COE 205 Syllabus – Spring 2008
Computer Organization & Assembly Language

Computer Engineering Department
College of Computer Sciences & Engineering
King Fahd University of Petroleum & Minerals

Professor: Muhamed Mudawar, Room 22/328, Phone 4642
Office Hours: SMW 10 – 11 am, 12 – 1 pm.
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Catalog Description

Introduction to computer organization. Octal and hexadecimal number systems, ASCII codes. Assembly language programming, instruction formats and types, memory and I/O instructions, arithmetic instructions, addressing modes, stack operations, and interrupts. ALU design, RTL, microprogramming, and hardwired control design. Practice of assembly language programming.

Prerequisites: COE 202, ICS 102.

Textbooks and References

Kip Irvine, *Assembly Language For Intel-Based Computers*, *Fourth Edition*, Prentice Hall, 2003. ISBN: 0-13-049146-2.

Course Objectives

- Proficiency in assembly language programming, particularly for the Intel 80x86 processor family. Ability to analyze, design, implement, debug, and test assembly language programs.

- Knowledge of the organization of a computer and its components. Understanding the design of the data path and the control unit of a simple CPU, and the fetching and execution control sequences of simple instructions at the register transfer level.

Grading Policy

Laboratory	15%
Project	15%
Programming Assignments	10%
Written Assignments and Quizzes	10%
Major Exam I	15%
Major Exam II	15%
Final Exam	20%

- Assignments should be submitted at the beginning of class time in the specified due date.

- Late programming assignments are accepted, but will be penalized 5% for each late day, up to a maximum of five late days.

Software Tools

- Microsoft Macro Assembler (MASM) version 6.15
- Link Libraries provided by the author (Irvine32.lib and Irvine16.lib)
- Microsoft Windows debugger
- ConTEXT editor

Prepared by Dr. Muhamed Mudawar – February 16, 2008