

SAULT COLLEGE
of Applied Arts and Technology
Sault Ste. Marie

*updated
Feb '85
245*

COURSE OUTLINE

FOREST UTILIZATION

FOR 110-34

Sem IV

revised September, 1981 by T. White

FOREST UTILIZATION

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TOPIC NO.	PERIODS	TOPIC INFORMATION
1	4	<u>Harvesting Work Elements</u> A review of the commercial species and the identification of them in the round wood stage is used as an introduction
2	3	a) Cutting Practices - procedure - safety - regulations
3	13	b) Minor Transportation (movement of round wood from the stump to road, rail or water) - skidding - decking (bunching or piling) - forwarding - equipment, personnel and tools involved
4	3	c) Loading
5	6	d) Logging Systems - shortwood - tree length - full tree - some references to costs involved
6	7	e) Major Transportation (movement of round wood from terminal point of minor transportation) - road - rail - water

The work elements of harvesting timber including felling, skidding, processing and transportation are studied with the emphasis on current logging practices and timber harvesting systems.

Logging cost analysis concepts are studied. Included are time and cost studies involving determination of machine rates, operating costs, productivity, break even points, road spacing and transportation problems.

OBJECTIVES - a student must be able to:

- (1) Identify the current methods of performing harvesting work elements involved in skidding, chokerless skidding, bunching, piling, prehauling.
- (2) Identify the equipment and compare the principles of major wood transportation systems.
- (3) Compare the concepts, principles and equipment used in the three basic harvesting systems, short-wood, tree length and full tree and construct and explain a flow system diagram of each.
- (4) Devise, construct and describe an appropriate and complete harvesting system given the names of only one or two pieces of current mechanical logging equipment. The flow chart must show proper sequence and indicate efficient performance.
- (5) Determine felling limbing and bunching time from given data on a forest stand.
- (6) Identify the concept of machine rates including depreciation, interest taxes, average investment, fixed costs, variable costs, operating costs and determine the machine rate for a chosen piece of logging.

- (7) Collect skidding cost data and determine the average cost of skidding.
- (8) Recognize the relationship between direct skidding and road spacing by solving a simple problem of determining the most economical road spacing by formula, graphically and by trial and error computations.
- (9) Solve a simple forest transportation problem by determining average speed in miles per hour, truck hauling costs, and number of trucks required for a haul, given the time and cost data.