USF UNIVERSITY OF SAN FRANCISCO
CHANGE THE WORLD FROM HERE

Course Introduction

CS 272 Software Development

Professor Sophie Engle
Department of Computer Science

Welcome to CS 272!

While we wait for everyone to join...

- Visit **usf-cs272-spring2023.github.io** for class website
- Respond to poll at **PollEv.com/sjengle**

CS 272-02 lectures are automatically **recorded**
and posted on Panopto and Canvas!

Ask Me (Almost) Anything!

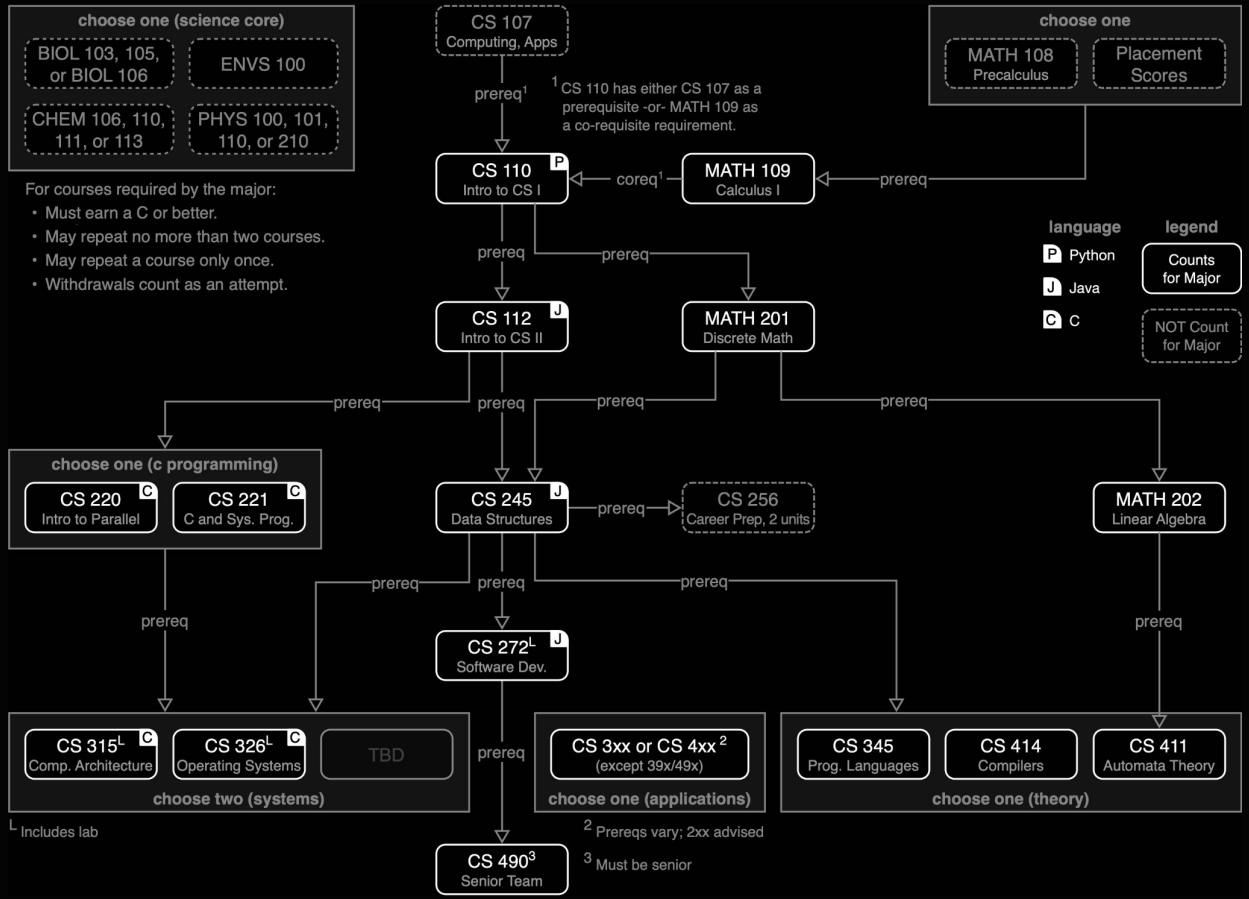
- **r/AMA** (ask me anything) is a popular subreddit
- Ask instructor ***almost*** any question (must follow the student code of conduct)
- Ask via **raising hand** or **anonymous poll** at: **PollEv.com/sjengle**

Why Should You Take CS 272?

- Solve complex problems and write professional-quality code
- Learn core skills useful for engineers, developers, analysts, architects, administrators, scientists, researchers, managers...
- Create a full-stack (back-end and front-end) in-memory multithreaded web crawler and search engine
- Fulfill a CS major or CS minor requirement

Why Should You NOT Take CS 272?

- You have a full semester with other courses
  - Avoid too many time-consuming major courses at once
  - Must write THOUSANDS of lines of code for this class
- You want more programming experience first
  - Can take other 200 and 300-level courses before this one
  - Only need to take this one semester before CS 490


choose one (science core)
BIOL 103, 105, or BIOL 106
ENVS 100
CHEM 106, 110, 111, or 113
PHYS 100, 101, 110, or 210
For courses required by the major:
• Must earn a C or better.
• May repeat no more than two courses.
• May repeat a course only once.
• Withdrawals count as an attempt.
CS 107
Computing, Apps
prereq[1]
[1] CS 110 has either CS 107 as a prerequisite -or- MATH 109 as a co-requisite requirement.
choose one
MATH 108
Precalculus
Placement Scores
CS 110
Intro to CS I
P
coreq[1]
MATH 109
Calculus I
prereq
prereq
prereq
language
P Python
J Java
C C
legend
Counts for Major
NOT Count for Major
CS 112
Intro to CS II
J
MATH 201
Discrete Math
prereq
prereq
prereq
prereq
prereq
choose one (c programming)
CS 220
Intro to Parallel
C
CS 221
C and Sys. Prog.
C
CS 245
Data Structures
J
prereq
CS 256
Career Prep, 2 units
MATH 202
Linear Algebra
prereq
prereq
prereq
prereq
prereq
CS 272[L]
Software Dev.
J
CS 315[L]
Comp. Architecture
C
CS 326[L]
Operating Systems
C
TBD
choose two (systems)
prereq
CS 3xx or CS 4xx[2]
(except 39x/49x)
choose one (applications)
CS 345
Prog. Languages
CS 414
Compilers
CS 411
Automata Theory
choose one (theory)
[L] Includes lab
[2] Prereqs vary; 2xx advised
CS 490[3]
Senior Team
[3] Must be senior

Open Major Requirements

- CS 221 C and Systems Programming (01, ~~02~~)
- CS 315 Computer Architecture (01, 02)
- CS 326 Operating Systems (01, ~~02~~)
- CS 345 Programming Language Paradigms (01, 02)

*As of Mon Jan 23rd

Open Applications + Electives

- CS 256-01 Career Prep (2 Credit Elective)
- CS 333-01 Intro to Database Systems
- ~~CS 386-01 SpTp: Full Stack Web Dev~~
- ~~CS 462-01 Intro to AI~~

*As of Tue Aug 16th

Advice from Past Students

Student Survey Results

Most surveyed students felt that...

- CS 272 was **more difficult** and **more time consuming** than CS 110, CS 112, CS 220/221, and CS 245
- Despite this, CS 272 was **worth the effort**

Time Management

"The hardest part of this class is to start. Trust me just **start early**!"

"DO NOT PLAGIARIZE! It is better to submit late!!"

"I highly recommend starting the projects early, or even in chunks! Project **deadlines will catch up to you** and will add stress to your life as the semester goes on."

Ask Questions

"It's **never too late** to reach out for help. I missed a few deadlines and I felt like it was too late to do anything about it. But the TA's and Sophie are super helpful."

"Work smarter not harder, **if you get stuck, just ask**, someone is willing to help."

Build Confidence

"It would be to let students coming into this class know they got it. I am a very nervous person, and at the beginning of this class I had almost **no confidence** in myself.

Professor Sophie, and TA's do miles more than enough to help, but each student has to meet them halfway! If you give the slightest sliver of effort, I think every student will learn a lot, and **flourish** in this class."

Rewarding Experience

"If you can be engaged and stay one step ahead (which you can!), **this class is a joy**."

"...you will feel **amazed** how much you are capable of"

"Buckle up, because it's going to be a lot of work, but [this class] will by far be the **most rewarding experience** of your CS education to date!"

Being Successful

- Manage your time well; start early
- Don't get stuck; ask for help
- You belong here; build confidence
- Have fun; don't forget to sleep

Ask why.

Breaks

Importance of Breaks

- Research shows that even brief breaks improve focus and downtime helps with productivity and memory
- Opportunity to check in, socialize, and build community
  - Problem solving can feel isolating otherwise!
- Opportunity for asynchronous participation and add follow-up questions to poll

Productive 15 Minute Break

- Spend break doing **something different** with your body and your mind than during lecture
- Spend at least 5 minutes looking **away from computer**
  - *Move around, stretch, breath, grab drink or snack, etc.*
- Spend at least 5 minutes on **asynchronous participation**
  - *Socialize, post a question, take quiz or survey, etc.*

15 Minute Break

- Quiet Space: inside classroom
- Social Space: outside classroom
- Post question at: **PollEv.com/sjengle**
- Complete participation at: **usf-cs272-spring2023.github.io**

Course Syllabus

Course Websites

- **Simple Syllabus**: Required for official course syllabus
- **Canvas**: LMS used to track assignments and grades
- **Course Website**: Weekly course schedule and materials
- **Zoom**: Remote code reviews, check-ins, office hours
- **Panopto**: Records and shares CS 272-02 lectures in LS G12

Course Websites

- **GitHub**: Version control system used for storing and sharing code, as well as submitting homework and projects
- **Piazza**: Course forums for asynchronous communication, occasionally synchronous in-class Q&A sessions
- **PollEverywhere**: Fully anonymous synchronous polls that do not require course enrollment

usf-cs272-spring2023.github.io

Questions?