Course Name	**Microprocessor & Assembly Language**	Course Code	**CNET-315**		
Credit Hours	3	Contact Hours	**Theory**	**Lab**	**Total**
			2	2	4
Offered as	☐ **University Requirement** ☐ **College Requirement** ☒ **Program Requirement**		☒ **Required** ☐ **Elective**		
Offered in	☒ **BS - Computer Science** ☐ **BS – Information Systems** ☒ **BS - Computer & Network Engineering**				
Level	7th Level	**Pre-requisite**	CNET-225 (Digital Logic)		

Course Description:

The purpose of this course is to teach students the fundamentals of microprocessors and microcontrollers. The student will be able to incorporate these concepts into their electronic designs for other courses where control can be achieved via a microprocessor(MP)/microcontroller(MC) implementation. Topics include microcomputer architecture, microprocessor evolutions, 8086 microprocessor architecture, signals and pin configuration. 8086 addressing modes, instruction set, assembly language programming and example programs. 8086 Interrupts handling, types of interrupts and 8259 Priority Interrupt Controller. Introduction to microcontroller 8051, comparison of microcontroller and microprocessor.

Laboratory exercises will be practiced using EMU8086 emulator which is based on 8086microprocessor.

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Course objectives:

This course will develop the students' ability to learn:

- Introduce the concepts of microprocessors based systems.
- Compare the devices required for microprocessor based systems
- Describe the microcomputer architecture and its basic functionalities.
- Design I/O and memory addressing scheme by calculating the physical addresses.
- Demonstrate the assembly language programming concepts

- Develop 8086 based programs in Assembly language.

- Design simple microprocessor / microcontroller based systems

Grading	☒Exam 1	10%	☒Exam 2	10%	☒Assignment	10%
	☒Final	40%	☒Lab	20%	☐Mini Project	10%

Text Book:

1. AK. Ray, K. M. Bhurchandi, "Advanced Microprocessors and Peripherals",

   Tata McGraw Hill.

2. Douglas Hall, "Microprocessors and Interfacing, Programming and Hardware",

   Tata McGraw-Hill.1999, Second Edition.

Reference Book:

1. John Uffenback, "8086/8088 Interfacing, Programming and Design", 1987,PHI.
2. Yu-Cheng Liu, Glenn A. Gibson, "The 8086/8088 Family Architecture, Programming and Design", PHI. 1986, Second Edition.
3. B. B. Brey, "The Intel Microprocessors", Prentice Hall International, Sixth Edition

Course Coordinator   Track Leader   CEO   HOD