CMPE 310
Systems Design and Programming

Professor: Dr. Gymama Slaughter

Lo: Course Introduction

UMBC
AN HONORS UNIVERSITY IN MARYLAND

Lecture outline

* Course overview
  * Instructor information
  * Course Outline
  * Course materials
  * Course policies
  * Grade distribution
  * Tentative schedule

Course Instructor & meeting times

- Lectures: MW 2:30-3:45 PM, ITE 233
- Lab I F 1:00 – 2:50 PM, ITE 375
- Lab II F 3:00 – 4:50 PM, ITE 375
  - Will get card and CMPE310 BOX access (A/D date)
- Instructor: Dr. Gymama Slaughter
  - E-mail: gslaught@umbc.edu
  - Phone: 410-455-8483 (x58483 on campus)
  - Office: ITE 311
  - Office hours: MW *11 – 12:00*
- TA: Md Qumrul Hasan mhasan4@umbc.edu
- TA: Michael Daugherty mda1@umbc.edu
- Grader: Ankit Baingane ankitb1@umbc.edu

Course Outline

* What you should learn in this class?
* Microprocessor Interfacing
  * Making processors talk to other devices
    * CPUs not so interesting if you can't get data in or out
  * Making hardware talk to software
    * Key to the construction of systems that provide sophisticated functionalities and user interfaces
    * Focus on assembly language
    * Will work with Intel 8086/ 88 and x386processor
* Design
  * Designing systems is something of an art, but there are techniques we can teach
  * Tools and standards make more a discipline
* Course Goal
  * Learn how to design systems that are buildable, verifiable, and maintainable
    * Abstraction
    * Interfaces
    * Testing

Course materials

- Textbook: Barry B. Brey, The Intel Microprocessors…, 8th edition, Pearson/Prentice Hall.
- Course website: BlackBoard
  - http://blackboard.umbc.edu
  - Will contain announcements, lecture outlines, handouts, assignments, solutions
  - Pretty much everything you need to be successful in this class
  - Will use as class mailing list for Announcements
- Prerequisites: CMPE 212 (Logic Design), CMSC 201 (CS I)

Course policies: Lab

* **Labs**
  * Each student:
    * MUST submit schematic captures & code during lab in CMPE310 BOX folder to receive Functionality Grade **AND**
    * MUST be checked off by TA on labs to receive DEMO Grade.
    * Labs MUST be completed before the lab session ends
    * No Lab Reports are required for Labs#0-9
    * **All labs must be checked off by TA**
* Lab Grading
  * Demo: 30%
  * Funcionality: 70%

Course policies: Lab Final Project

- **Projects – Completed Individually**
- Project I – Board Design
  - Final report due after Lab#8
  - Late reports penalized 15% per week, limit 45%
- Project II – Assembly Programming completed **individually**

Course policies: Academic Honesty

- Academic honesty
  - All assignments are to be done **individually** unless explicitly specified otherwise by the instructor
  - Any copied solutions, whether from another student or an outside source, are subject to penalty
  - You may discuss general topics or help one another with specific errors, but not share assignment solutions
    - Must acknowledge assistance from classmate in submission

Course policies: Course Grading

* Grading breakdown
  * 35% Labs (Labs 15%; Project I 10%; Project II 10%)
  * 15% HW
  * 10% In-class exercises
  * 15% Midterm
  * 25% Final
* Exam dates
  * Midterm: Wednesday Apr 5 in class (2:30 – 3:45 pm, ITE 233)
  * Final Exam: Friday May 19 1:00-3:00 PM, ITE 233

Grade Distribution

* Grade scale:
  * 90 – 100% - A
  * 80 – 89.9% - B
  * 70 – 79.9% - C
  * 60 – 69.9% - D
  * < 60% - F

Help in This Course

* Ensure you have the resources needed to successfully pass this course
* **In Class**
  * Stop me & ask me to explain a concept again
  * During "Your Turn…" ask teammate to explain a concept
  * TAs will be available to help you
* **Outside Class**
  * Contact TAs and myself – email & Office hours
  * Each other
* It is important that you let me know when you're having problems
* Absolutely want your feedback on how I can help you!

My commitment to student learning

* This is a difficult course.
  * This has gotten considerably better. Don't get discouraged.
* Keep up with the course.
  * Attend class.
  * Study the texts and notes.
  * Do assigned HWs, In Class Ex, and lab programs.
  * Study with others.
  * Ask questions.

Grades

"Grades matter, but learning matters more!"

Have a curious mind & develop love for reading
Relish in studying & learning

Tentative course outline

* Syllabus – carefully read course syllabus

Next time

- HW#1 due on Wednesday at 2:30 pm
  - Please read Chapter 1, the course textbook should be your primary source
  - Note: Some of the information may be found online
  - Note: Dates when processors introduced may vary ±1 year depending on source.
- Next time
  - NO Discussion and Lab this week
  - Evolution of the microprocessor

Syllabus Day

* You're still here? It's over.