

SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY  
SAULT STE. MARIE, ONTARIO

COURSE OUTLINE

Course Title: SURVEYING  
Code No.: SUR 108-3 Semester: THREE  
Program: FORESTRY TECHNICIAN  
Author: VERD VENN  
Date: JUNE, 1990 Previous Outline Dated:

APPROVED:

Chairperson A

Date gro/oc/^S'

SURVEYING

SUR 108-3

Course Name

Course Number

Total Credit Hours

Prerequisite(s):

**PHILOSOPHY/GOALS:**

To introduce the student to basic surveying principles. The topics covered will be measurements, levelling theory and practice, angular measurements and direction, staff compasses, chain surveying and relocation surveys.

**II. EVALUATION METHODS:**

Assignments	20%
Short Quizzes (in class)	10%
Mid Semester Tests	30%
Final Semester Test	<b>40%</b>
<b>TOTAL</b>	100%

A	80% - 100%
B	70% - 79%
C	60% - 69%
X - R	UNDER 60%

1) Minimum acceptable grade is 60%.

2) Your assignments will carry equal weight and you will be notified one week in advance prior to handouts. Their due date is one week from issuing, and late submissions will be penalized in the following fashion:

- 1 day late - loss of 20% for that particular assignment
- . 2 days late - loss of 10% for that particular assignment
- 3 days late - loss of 10% for that particular assignment

NO ASSIGNMENTS will be accepted on the **4th** day.

- 3) The in-class short quizzes will be given as the study lesson lends itself applicable. Each quiz will carry an equal weight. If you miss one quiz you will not be penalized. However, all subsequent quizzes will be penalized accordingly.

Mid term test or tests, as well as the final test, will be announced in advance. If your grade in either of these tests is below 59% then it will be up to the instructor whether you receive an "X" (Incomplete) or an "R" (Repeat). The criteria employed for arriving at the decision is class attendance and participation. If an "X" is administered then in your re-write test the best obtainable mark will be a "C". NOTE that re-writes are permitted only once. The s, final semester test re-writes will be scheduled only during the prescribed make-up period.

No "X" grade will be allowed on any exam unless all assignments, including field work, are complete.

### **III. SPECIAL NOTES**

#### **FIELD COMPONENTS**

The following exercises will be carried out in the field, weather permitting.

In some instances individual exercises may be combined. In all cases the student will receive instructions as to how the work is to be reported.

The class will be divided into groups (crews) for field exercises at the beginning of the course. These crews will be maintained throughout. Each student will report the work on an individual basis and not as a group, unless otherwise stated.

- 1) Bench Mark Levelling
- 2) Profile Levelling
- 3) Chaining
- 4) Traversing with a Staff Compass
- 5) Range Poling
- 6) Use of a Cross Staff
- 7) Laying Out Field Angles with a Tape

TOPIC

DESCRIPTION

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**GENERAL**

Introduction, definitions, types, kinds, purpose of surveys.

Instruments, accuracy and precision of measurements.

Errors and mistakes.

**LEVELLING**

Methods in measuring differences in elevation; terms and definitions.

Theory of levelling.

Levelling instruments, other related equipment, sources of error.

Field notes.

**APPLICATION OF LEVELLING**

Profiles and their uses, grade lines, contours, contour levelling.

Field notes.

Bench mark levelling.

Assignments.

**ANGULAR MEASUREMENT AND DIRECTION**

Definitions, units of measure, meridians azimuths, bearings, magnetic declination.

Assignments.

### **LINEAR MEASUREMENT (TAPING, CHAINING)**

Units of measurement, terms and definitions,  
equipment and accessories, taping methods.  
Field notes.

Measurements on flat and sloping ground.

Sources of error, corrections.

Duties of taping crew.

Field notes.

Stationing.

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### **CHAIN SURVEYING**

Range poling, reference points,  
setting out points, prolonging a line,  
to lay out an angle, determining the  
distance between two inaccessible points  
Chain survey of a closed field.

### **STAFF COMPASSES**

Types of magnetic compasses.  
Setting the declination mechanically,  
using the staff compass in the field.  
Local attraction, open and closed  
traverses, ties.

Relocation surveys.

Methods of locating old survey lines,  
corners of townships, lots, concessions,  
property (private) boundaries.

Sources of information.