

SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY  
SAULT STE. MARIE, ONTARIO

COURSE OUTLINE

Course Title: MICROPROCESSOR PROGRAMMING  
Code No.: CET 120-3  
Program: COMPUTER ENGINEERING TECHNOLOGY  
Semester: TWO  
Date: JANUARY 1986  
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APPROVED:

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Chairperson

Date

## COURSE OBJECTIVES - CET120 - 3

### GENERAL

The objective of this course is to develop the student's knowledge of microprocessor organization, language and application, and to develop the student's ability to write programs, analyze circuits and implement applications with the MC6808 microprocessor.

### BLOCK 1 - INTRODUCTION TO MICROPROCESSOR & MACHINE LANGUAGE

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

- 1) Discuss the organization of the MC6808 microprocessor and the functions of the software components such as: the accumulators, program counter, addressing and data registers, instruction decoder and condition code register.
- 2) Describe the function of the individual pins on the MC6808 and system hardware components such as ROM and Ram
- 3) Describe the operation of the machine language instructions.
- 4) Discuss the MC6808 Addressing modes and their applications.
- 5) Write, run and debug simple problems on the computer

### BLOCK 2 - PIA AND PROGRAMING

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

- 1) Discuss the initialization, addressing and programming of the PIA.
- 2) Write programs using the following techniques:
  - a) Branching
  - b) Looping
  - c) Index Addressing
  - d) Subroutines
  - e) Stack Pointer

### BLOCK 3 - INTERRUPTS AND SERIAL I/O

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

- 1) Describe the use of interrupts and the RST, IRQ, NMI and SWI.
- 2) Discuss the use of interrupts with the PIA .
- 3) Discuss serial data with a PIA.
- 4) Describe the initialization, addressing and programming of the ACIA with serial data.