

# CS61C: Great Ideas in Computer Architecture

## Summer 2012 Course Syllabus

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Lectures: MTuWTh from 9:30-11:00am in 390 Hearst Mining Building

Discussions: MW in 320 Soda (except DIS 104, which is in 310 Soda)

Labs: TuTh in 200 Sutardja Dai Hall (this is a 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/su12>

Forum: <http://piazz.com/class#summer2012/cs61c>

Textbooks: *Computer Organization and Design: The Hardware/Software Interface* (revised 4<sup>th</sup> ed.)  
by Patterson and Hennessy, 2011. ISBN 0123747503.

*The C Programming Language* (2<sup>nd</sup> ed.)  
by Kernighan and Ritchie, 1988. ISBN 0131103628.

*The Datacenter as a Computer* (1<sup>st</sup> ed.)  
by Barroso and Holzle, 2009. Available online for free!

## 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. Extra credit will be given for early check off (within the 30 min of lab). Late labs receive 50% credit at any point during the semester. Students will receive 24-hour access to the lab, 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!). Once you have depleted or choose not to use your tokens, 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.

## Grading:

Homework	10%	3-5 total
Labs	10%	12-14 total
Projects	10% each	3 total: Instruction Set Simulator, Matrix Multiply, CPU Design
Midterm	20%	Friday, July 13, 9am-12pm in 245 Li Ka Shing Center
Final Exam	25%	Thursday, August 9, 9am-12pm in 245 Li Ka Shing Center
P&A	5%	Participation and <b>Altruism</b>

## 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 the cheater and a **ZERO** for 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.

## 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!