COMPUTER ORGANIZATION AND ASSEMBLY LANGUAGE

Fall 2017

COURSE INSTRUCTOR

Sarim Baig

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OFFICE HOURS: Tuesday and Thursday (between 10 to 12)

COURSE BOOK

- *Assembly Language Programming*, Belal Hashmi and Junaid Haroon.
- Extra Handouts given.

RECOMMENDED TEXT

- Intel iAPX 86, 88, 186 and 188 Users Manual and Programmers Reference
- IA-32 Intel Architecture Software Developers Manual Volume 1,2 and 3

COURSE OBJECTIVES

- To introduce the Organization of a microprocessor based computer system with the help of assembly language.
- To understand concepts and techniques of Assembly Language Programming.

MARKS BREAKUP

Course Work

• **Midterms**		**2**	**30**	
• **Quizzes**	**3-6**	**15**		
• **Assignments**			**3-6**	**10**
• **Final**	**1**	**45**		

GRADING

- A student is required to obtain **at least 50%** marks in total in order to become eligible for passing this course.

MISCELLANEOUS

- Academic integrity is expected of all the students. Plagiarism or cheating in any assessment will result in negative marking in assignments OR **F** grade in the course at worst, OR possibly more severe penalties.
- There will be unannounced Quizzes. There is **no** makeup for a missed quiz.
- This is a programming intensive course so please be prepared.

SEQUENCE OF TOPICS

COMPUTER ORGANIZATION AND REVIEW OF FUNDAMENTAL CONCEPTS

- Introduction to Microprocessor organization
    - Buses, Registers, Memory

ASSEMBLY LANGUAGE

- Assembly Language and the Assembler Environment
- Data Transfers, Addressing, Bit manipulation, and Arithmetic.
- Memory addressing
- Rotation, Shifting
- Branching

Mid-1

- Stack and Subroutines
- Display memory
- String Instructions
- Hardware and Software Interrupts

Mid-2

- Multi Tasking
- Debugger Interrupts