Microprocessor and Assembly Language (3207)
3rd Year 2nd Semester

Course Teacher. **Rashed Mazumder**
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Course Descriptions.

Microprocessors and assembly language have been the most used methods of incorporating intelligence into automated devices. It is therefore necessary to develop a good understanding of their operation and how they can be used as building blocks for automated systems and control applications. This course explores the inner workings of a microprocessor from the programmer's perspective and several laboratory exercises will be based on microprocessor utilizing the assembly language

Course Objectives..

▪ Learn about the internal architecture and addressing modes of Intel 8086 Microprocessor and analyse the comparison between several microprocessor of the same thread.

▪ Apply the arithmetic and logical operations using assembly language based instructions for Intel 8086 microprocessor.

▪ Apply branching and looping structures for solving computational problems using assembly instructions in simulation based software.

▪ Learn and analyse the theoretical and practical implications of memory access in microprocessor.

Learning Outcomes.

Demonstrate the internal architecture and its general operations of microprocessors and describe the difference between the 8086 and advanced microprocessors. Classify and articulate the addressing modes and memory access methods within the microprocessor. Apply the instruction set of Intel 8086 microprocessor and distinguish the use of different arithmetic, logical, shifting, rotating instructions to apply in assembly language programming. Design and analyze assembly programming code to use the branching structures, looping structures flags, stacks, procedures, macros, and interrupts

Attendance	**10**
Class test (both online and offline mode)	**20**
Online Assignment + Online MCQ	**5+5**
Final Exam	60 marks
Total	100 Marks

Name of the Book.

1. *Text Book*. a. Microprocessor and Assembly Language, Author. Hall
   b. Assembly Language, Author. Charles Marut
   c. Microprocessor, Author. Rafiquzzaman

2. *Reference Book*. Computer Architecture and Organization, author. William Stallings

Student has to attend all classes, syllabus can be modified at any time