

**CS 107**

# Course Staff

## Instructors

Michael Chang

Julie Zelenski

## 16 awesome TAs

Aojia, Bharad, Bryce, David, Dinislam, Jim, John, Keziah, Mo, Nathan, Patrick, Sabelle, Sal, Sevy, Schuyler, Travis

# Course Components

**Website: [cs107.stanford.edu](http://cs107.stanford.edu)**

**Lectures Monday and Friday**

**Weekly hands-on lab**

**Readings**

Computer Systems (3<sup>rd</sup> edition), C reference

**Programming assignments**

**Exams**

Midterm: Fri, May 6, in class

Final: Wed, June 8, 12:15-3:15

# Getting Help

## Website resources

General advice, references, policies

## Piazza

Course content, clarification, strategies

## Staff email: [cs107@cs.stanford.edu](mailto:cs107@cs.stanford.edu)

Specific/private issues

## Office hours

In-person advice, conceptual help

## Peers

Conceptual help, strategies

# Honor Code

**You are expected to turn in original, independent work.**

## **Allowed and encouraged collaboration:**

Discussing course content, assignment clarification  
General debugging/testing advice

## **Not Allowed:**

Sharing or copying code  
Using (or looking at) code from past quarters/online  
Joint coding/debugging

## **Plagiarism tools**

# What is CS107?

# Course Objectives

## **Mastery**

Write/debug C programs with complex use of memory/pointers  
Have accurate model of address space and runtime behavior

## **Competence**

Translate C code to/from assembly  
Write C code that respects the limits of computer arithmetic  
Identify bottlenecks and improve runtime performance  
Write code that ports to other architectures  
Work effectively in Unix development environment

## **Exposure**

Working understanding of computer architecture

# Other Goals

## **Hands-on exploration and experimentation**

Asking questions, making predictions

## **Effective use of tools**

Choosing the right tool, finding information

## **Programmer-centric**

Most systems courses are about building a product

CS107 is about building YOU to be an awesome programmer



# Code Examples

# Systems in the Real World

**Boeing 787 Dreamliners contain a potentially catastrophic software bug**

Integer overflow

# Systems in the Real World

## **Boeing 787 Dreamliners contain a potentially catastrophic software bug**

Integer overflow

## **Linux bootloader security vulnerability**

Out-of-bounds array access

# Your To-do List

## **Sign up for weekly lab**

Opens Wednesday morning 10AM

## **UNIX help sessions**

Offered throughout the week, see calendar on website

Held in Gates B08

SCPD students: we'll email you with details

## **Readings before lecture**

See syllabus page on website

## **First assignment posted tomorrow**

Due next week