

University of California, Santa Cruz
Board of Studies in Computer Engineering

**CMPE12C/12L: Introduction to Computer Organization
General Information and Syllabus**

Fall 2003
MWF: 9:30am – 10:40am
Class room: Thimann Lecture 1

Instructor: Cyrus Bazeghi
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Office Hours: MWF 11:00 am to 12:00 pm and
by arrangement

Cellular Number: (831) 566-0960

TAs and tutors: Check website

Recommended but optional text books (these will be available on reserve at the library)

“A Programmer's View of Computer Architecture” by Goodman and Miller, Oxford University Press, 1993. Available at BayTree and at SlugBooks. On reserve at the Science and Engineering library.

“Computer Organization and Design: The Hardware/Software Interface 2nd edition” by Patterson and Hennessy, Morgan Kaufmann, 1997. The CMPE110 text. Optional for now, might become the class text book soon.

WWW site and Newsgroup

Website: <http://www.soe.ucsc.edu/classes/cmpe012c/Fall03>

Check this site often as this is where the homework assignments, lecturer notes, homework, and test solutions are posted. You are expected to read all the material on the website.

Newsgroup: ucsc.class.cmpe12c

Use the newsgroup to post questions to the tutors and the TA's about lab and class material, ask questions to other students, or start discussions about class and lab material. Do not expect fast replies from the instructor, use email or the phone for a timely response.

Course Work – CMPE 12C

Attendance is highly recommended for the lectures as the material rapidly builds upon each other. Please see the website for details on what is expected of you. Lecture material will be available on the website, usually before covered in class.

There will be semi weekly homework assignments which are graded, it is HIGHLY recommended you do them. There will be two midterm exams and one comprehensive final exam. The exam material will be based on homework and lecture material. There also may be occasional pop quizzes. There is no formal grade for quizzes but they will be used to determine boarder line cases. **No calculators are ever allowed for any exam, using one will be considered cheating.**

The class grade is determined by the following criteria: Homework (20%), Exam #1 (20%), Exam #2 (20%) and the Final Exam (40%).

If you have any disability-related needs, be sure to contact the Disability Resource Center well in advance of any expected need.

Lab Work – CMPE 12L

You must be enrolled in CMPE 12L to remain in this class unless you have previously taken and passed the lab class. You must pass CMPE12C to pass CMPE12L. You may pass CMPE12C and fail CMPE12L.

We will be working with **two** assembly languages in this course based on two processors: a 32-bit MIPS type RISC processor and a neat 8-bit microcontroller from Motorola, the HC11. See the class website for more information on the lab.

There will be lab assignments throughout the quarter that will have you write assembly programs in one of the two languages covered in class. No collaboration is allowed on programming assignments unless explicitly permitted in the assignment write-up. When permitted, **collaboration must be acknowledged** and may only be with current course staff or students currently enrolled in CE12L. Failure to give credit when collaboration is allowed is a form of academic dishonesty and can be grounds for failure of the course. **You are not allowed at any point to share actual code with another student unless you are in a professor approved pair**, collaboration is the discussion of the topic and how to solve it at a high level.

Academic Honesty

Academic honesty is a requirement for the course. All assignments must be your own independent work; this includes homework, exams, and lab assignments.

What is cheating? In the class it is copying answers during exams, using a calculator, bringing in unauthorized reference material. Homework should be done independently though comparing answers is permitted as long as you work through together when there are differences. Copying is **NEVER** acceptable.

In the lab cheating is sharing assembly code when not **explicitly** told it is permitted. Submitted labs are electronically compared to all other submitted labs, including past labs for similarities. The code checker tool checks all lab assignments for common cheating practices, renaming variables, moving code sections, changing comments and other formatting changes.

If a student is caught cheating in either the class **or** lab this will result in failure in the class **and** lab and further damage to your academic career as appropriate. **DO NOT CHEAT, IF CAUGHT YOU WILL BE DROPPED FROM THE CLASS AND THE LAB AND REPORTED TO YOUR COLLEGE AND THE DEPARTMENT.** It is not worth it, please do not do it.

The lab (CMPE 12L) grade is determined solely by your performance on the lab assignments.

Approximate Syllabus

Week	Start Date	Topics
0	9/26	Introduction
1	10/7	MAL Assembly, Procedures, Number systems
2	10/14	Number systems, Data representations
3	10/21	Data representations, ALU operations
4	10/28	ALU operations, Floating Point Numbers
5	11/4	Data Structures: Arrays, stacks, and queues
6	11/11	Monday is a holiday. Assembly Process, HC11 Assembly
7	11/18	HC11 Assembly, I/O, Interrupts
8	11/25	Thanksgiving Thursday and Friday. Memory hierarchy
9	12/2	Pipelining and Architecture
11	12/9	Final exam: Tuesday, December 9 th , 7:30pm – 10:30pm