

CE12C – Computer Organization

General Information and Syllabus

Instructors:	Joel Ferguson	Richard Hughey
Office:	339 Jack Baskin Engineering	315-A Jack Baskin Engineering
e-mail:	fjf@cse.ucsc.edu	rph@ce.ucsc.edu
Phone:	459-4172	459-2939
Office hours:	Monday 11:00–12:00 Wednesday 1:30-2:30	Tuesday 10:00–11:00am Thursday 11:30–12:30pm

TA: Clifton McIntire

Meeting Times

Mondays, Wednesdays, and Fridays, 9:30am–10:40pm, Kresge 321.
November 25th and 26th are holidays.
The Final is on **Thursday, December 9, 4:00–7:00pm.**

Readings

A Programmer's View of Computer Architecture, Goodman and Miller, Saunders College Publishing, 1993. Available at BayTree and at SlugBooks. On reserve at the science library.

HC11 Manual To be distributed midquarter. Free, courtesy of Motorola.

An Assembly Language Introduction to Computer Architecture, Goodman, Oxford, 1999. Unfortunately, this newer version uses x86 ASM. Optional, on reserve at the science library.

Computer Organization and Design: The Hardware/Software Interface, 2ed, Patterson and Hennessy, Morgan Kaufmann, 1997. The CMPE110 text. Optional, on reserve at the science library.

WWW site:

<http://www.cse.ucsc.edu/classes/cmpe12c>

The newsgroup `ucsc.class.cmpe12c` is available for our use. Use `netscape` or `bind_locker public` and use `rn` (or `xrn`) to read the newsgroup. You can post articles by either following up other articles ('f' or 'F' when reading an article in `rn`, the second form providing a copy of the original article) or using the `Pnews` program.

Check the newsgroup and WWW page regularly. You are responsible for all announcements on the WWW page, in the newsgroup, and in class.

Course Work

We will have a quiz **every Friday** starting on October 1. The quiz will be based on optional homework from the text and material covered in class. Missed quizzes cannot be made up, but the lowest scoring quiz grade will be dropped to allow for unforeseen circumstances.

There are weekly 12L lab sections. **You must be enrolled in CMPE 12L to remain in this class!!** The lab assignments may be due on either of your two lab days (to be announced each week). Due to organizational difficulties, changing lab sections is not permitted. Labs will be submitted electronically and graded by tutors during the lab section.

We will be working with **two** assembly languages in this course: MIPS (with the SPIM simulator) and HC11 (via a different set of tools and a really neat lab kit each student will receive).

We will have weekly lab assignments. No collaboration is allowed on programming assignments unless explicitly permitted in the assignment writeup. When permitted, collaboration must be

acknowledged and may only be with students currently enrolled in CE12C. Failure to give credit when collaboration is allowed is a form of academic dishonesty and can be grounds for failure of the course. **Each quarter the material in 12L is linked to the material in 12c, therefore you must pass both 12C and 12L to pass either class.**

The evaluation criteria for 12C are weekly quizzes (35%), midterm (25%), and final (35%). The evaluation criterium for 12L is the satisfactory completion of all lab assignments.

Academic honesty is a requirement for the course. As mentioned, all assignments must be your own independent work. Similarly, cheating on quizzes or the final will result in failure in the course and further damage to your academic career as appropriate.

Last year's lecture notes are available on the class WWW page. We greatly thank Professors Mark Hill and Karen Miller for letting us use their notes as a basis for these. Be aware that the notes are from a previous version of 12C; we will also be covering and testing you on additional material presented only in class.

Approximate Syllabus

Week	Date	Chapter	Topics	Lab
1	9/24	1	Intro, CTS, etc.	
2	9/27	3	Number systems,	HLL to ASM
3	10/4	4,5	Data representations	SPIM
4	10/11	5,8	ALU operations, MAL	Numbers, bases
5	10/18	8,7	Array, Stack, Queue	ALU operations
6	10/25	9	Procedures	MAL Procedures
7	11/1	10, HC11	Assembly and HC11	HC11 demo
8	11/8	11-12	I/O and interrupts	HC11 program
9	11/15	12, 6	Interrupts, FP	HC11 I/O
10	11/22	13	Architecture: Pipelining	HC11 Interrupts
11	11/29		Architecture: Memory	HC11