SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY

SAULT STE. MARIE, ONTARIO

COURSE OUTLINE

Course Title: GEOPHYSICS III

Code No.: GEO 225-3

Program: GEOLOGICAL ENGINEERING TECHNICIAN

Semester: FOUR

Date: JANUARY 25, 1985

Author: G. I. MACINNIS

New: _____ Revision: ___X___
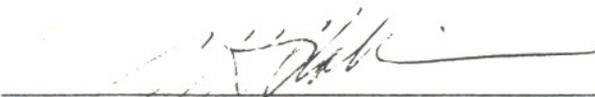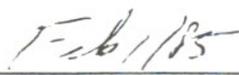
APPROVED: _____ _Feb 1/85_
                Chairperson   Date

CALENDAR DESCRIPTION

GEOPHYSICS III	GEO 225-3
COURSE NAME	COURSE NUMBER

PHILOSOPHY/GOALS: This course deals primarily with geophysical anomalies created by introduction of electric current into the ground. Methods studied include Self-Potential, Equi-Potential, Resistivity, and Induced Polarization. The case history approach is used in class, and for assignments.

Secondarily, the student is introduced to Gravimetric Surveying; with a study of potential, applications, and limitations.

METHOD OF ASSESSMENT (GRADING METHOD): Final marks are based 60% on assignments and 40% on results of a written test.

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

Rewrite option for total course is available at the discretion of the instructor (for "C" grade only) to those students who have written the test, completed assignments and achieved 40% overall.

TEXTBOOK(S):

Practical Geophysics for the Exploration Geologist. Northwest Mining Association, 1980.

ADDITIONAL REFERENCES:

A Guide to Prospecting by the Self-Potential Method, Burr. Ontario Geological Survey, Miscellaneous Paper 99.

Applied Geophysics. Telford, Geldart, et al. Cambridge University Press, 1978.

Mining Geophysics. Parasnis, 2nd edition. Elsevier Scientific Publishing Company, 1973.

TOPIC	PERIODS	DESCRIPTION
1	9	Self Potential Method - theory Equipment - procedures Interpretation - application
2	15	Resistivity Methods - theory - types of electrode arrays a) Sounding b) Mapping c) Pseudo depth plots Interpretation
3	15	Induced Polarization - theory - pseudo depth plot combination - application of technique - interpretation of data
4	9	Gravimetric Surveying - Newton's First Law and its application to gravimetrics - discussion of corrections to be applied to gravity readings Applications and limitations