Revised July, 1985

SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY

SAULT STE. MARIE, ONTARIO

COURSE OUTLINE

Course Title: TERRAIN ANALYSIS

Code No.: FOR 200-4

Program: FORESTRY TECHNICIAN

Semester: III

Date: SEPTEMBER 10, 1983

Author: H. D. GRAHAM

New: ____ Revision: X

APPROVED: _____ _____
Chairperson Date

TERRAIN ANALYSIS

SILVICULTURE	FOR 200-4
COURSE NAME	COURSE NUMBER

PHILOSOPHY/GOALS:

To prepare the student to participate effectively in Silvicultural operations and demonstrate competency as a team leader to plan work, select tools and instruct unspecialized labour crews.

METHOD OF ASSESSMENT (GRADING METHOD):

20% Attitude, Attendance and Team Leader Performance
20% Mid-term Written Test
10% Personal Pacing Tests
10% A.V. Training Projects
20% Dendrology Test
20% final Written Test

TEXTBOOK(S):

Silvicultural Equipment Reference Catalogue for N. Ontario

Silviculture Manual (in preparation 1983)

Forest Ecosystem Classification Manual - S.R.3E

Ontario Ministry of Natural Resources Silvicultural Guides

Forestry Technician Provisional Competency Benchmarks

FOREST UTILIZATION
FOR 200-4

COMPETENCY-BASED OBJECTIVES

Note: Numbering System is adopted from "Forestry Technician Provincial Competency Benchmark".

1.0 - the student will communicate effectively as determined by:

a) Preparation of scripts for A.V. training purposes.
b) Leading a technical discussion in the classroom.
c) Successful operation of a walkie-talkie radio set under field conditions.
d) The correct use of common terminology related to forestry and silviculture in written tests.
e) The correct use and interpretation of basic visual material such as maps, charts and graphs in written tests.

2.0 - the student will display a responsible attitude when participating as a crew member as well as when assigned responsibility as a team leader
- this competency will be evaluated under the heading of "attitude, attendance, and team leader performance."

3.0 - the student will demonstrate safe and efficient use of basic silvicultural tools (shovels, pruning saws, soil kits, sandviks and brush saws) and be able to state the safe and proper use of more complex silvicultural equipment (scarifyers, mechanical tree planters, nursery equipment).

4.0 - the student will be ale to identify, under field conditions silviculturally significant trees, shrubs and ground cover
- the student will be able to identify soil textures, soil moisture regimes and related site conditions which determine the choice of silvicultural prescriptions
- given a chart in outline form, the student will be able to compare various site classification systems and describe the superiority of a total system such as the F.E.C. developed for Site Region 3E as a foundation for silvicultural prescriptions
- given a site condition chart for a silvicultural machine the student will be able to identify the major limiting factors in terms of the working principle for that machine
- given a forest succession chart in outline form, the student will be able to completely label the chart to indicate development stages of a new plantation in terms of forest succession and describe some related changes in site conditions caused by the trees

- given the necessary materials and equipment the student will be able to hand load and seed a group of tree seedling containers ready for the greenhouse
- given a flow chart in outline form the student will be able to label the various silvicultural operations and arrange then in correct sequence

5.0 - the student will demonstrate mastery of a personal pacing skill to an accuracy of $\pm$ 5 per cent in the course of planting trees and laying out square hectares
- when taken to a logging cut-over the student will be ble to complete the field inspection cut-over report form required by the Crown Timber Act as well collect data on the logging disturbance as required for planning subsequent silvicultural operations

6.0 - the student will be able to demonstrate competence as a team leader to plan work, select tools and instruct unspecialized labour crews and recognize his/her present level of competence according to a given check list

7.0 - the student will be able to describe the influence of the Crown Timber Act and the Woodlands Improvement Act upon the organization and development of silvicultural operations in Ontario

SILVICULTURE
FOR 200-4

OUTLINE OF SILVICULTURE COURSE (1983)

GOAL:

To train the student to participate effectively in silvicultural operations and to demonstrate competence as a TEAM LEADER to PLAN WORK, SELECT TOOLS, AND INSTRUCT unspecialized labour crews.

PERIOD	TIME FRAME
1:	Introduction to Silviculture - 2 new texts
2:	Site Specific Silviculture - Video Project
3:	Site Assessment for Hybrid Poplar - FIELD TRIP
4:	Sites and Silviculture of Kirkwood Management Unit
5-8:	Tour and Field Exercises K.M.U. - FIELD TRIPS
9:	Site Assessment of Logging Areas
10:	Site Assessment Mile Hill Cut-over Area - FIELD TRIP
11:	Introduction to Forest Ecosystem Classification
12:	Site Assessment of Forest Ecology Trail - FIELD TRIP
13:	Field Test of Dendrology and Pacing Factor
14:	Review for Mid-term Test - test later in GYM
15:	Team leader Guidelines for Tree Planing Operations
16:	Planting Assessment of College Plantation - FIELD TRIPS
17:	Use of Machinery in Silvicultural Operations
18:	Team leader Planning for Mechanized Silviculture
19:	Team leader Guidelined for Silvicultural Machines
20:	Student AV Presentations: Blade Scarifyers
21:	Student AV Presentations: Plows, Discs, Scrapers
22:	Student AV Presentations: Non-powered Scarifyers
23:	Student Av Presentations: Miscellaneous Equipment
24:	Forest Nursery Production Operations
25:	Characteristics of Silvicultural Systems
26:	Tending Operations - Part I
27:	Tending Operations - Part II
28:	Review for Final Test - test later in GYM - rewrites

Reserve Shelf - Forest Ecosystem Classification

Periodicals (alphabetical order)
B.C. Lumberman
Canadian Forestry Statistics - call number 25-202
Forest Industries esp. August 1983 issue
Harrowsmith
Journal of Forestry
Northern Logger
Pulp and Paper Journal
Landmarks

TEXTS: SD section also QK, S 591, QH also for A.V. - PN
- pp. 1991-1995

Especially:

S.D. 288 Top Shelf - The CFS V Blade by DA Cameron
- Terrain Master - Haavisto & Atkinson
- Patents rel. Mech. of Silv-richenhaller

S.D. 397 Top Shelf - Wt. Spruce Regeneration - W.W. Steill

Second Shelf - SD 390 - Tree Growth and Forest Soils
- SD 390 - Forest Soils and Forest Land Management
- SD 390 - Moisture in the Forest Floor Stocks

Third Shelf - SD 391 - Principles of Silviculture
- SD 391 - Choice of tree species
- SD 391 - Rigid Seedling Containers
- SD 391 - Op. testing of Planting Machines
- timberland
- SD 391 - spacing studies
- SD 391 - Mechanized Row Seeding of Jack Pine
- SD 391 - Plantation Establ. Symposium 1977
- SD 391 - Effect of Tube Dia. & Spacing - Scarratt 1972
- SD 391 - Trails of Underplanting in Hardwoods
- SD 395 - Silvics of forest Trees USDA
- SD 395.5-Crown Thining Wt. Spruce - Berry
- SD 395.5-Improvement cut in Pine Mixwoods -Brace
- SD 395.5-Commercial Strip Thinning Mattice & Curtis

Fourth Shelf - SD 397 - Aspens by Graham etal.
- Balsam Fir by Bakuzis etal.
- Birch Symposium
- all other pamphlets on this shelf

Fifth Shelf - SD 399 - Breeding Pest Resistant Trees
- all other pamphlets on this shelf