

CSc 256 Machine Structures

Spring 2023

Section 1: TuTh 1230-1345 Hensill Hall 113

Section 4: TuTh 1400-1515 Hensill Hall 113

Prerequisite: CSC 230 with grade of C or better

Texts: CSc 256 Course slides (available on iLearn)
Computer Organization (MIPS) by Patterson and Hennessy,
6th edition (Morgan-Kaufmann)

Reference: *See MIPS Run*, by Dominic Sweetman (Morgan Kaufmann)

Instructor: William Hsu (whsu@sfsu.edu)

Office: Creative Arts 39A
(I'm often not there, so please don't show up without an appointment)

Office hours: M 10-11am, TTh 1530-1630pm, or by appointment
(via zoom; see link on iLearn)

iLearn: Check CSc 256 website at <http://ilearn.sfsu.edu>

Grading: Quizzes, labs, projects/assignments (30%)
midterm + final (30% + 30% = 60%)
attendance (10%)

The midterm will be held in class.

The final exam will be held in the standard final exam timeslot, in class:

Section 1: Thursday 5/25 1230 – 1430

Section 4: Tuesday 5/23 1445 – 1645

No rescheduling will be allowed for travel-related reasons.

CSc 256 Tentative Calendar for Spring 2023

Note: chapter numbers refer to lecture slides, not textbook

Hours	Date	Topic	Events
1-3	1/31, 2/2	Ch 0 introduction	
		Ch 1 Integer representation/arithmetic	
4-6	2/7, 9	C/C++ for Java programmers	
		Ch 2 Assignment, arithmetic	
		Ch 2 Directives, variables, ALU, IO	
		Ch 2 if-else, for loop	
7-9	2/14, 16	Ch 2 while loop, logical instructions	Quiz 1 (Ch 1, prereqs)
		Ch 2 shift/rotates, Ch 3 load/stores	
10-12	2/21, 23	Ch 3 pointers, arrays	Quiz 2
13-15	2/28, 3/2	Ch 4 the stack, simple functions	
		Ch 4 nested calls	Ch 3 assignment due
16-18	3/7, 9	Ch 4 call frames	
		Ch 4 tracing nested calls, array arguments	
19-21	3/14, 16	Ch 5 machine language	
	3/21, 23	Spring break (no class)	
22-24	3/28, 30	Ch 5 disassembly	Ch 4 assignment due
		Ch 6 logic	
25-27	4/4, 6	Midterm	Ch 5 assignment due
		Ch 6 logic	
28-30	4/11, 13	Ch 6 logic	
		Ch 7 Simple MIPS CPU	
31-33	4/18, 20	Ch 7 Pipeline concepts	Ch 6 assignment due
		Ch 7 Performance and power	
34-36	4/25, 27	Ch 8 Memory technology, cache basics	
		Ch 8 Cache	
37-39	5/2, 4	Ch 8 Virtual memory basics	Ch 8 assignment due
		Ch 9 PC assembly language	
40-42	5/9, 11	Ch 9 PC assembly language	
		Ch 10 Interrupts/signals	
43-45	5/16, 18	Ch 10 Interrupts/signals	
		Final exam review	
	Finals Week	Sec 1 Final exam: Thu 5/25 1230 – 1430 Sec 4 Final exam: Tue 5/23 1445 – 1645	

General Information and Class Policies

Class accounts

- 1) If you are a new student, you should have an SFSU personal account on the SFSU servers. All students enrolled in this course will be given access to the CSC 256 iLearn site. I will direct all email messages and information relating to CSc 256 to your SFSU account.
- 2) You should check the 256 iLearn site every day or two, even if you are not working on a 256 project that week. I post information related to the class periodically, including changes in current assignments, deadlines etc., and you are responsible for keeping up-to-date by checking iLearn regularly. All email to me should be directed to whsu@sfsu.edu. Use the CSc 256 General forum on iLearn for questions and discussions.
- 3) You should be the only person who has access to your account. Do not give out your password. Do not let a friend use your account, or use a friend's account. Either action may result in temporary suspension of your account privileges.

Attendance

- 4) You are responsible for all information given out in class. If you are unable to attend a regular class period, make sure you find out from a classmate about the lecture and handouts. Attendance will be taken (worth 10% of your grade).
- 5) If you are unable to attend a class period when a test is scheduled, you *must* contact the instructor before the test. If you are unable to take a test for medical reasons, you must have proof from a doctor, the health center etc. Otherwise, you will get a zero on that test.

Late projects

- 6) All projects are due at the announced deadlines. For some projects, you may turn in late projects within 48 hours of the deadline, for 75% of the credit. There will be no negotiations (except for serious and compelling reasons, and they *better* be serious and compelling reasons).
- 7) "My computer was down" is not considered to be a serious and compelling reason for missing the deadline. You will be given sufficient time to work on each assignment. Please start early! There is no excuse for waiting till the last minute.

Cheating

- 8) This is taken *very seriously*. Don't do it. Please consult the departmental policy on plagiarism/cheating: <https://cs.sfsu.edu/cheating-plagiarism-policy> .
- 9) All projects, unless otherwise specified, are individual projects. This means that you're expected to work on them on your own, and not in collaboration with other students. You may do preliminary planning with other students in the early stages of the project, or help a friend debug her/his project. However, if the code in your projects is found to be very similar, this is considered cheating, even if you worked together to produce the code.
- 10) Submitting someone else's work as your own is considered cheating. Letting someone else submit your work as her/his own is also considered cheating, and will be treated equally.
- 11) If you wrote your code on your own, you must be able to explain its details. If you are unable to explain the details of code that you turned in, I consider this a strong indication that you did not write the code on your own; in that case, I have the option of giving you a zero on that project, and reporting the incident to the department chair.
- 12) Depending on the seriousness of the offense, students caught cheating could be assigned an "F" in the course, or be expelled from school.

Some Resources

Learning Assistance Center (LAC)

Computer Science tutors are available at the LAC.

Website: <https://lac.sfsu.edu>

Email: lac@sfsu.edu

Phone: 415 338 1993

COSE Student Success Center (CSSC)

CSSC advisors can help with many aspects of academic advising, especially GEs.

Website: <https://cose.sfsu.edu/cssc>

Title IX Notice of Non-discrimination

San Francisco State University does not discriminate on the basis of gender, which includes sex and gender identity or expression, or sexual orientation in its education programs or activities. Title IX of the Education Amendments of 1972, and certain other federal and state laws, prohibit discrimination on the basis of gender or sexual orientation in employment, as well as in all education programs and activities operated by the University (both on and off campus). The protection against discrimination on the basis of gender or sexual orientation includes sexual harassment, sexual misconduct, and gender based dating and domestic violence and stalking. You can find more information on their website: <https://titleix.sfsu.edu/>

Related resources:

The SAFE Place - (415) 338-2208; http://www.sfsu.edu/~safe_plc/

Counseling and Psychological Services Center - (415) 338-2208; <http://psyserve.sfsu.edu/>

Disability Programs and Resource Center (DPRC)

DPRC staff work with students and employees with disabilities to ensure all aspects of life on campus including academics, events, and employment are accessible.

If you have a disability and would like to make sure you have the best experience in this course, contact the DPRC.

Website: <https://access.sfsu.edu/>

Email: dprc@sfsu.edu

Phone: 415 338 2472

Video phone: 415 338 7210