

SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY

SAULT STE. MARIE, ONTARIO

COURSE OUTLINE

COURSE TITLE: FOREST ROADS

CODE NO: FOR 215-4 SEMESTER: IV

PROGRAM: FORESTRY TECHNICIAN

AUTHORS: MARK HARVEY/TOM WHITE

DATE: DECEMBER 1991 PREVIOUS OUTLINE DATED: APRIL 1985

APPROVED: [Signature] Dec 4/91
DEAN DATE

FOREST ROADS

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TOTAL CREDIT HOURS: 64

PREREQUISITE: FOREST SOILS - FOR 219

I. PHILOSOPHY/GOALS:

Upon completing this course students will have a comprehensive understanding of processes required to plan, construct and maintain environmentally acceptable forest access roads. These goals will be achieved through a series of lectures and student work exercises. The exercises are designed to provide students with experiences similar to those that a forest technician would be involved in when working for government or industry on forest access roads.

II. STUDENT PERFORMANCE OBJECTIVES:

Upon successful completion of this course students will be able to:

- 1) Classify roads using the ALSAT-L system of roads classification.
- 2) List and describe the steps involved in the forest access road planning process.
- 3) Identify landscape drainage patterns and classify soil moisture conditions common to Northern Ontario.
- 4) Describe the major landforms found in Northern Ontario.
- 5) Classify the suitability of landform types for road location and as a source of road building materials.
- 6) From aerial photographs, identify forest tree species of the Boreal and Great Lakes St. Lawrence Forest Regions.
- 7) From aerial photographs, identify landforms and surface deposits and associated soil texture and soil moisture conditions.
- 8) From aerial photographs and maps, determine the area of watersheds and using this information and Talbot's Formula determine the size of culverts required at water crossings.
- 9) Describe the process of road location, reconnaissance and curve layout and design on aerial photographs and in the field.

COURSE NAME

COURSE CODE

II. STUDENT PERFORMANCE OBJECTIVES (CONT'D):

- 10) Identify parts of the Aggregate Resources Act that are related to extraction of loose surface materials for forest road construction.
- 11) Construct a road profile from elevation data.
- 12) Using maps, aerial photographs and other related information locate road corridors and try lines onto aerial photographs, and maps.
- 13) Complete estimates for cut and fill from a road corridor.
- 14) List the operations involved in road location, construction, maintenance and abandonment and indicate measures that should be taken to minimize the environmental impact of these operations.

III. TOPICS TO BE COVERED:

- 1) Introduction to forest access roads.
- 2) Forest road classification.
- 3) The forest road planning process.
- 4) Soil water classification.
- 5) Watersheds and drainage classification.
- 6) Glaciation and the geomorphology of the Northern Ontario landscape.
- 7) The process of aerial photo interpretation used in forest access road planning, location and construction.
- 8) Tree species and landform identification from aerial photographs.
- 9) The Aggregate Resources Act.
- 10) Road location, reconnaissance and picket lines.
- 11) Survey applications in road construction.
- 12) Environmental guidelines for forest access roads and water crossings.

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IV. METHOD OF EVALUATION:

Assignments	50%
Tests	40%
Participation	<u>10%</u>
	100%

GRADES:

A+ =	90-100%
A =	80-89%
B =	70-79%
C =	60-69%
R =	<60%

Assignments must be received on time or marks will be deducted or the assignment will not be accepted.

V. REQUIRED STUDENT RESOURCES:

Environmental Guidelines for Access Roads and Water Crossings. OMNR publication available from the OMNR Information Centre, Room 1650, Whitney Block, 99 Wellesley Street West. Toronto, Ontario.

A set of seventeen (17) aerial photographs required to complete the exercises.

The study guide for Forestry 215, Forest Roads.

VI. 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.