**



**COURSE OUTLINE**

**COURSE TITLE: SURVEYS AND ASSESSMENTS**

**CODE NO.: NRT 202 SEMESTER: 3**

**PROGRAM: FORESTRY TECHNICIAN**

**AUTHOR: B. CURRELL**

**DATE: June 2001 PREVIOUS OUTLINE DATED: May 2000**

**APPROVED: \_\_\_\_\_**  
**DEAN**

**DATE**

**TOTAL CREDITS: 4**

**PREREQUISITE(S): None**

**LENGTH OF COURSE: 16 weeks TOTAL CREDIT HOURS: 64**

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*(705) 759-2554, Ext. 688*

COURSE NAME

CODE NO.

**I. COURSE DESCRIPTION:**

Surveys and Assessments play an important role in monitoring the status of forest resources as well as evaluating the success of silvicultural projects. Under the terms of the Crown Forest Sustainability Act, SFL (Sustainable Forest Licence-holders) will be responsible for ensuring their operations comply with standards set out under the legislation. To meet this obligation, work must be monitored and surveys carried out assess operational forestry activities. The procedures for carrying out many types of surveys and assessments will be explained in this course. Many of the surveys explained indoors will then be carried out under field conditions to demonstrate their practical application.

**II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:**

Upon successful completion of this course the student will demonstrate the ability to:

1. Explain why accurate forest surveys are critically important to the practice of Sustainable Forestry in Ontario

Potential Elements of the Performance:

- outline legislation
- describe responsibilities for Compliance Monitoring in forest management and outline the process involved in its implementation
- discuss the essential characteristics of a well conducted assessment or survey

This learning outcome will represent 10% of the course grade.

2. Carry out compliance monitoring activities which will show how closely a Forest Industry licensee has met their licence obligations to minimize environmental damage during harvesting operations.

Potential Elements of the Performance

- explain the procedures used by E.B.Eddy to assess post-harvest condition of partially harvested pine forests
- describe criteria examined to determine whether roadway water crossings have been built in an environmentally acceptable manner
- carry out a damage assessment on forest lands recently harvested using Domtar Forest Resources Co. procedures

This learning outcome will represent 15% of the course grade.

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## 3. Carry out forest surveys to evaluate the quality of silvicultural treatments

## Potential Elements of the Performance

- Evaluate tree planting quality using planting quality surveys
- Be able to identify planting quality faults
- Lay out a tree plant-sampling pattern to evaluate planting quality
- Calculate payment rates to contractors based on planting quality
- Carry out and compile a survey of the quality of trees planted at fall field camp
- Determine the need to carry out a plantation thinning project and evaluate thinning operations

This learning outcome will represent 15% of the course grade.

## 4. Determine how successfully an area is regenerating to suitable tree species.

## Potential Elements of the Performance:

- describe the features of a regeneration survey and a Free to Grow survey
- carry out and compile a regeneration survey using Free-growing regeneration assessment procedures

This learning outcome will represent 15% of the course grade.

## 5. Demonstrate the ability to carry out forest surveys and assessments using Electronic Data Recorders

## Potential Elements of the Performance

- evaluate the level of competition to planted trees using software loaded onto data recorders
- collect forest inventory data using TCM/Pam software loaded onto DAP 9000 electronic data recorders

This learning outcome will represent 15% of the course grade.

6. Complete a Pre-harvest Silvicultural Prescription to evaluate the characteristics of any area and to recommend ways it should be harvested and regenerated

Potential Elements of the Performance

For an area which you have been assigned:

- complete a site evaluation
- complete a harvesting plan
- prepare a forest renewal prescription

This learning outcome will represent 15% of the course grade.

7. Carry out inventories of forest lands to the standards of accuracy required for a variety of natural resource research projects

Potential Elements of the Performance

- measure riparian zone forest inventory plots which are part of an OFRI/Sault College Canadian foundation for Innovation study
- participate in an Ontario Living Legacy project to survey lands managed under a range of intensities

This learning outcome will represent 15% of the course grade.

### **III. Topics:**

1. Introduction to compliance monitoring, surveys and assessments
2. Tree Planting quality assessments
3. Evaluating Timber Management Practices
  - Damage assessments
  - Monitoring water crossings (if possible)
4. Regeneration surveys
  - Free to Grow surveys
  - Use of Electronic Data Recorders
5. Plantation thinning surveys

6. Riparian zone forest inventory
  - carry out forest inventory research measurements on plots established by OFRI scientists in the Turkey Lakes watershed
7. Pre-harvest Silvicultural Prescription surveys
  - Site evaluation
  - Harvesting plan
  - Forest renewal prescription

#### **IV. REQUIRED RESOURCES/TEXTS/MATERIALS:**

Survey procedures, tally sheets and some background material will be provided by the professor. Additional references related to each topic will be listed at the end of each lesson throughout the semester.

#### **V. EVALUATION PROCESS/GRADING SYSTEM:**

Assignments 60%

- surveys carried out in the field 40%,
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- lab assignments and quizzes 10%
- Preharvest Silvicultural Prescription 10%

Tests (2) 40%

- Test 1 will be scheduled for late October
- You will be advised of the exact test date, in class, at least 1 week prior to the test
- test 2 will be held at the conclusion of the course

SURVEYS & ASSESSMENTS  
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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 &amp; 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.	

**VI. SPECIAL NOTES:**

- 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, 491 so that support services can be arranged for you.
- Retention of Course Outlines  
It is the responsibility of the student to retain all course outlines for possible future use in acquiring advanced standing at other post-secondary institutions.

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- Plagiarism  
Students should refer to the definition of “academic dishonesty” in *Student 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.
- Course Modification  
The instructor reserves the right to modify the course as deemed necessary to meet the needs of students.
- Disclaimer for Meeting the Needs of the Learners
- Substitute Course Information is available at the Registrar’s Office.

Several field exercises will be carried out in this course, representing a majority of assignment marks. You will be informed in class 1 week ahead of time when fieldwork is scheduled and are expected to attend.

You are responsible for attending all classes and will receive a 0 grade for any assignment missed during an absence regardless of reason. The lowest mark you receive on any field assignment will not be counted when calculating your final grade in the course.

## **VII. PRIOR LEARNING ASSESSMENT**

Students who wish to apply for advanced credit in the course should consult the instructor. Credit for prior learning will be given upon successful completion of the following: