SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY
SAULT STE MARIE, ON

COURSE OUTLINE

Course Title: Computer Applications

Code No.: CIV321 **Semester:**

Program: Civil Engineering Technologist

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Date: 5 Jan 98 **Previous Outline Date:** 3 Jan 96

Approved: K. DeRosario — Jan. 6/98
Dean — Date
pd. 98-01-06

Total Credits: 4 **Prerequisite(s): CAD120/MCH212**
Length of Course: 15 weeks **Total Credit Hours: 4**

I. COURSE DESCRIPTION:

This course will introduce the student to several software design packages which can be utilized in the field of Civil Engineering. Applications will include structural element and building design, advanced spreadsheet applications three dimensional modelling, survey and municipal services application software, and advanced CAD features. Emphasis will be placed on developing an ability to decide what software to assist in solving specific engineering problems, or verifying manual design computations.

II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE:

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

1) Present basic structural components using AutoCAD in three dimensions

Potential Elements of the Performance:
Use appropriate commands
Understand and manipulate the UCS
Create and use 3D symbols
Draw and present a three dimensional structural drawing

2) Recognize applications for spreadsheet software and demonstrate an ability to setup and customize specific spreadsheet engineering design applications.

Potential Elements of the Performance:
Create and use formulas in spreadsheets to assist and automate calculations for:
- Municipal services design
- Structural applications

Design forms using spreadsheets to facilitate Construction Administration tasks and perform calculations and track information.

3) Demonstrate a working knowledge of specific structural analysis software

Potential Elements of the Performance:
Use and demonstrate knowledge of PFRAME structural analysis software

4) Demonstrate a working knowledge of PowerPoint presentation software.

Potential Elements of the Performance:
- Create and demonstrate a 'PowerPoint' slide show incorporating imported graphics and text.

II. LEARNING OUTCOMES AND ELEMENTS OF THE PERFORMANCE (Continued)

5) Recognize, Create and Manipulate Graphic Files

Potential Elements of the Performance:
- Create graphics files using graphics software and convert from one format to another.
- Utilize graphics utilities to manipulate graphics files.

6) Use Project Management Software to Schedule a Construction Project

Potential Elements of the Performance:
Use Primavera Project Planner to create a bar chart schedule
Use Primavera Project Planner to find the critical path of a series of tasks
Create a PERT diagram using project planning software

7) Create an Internet WEB page using a word processor or web or desktop publishing program

Potential Elements of the Performance:
Understand basic HTML programming concepts
Use appropriate software to create a WEB page file
Incorporate text, graphics and tables in a WEB page
Post a WEB page on the Internet (subject to resource and time availability)

III. TOPICS:

Structural drawing in AutoCAD, 3D
Spreadsheet applications
Structural analysis software
Computer Graphics
Presentation Software
Project Planning using Primavera
Internet Publishing/Web Pages

IV. REQUIRED RESOURCES/TEXTS/MATERIALS:

AutoCAD and Its Applications - Advanced R13 (Windows)
Shumaker/Madsen
Goodheart-Wilcox Publishers

Software Manuals, Documentation and Handouts will be provided as needed.

V. EVALUATION PROCESS/GRADING SYSTEM

A final grade will be derived as follows:

Assignments	60%
Term Tests (2 @ 20%)	40%
Total	100%

The grading system used will be as follows:

A+	90%-100%
A	80%- 89%
B	70%- 79%
C	55 %- 69%
R	Repeat

1) Late assignments will be given a 'C' (62 maximum) grade
2) Minimum acceptable grade for this course is 55%.
3) If at the end of the semester the overall mark is below 55%, then it will be up to the instructor whether or not a rewrite test will be granted. The criteria employed for arriving at that decision is class attendance, class participation and overall grade, which must be at least 45%.
4) A rewrite will be granted only once, will cover the entire course outline and will limit the maximum obtainable grade for the course to 60%.

VI. SPECIAL NOTES:

Special Needs
If you are a student with special needs (e.g. physical limitations, visual impairments, hearing impairments, learning disabilities), you are encouraged to discuss required accommodations with the instructor and/or contact the Special Needs Office, Room E1204, Ext. 493, 717, 491 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 post-secondary institutions.

Your instructor reserves the right to modify the course as he/she deems necessary to meet the needs of students.

VII. PRIOR LEARNING ASSESSMENT

Students who wish to apply for advanced credit in the course should consult the instructor.