Cal State University, San Bernardino
CSE 313 -- Machine Organization
Syllabus

Spring 2012

Objectives: This course introduces the student to the principles of computer organization, computer architecture, and assembly language. We will cover these topics:

- The basic components that make up a computer: CPU, memory, storage, input, output. What they consist of, how they operate, and how they work together.
- The organization of the components into a computer system.
- How data (integers, characters, arrays, records, linked lists) are represented in a computer.
- How operations are implemented, i.e. using the datapath and control.
- Machine language and assembly language (LC-3).
- Compiling high level programs into assembly language, and assembly language programs into machine language.
- Examine the internals of parameter passing and recursion, e.g. activation records and the run-time stack.

Instructor:
Professor Taline Georgiou

Email:
tgeorgio@csusb.edu. Having "313" in the subject will label your email as non-spam.

Office:
JB 338 – Phone: 909-537-5332

Class meeting place and times:
Lectures: MW 10:00am—11:15am, JB 111; Lab W 11:30am—1:20pm, JB 360

Office Hours:
9:30am – 10:00am MW, 1:30pm - 2:00pm MW or you can make an appointment via email.

Class web page:
http://blackboard.csusb.edu

Prerequisites:
CSE 202. To receive credit for this course, you must also be registered in the lab part of it.

Textbook (required):
Introduction to Computing Systems: From bits & gates to C & beyond, by Yale N. Patt, Sanjay J. Patel, Publisher: McGraw-Hill Science/Engineering/Math; 2nd edition, 2003, ISBN 0072467509

Reference (suggested): *The Essentials of Computer Organization And Architecture* by Linda Null, Julia Lobur; Publisher: Jones & Bartlett Pub; 2 edition, 2006, ISBN-13: 978-0763737696

Final:
Wednesday, June 13, 2012, 10:00am--11:50am

Grading:
Assignments 25%, Laboratory 25%, Midterm 25%, Final 25%

Grade Scale:

Grade	Percent	Grade	Percent
A	93-100	C	73-76
A-	90-93	C-	70-73
B+	86-90	D+	66-70
B	83-86	D	63-66
B-	80-83	D-	60-63
C+	76-80	F	00-59

Homework:

Homework, approximately four assignments, is to be done **individually**. It is due at the beginning of the class meeting on the due date. Homework must be neat, optionally typed. Illegible homework will not be graded. Problems must be **in sequence** with all work shown. Points will be deducted for sloppy work. **Late homework will not be accepted.** Extenuating circumstances will be considered. Documentation may be asked. In such cases, the student must inform the instructor via email or in person as soon as the problem arises, and at least 3 days (if possible) before the due day.

Grading questions:

All questions regarding a grade must be made within 7 calendar days from the day the assignment or exam has been returned in class or, in the case when it does not involve hard copy, from the day it has been recorded on Blackboard. It is the student's responsibility to ask for unpicked work or an unrecorded grade within the 7-days. After that, the grade will be fixed.

Other information:

It is expected that the student will attend all lectures. The student is responsible for all material covered in class, and also for all announcements made therein, e.g. the date of the Midterm Exam. All returned graded work must be saved. Later in the quarter it may be asked back for program accreditation purposes. All electronic devices capable of communication, such as cellular phones, should be turned off during lectures and exams. Such devices must not be visible or worn during an exam.

Academic honesty:

According to the CSUSB Catalog of Programs, plagiarism and cheating may result in penalties up to and including expulsion. Students are allowed and encouraged to discuss the material related to assignments, however writing down the solutions must be done individually. Exchanging solutions or parts of solutions is not allowed. When it comes to the attention of a student that possibly dishonest behavior took place, he or she should report it to the instructor. At the very least cheating on an assignment will result in a grade of zero. For additional explanation and policies, refer to the CSUSB Catalog of Programs under *Plagiarism and Cheating*.

Disabilities:

If you are in need of an accommodation for a disability in order to participate in this class, please contact Services to Students with Disabilities at UH-183, (909) 537-5238. If you require assistance in the event of an emergency, you are advised to establish a buddy system with a buddy and an alternate buddyin the class. Individuals with disabilities should prepare for an emergency ahead of time by instructing a classmate and the instructor.

Outline of course (subject to change)**:**

Week	Topic
1	Chap. 1, 2 Introduction, Integers, Floating
2	Chap. 3 Digital logic review Chap. 4, *The Von Neumann Model,*
3	Chap. 5, 6 *LC-3; Programming*
4	Chap. 7, *Assembly Language*
5	Chap. 8, 9 *I/O; TRAP Routines and Subroutines*
6	Chap. 10, *The Stack*
7,8	Chap. 11, 12, 13, 14, 15, *Brief Review of C*
9,10	Chap. 17, 18, 19, *Recursion, I/O, Data Structures*