

F. E. WALL/rs  
FALL 1992

TPC244  
DOC. #211

**SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY**

**SAULT STE. MARIE, ON**

**COURSE OUTLINE**

**COURSE TITLE:       COMPUTER AIDED SURVEYING**

**CODE NO.            TPC244                   SEMESTER:        1992F**

**PROGRAM:           CONTINUING EDUCATION**

**AUTHOR:             F.E. WALL/rs**

**DATE:                SEPTEMBER 1992       PREVIOUS OUTLINE DATED:   NEW 1992F**

**APPROVED:**

**CHAIRPERSON   (1**

**DATE**

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**COURSE NAME:      COMPUTER AIDED SURVEYING                      TOTAL HOURS:    60**

**PREREQUISITE:**

Survey Technician, Civil Engineering Technician  
or Member of O.A.C.E.T., A.C.S.T.T.O., or I.S.T.O.

**I.      PHILOSOPHY/GOALS:**

This course is designed to upgrade the skills of the graduate Technician/Technologist in the field of Surveying, using Total Station Technology, Electronic Field Books and Coordinate Geometry Software in an Interactive Graphics Environment.

**II.     STUDENT PERFORMANCE OBJECTIVES:**

**Upon successful completion of this course the student will:**

Be introduced to concepts and methods of performing ordinary survey tasks, utilizing Total Station/Data Recorder Technology

- Be able to manipulate the Data obtained with a P.C. and appropriate Software

**III. TOPICS TO BE COVERED:**

1. Overview of electronic survey instruments, their uses and applications
2. Components of digital survey technology
3. Introduction to and use of the "SOKKIA SDR 20" electronic field book in manual mode
4. Introduction to and use of "Civilcad Software" including basic COGO functions
5. Introduction to and use of SOKKIA SET 3" total station
6. Field lab consisting of three separate four-hour sessions to establish a small control traverse and perform a topographic survey of a given area.
7. Downloading field data into civilcad and editing points lines, codes and layers into a three dimensional drawing file.

8. Triangulation and contouring the edited drawing
9. Dimensioning and texting final drawing in civilcad
10. Creating a D.X.F. of the Civilcad drawing and exporting same to autocad.
11. Title blocks, scaling and texting in Autocad (if time permits)

#### **IV. EVALUATION METHODS:**

The students will be evaluated on a basis of class participation and attendance. In addition, will undertake a "Field to Drawing" Lab which must be completed prior to the end of the course. The following grades will be assigned.

S = Satisfactory  
U = Unsatisfactory

#### **V. SPECIAL NOTES**

Although this is primarily a night course, the student will be required to attend 3 Saturday morning classes (8 AM - 12 PM) for the Field Lab. The Field Lab will take place during the last three Saturdays in October if weather permits.

A Field Lab cancelled due to weather will be re-scheduled on the first Saturday in November. It will be the student's responsibility to dress appropriately for this section of the course. Students will be required to supply pencils, a field book and calculator.