CMPE 12/12L: Computer Systems and Assembly Language
General Information and Syllabus – Winter 2011

Meeting times: MWF 2:00 – 3:10         Classroom: J. Baskin Engineering 152

Instructor: F. Joel Ferguson
Offices: E2 Rm. 329; and Crown Admin. Building
Email: fjf@ucsc.edu
Phone numbers: (831) 459-2411 (o) and (831) 345-0007 (c)
Office Hours: Wednesday 3:30-4:30 @ E2 Rm. 329 or by appointment

Teaching Assistants: Aimen Al-Refai aalrefai@soe.ucsc.edu
                      Ian Lee ianlee1521@soe.ucsc.edu
                      Jonathon Loh jeloh@soe.ucsc.edu

Important Dates
Holidays: Monday, January 17th; and Monday, February 21st
Midterms: January 4th and February 4th
Final Exam: Tuesday March 15th, 4:00 – 7:00P.M.

Class Website: http://www.soe.ucsc.edu/classes/cmpe012/Winter11 (under construction)

Check this site often for homework assignments, homework solutions, study sessions, quiz solutions, test solutions and other useful information. Also links to recent posts to the class discussion forum are shown on the right hand side of the page. Use the discussion forum to post questions to other students, tutors and TAs about class and lab assignments. If you need fast answers from the instructor do not use the discussion board -- email or call him. Class announcements will be posted on the forum also.

Course work
Attendance is highly recommended for the lectures because between 5 and 10% extra credit can be earned by participation in class and the in class quizzes, both using i>clicker. The i>clicker system will be set up by the second or third week of class and will be used for class quizzes and to keep me appraised of how well you are following the content of the lecture.

There will be weekly problem sets. To reach a high level of proficiency in the material in this class, if not all classes, requires that you practice the skills you are learning. The labs and the homework assignments are meant to provide you with an opportunity to selectively practice the skills you learn and to provide you feedback on how well you are doing. To encourage you to do the necessary practice, homework will count 10% of your grade. However the midterms and finals are the primary means of evaluating how well you have learned the material (of course you will be demonstrating the skills that you practice in your homework during these tests). If you have issues with test-taking such as anxiety or distraction, please see the disability resource center about accommodations that can be made for you. Also be aware of the resources that UCSC provides for you in workshops concerning test-taking and time management skills. Your colleges are one of the best resources for directing you to helpful workshops.
Evaluation of CMPE 12 Grade
Class grade is determined by the following criteria: Homework 10%, midterms 25% each, and final 40%. In addition up to 5%-10% extra credit can be obtained through class participation and quizzes.

CMPE – 12 Lab
Attendance in a lab section is required. If you are not enrolled in a lab section by the first day of class (Jan. 5), then see the instructor about a permission code for a lab section.

The first labs will involve simple hardware design, then we transition to assembly language programming for a modern, meaning simple, instruction set architecture (ISA), the LC-3, which will be programmed on a simulator. Our final labs will involve an older, messier ISA developed for embedded systems and will be programmed on the HC11 kits. Information on the HC11 kits and ISA can be found on the class web pages.

Starting with the programming labs, you will have a lab partner. If there is an odd number of students in your lab section there may be a single three-student lab group. Engineering is a team activity and part of your professional training while in UCSC’s School of Engineering is building your skills as a team member. To increase your experience with different partners, you will change partners with each lab assignment. Both members of the lab group must be present for the lab to be worked on and checked off.

Lab check-offs and reports
Fifty percent of your lab grade will be your lab report and 50% will be the functionality of the lab assignment or program. Since the lab report is 50% of your grade it clearly must be well written and substantial. More specifically it must include an explanation of which functions you were able to implement, what problems you had in the implementation, and what contributions you and your partner made to the lab. If appropriate, you are encouraged to add an ungraded last section in which you can provide feedback as to the extent that the lab was a good or bad learning experience as feedback to the course instructor. Although this will result in more care and time spent on lab reports, it also means that you can receive 50% credit (a high failing grade) even if your program has very little functionality. Finally, the lab report is to be done individually. If two partners turn in lab reports in which text has been copied between them, it will be considered a case of academic misconduct. The first incidence of this will result in a zero for the lab report. A second incident will result in failing the class and a report to your college provost.

Lab check-offs and reports are due Sunday of the week that they are assigned (unless a later date is explicitly given), else a grade of zero will be entered for the lab. Two such zero grades will result in you failing CMPE 12L. You have the option of checking off your lab and resubmitting your lab again one week late for 80% of the maximum score to replace the original grade, but only if you have met the original check-off and report submission deadlines.

Collaboration between students that are not lab partners is discouraged because this often leads to cases of academic misconduct. If you do get help from another student, and (s)he is not your lab partner, you must acknowledge that collaboration and describe the extent of it in your lab report. Failure to properly acknowledge collaboration will be treated as academic misconduct. The penalty for academic misconduct in this course is failure for the
course and you are reported to your college for disciplinary sanctions. See http://www1.ucsc.edu/academics/academic_integrity/undergraduate_students/ for more information about the academic misconduct process and definitions. **You may never share your programming code with anyone other than your lab partner** as this is automatically considered academic misconduct.

Your CMPE12L grade is based solely upon your laboratory work and laboratory reports. However the skills in the lab are meant to reinforce and make concrete the material you learn in class, and the class material is needed to do the lab.

**Academic Honesty**

All material that you turn in must be your own work. This includes homework, quizzes, labs, midterms and exams. Exceptions are allowed for homework and labs if the collaboration is thoroughly explained either in the report or the homework. That means the collaborator's name must be given and an explanation of exactly what help the collaborator provided you.

Submitted labs are compared with all other submitted labs, including past labs, by an automated code checker for similarities. The code checker checks renaming variables, moved code, commenting changes, etc.

If a student is caught cheating, (s)he will fail the class and the lab and be reported to the School of Engineering (who may bar you from the major) and your college provost (who may suspend or expel you). Do not cheat. It is not worth penalties or the damage to your personal integrity.