SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY

SAULT STE. MARIE, ONTARIO

COURSE OUTLINE

Course Title: FOREST UTILIZATION (SOILS)

Code No.: FOR 204-3

Program: FORESTRY

Semester: III

Date: FEBRUARY, 1987

Author: ERWIN GOERTZ

New: _____ Revision: ___X___

APPROVED: _____ Mar 5 '87
Chairperson Date

FOREST UTILIZATION

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CALENDAR DESCRIPTION

FOREST UTILIZATION	FOR 204-3
COURSE NAME	COURSE NUMBER

PHILOSOPHY/GOALS:

This course is a one-term lecture and laboratory course dealing with the chemical, physical and biological properties of soils, soil formation and development, the classification of soils and the inter-relationships between plant growth and soil.

METHOD OF ASSESSMENT:

The course grade will be calculated as follows:

Essays (2)	20%
Soil survey	15%
Laboratory test	25%
Lecture test	40%
	100%

To successfully complete the course the student must have a passing grade in the laboratory test as well as the lecture test.

Grades A - 80%
B - 70%
C - 60%

TEXTBOOK(S):

Armson, K.A. 1977. Forest Soils; Properties and Processes. University of Toronto Press.

This text is not presently available in the bookstore however several copies have been put on the reserve shelf in the library. Additional reference material can be found there as well.

REFERENCES:

Canada Soil Survey Committee. 1978. The Canadian System of Soil Classification. Research Branch, Canada Department of Agriculture Publication N. 1646.

Ontario Institute of Pedology and University of Guelph. 1985. Field Manual For Describing Soils, 3rd edition. OIP publication number 85-3.

Glossary of soils teminology (Bookstore).

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TOPIC NO.	PERIODS	TOPIC DESCRIPTION
		UNIT I
1	2	**Glacial Landforms** description and identification
2	3	**Physiographic Site Classification** observable soil characteristics, including texture, color, moisture regime and drainage class
3	1	**Introduction To Soil** what it is; the soil profile, morphological features of soils which are observable in the field introductory discussion of the factors affecting soil development
4	1	**Soil Formation** study of factors affecting soil development
5	1	**Soil Biology** soil organisms (flora & fauna), their distribution and measurement, function in the soil and effect on soil properties
	1	**LECTURE TEST**

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TOPIC NO.	PERIODS	TOPIC DESCRIPTION
		UNIT II
6	1	**Soil Organic Matter** its origin and composition
7	1	**Soil Water** the energy relationships, retention and movement in soils, measurement of soil water, infiltration capacities and permeabilities of soils
8	1	**Soil Fertility** essential nutrients, form, availability and movement
9	1	**Soil Classification** the history of soil classification, major classifications in use
10	2	**Soils & Forestry** soil management in forestry and the effect of some forest management practices on soil
	1	**LECTURE TEST** **LABORATORY TEST**

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COURSE OBJECTIVES (Competency based)

BENCHMARK NO.	DESCRIPTION
2965.01	Read and comprehend at grade 12 level.
	Use a technical vocabulary.
	Access and retain information from technical publications.
2965.03	Apply rules of grammar and composition to develop good paragraphs.
	Read and employ current forestry terminology.
2967.01	Consider types of maps and their purposes.
	Determine and use map scale, principles of ratio and proportion, and similar triangles.
	Use and maintain drawing and lettering equipment.
	Apply recognizable drafting skills.
	Identify and delineate features on areal photos.
	Measure area, distance, and direction on a map.

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COURSE OBJECTIVES (Competency based) Cont'd

BENCHMARK NO.	DESCRIPTION
2967.04	Apply sampling design, experimental design, and scientific method to soil survey. Identify and examine soil groups, soil horizons, and soil origin. Determine and/or measure characteristics such as soil texture, acidity, free lime and horizon depth, as well as moisture regime. Plan the survey; calculate sample size and locate sampling points in the field. Measure, collect and record the sample data.
2970.01	Identify landforms, forest soils, common rock types, and minerals.