

SAULT COLLEGE OF APPLIED ARTS & TECHNOLOGY

SAULT STE. MARIE, ONTARIO

COURSE OUTLINE

Course Title: MICROPROCESSOR SYSTEMS

Code No.: CET 205-4

Program: ELECTRICAL / ELECTRONIC TECHNOLOGY

Semester: THREE

Date: FALL 1987

Author: F. TURCO

New: Revision: X

Approved: _____

F.P. Crozitto
Chairperson

Date: _____

C E T 2 0 5 - 4

C O U R S E O U T L I N E

LENGTH OF COURSE: 4 PERIODS PER WEEK FOR 1 SEMESTER

TEXT: "USING MICROPROCESSING AND MICROCOMPUTERS: THE 6800 FAMILY"
BY GREENFIELD / WRAY

REFERENCES: HEATHKIT MANUAL

OBJECTIVES

GENERAL:

The objective of this course is to develop the students knowledge of the microprocessor organization, machine language and applications. The student will develop the ability to write machine language programs, analyze circuits and run applications with the MC6808 microprocessor.

BLOCK 1: BACKGROUND

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

1. Understand the function of a microprocessor as part of the microcomputer.
2. Describe the functions of typical computer components such as RAM's, ROM's, PROM's, EPROM's, EAPROM's.
3. Discuss the advantages/ disadvantages of microprocessing versus hard wired logic.
4. Understand different numbering systems and their conversions.
5. Describe the basic parts of a computer.
6. Describe the different I/O system controls.
7. Describe program through flowcharts, pseudo code.

BLOCK 2: MACHINE LANGUAGE PROGRAMMING ON THE MC6808
MICROPROCESSOR

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

1. Explain the function of each register and function key on the Heathkit.
2. Realize the need for a structured approach to solving problems and the need for mnemonics and assembly language.
3. Understand the different addressing modes.
4. Write run and debug machine language programs to the level similar to the assigned problems.
5. Describe each component of the MC6800 system.
6. Explain the function of the address, data and control buses on the 6800.
7. Discuss the methods of assigning memory space within a system.

BLOCK 3: INTERRUPTS AND I/O DEVICES

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

1. Describe the PIA, its registers and PIN connections.
2. Initialize and address the PIA for basic I/O operations.
3. Write, run and debug programs employing the PIA.
4. Describe the interrupts (the RST, IRQ, NMI, and SWI).
5. Discuss the use of interrupts with the PIA.

METHOD OF ASSESSMENT

QUIZES	25 %
TESTS	40 %
LAB WORK, ASSIGNMENTS	25 %
ATTENDANCE, PARTICIPATION	10 %

Grades will be determined as follows:

A	80 % to 100 %
B	70 % to 79 %
C	55 % to 69 %
R	0 % to 54 %