California State University, San Bernardino
CSE 2130 – 01 – Machine Organization
SYLLABUS

Fall 2020

Due to Covid-19 the instruction of this class will be conducted strictly online. There will be no face-to-face meeting. Students will do the work individually.

Lectures: Lectures will be **asynchronous** and will be posted on Blackboard. It is the responsibility of the student to follow the lectures. Lectures and materials will be in different folders on Blackboard.

Office Hours: 9:00 AM - 10:15 AM W, 1:00 PM - 2:15 PM Th and by appointment. All office hours will be conducted via email or Zoom. All Zoom meetings must be initiated by the student via email in advance.

Midterm Exam: Tuesday, October 13, 1:00 PM – 2:15 PM, Online. No make ups.

Final Exam: Tuesday, December 8, 1:00 PM – 3:00 PM, Online. No make ups.

Disabilities: If you are in need of an accommodation for a disability in order to participate in this class, please contact the instructor and the Services to Students with Disabilities at UH-183, (909) 537-5238. It is the student's responsibility to seek academic accommodations for a verified disability in a timely manner.

Student Learning Outcomes: This course introduces the student to the principles of computer organization, computer architecture, and assembly language. Specifically the objectives of the course are:

- To know 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.
- To know the organization of the components into a computer system.
- To know how data (integers, characters, arrays, records, linked lists) are represented in a computer.
- To know how operations are implemented, i.e. using the datapath and control.
- To know machine language and assembly language (LC-3).
- To know compilation of high level programs into assembly language, and assembly language programs into machine language.
- To know the internals of parameter passing and recursion, e.g. activation records and the run-time stack.

Instructor: Professor Taline Georgiou

Email: tgeorgio@csusb.edu. Please include **CSE 2130** in the subject for filtering purposes.

Class meeting time and place: Lecture: 1:00 PM - 2:15 PM TR

Learning Management System: http://blackboard.csusb.edu.

Catalog Description: Number systems and data encoding, von Neumann computer architecture, instruction set architecture, addressing modes, arrays and records, subroutines and interrupts, I/O, assembly programming.

Prerequisites: Semester Prerequisite: CSE 2020. Quarter Prerequisite: CSE 202

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

Grading: Homework 25%, Midterm 35%, Final 40%

Grade Scale:

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 – 60

Attendance: It is expected that the student will follow all lectures and materials posted on Blackboard. The student is responsible for all material covered, and also for all announcements made through Blackboard or email.

Homework: Homework, 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. Sloppy or illegible homework will be penalized. **Problems must be in the right sequence with all work shown.** Points will be deducted for not following the rules. **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 or at least 3 days before the due day. **Homework will be uploaded on Blackboard. Students must have a way to scan or take clear pictures of the homework. Preferably the homework should be a single pdf file.**

Grading questions: All questions regarding a grade must be made within 7 calendar days from the day the grade has been posted on Blackboard. After that, the grade will be fixed and will not change.

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.

University policies: The student is referred to "Academic Regulations and Procedures" in the CSUSB Bulletin of Courses for the university's policies on course withdrawal, cheating, and plagiarism.

Copyright of materials: All materials posted on Blackboard, including videos, slides, etc., are copyright of the Instructor, Publisher, and/or others. They are strictly for the student's educational use in this class, and it is prohibited to be shared with others or used in any other way.

Outline of Course: (Approximate and subject to change)

Week	Topic
1	Chap. 2: *Data types and operations*
2, 3	Chap. 3: *Digital logic Structures*
4, 5	Chap. 4: *The Von Neumann Model,*
6, 7	Chap. 5: *LC-3; Programming*
8	**Midterm Exam: Tuesday, October 13, 1:00 PM – 2:15 PM**, Online. No make ups.
8, 9	Chap. 7: *Assembly Language*
10, 11	Chap. 8: *I/O*
12, 13	Chap. 9: *TRAP Routines and Subroutines*
14	Chap. 10,17: *The Stack; Recursion*
15	Review
	Final Exam: Tuesday, December 8, 1:00 PM – 3:00 PM, Online. No make ups.