
Course Name

Code No.

I. COURSE DESCRIPTION:

Timber Management will provide students with skills needed for the planning and instillation of forest access roads, bridges and culverts, Students will use maps aerial photographs and inventory data to plan harvesting operations in a variety of forest types. Students will tour forest industry processing plants and discuss the relationships between timber harvesting and processing.

Emphasis will be given to the identification, description and operational constraints of a very wide range of timber harvesting equipment.

The historical evolution of the timber industry and the impacts of past timber management practices on the forests and forest industry in Ontario will be discussed. Current Provincial legislation applicable to timber harvesting will also be covered.

II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:

- 1, Identify forest harvesting equipment
 - 2, Identify the function of and operational constraints of timber harvesting equipment
 - 3, Estimate water shed areas and calculate culvert sizes
 - 4, Use maps to plan forest access roads and timber harvesting operations
 - 5, Use timber inventory data to plan harvesting operations
 - 6, Use aerial photographs to plan and locate forest access roads
 - 7, Use aerial photographs to plan and locate forest harvesting operations
 - 8, Trace the historical evolution of the timber industry in Ontario
 - 9, List the impacts of past and current timber management and harvesting practices on the forests of Ontario
 - 10, Understand provincial legislation related to forest management Planning.
 - 11, List the sequence of operations used in forest access road construction
 - 12, Demonstrate an understanding of selected forest access road construction and surveying techniques
 - 13, Understand the relationship between timber management, and the Forest products industry.
 - 14, Identify forest access road related social economic resource management issues and strategies for mitigating access road impacts
 - 15, Define Forest Management Plan and Annual Work Schedule and demonstrate a familiarity with selected aspects of the forest planning process
 - 16, Use GIS to assist in locating values in Timber Harvest Planning
 - 17, Create a simple timber harvesting map using GIS
- Upon successful completion of this course, the student will demonstrate the ability to:

1. Use surveying data, maps and air photos to design forest access roads

Potential Elements of the Performance:

- design curves using the tangent offset method
- estimate cut and fill
- calculate slopes from elevation data
- calculate aggregate volumes from elevation data List and describe at least 8 steps in the road building process
- outline methods of constructing forest access roads in an environmentally responsible manner
- draw a simple aggregate permit site plan
- calculate aggregate volumes using contour maps

 Course Name

 Code No.

- this will constitute 20% of the course grade
2. Identify harvesting equipment and operational considerations for harvesting equipment
- Potential Elements of the Performance:
- identify up to 40 pieces of harvesting equipment
 - list and describe methods of felling using the chain saw
 - list and describe and compare 4 or more logging methods
 - list and describe loading equipment
 - list and describe logging transportation equipment
 - identify advantages disadvantages and constraints of specific pieces of harvesting equipment
 - list advantages and disadvantages of logging methods and effects on long term sustainability
- This will constitute 15% of the course grade
3. Use maps and aerial photographs to plan and locate forest access and harvesting operations
- Potential Elements of the Performance:
- delineate water sheds using maps and aerial photos
 - calculate water shed areas and culvert sizes using manual and computer models .
 - design culvert water crossing installations
 - plan and utilize erosion control techniques
 - identify potential road corridors from aerial photographs using tree species and terrain as indicators
 - identify and locate road location and harvesting constraints including areas of concern
 - locate potential harvesting areas using aerial photographs
 - use topographic and FRI maps to locate road corridors and determine slopes
 - determine the feasibility of forest stands for harvesting using FRI maps and aerial photographs
- This will constitute 35% of the course grade
4. Describe the forest management planning process and understand legislation ,policy and compliance as related to forest , management planning and forest operations
- Potential Elements of the Performance:
- list key components of the crown forest sustainability act that apply to timber harvesting and forest management activities
 - define and describe FOIP

 Course Name

 Code No.

- define and describe a FMP
- demonstrate familiarity with the Forest Management Planning Manual
- understand the forest management planning process
- list key aspects of provincial regulations and compliance for timber harvesting, water crossings and aggregate extraction

This will constitute 20% of the course grade

- 5, Trace the historical evolution of the timber industry in Ontario and relate past practices to the current timber industry
- Potential Elements of the Performance
- Identify and describe historical logging equipment
 - Trace the evolution of logging and logging equipment in Canada
 - Tour a forest products mill and visit a logging contractor's equipment yard.

This will constitute 10 % of the course grade

III. TOPICS:

1. The history of timber harvesting in Ontario
2. Timber harvesting equipment
3. Planning forest access roads, bridges , culverts and aggregate extraction
4. Planning forest harvest and renewal operations
5. Forest Access road construction, good practices and surveying

 Course Name

 Code No.

- techniques
- 6 Forest Operations Inspection Program (FOIP) water crossings, harvests, and aggregate extraction
- 7 FMP'S and Annual Work Schedules

IV. REQUIRED RESOURCES/TEXTS/MATERIALS:

Timber Management Study Guide and Lab Manual
 OMNR Forest Management Planning Manual
 Stapler
 Drafting and aerial photo interpretation equipment

V. EVALUATION PROCESS/GRADING SYSTEM:

Labs best 6 of 8	20%
Harvesting plan (lab 15)	10%
Outdoor curve	5%
Test , compliance , access roads and the FMP	25%
Culverts and Sedimentation Test	10%
Equipment ID test	15%
FMP Assignments 3@ 5%	<u>15%</u>
	100%

The following semester grades will be assigned to students in postsecondary 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
D	50- 59 %	1.00

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F(fail)	49% and below	0.00
CR (Credit)	Credit for diploma requirements has been awarded.	
S	Satisfactory achievement in field /clinical placement or non-graded subject area	
U	Unsatisfactory achievement in field/clinical placement or non-graded subject area.	
X	A temporary grade limited to situations with extenuating circumstances giving a student additional time to complete the requirements for a course	
NR	Grade not reported to Registrar's office	
W	Withdrawn from course with - out academic penalty	

VI. SPECIAL NOTES:

Course Name

Code No.

Special Needs:

If you are a student with special needs (e.g. physical limitations, visual impairments, hearing impairments, or learning disabilities), you are encouraged to discuss required accommodations with your instructor and/or the Special Needs office. Visit Room E1101 or call Extension 493, 717, or 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 postsecondary institutions.

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 other such penalty, up to and including expulsion from the course/program, as may be decided by the professor/dean. 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.

For students to successfully complete this course with a D grade or better students must attend 80% of the scheduled classroom time. All assignments must be completed and submitted by individual students. Assignments are to be completed individually unless the professor indicates the assignment is a group assignment. Students will be assigned 8 labs... Only the best 6 of these labs will be used to complete the final grade. Assignments and labs are due at the beginning of the class on the day they are due. Late assignments that include labs and projects will be down graded. Late assignments may be assigned a grade of “0” . Exceptions may be granted by the professor for medical or compassionate reasons.

Course Name

Code No.

VII. PRIOR LEARNING ASSESSMENT:

Students who wish to apply for advanced credit in the course should consult the professor. Credit for prior learning will be given upon successful completion of a challenge exam or portfolio following:

VIII. DIRECT CREDIT TRANSFERS:

Students who wish to apply for direct credit transfer (advanced standing) should obtain a direct credit transfer form from the Dean's secretary. Students will be required to provide a transcript and course outline related to the course in question.