CS61C: Great Ideas in Computer Architecture
Summer 2013 Course Syllabus

Instructor: Justin Hsia, EECS Graduate Student
jhsia@eecs.berkeley.edu
OH: F 10-12 in 330 Soda

Assistants: Albert Magyar Jeffrey Dong Justin Fu
albert.magyar@berkeley.edu jefdongus@berkeley.edu justinfu@berkeley.edu
Shaun Benjamin Sagar Karandikar Kevin Yeun
shauncbenjamin@gmail.com skarandikar@berkeley.edu yeun.kevin@gmail.com
OH: TuTh 11-12 in 200 SDH OH: F 1-3 in 330 Soda OH: MW 7:30-8:30pm in 330 Soda

Lectures: MTuWTh from 9:30-11:00am in 10 Evans
Discussions: MW in 320 Soda and 405 Soda
Labs: TuTh in 330 Soda (Linux lab) and 200 Sutardja Dai Hall (Mac lab)

Course Description:

CS61C teaches the internal organization and operation of digital computers with a new emphasis on advances in parallelism. The subjects covered include C and assembly language programming, memory management, how higher level programs are translated into machine language, computer organization, caches, performance measurement, parallelism, CPU design, warehouse-scale computing, and related topics.

Prerequisites: CS61A and CS61B.

Course Resources:

Website: http://inst.eecs.berkeley.edu/~cs61c/su13
Forum: http://piazza.com/class#summer2013/cs61c
The Datacenter as a Computer (1st ed.) by Barroso and Holzle, 2009. Available online for free!

Grading:

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<tr>
<td>15%</td>
<td>6%</td>
<td>8% each</td>
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<td>5%</td>
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Homework: 15% 5 total, weighted by difficulty
Labs: 6% 12 total, equally weighted
Projects: 8% each 3 total: ISA Simulator, Performance Optimization, CPU Design
Midterm Exam: 24% Friday, July 19, 9am-12pm in 1 Pimentel
Final Exam: 26% Friday, August 16, 9am-12pm in 155 Dwinelle
P&A: 5% Participation and Altruism
Course Schedule:

See the course website for exact lecture and assignment schedules.

Lecture slides, assigned reading, homework, labs, project descriptions, and discussion notes will all be posted there. The staff reserves the right to make minor changes to scheduling and due dates, so monitor the website and Piazza to stay up-to-date!

Assignment Policies:

Labs will be done in pairs of students in the same section. You must be present at check off in order to receive credit. Labs are due within the first 10 minutes of the following lab. You can get checked off before/after discussion or during office hours as well. Extra credit will be given for early check off (within the first hour of lab). Late labs receive 50% credit at any point during the semester. Students will receive 24-hour access to both labs, but please be aware that we share 200 SDH with CS10 (avoid MW 9am-3:30pm).

Homework and Projects are subject to **Slip Days**. You start with 3 and one is used for every day your submission is late (even by just one second!). You may voluntarily choose to NOT use a Slip Day by e-mailing your reader within 3 days of the due date. You may not “reassign” Slip Days otherwise. Once you have depleted or choose not to use your Slip Days, an assignment can be submitted up to two days late at a penalty of 33% per day. Only Project 2 has a partner component. Given the pace of this course in the summer, falling even slightly behind can be disastrous! Take advantage of these late policies AT YOUR OWN RISK.

CS61C is a transitional class in that we will expect students to start operating in an environment more similar to what they might find in industry. Students will be given a set of specifications that they are expected to meet to the best of their ability. They will NOT be provided any automated feedback prior to assignment deadlines and provided test cases are purposely left incomplete. Students are expected to deconstruct the given problems and thoroughly test on their own.

Cheating Policy:

Unless explicitly stated otherwise, all homework and projects are to be **YOUR** work and your work **ALONE**. You are encouraged to discuss your assignments with other students, but we expect that what you hand in is yours. It is **NOT** acceptable to copy solutions from other students or to copy (or start your) solutions from the Web. We have tools and methods, developed over many years, for detecting this. You WILL be caught, and the penalties WILL be severe. At minimum:

- **NEGATIVE 100%** for BOTH the cheater and the enabler on the assignment.
- A letter to your university record documenting the incidence of cheating.
- Consideration for an automatic F in the course at the discretion of the course staff.

Peer Instruction:

The lectures will have peer instruction questions that involve voting and conversing with your neighbors. The voting will be performed with the assistance of i>clicker hardware (http://www1.iclicker.com) and will count towards your Participation and Altruism grade. In order to vote, you will need an i>clicker+ remote, which can be purchased at the Student Store or online or used from other students. Alternatively, web>clicker and i>clicker GO have recently been developed which should allow you to vote via your smartphone (you still need to pay to register the device). However, these are not guaranteed to work as we had issues with web>clicker last semester, so take this route at your own risk.