

SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY

SAULT STE. MARIE, ONTARIO

COURSE OUTLINE

COURSE OUTLINE: ELECTRICAL DRAWING - CAD  
CODE NO.: ELR 229-3  
PROGRAM: ELECTRICAL ENGINEERING TECHNICIAN  
SEMESTER: THREE  
DATE: AUGUST 1993  
PREVIOUS  
OUTLINE DATED: SEPTEMBER 1991  
AUTHOR: R. MCTAGGART

NEW: \_\_\_\_\_ REV.: X \_\_\_\_\_

APPROVED:

W. Filipowich  
COORDINATOR

Aug 30/93  
DATE

D McCann  
DEAN

93 08 30  
DATE



COMPUTER AIDED DRAFTING  
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**TOTAL CREDIT HOURS:** 45

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**PREREQUISITE(S):** ELR112-3

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**PHILOSOPHY/GOALS:**

THE STUDENT WILL DEVELOP SKILLS IN THE USE OF AUTOCAD, A COMPUTER AIDED DRAFTING SYSTEM. THESE SKILLS WILL BE USED IN DRAWING ELECTRICAL AND ELECTRONIC SCHEMATICS. THIS COURSE WILL PREPARE THE STUDENT FOR THE AUTOMATED DRAFTING WORK ENVIRONMENT.

**STUDENT PERFORMANCE OBJECTIVES:**

UPON SUCCESSFUL COMPLETION OF THIS COURSE, THE STUDENT WILL BE ABLE TO:

- 1) DEFINE AND DISCUSS COMPUTER AIDED DRAFTING AND DESIGN TERMINOLOGY AND PRINCIPLES.
- 2) DISTINGUISH THE HARDWARE AND SOFTWARE COMPONENTS OF A COMPUTER AIDED DRAFTING AND DESIGN ENVIRONMENT.
- 3) UTILIZE AUTOCAD MENU STRUCTURES AND DIFFERENT COMMAND ENTRY FORMS.
- 4) PRODUCE DRAWINGS THAT CAN BE USED EFFECTIVELY IN INDUSTRY TO MANUFACTURE, CONSTRUCT AND ASSEMBLE PRODUCTS.

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TOPICS TO BE COVERED:

- 1) INTRODUCTION TO CAD/CADD TERMINOLOGY AND PRINCIPLES.
- 2) OVERVIEW OF CAD/CADD WORKSTATION HARDWARE & SOFTWARE.
- 3) INTRODUCTION TO AUTOCAD MENU STRUCTURES UTILIZING DIFFERENT COMMAND ENTRY FORMS.
- 4) DRAWING AND EDITING WITH AUTOCAD.

LEARNING ACTIVITIES

- 1.0 INTRO TO CAD/CADD TERMINOLOGY & PRINCIPLES
  - 1.1) DEFINE THE TERMS CAD & CADD.
  - 1.2) DISCUSS CAD/CADD APPLICATIONS.
  - 1.3) DISTINGUISH THE ADVANTAGES AND DISADVANTAGES OF USING AUTOCAD.
- 2.0) OVERVIEW OF CAD/CADD WORKSTATION HARDWARE & SOFTWARE
  - 2.2) IDENTIFY THE HARDWARE & SOFTWARE COMPONENTS OF CAD/CADD WORKSTATION.
  - 2.2) DISCUSS THE SELECTION OF A CAD/CADD WORKSTATION.
- 3.0) INTRODUCTION TO AUTOCAD MAIN MENU & COMMANDS
  - 3.1) OUTLINE THE VARIOUS AUTOCAD FEATURES
  - 3.2) DESCRIBE THE AUTOCAD MENU STRUCTURE.
  - 3.3) SELECT AND UTILIZE AUTOCAD COMMANDS.

REQUIRED RESOURCES

TEXT: AUTOCAD AND ITS APPLICATIONS

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**METHOD(S) OF EVALUATION**

TESTS (THEORY)	50%
DRAWING EXERCISES	50%
TOTAL	100%

THE GRADING SYSTEM USED WILL BE AS FOLLOWS:

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

R = REPEAT

NOTES: IN ORDER TO OBTAIN A PASSING GRADE THE STUDENT MUST MAINTAIN A 55% AVERAGE IN BOTH THE THEORY AND DRAWING COMPONENTS OF THE COURSE.

IF A STUDENT MISSES A TEST SHE/HE MUST HAVE A VALID REASON (ie. MEDICAL OR FAMILY EMERGENCY). IN ADDITION THE SCHOOL MUST BE NOTIFIED BEFORE THE SCHEDULED TEST SITTING. THE STUDENT SHOULD CONTACT THE INSTRUCTOR INVOLVED. IF THE INSTRUCTOR CANNOT BE REACHED LEAVE A MESSAGE WITH THE DEAN'S OFFICE OR THE COLLEGE SWITCHBOARD. IF THIS PROCEDURE IS NOT FOLLOWED THE STUDENT WILL RECEIVE A MARK OF ZERO ON THE TEST WITH NO REWRITE OPTION.

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- 4.0) INTRODUCTION TO AUTOCAD APPLICATIONS
  - 4.1) DRAWING LAYOUT
  - 4.2) ELECTRICAL ONE LINE DIAGRAMS.
  - 4.3) ELECTRICAL EQUIPMENT DRAWINGS.
  - 4.4) OTHER DRAWING APPLICATIONS.
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**REQUIRED STUDENT RESOURCES  
( INCLUDING TEXTBOOKS & WORKBOOKS )**

- 1) T.SHUMAKER & D.MADSEN, AUTOCAD AND ITS APPLICATIONS (RELEASE 12). GOODHEART-WILCOX, 1993.

**ADDITIONAL RESOURCE MATERIALS**

- 1) D.RAKER & H.RICE, INSIDE AUTOCAD RELEASE 12. CARMEL, INDIANA. 1992.
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