CS 24: Introduction to Computing Systems   Fall 2024

Course Syllabus

Information At-A-Glance

Instructor	
Name:	**Prof. Blank**
E-mail:	blank@caltech.edu
Office:	ANB 115
Office Hours:	
	Thu: 3pm - 5pm
	Or by private meeting.

Course Website
https://com.puter.systems
Visit early. Visit often.

Lecture
Beckman Institute Auditorium
11:00 AM – 12:00 PM

Course Overview

Prerequisites: CS 2 and 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:
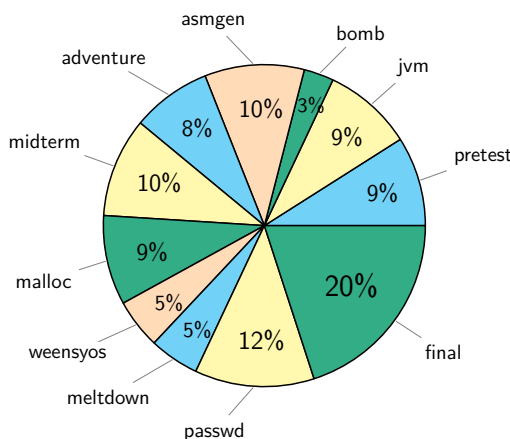
Diagnostics are a "threshold" on your letter grade

Since CS 24 is not P/F, we expect you to do all of them. The percentage of available diagnostics will limit your final letter grade using the following thresholds:

$$
\begin{array}{ll}
\text{A+} & \geq 95\% \\
\text{A} & \geq 88\% \\
\text{A-} & \geq 80\% \\
\text{B+} & \geq 75\% \\
\text{B} & \geq 70\% \\
\text{B-} & \geq 65\% \\
\text{C+} & \geq 60\% \\
\text{C} & \geq 50\% \\
\text{C-} & \geq 45\% \\
\text{D} & \geq 40\% \\
\text{F} & \geq 0\%
\end{array}
$$

If you **do not get the percentage of diagnostic points** corresponding to a given letter grade, you **cannot get that letter grade**, regardless of your grade based on the other components of the class. For example, if your final diagnostic grade is 85%, then an A- is the highest grade you can receive.

Grade Cutoffs

Please note that there is no way to receive a D in this course. Any score at or below 69% is considered an F, 69-70 is a D+, 70-80 is some kind of C, 80-90 is some kind of B, and 90-100 is some kind of A.

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 in a single finished product that we hope you will be proud of.

Final Exam

The final exam will be **cumulative** with an equal emphasis on all the material in the course. It will have a take-home programming component and an **in-person written component**.

Late Policy

If you are requesting an extension due to significant circumstances (e.g., a family emergency, a long term illness, etc.), please **email the dean's office**, not us. We will definitely work something out, but the deans must be involved. Otherwise, the following apply:

- All extensions must be requested at least 24 hours before the due date.
- Send an email to cs024@caltech.edu with the following information:
  (1) Your name, access username, and UID
  (2) How long of an extension you are asking for (in hours from the due date)
  (3) A list of all extensions you have previously received (including assignment and length) in this course
  (4) Please don't include any personal privileged information. We would like to respect your personal privacy.

Course staff will respond with a final decision either allowing or denying the extension within approximately 24 hours.