University of California, San Diego

CSE 142L: Project in Computer Architecture

Winter 2024

Welcome!

You need to be concurrently enrolled in CSE 142 this quarter! This course is designed to help you put the conceptual content you learn in CSE 142 into practice by optimizing software for execution on real hardware.

What does this course offer to you?

This project course is designed so you get to practice analyzing the performance of programs on real systems and optimizing programs to take advantage of modern processor details.

How, exactly, are you going to accomplish this?

The lecture (CSE142) will prepare you with the conceptual understanding of processor features and the lab (CSE142L) will give you an opportunity to put those ideas into practice.

How will you (and the professor) know if you are making progress in your learning?

The corresponding lecture course offers you a number of opportunities to get feedback on whether you are learning what you need to know. This course will provide you feedback on your performance in class labs and final projects.

· **Labs**: These are your opportunities to apply what you've learned in lectures to analyze or optimize programs executing on modern hardware. Try your best to work through the labs entirely on your own, but feel free to get help from the tutors, TAs, or professor. We'll make every effort to provide you feedback on your labs quickly.

· **Final Project:** You will have a final project in which you will work to optimize a real program for execution on real hardware. Success at this final project should be an indication to you that you have succeeded in learning the main content of the lecture and project course. Feel free to ask questions of TAs, tutors, and/or the professor while working on your final project.

Important Course Details

Instructors: Steven Swanson

Class website:

- Root of everything: https://canvas.ucsd.edu/courses/51975 (click "start here")

Meeting times and places:

CSE142L has both a "lecture" and a "lab" section. They are back to back, and we will treat them as a single class meeting.

- Lecture + lab: Section A: M 11am-1pm
  Section B: F 11am - 1pm
- There will only be a final project in this course, but the last lab will be due during finals week.

Course materials (required)

- You should already have this for cse142:

https://www.amazon.com/Computer-Systems-Programmers-Perspective-3rd/dp/013409266X

Class Announcements
All announcements will be made via Piazza. Check Canvas for the link.

Grading Information:
- The grade for this class (out of 100% total) will be as follows:
- Labs + final project: 99%
- Professionalism: 1%
- **Professionalism:** I expect everyone in the class to conduct themselves in a professional manner. *I consider professional behavior to be a program-level academic outcome of UCSD.* Though broadly defined here, it includes (at least), professional conduct with the teaching staff and your fellow classmates. Some examples of unprofessionalism in prior courses include: excessive arguing with teaching staff over assessment outcomes (grades), belittling/rude/unkind behavior toward other students or teaching staff, and excessive lack of resourcefulness (e.g., e-mailing course staff with questions already answered on piazza or in this syllabus). Though rare, I reserve the right to deduct participation points from repeated unprofessionalism. Note that particularly severe infractions (e.g., sexism, racism, dishonesty - which are never tolerated in our community) may be subject to campus Academic Conduct Charges.
- **Labs:** Labs allow you to test your understanding of the material by authoring programs or analyzing existing programs.
  - To facilitate quick feedback, labs MUST be submitted as directed through gradescope. Be sure to follow instructions for your labs to be graded.
  - **Late labs are not allowed, no exceptions. The lab with the lowest score will have ½ the weight of the others. This "partial drop" judiciously.**
  - Gradescope will automatically grade part of your code and you'll get feedback on those basic tests. Some tests are hidden. **It is your responsibility to thoroughly test your code before submission**.
  - You may use gradescope regrades to identify grading errors on labs. **ONLY fully correct solutions which are incorrectly marked are eligible for regrading** (do not use regrades to argue for additional partial credit). Regrades must be submitted within 3 days of grades being released.
  - You must work individually on each lab.
  - You are highly encouraged to discuss labs with the professor, TAs, and tutors.
- If you are taking the course pass/fail, you must get at least a C- to pass (for Sat/Unsat, a B-).
- The only exceptions to the rules regarding no late assignments or exams are extended absences (one week or more) due to verifiable extraordinary circumstances, and absences due to official UCSD activity travel. In the case of absences due to a UCSD activity travel, you must give me a list of your travel dates as soon as it is available.
- If you are eligible for accommodations as per UCSD OSD policies, contact us by the end of week 2 to get them organized.

Integrity:
- **Review and sign** the course Integrity of Scholarship Agreement (as part of Lab 1)
  - Cheating WILL be taken seriously. It is not fair to honest students to take cheating lightly, nor is it fair to the cheater to let him/her go on thinking that cheating is a reasonable alternative in life.
  - The following is *not* considered cheating:
    - Working on labs/final projects alone
    - Asking for help from the professors, TAs, or tutors
    - Discussing the assignment in small groups so long as:
      - You never write any actual code (high-level pseudocode at the most is allowed)
      - You write nothing down during that meeting (no taking pictures/etc. either). This means you will solve the problem on your own with only your mind when you go to code it.
  - The following is considered cheating:
    - using solutions from the web, previous versions of the class, your friends, or anywhere else.
    - receiving, providing, or soliciting assistance from another student.

- looking at another students code for a lab or final project.

- Penalties -- If I become aware of any violations of these rules by a student I will initiate the actions described in the Policy on Academic Integrity. Integrity violations may result in a zero for the assignment, a zero for that portion of your grade, an “F” in the course, among others.