SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE, ONTARIO

Sault College

COURSE OUTLINE

COURSE TITLE: SURVEYING

CODE NO. : SUR 201 **SEMESTER:** III

PROGRAM: CIVIL/CONSTRUCTION TECHNOLOGY

AUTHOR: S. IENCO

DATE: AUG 03 **PREVIOUS OUTLINE DATED:** AUG 02

APPROVED:

_____ _____

DEAN **DATE**

TOTAL CREDITS: 4

PREREQUISITE(S): SUR 235

HOURS/WEEK: 4

I. COURSE DESCRIPTION:

This course is a continuation of SUR 235. Students will apply the knowledge gained in the operation of surveying instruments in practical construction layout projects. In addition, students are introduced to total station surveying and associated computer applications such as COGO and map creation, terrain modeling and project data management.

II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:

Upon successful completion of this course, the student will demonstrate the ability to:

1. Review the basic setup and operations of a level, transit and theodolite.

   Potential Elements of the Performance:
   - Perform a leveling exercise.
   - Perform an interlining exercise using the transit or theodolite.
   - Lay out a house foundation plan using the necessary equipment.

2. Setup and perform simple field procedures using a total station.

   Potential Elements of the Performance:
   - Identify and use the various components of the total station
   - Identify and use the basic functions of an electronic data collector.
   - Create a new job on the data collector
   - Establish a station at a known control point
   - Resume a survey from a previous date.
   - Establish a new station during a survey.
   - Perform a pre-engineering topographic survey.

3. Transfer and manipulate the electronic data to a computer

   Potential Elements of the Performance:
   - Identify and use the various components to download the electronic filed data to the computer.
   - Setup the drawing on the computer
   - Control, display and manage points.
   - Download field data and edit points, lines, codes and layers.
   - Produce a contour map

4. Calculate the information required and use it to layout section of road, underground utilities and buildings.

   Potential Elements of the Performance:
   - Layout lines and grade
   - Establish offset lines and construction controls
   - Establish road centerlines.
   - Layout simple curves.
   - Layout the control points for a single-story building
   - Perform calculations for the layout of grade lines
   - Perform calculations for the layout of curves
   - Perform calculations for the layout of buildings

III. TOPICS:

1. Review of Traditional Instruments
2. Total Station Surveys
3. Computer Applications
4. Construction Surveys

IV. REQUIRED RESOURCES/TEXTS/MATERIALS:

Surveying With Construction Applications
Barry F. Kavanagh

V. EVALUATION PROCESS/GRADING SYSTEM:

You will be assigned a final grade based on successful completion of laboratories, assignments and tests, weighted as follows:

Assignments/Quizzes	25%
Field Book and Attendance	10%
Midterm Test	30%
Final Test	35%
TOTAL	**100%**

Each assignment and quiz carries equal weight. Late assignment submittals receive only a maximum grade of 60%. However, assignments handed in later that one week will receive a grade of 0%.

An average of 60% on assignments/quizzes/field books, and 60% on tests is required for successful completion of this course.

The following semester grades will be assigned to students in postsecondary courses:

Grade	Definition	Grade Point Equivalent
A+	90 - 100%	4.00
A	80 - 89%	3.75
B	70 - 79%	3.00
C	60 - 69%	2.00
F (Fail)	59% or below	0.00
CR (Credit)	Credit for diploma requirements has been awarded.	
S	Satisfactory achievement in field placement or non-graded subject areas.	
U	Unsatisfactory achievement in field placement or non-graded subject areas.	
X	A temporary grade. This is used in limited situations with extenuating circumstances giving a student additional time to complete the requirements for a course.	
NR	Grade not reported to Registrar's office.	
W	Student has withdrawn from the course without academic penalty.	

VI. SPECIAL NOTES:

Special Needs:
If you are a student with special needs (e.g. physical limitations, visual impairments, hearing impairments, or learning disabilities), you are encouraged to discuss required accommodations with your instructor and/or the Special Needs office. Visit Room E1204 or call Extension 493 so that support services can be arranged for you.

Retention of course outlines:
It is the responsibility of the student to retain all course outlines for possible future use in acquiring advanced standing at other postsecondary institutions.

Plagiarism:
Students should refer to the definition of “academic dishonesty” in *Student Rights and Responsibilities*. Students who engage in “academic dishonesty” will receive an automatic failure for that submission and/or such other penalty, up to and including expulsion from the course/program, as may be decided by the professor/dean. In order to protect students from inadvertent plagiarism, to protect the copyright of the material referenced, and to credit the author of the material, it is the policy of the department to employ a documentation format for referencing source material.

Course outline amendments:
The Professor reserves the right to change the information contained in this course outline depending on the needs of the learner and the availability of resources.

Substitute course information is available in the Registrar's office.

Testing Absence

If a student is unable to write a test on the date assigned, the following procedure is required:

- The student shall provide the Professor with advance notice preferably in writing of his/her need to miss the test.
- The student may be required to document the absence at the discretion of the Professor.
- All decisions regarding whether tests shall be re-scheduled will be at the discretion of the Professor.
- The student is responsible to make arrangements, immediately upon return to the College with his/her course Professor related to make-up of the missed test prior to the next scheduled class for the course in question.
- In the event of an emergency on the day of the test, the student may require documentation to support the absence and must telephone the College to identify the absence. The college has a 24 hour electronic voice mail system (759-2554) Ext. 600

VII. PRIOR LEARNING ASSESSMENT:

Students who wish to apply for advanced credit in the course should consult the professor. Credit for prior learning will be given upon successful completion of a challenge exam or portfolio.

VIII. DIRECT CREDIT TRANSFERS:

Students who wish to apply for direct credit transfer (advanced standing) should obtain a direct credit transfer form from the Dean's secretary. Students will be required to provide a transcript and course outline related to the course in question.