

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

COURSE OUTLINE

Course Title: FIELD ORIENTATION

Code No.: GEO 119-5

Program: WATER RESOURCES TECHNOLOGY/GEOLOGICAL TECHNICIAN

Semester: I

Date: SEPTEMBER, 1986

Author: SUBHASH C. VERMA

New: X Revision:

APPROVED:  Chairperson

 Date

CALENDAR DESCRIPTION

Field Orientation

GEO 119-5

Course Name

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PHILOSOPHY/GOALS:

This course deals with linear and angular measurements, compass and map utilization, slope measurements, aerial photographs, the hydrologic cycle, hydrometric measurements and computations.

METHOD OF ASSESSMENT (GRADING METHOD):

Field work and assignments	25%
Mid term examination	25%
Final examination	50%

Grading

A	80 - 100%
B	70 - 79%
C	60 - 69%

A passing grade will be based on a minimum grading of 60%. Students obtaining a grading of 55 to 59% may be allowed to complete a supplementary examination.

TEXTBOOK(S):

- Laboratory Manual For Plummer/McGeary's Physical Geology, by J.H. Zurmberge and R.H. Ruttford. Wm. C. Brown Company publishers, Dubuque, Iowa.

REFERENCES:

- Hydrology and Quality of Water Resources (1981)
by M.J. Hammer and K.A. MacKichan
John Wiley & Sons

FIELD ORIENTATION

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OBJECTIVES:

The student will be able to:

1. Do linear and angular measurements.
2. Do conversion of units and calculations of areas.
3. Conduct traverse surveys, make computations, use a compass, interpret topographic mapping, and compute watershed areas.
4. Plot and correct a closed traverse.
5. Run a traverse from map to field.
6. Study a topographic map and map indexing.
7. Determine slope using linear and angular measurements.
8. Interpret aerial photographs for land use, topography and geology.
9. Describe the hydrologic process.
10. Perform hydrometric measurements.

COURSE OUTLINE:

1. INTRODUCTION
 - 1.1 Importance of field surveys
 - 1.2 Linear and angular measurements
 - 1.3 Conversion of units, SI units
 - 1.4 Area computations

2. COMPASS AND MAP UTILIZATION
 - 2.1 Familiarization with the instruments (compass, chain, measuring tape)
 - 2.2 Declination, bearing, azimuth
 - 2.3 Methods of field traversing
 - 2.4 Computations
 - 2.5 Exercises in plotting traverse
 - 2.6 Topographic maps utilization
 - 2.7 Delineation of watersheds
 - 2.8 Contour maps
 - 2.9 Slope determination

2.10 Aerial photographs

2.

INTRODUCTION TO HYDROLOGY

- 3.1 Water resources engineering
- 3.2 Hydrologic cycle and processes
- 3.3 Weather forecast
- 3.4 Precipitation and evaporation measurements
- 3.5 Stream flow surveys