

SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY

SAULT STE. MARIE, ONTARIO

COURSE OUTLINE

Course Title: FOREST ROADS

Code No.: FOR 215-4

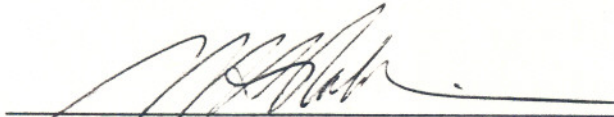
Program: FORESTRY

Semester: FOUR

Date: APRIL, 1985

Author: B. PRICE

New: _____ Revision: _____ X

APPROVED: 
Chairperson

Jun 5 / 85
Date

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

COURSE OUTLINE

Course Title:	FOREST ROADS
Code No.:	FOR 212-4
Program:	FORESTRY
Prerequisites:	FOUR
Date:	APRIL, 1982
Author:	B. PRICE

Revision: _____ New: _____

APPROVED: _____

Chaperson

Date

CALENDAR DESCRIPTION

FOREST ROADS

FOR 215-4

COURSE NAME

COURSE NUMBER

PHILOSOPHY/GOALS: The "Roads" course includes two utilization subjects: a) Wood Technology and b) Forest Roads.

The aim of the Wood Technology section is to introduce the student to wood products, properties, structure, identification and the chemical nature of wood. The relationship of these factors to the effective utilization of wood will be examined.

In the Forest Roads section, forest roads, road planning and all-weather road location and lay-out will be studied. A problem in planning, locating and mapping a minimum of seven miles of Class I all-weather roads is solved. Use is made of aerial photographs in interpreting and locating the road.

METHOD OF ASSESSMENT (GRADING METHOD): To successfully complete the course, the student must have at least a passing grade in each test and an acceptable grade on each of the assignments.

Regular attendance is expected. One written warning will be given to those found absent in two spot checks. Further absences will result in an "R" grade.

An "I" grade indicates an unacceptable test or assignment. Late assignments will be considered a rewrite. "I" grades will be reassigned or rewritten at designated times. Rewrites receiving an acceptable grade will be allotted approximately 45% of the test mark. Rewrites with unacceptable grades may result in an "R" grade. Students receiving "I" grades on four tests will receive an "R" grade. A 10% bonus is given to students attaining at least a passing grade on all tests and assignments on their first try.

Students found copying assignments or cheating on tests will rewrite the test. No marks will be given. A further occurrence and the student will receive an "R" grade. The copier and the copied will both be considered as copied.

Wood Technology Theory	22%	Pass	50%
Wood Specie Identification	11%	Pass	70%
Road Curve	6%	Pass	100%
Proposed Road Location	22%	Pass	50%
Road Layout	17%	Pass	50%
Road Theory	22%	Pass	60%

GRADING:

A passing grade is normally 60%, but this may vary depending on test objectives.

Test marks are pro-rated and sum totalled to give final grade rating of A, B, C, or R.

- A - outstanding achievement - 75% of total
- B - consistently above average - 65% of total
- C - acceptable achievement
- R - repeat the course

TEXTBOOK(S):

H. A. Core (et al). Wood Structure and Identification.
Syracuse University Press.

Panshin and de Zeeuw. Textbook with Technology. McGraw-Hill.

TOPIC NO.	PERIODS	TOPIC DESCRIPTION
1	1	<u>Introduction - Wood Technology</u> Course description, application, evaluation, assignments, texts, references, equipment, and supplies.
2	2	<u>What is Wood?</u> Components, characteristics of woody plants, plant classification.
3	4	<u>Wood Products</u> Characteristics, properties, terms as related to products of sawmills, pulpmills, papermills, planer mills, veneer mills, particleboard mills and others.
4	2	<u>Wood as an Industrial Raw Material</u> Characteristics and variability of wood properties, defects.
5	1	<u>Forestry Statistics</u> Forest lands, wood volumes, products, markets, employment in relation to the world, to Canada, to Ontario.

TOPIC NO.	PERIODS	TOPIC DESCRIPTION
6	2	<u>Charcteristics of Wood</u> Planes of reference, growth increments, sap-wood and heartwood, wood rays, texture and grain, anatomical features.
7	3	<u>Origin, Development & Identification of Woody Cells</u> Wood cell types and formation woody cell wall, chemical components, organization & structure.
8	1	<u>Modifications of the Cell Wall</u> Pitting, perforations, thickenings, warty layer, tyloses.
9	1	<u>The Drying of Wood</u> Purpose, moisture in wood, drying defects, commercial drying.
10	1	<u>Reaction Wood</u> Compression wood, tension wood.
11	1	THEORY TEST
12	2	<u>Wood Species Identification</u> Features useful for wood identification, macroscopic features, rays, pores, parenchyma and others in hardwoods and resin canals, earlywood - latewood, tracheids and other features in softwood.
13	3	<u>Hardwood Key and Softwood Key</u>

TOPIC NO.	PERIODS	TOPIC DESCRIPTION
15	1	<u>Forest Roads - Introduction</u> Description, applications, evaluation, assignments, grading, references, equipment, supplies.
16	2	<u>Forest Road Planning</u> Purpose, process of air photo interpretation, classification of terrain factors, identification of soil types, soil moisture, control points, road design.
17	2	<u>Forest Roads</u> Structural parts of a road, logging transportation, road quality, designations, components, pavements, drainage, frost action, dirt and gravel roads, materials, workmanship, Optimum road quality.
18	2	<u>All-Weather Road Location</u> Features of road location, soil, forest types, landform, alignments, key points such as drainage, bridge sites, bridge surveys, rock, swamps, fill, marshes, road junctions, office procedures, field procedures, reconnaissance surveys, route surveys, plotting traverse and profile, typical cross-sections, volume of cut.
19	2	<u>Simple Curve for Forest Roads</u> Determining degree and staking a simple road curve using the tangent offset method.
20	1	TEST - SIMPLE CURVE TANGENT OFFSET METHOD Pass - 100%

TOPIC NO.	PERIODS	TOPIC DESCRIPTION
21	2	ASSIGNMENT - PROPOSED ROAD LOCATION The locating, mapping and data collection for a Class I road over a minimum distance of seven miles. Pass - 50%
22	8	ASSIGNMENT - FIELD PROBLEM IN ROUTE LAYOUT AND DESIGN Traversing, chaining, levelling, mapping, staking curve and centre line.
23	2	ASSIGNMENT - PLOTTING FIELD SURVEY Traverse, profile map, curve, road and ditch grade lines, bridge height and width. Pass - 50%
24	1	TEST - ROAD THEORY Pass - 60%