

SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY

SAULT STE. MARIE, ONTARIO

COURSE OUTLINE

Course Title: SURVEYING

Code No. SUR 101-4

Program: CIVIL ENGINEERING AND ARCHITECTURAL

Semester:

Date: SEPTEMBER, 1986

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New: Revision: X



APPROVED:

Chairperson

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Date

SURVEYING

SUR 101-4

Course Name

Course Number

PHILOSOPHY/GOALS;

The objective of this course is to develop a basic knowledge of surveying, The students will learn~the use and care of instruments, i.e., transits, levels and chains.

METHOD OF ASSESSMENT (GRADING METHOD);

Mid Term Examination	40%
Final Examination	60%

OBJECTIVES;

The student, in order to complete the course must be able to:

1. Care for and maintain transits.
2. Care for and maintain levels.
3. Care for and maintain chains.
4. Identify the parts of a transit.
5. Identify the parts of a level.
6. Read the vernier scales on any transit.
7. Measure an angle in the field by means of a transit.
8. Measure a field angle by doubling same with aid of transit.
9. Lay out a trasverse and measure same.
10. Measure courses with different types of chains.
11. Set up standard surveyor's field book.
12. Record survey notes for a measured transverse.
13. Convert slope distances to horizontal distances.
14. Identify between errors and mistakes.
15. Correct chainage distances for temperature differences.
16. Identify a B.N. and be able to obtain the elevation from recorded data.
17. Transfer grades.
18. Carry a set of elevations from one point to another.
19. Establish B.M.'s and T.P.'s.
20. Record levelling notes.

TEXTBOOK;

Surveying notes by Sault College Engineering Department

REFERENCE TESTS;

Simplified Site Engineering - Parker and McGuire

Surveying, Theory and Practice - Davis and Foote

Elementary Surveying (Vol I and II) -Breed and Hosraer

Engineering Surveys (Elementary) - Rubel, Lommel and Todd

Surveying - Bouchard and Moffit

Highway Curves - Ives

Surveying Practice 2. The Fundamentals of Surveying - Kissam

Principles of Surveying - Herubin

CIVIL ENGINEERING TECHNICIAN

SUR 101-4

Topic No.	Periods	Topic Information
		General
		- Introduction
		- Definition of Surveying and factors controlling surveying
		- Types, kinds and purpose of surveys
		<u>Fundamental Principles of Surveying</u>
		- Plane and Geodetic surveying
		- Safety precaution
		- Theory of Notekeeping
		- Errors and mistakes - general
		<u>Levelling Instrument</u>
		- Types of levelling instrument
		- Level rods and accessories
		- Care of levelling instruments
12		<u>Levelling</u>
		- Introduction to levelling
		- Theory of Levelling
		- Terms and definition
		- Datum planes and bench marks
		- Methods of measuring differences in elevation
		- Levelling procedure
		- Notekeeping
		- Reduction of level notes
		- Sources of error
		- Distribution of error
8		<u>Transits</u>
		- Basic principals
		- Types of Transits and general application
		- Use of transit
		- Care of transit
		- Sources of error
8		<u>Angular Measurement</u>
		- Definition
		- Basic computations involving angles
		- Verniers
		- Measure angles with transit
		- Double angles with a transit

Topic No.	Periods	Topic Information
		<p data-bbox="662 438 922 466"><u>Linear Measure</u></p> <ul data-bbox="643 474 1463 760" style="list-style-type: none"><li>- Terms and definitions</li><li>- Units of linear measurement</li><li>- Methods of measuring distances</li><li>- Steel tapes</li><li>- Chaining Methods</li><li>- Notekeeping</li><li>- Care and Maintenance of chaining equipment</li><li>- Temperature affects on chaining</li></ul>