CSC 221 Assembly Language and Introduction to Computer Organization
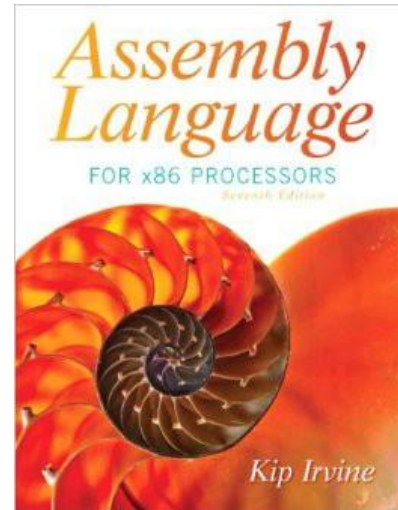## Computer Science Department
California State University Dominguez Hills
Fall 2016

Instructor: Liudong Zuo (Ph.D.)
Email: LZUO@csudh.edu
Lecture Time & Room: TuTh 5:30PM - 6:45PM in SCC 800
Office Hours: MoWe 10:20 AM - 12:00 PM, or by appointment
Office Location: NSM E109

Prerequisites: CSC 123

Text/References

Assembly Language for x86 Processors, 7th Ed
Author: Kip R. Irvine
Publisher: Prentice-Hall, Inc.
ISBN-10: 0133769402   ISBN-13: 978-0133769401

Course Description & Objectives

This course is an undergraduate courses in assembly language programming and introductory courses in computer systems and computer architecture. This course is also suitable for embedded systems programmers and engineers, communication specialists, game programmers, and graphics programmers. Proficiency in one other programming language, preferably Java, is recommended. Goal of the course is to provide introduction to the concepts of assembly language programming and machine organization specific to Intel processor architecture. The focus is on the principles that underline the development of computer assembly language programs, and on relevant implementation techniques. The specific topics covered include: hardware and software architecture, instructions groups, addressing, procedures and macros, low level I/O and interrupts. The objective of the course is to provide the knowledge needed to efficiently utilize computer hardware, and give background for compiler constructions and embedded systems design. Course unit: 3.

Learning Outcomes

Successful students should know how to write, compile, and execute programs in Microsoft Assembly Language (MASM) for Intel type computers and have a basic understanding computer organization.

Final Exam: 5:30 PM - 7:30 PM, Thu., Dec. 8 (subject to change)

Grading: Attendance: 5%, Quiz: 10%, Project: 15%, Homework: 20%, Midterm: 20%, Final exam: 30% (subject to change)

Grading Scale (subject to change)

Score Range	Grade	Score Range	Grade	Score Range	Grade
96-100	A	90-95	A-	87-89	B+
83-86	B	80-82	B-	77-79	C+
73-76	C	70-72	C-	67-69	D+
60-66	D	Below 60	F	NA	

Other Policies (subject to change)

- You are strongly encouraged to attend all lecture classes, read and study the lecture materials, and contribute to class discussions.
- No makeup will be given to the quizzes, midterm exam or final exam. For the homework and projects, the later you submit yours after the deadline, the less possible points you will get. If you submit your homework and projects within the 0-12/12-24/24-36/36-48 hours after the deadline, the points you will get is 90%/80%/70%/60% * your total points out of the full points. The hard deadline is the earlier time between 48 hours after the deadline and the solution post time. After hard deadline, no points will be given.
- The homework assignments will be given in class periodically throughout the semester and announced in class. Homework questions will be mainly from the textbook's the end of section review questions. Students are allowed to discuss the homework and projects with the other students. However, each student must finish the homework and projects on his/her own. Homework must be handed in by "class's meeting time" on the assigned due date. Projects must be handed in the form of "printout of the source code + printout of the screenshot of program execution + the file containing the source code". Quizzes will cover the most recent lecture material and the coverages will be announced in class.
- Plagiarism and cheating consequences: warning for the first time, zero points for corresponding quiz/ homework/exam/project for the second time, and "F" final grade for the third time and will be reported to the department and university.
- There might be bonus points in the quiz/homework/exams or for attendance. Attendance will be checked randomly in class. One attendance, lowest score of your quizzes, and that of your homework will be dropped when calculating the final overall grade.
- Classes meet on the scheduled dates and room. All electronic devices must be turned off or turned to silent mode when inside the classroom. Surfing the internet, food or drinks are not allowed in the computer lab.

Academic Integrity

Academic integrity is of central importance in this course and every other course at CSUDH. Plagiarism and cheating (e.g. stealing or copying the work of others and turning it in as your own) will not be tolerated, and will be dealt with according to university policy. The consequences for being caught plagiarizing or cheating range from a minimum of a zero grade to expulsion from the University. You are obliged to consult the appropriate sections of the University Catalog and obey all rules and regulations imposed by the University relevant to its lawful missions, processes, and functions. Students are allowed and encouraged to discuss with other students and look up resources in the literature for their assignments. However, appropriate references must be included for the materials consulted, and appropriate citations should be made when the material is taken verbatim.

Accommodations for Students with Disabilities

Cal State Dominguez Hills adheres to all applicable federal, state, and local laws, regulations, and guidelines with respect to providing reasonable accommodations for students with temporary and permanent disabilities. If you have a disability that may adversely affect your work in this class, I encourage you to register with Disabled Student Services (DSS) and to talk with me about how we best can help you. All disclosures of disabilities will be kept strictly confidential. Please note: you must register with DSS to arrange an no accommodation. For information call (310) 243-3660 or send an email message to dss@csudh.edu or visit the DSS website http://www4.csudh.edu/dss/ contact-us/index or visit their office WH D-180.

Behavioral Expectations

We all are adults so behavior rarely is an issue. Just follow the Golden Rule: "do unto others as you would have them do unto you" then everything will be fine.

The university must maintain a classroom environment that is suitable for learning, so anyone who insists on disrupting that environment will be expelled from the class.

Course Outline and Schedule (subject to change)

Week	Chapter
1	Basic Concepts
2	Basic Concepts
3	x86 Processor Architecture
4	Assembly Language Fundamentals
5	Assembly Language Fundamentals
6	Data Transfers, Addressing, and Arithmetic
7	Data Transfers, Addressing, and Arithmetic
8	Procedures
9	Conditional Processing
10	Conditional Processing
11	Integer Arithmetic
12	String and Arrays
13	Structures and Macros
14	File Processing
15	Buffer Week and Final Exam Review