SAULT COLLEGE OF APPLIED ARTS S TECHNOLOGY

SAULT STE. MARIE, ONTARIO

COURSE OUTLINE

Course Title: HYDROLOGICAL FIELD WORK

Code No.: HYD 100-5

Program: WATER RESOURCES ENGINEERING TECHNOLOGY

Semester:

Date: AUGUST, 1985

Author: SUBHASH C. VERMA

New: Revision:

APPROVED: Chairperson Date a* 7/21/85

CALENDAR DESCRIPTION

Course Name	Course Number
Hydrological Field Work	HYD 100-5

PHILOSOPHY/GOALS;

This course deals with compass and map utilization, the hydrologic cycle, the occurrence of water, 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):

- Eric Sloane's Weather Book, by E. Sloane, Hawthorne Books, A division of Elsevier-Dutton, New York

- 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

HYDROLOGICAL FIELD WORK

HYD 100-5

OBJECTIVES:

The student will be able to:

1. Conduct reconnaisance and traverse surveys, make computations, plot traverses, interpret topographic mapping, and compute watershed areas
2. Describe the hydrologic cycle and discuss hydrologic processes.
3. Determine measurements of precipitation, stream flow and evaporation.
4. Understand the occurrence and transmission of ground water.

The following is the course outline:

COURSE OUTLINE:

1. COMPASS AND MAP UTILIZATION
   - 1.1 Familiarization with the instruments (compass, level)
   - 1.2 Declination, bearing, azimuth
   - 1.3 Methods of field traversing
   - 1.4 Computations
   - 1.5 Exercises in plotting traverse
   - 1.6 Topographic maps utilization
   - 1.7 Delineation of watersheds
   - 1.8 Contour maps
2. INTRODUCTION TO HYDROLOGY
   - 2.1 Introduction to water resources engineering
   - 2.2 Hydrologic cycle and processes
   - 2.3 Weather parameters
   - 2.4 Occurrence of groundwater
   - 2.5 Aquifer formations
3. HYDROMETRIC MEASUREMENTS
   - 3.1 Precipitation measurements
   - 3.2 Flow-rate measurements
   - 3.3 Evaporation measurements