

SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY

SAULT STE. MARIE, ONTARIO

COURSE OUTLINE

COURSE TITLE: FOREST ROADS

CODE NO: FOR 215-4 SEMESTER: IV

PROGRAM: ABORIGINAL RESOURCE TECHNICIAN PROGRAM

AUTHORS: MARK HARVEY

DATE: OCTOBER 1995 PREVIOUS OUTLINE DATED: JULY 1992

APPROVED: *[Signature]* Oct. 30, 1995

DEAN

DATE



FOREST ROADS

FOR 215-4

COURSE NAME

COURSE CODE

TOTAL CREDIT HOURS: 64

PREREQUISITE: FOR104 Photogrammetry

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 system of classification 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.

FOREST ROADS

FOR 215-4

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) The Forest Road.
- 2) The Planning of Forest Road Location.
- 3) Soil Moisture, Drainage and Erosion.
- 4) Glaciation, Landforms and Materials for Road Construction.
- 5) Tree Species Identification on Aerial Photographs to Interpret Surface Material.
- 6) Process of Aerial Photograph Interpretation for Location of Forest Roads.
- 7) Aggregate Resources Act.
- 8) Guidelines for Environmentally Acceptable Forest Roads.
- 9) Forest Road Reconnaissance.
- 10) Surveying Applications.

FOREST ROADS

FOR 215-4

COURSE NAME

COURSE CODE

IV. METHOD OF EVALUATION:

Assignments	35%
Tests	60%
Participation	<u>5%</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 21 aerial photographs required to complete the exercises. The study guide for Forestry 215, Forest Soils.

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.