SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY

SAULT STE. MARIE, ONTARIO

COURSE OUTLINE

Course Title: TECHNICAL DRAWING AND DESIGN

Code No.: ELR 201-2

Program: ELECTRICAL TECHNICIAN

Semester: THREE

Date: AUGUST, 1986

Author: R. PEARMAN

New:_____ Revision:_____

APPROVED: L.P. Arsenault
Chairperson

Date

BLOCK 5: Flow Diagrams and Logic Diagrams

At the end of this block the student shall be able to:

1. Prepare block diagrams of electrical/electronic systems.
2. Prepare logic diagrams and truth tables.

BLOCK 6: Elementary or Schematic Diagrams

At the end of this block the student shall be able to:

1. Prepare electrical/electronic schematic diagrams.

BLOCK 7: Microelectronics (Electronic)

At the end of this block the student shall be able to:

1. Be able to prepare a mask for an integrated circuit.

BLOCK 8: Industrial Controls

At the end of this block the student shall be able to:

1. Prepare elementary and wiring diagrams of industrial control applications.
2. Prepare ladder diagrams and sequence of operation schedules.
3. Prepare logic control diagrams from an elementary diagram.
4. Prepare relay ladder logic diagrams for a programmable controller based control system.
5. Prepare ballon drawings for instrumentation systems.

BLOCK 9: Electrical Power Systems (Electrical)

At the end of this block the student shall be able to:

1. Prepare one-line diagrams.
2. Prepare three-line diagrams.
3. Prepare logic and schematic diagrams.
4. Prepare general arrangement diagrams, and power distribution plans.

Technical Drawing & Design

ELR 201-2

TOPIC	LAB	DESCRIPTION
1	2	TECHNIQUES AND LETTERING Review of lettering techniques, use of drafting equipment and templates.
2	2	PICTORIAL DRAWING The types and applications of isometric, oblique, dimetric and perspective drawings.
3	2	DEVICE SYMBOLS Use of templates and drafting equipment to draw standard device symbols.
4	4	PRODUCTION DRAWINGS (ELECTRONIC) The preparation and application of productio drawings (connection, cabling, harness, shee metal layouts, assembly and printed circuit layouts).
5	2	FLOW DIAGRAMS AND LOGIC DIAGRAMS The preparation and use of system flow and logic diagrams.
6	4	ELEMENTARY OR SCHEMATIC DIAGRAMS Layout procedures and preparation of basic electronic circuits.
7	2	MICROELECTRONICS (ELECTRONICS) An introduction to the preparation of integrated circuit masks.
8	8	INDUSTRIAL CONTROLS Preparation of industrial control schematics of electro-mechanical, electrical, solid-sta logic, programmable controller, and computer controlled systems.
9	4	ELECTRICAL POWER SYSTEMS (ELECTRICAL) Preparation of one-line, three-line diagrams of industrial plant layouts, substation distribution, etc.

BLOCK 10: Residential and Commercial Layouts (Electrical)

At the end of this block the student shall be able to:

1. Prepare simplified drawings.
2. Prepare layout drawings and calculate loads for residential, office and commercial buildings.