

Course Syllabus

Information At-A-Glance

Instructor	
Name:	<b>Adam Blank</b>
E-mail:	blank@caltech.edu
Office:	ANB 115
Office Hours:	Mon: 4:00pm – 6:00pm Thu: 6:00pm – 8:00pm Fri: 7:00pm – 9:00pm Or by <a href="#">private meeting</a> .

Course Website
<a href="http://courses.cms.caltech.edu/cs24">http://courses.cms.caltech.edu/cs24</a> Visit early. Visit often.

Lecture
ANB 105 02:00 PM – 02:55 PM

Course Overview

Prerequisites: CS 2 and familiarity with C equivalent to having taken CS 3.

Basic introduction to computer systems, including hardware-software interface, computer architecture, and operating systems. Course emphasizes computer system abstractions and the hardware and software techniques necessary to support them, including virtualization (e.g., memory, processing, communication), dynamic resource management, and common-case optimization, isolation, and naming.

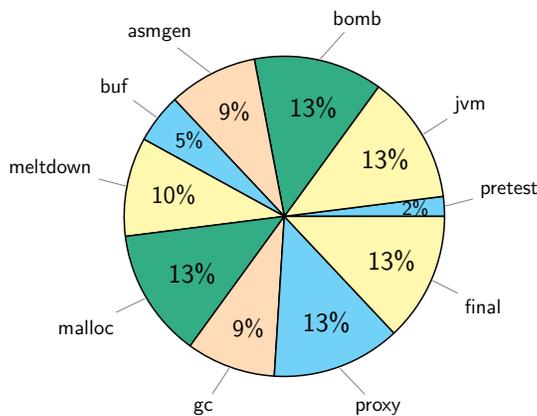
Course Learning Outcomes

By the end of the course, you will be able to:

- Differentiate between how Java and C code run on modern machines
- Translate between high-level and low-level programming languages
- Defend trade-offs between efficiency, security, readability, and performance in your programs
- Explain the mechanisms modern systems use to protect, manage, and virtualize memory
- Describe how modern computers give the illusion of running multiple things at once
- Design a concurrent program which does not have any race conditions

Assessments

Every assessment we give you has a very important purpose to your understanding of the material. Here's a handy pie chart that explains how your grade will be calculated:



## Pre-Test

The pre-test is intended to be a signal to both you and us about if you are ready to take this course. If it takes you more than a couple of hours, we strongly recommend you take the course in a future term after brushing up on C.

## Programming Projects

The projects are the heart and soul of this course. We prefer the term *project* to *set* because all the individual parts of the assignment will come together to create a single finished product that we hope you will be proud of. Note that some parts of a couple projects will be marked **nocollab** in lieu of a midterm. Projects will be due at *11:30 PM on Fridays*.

## Final Exam

The final exam will be a **cumulative** with an equal emphasis on all the material in the course. It will likely have both written/typed components and programming components. The time limit will be *12 hours* though we expect nobody will use anywhere near that much time.

## Extra Credit

We will keep track of any extra credit you implement. You won't see these affecting your grades for individual projects, but they will be accumulated over all projects and used to bump up borderline grades at the end of the quarter. The bottom line is that these will only have a small effect on your overall grade (possibly none if you are not on a borderline) and you should be sure you have completed the non-extra credit portions of the homework in perfect form before attempting any extra credit. They are meant to be fun extensions to the assignments.

## Late Policy

In this course, you have the opportunity to *earn* up to 10 "late tokens". Each late token will allow you to submit a project up to 24 hours late; tokens are indivisible and you may not go into "token debt". You may not use more than two late tokens per project.

There will be a "pre-quiz" associated with each lecture which is intended to cover the same material that the lecture will cover. A score of 80% or higher on a pre-quiz OR just attending lecture will net you  $\frac{1}{3}$  of a late token. That is, for each lecture, if you demonstrate understanding of the topic in one (or both) of these two ways, you will earn  $\frac{1}{3}$  of a late token. You may not use partial tokens, however.

You do not need to use tokens for serious medical (physical or mental) or emotional circumstances; in such situations, contact the instructor to work out a plan for completing the work in a reasonable time frame.

## Getting Help

Please don't be afraid to ask for help if you don't understand something. Adam holds *at least three* office hours a week, and he gets lonely and bored if you don't show up! He also shows up early to lecture and is happy to answer any questions you might have before or after lecture.

At office hours, you can ask for clarification on a lecture (or for a *repetition* of the lecture!). You can ask for help with a frustrating part of the homework. You can even show up just to tell us you're frustrated and vent.

Here's some first steps on how to get help:

- Come to office hours
- Ask someone on course staff questions before/after lecture, before/after lab, etc.
- Post on Piazza asking a question

## Collaboration & Academic Integrity

See our "collaboration table" on the website. We reserve the right to modify or clarify this policy as needed.