



Microprocessor Concepts

Course: ELE241	Lec + Lab 4 Credit(s) 6 Period(s) 5.4 Load
First Term: 1988 Fall	Course Type: Occupational
Final Term: Current	Load Formula: S

Description: Architectures of selected microprocessors. Presentation of machine and assembly language programming

Requisites: Prerequisites: A grade of C or better in ELE131.

MCCCD Official Course Competencies

1. Describe the architecture of digital computing systems. (I)
 2. Compare and contrast the characteristics of mainframe computers, minicomputers, microcomputers and microprocessors. (I)
 3. Identify and describe the functional sections of a simple microprocessor. (II)
 4. Compare and contrast the architectures of two selected microprocessors. (II)
 5. Describe the advantages and disadvantages of machine, assembly and high-level languages. (III)
 6. Describe microprocessor arithmetic and logic operations. (IV)
 7. Compare and contrast the instruction sets of two selected microprocessors. (IV)
 8. Program a microprocessor using machine language. (V)
 9. Develop assembly language software using an assembler. (VI)
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MCCCD Official Course Outline

- I. Digital Computing Systems
 - A. General system architecture
 - B. Mainframe computers
 - C. Minicomputers
 - D. Microcomputers
 - E. Microprocessors
- II. Microprocessor Architecture
 - A. Arithmetic/logic unit
 - B. Memory
 - C. Input/output
 - D. Bus structures
 - E. Comparative analysis of selected microprocessors
- III. Programming Languages Comparison

IV. Instruction Sets

- A. Arithmetic operations
- B. Logic operations
- C. Addressing modes
- D. Looping and branching
- E. Input/output operations
- F. Subroutines and interrupts
- G. Comparative analysis of selected microprocessors

V. Machine Language Programming

- A. Flowcharting and top-down programming techniques
- B. Program creation
- C. Hand assembly
- D. Execution
- E. Debugging

VI. Assemblers

- A. Terms and conversions
- B. Editing tools
- C. Program creation, assembly and execution
- D. Debugging aids

Last MCCC D Governing Board Approval Date: **3/10/1987**

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