OK

SAULT COLLEGE OF APPLIED ARTS AND TECHNOLOGY

SAULT STE. MARIE, ON

COURSE OUTLINE

COURSE TITLE: **BASIC ELECTRICAL / ELECTRONIC DRAFTING**

CODE NO. ELR 112 - 2

PROGRAM: ELECTRICAL / ELECTRONIC TECHNOLOGY

SEMESTER: ONE

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DATE: SEPTEMBER 1992

PREVIOUS OUTLINE DATE: SEPTEMBER, 1991

W. Fidipowich

APPROVED: _____ DATE: 92-08-31
DEAN

TOTAL CREDIT HOURS: 32

PREREQUISITES: NONE

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1. GOALS

THIS COURSE PROVIDES THE STUDENT WITH THE OPPORTUNITY TO DEVELOP THE BASIC ELECTRICAL/ELECTRONIC DRAFTING SKILLS NEEDED IN TODAY'S TECHNICAL WORKFORCE. HE/SHE WILL ALSO LEARN TO READ AND UNDERSTAND ELECTRICAL BLUEPRINTS, SCHEMATICS AND BASIC RELATED ELECTRICAL SAFETY CODE.

2. PERFORMANCE OBJECTIVES:

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

2.1 RECOGNIZE THE NECESSITY FOR DRAFTING SKILLS IN THE MODERN WORLD.

2.2 NEATLY DEMONSTRATE CORRECT LETTERING TECHNIQUES, IN ALL WORK SUBMITTED.

2.3 DEMONSTRATE CORRECT SCALE USAGE (METRIC AND STANDARD)

2.4 USE BASIC DRAFTING EQUIPMENT CORRECTLY, AS INSTRUCTED.

2.5 UNDERSTAND AND ACCURATELY DRAW THE FOLLOWING BASIC DRAFTING TECHNIQUES:

2.51 BORDERS, TITLE BLOCKS, DIMENSION LINES, OBJECT LINES, HIDDEN LINES, CENTRE LINES, FILLETS, HEXAGONS, LINE DIVISION, AND BISECT ANGLES.

2.6 CORRECTLY DRAW:

2.61 ORTHOGRAPHIC VIEWS
2.62 PICTORIAL DRAWINGS
2.63 GRAPHS AND CHARTS

2.7 IDENTIFY AND DRAW :

2.71 ELECTRICAL SYMBOLS
2.72 SINGLE LINE DIAGRAMS
2.73 RISER DIAGRAMS
2.74 LADDER DIAGRAMS

2.8 ACCURATELY READ AND DEMONSTRATE THE USE OF ELECTRICAL BLUEPRINT SYMBOLS AND LAYOUT PROCEDURES.

PERFORMANCE OBJECTIVES CONTINUED:

2.9 IDENTIFY AND DRAW:

- 2.91 ELECTRONIC SYMBOLS
- 2.92 ELECTRONIC SCHEMATICS
- 2.93 CONNECTION DIAGRAMS

2.10 UNDERSTAND BASIC PREPARATION PROCEDURES FOR PRINTED CIRCUIT BOARDS.

2.11 IDENTIFY AND DRAW:

- 2.11-1 BASIC BLOCK DIAGRAMS
- 2.11-2 BASIC LOGIC SYMBOLS WITH THEIR TRUTH TABLES

2.12 UNDERSTAND WHAT AUTOMATED COMPUTER AIDED DRAFTING IS AND HOW IT IS USED IN INDUSTRY.

3.0 TOPICS TO BE COVERED

3.1 LETTERING TECHNIQUES

3.2 BASIC DRAFTING SKILLS

3.3 ELECTRICAL DRAFTING & BLUEPRINT READING

3.4 ELECTRICAL SAFETY CODE

3.5 ELECTRONIC DRAFTING

4.0 LEARNING ACTIVITIES REQUIRED RESOURCES

INSTRUCTOR WILL COVER THE THEORY AND ANY DEMONSTRATIONS REQUIRED IN EACH TOPIC AREA.

INSTRUCTOR NOTES AND HAND OUTS

4.1 LETTERING AND SCALES
DRAWING EXERCISE

4.2 DRAWING TECHNIQUES
DRAWING EXERCISE

4.3 BASIC DRAWING TYPES
3 KINDS - PICTORIAL
- ORTHOGRAPHIC
- GRAPHS & CHARTS

LEARNING ACTIVITIES CONTINUED:	REQUIRED RESOURCES
4.4 ELECTRICAL DRAWINGS DRAWING EXERCISE	HAND OUTS
DRAWING ONE LINE DIAGRAMS RISER DIAGRAMS LADDER DIAGRAMS	
4.4 READING ELECTRICAL BLUE PRINTS	ELECTRICAL BLUE PRINTS AT COLLEGE AND RELATED TOUR OF AREA, BLUEPRINTS SPECIFICATION BOOKLET DEPICTS
4.5 READING AND SEARCHING THE ELECTRICAL SAFETY CODE BOOK	CANADIAN ELECTRICAL SAFETY CODE BOOK SUPPLIED BY COLLEGE
4.6 ELECTRONIC SCHEMATICS	HAND OUTS
DRAWING EXERCISE	
4.7 ELECTRONIC CONNECTION DIAGRAMS DRAWING EXERCISE	
4.8 LEARNING BASICS TO HOW PRINTED CIRCUIT BOARDS ARE PREPARED	TEACHERS NOTES
4.9 BLOCK DIAGRAMS AND LOGIC SYMBOLS	TEACHERS NOTES
DRAWING EXERCISE	
4.10 INTRODUCTION TO AUTO CAD	VISUAL TEACHING AID
TOUR OF AUTO CAD AREA IN SAULT COLLEGE	S E E P R I N T E R OPERATION ACTUAL DRAWINGS

5.0 METHODS OF EVALUATION:

A FINAL GRADE WILL BE CALCULATED FROM A COMBINATION OF THE FOLLOWING METHODS OF EVALUATION.

3 TESTS	1ST TEST	BASIC DRAFTING SKILLS	10 %
	2ND TEST	ELECTRICAL DRAFTING & BLUEPRINT READING	15 %
	3RD TEST	ELECTRONIC DRAFTING	10 %
QUIZZES	ONE EACH WEEK	TOTAL	5 %
ASSIGNMENTS	15 EQUAL WEIGHT	TOTAL	50 %
MAJOR DRAWING	ELECTRICAL OR ELECTRONIC DIAGRAM (36" X 24" PAPER)		10 %

Note *** *** (student must purchase paper)

TOTAL = 100 %

NOTE: ALL DRAWINGS MUST BE COMPLETED AND HANDED IN WITHIN THE SPECIFIED DEADLINE FOR EACH ONE, TO RECEIVE A GRADE IN THIS COURSE.

THE GRADING SYSTEM IS AS FOLLOWS (COLLEGE STANDARDS)

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

6.0 REQUIRED STUDENT RESOURCES:

6.2	ONE	36 INCH T- SQUARE
	ONE	30/60/90 SET SQUARE (LARGE)
	ONE	45/45/90 SET SQUARE (LARGE)
	TWO	SCALES 1 METRIC LOWER SCALE 1 STANDARD
	ONE	COMPASS SET
	ONE	CIRCLE TEMPLATE
	ONE	SYMBOL TEMPLATE
	ONE	ERASER SHIELD
	ONE	PLASTIC ERASER
	TWO	PENCILS ONE H LEAD ONE 2H LEAD
OR	ONE	MECHANICAL PENCIL WITH LEADS H AND 2H

7.0 ADDITIONAL RESOURCE MATERIAL:

BASIC INDUSTRIAL DRAFTING - J.M. KIRKPATRICK

SAULT COLLEGE LIBRARY HAS MANY BOOKS ON THIS TOPIC AND THE LIBRARIAN IS MORE THAN WILLING TO ASSIST YOU IN FINDING THE BOOKS COVERING BASIC DRAFTING IN ELECTRICAL AND ELECTRONICS.

8.0 SPECIAL NOTES:

8.1 YOUR INSTRUCTOR RESERVES THE RIGHT TO MODIFY THE COURSE AS HE/SHE DEEMS NECESSARY TO MEET THE NEEDS OF THE STUDENTS.

8.2 STUDENTS WITH SPECIAL NEEDS (EG. PHYSICAL LIMITATIONS VISUAL IMPAIRMENTS, HEARING IMPAIRMENTS, LEARNING DISABILITIES) ARE ENCOURAGED TO DISCUSS REQUIRED ACCOMMODATIONS WITH THE INSTRUCTOR, IN CONFIDENCE.

8.3 IF A STUDENT MISSES A TEST, HE/SHE MUST HAVE A VALID REASON (EG. MEDICAL OR FAMILY EMERGENCY DOCUMENTED IN WRITING)

IN ADDITION, THE SCHOOL MUST BE NOTIFIED BEFORE THE SCHEDULED TEST SITTING.

IF THE INSTRUCTOR CANNOT BE REACHED, A MESSAGE MUST BE LEFT WITH THE DEANS OFFICE OR THE COLLEGE SWITCH BOARD.

IF THIS PROCEDURE IS NOT FOLLOWED THE STUDENT WILL RECEIVE A MARK OF ZERO ON THE TEST.