

# CSCI 210, Spring 2004

Levels of architecture, languages, and applications  
www.cburch.com/cs/210/

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**Hours:** Days 2, 4: 8:30-9:30a; Day 1: 10:00-11:00a  
drop-ins, appointments always welcome

## Goal

Our goal is to gain a strong understanding of the hierarchy of systems that constitute a modern computer. We'll examine compilers, instruction sets, operating systems, and computer organization. We'll examine real systems (including C, the Intel architecture, and Unix); we'll modify many systems; and we'll study underlying principles. You should emerge with a strong, holistic understanding of the modern computer system, with specific knowledge of many of its components and an appreciation for the design decisions on which they are based.

## Evaluation

There are a total of 1,000 points over the semester.

Class participation	100 pts
Laboratory reports (25 pts each)	275 pts
Assignments (variable)	115 pts
Quizzes (30 pts each)	150 pts
Exams (80 pts each)	240 pts
Final	120 pts
<b>Total</b>	<b>1,000 pts</b>

Letter grades will come from the following scale.

A	900 or more	C	700 to 779
AB	880 to 899	CD	680 to 699
B	800 to 879	D	600 to 679
BC	780 to 799	F	less than 600

The instructor reserves the right to make adjustments in the entire grading scheme or in particular cases.

The A grade is meant for outstanding performance; a B is more typical and represents solid preparation for future computer science courses, while a C represents marginal preparation. I assign grades independent of any overall goal, but the average letter grade will likely be near 3.0, the historical average over CSB/SJU computer science classes.

## Class participation

Several points are designated for "class participation." I will assign half of these points near the semester's middle, and the other half near the semester's end. I *may* use some points for in-class exercises, but most of the points will be based on attendance and participation.

I will periodically take attendance for class. You will receive 75% of these attendance/participation points if your attendance is perfect, with a 10% deduction for each observed absence. The deduction for tardiness will be slightly less. Note that I will excuse one absence or tardiness during class automatically. If you anticipate additional absences, please let me know in advance.

The remaining 25% of these points are for participation, including both questions during class and responses to questions during class. I may give more than full credit in unusual circumstances. Take this as an invitation: I value your active participation in class, and I expect you to show evidence of being fully tuned in during classroom and laboratory sessions.

## Laboratories

This course has a laboratory session scheduled for each cycle. Attendance at the laboratory session is mandatory. Details about laboratory procedures will be distributed at the first laboratory period.

Laboratories will meet every day except the first Day 1 and the last Day 5. Thus, the first laboratory session will be Day 5, Jan 16, and the last session will be Day 1, Apr 23.

## Assignments

I anticipate five homework assignments in the course of the class, with the following due dates and point values.

Fri 23 Jan	Integer representation	15 points
Fri 30 Jan	Floating-point representation	25 points
Fri 20 Feb	Subroutines	30 points
Wed 24 Mar	Logic circuits	15 points
Thu 29 Apr	Cache effects analysis	30 points

The nature of the assignments, their point values, and particularly their due dates may change.

The assignments will be due at 4pm on the scheduled day. You may turn them into me during class or in my office. If I'm not in my office, you may slide them under my office door.

## Quizzes and tests

Quizzes will typically be 25 minutes in length, and exams usually 50 minutes, but that's not a guarantee.

The currently planned schedule of five quizzes and three exams is as follows; there may be variation in the test dates, but not in the number. Note that all planned tests fall on Day 2 of the cycle.

Wed 21 Jan	Quiz 0	Thu 18 Mar	Quiz 2
Thu 29 Jan	Exam 0	Fri 26 Mar	Exam 2
Mon 16 Feb	Quiz 1	Mon 5 Apr	Quiz 3
Tue 24 Feb	Exam 1	Mon 26 Apr	Quiz 4
		Tue 4 May	Final, 11a

It will be common for the average test grade to be 75%. When the median grade on a test falls below this, the scores on that test will be increased ("curved") so that the median is 75%. If your score was 100% before this, it will be more than 100%. (Note that, because the adjustment is based on the median, the top score does not "blow the curve.") If you skip the test, you will receive a 0 regardless of any curve.

If you miss a test, you must receive advance permission from me to receive more than a 0. (Naturally dire medical emergencies usually constitute an exception.) If you are excused from the test, I will either double your lowest quiz or exam score or administer a make-up, at my discretion. Let me know well in advance — 24 hours for exams and quizzes, and two weeks for the final. I would like to remind you that, when e-mail is impossible, telephones exist also. *Do not skip a test without my prior approval!*

Note that I may require you to document your reason for absence. Travel arrangements and work schedules are not adequate reasons to miss a test.

## Books

The book is an extensive handout of notes required for this class. A \$10 fee will cover the expense of copying the book for you. You should plan to bring these notes to class each day. Many class periods we will examine programs in the notes; without the notes, following some class session will be impossible.

Of course, I encourage you to study these notes outside of class too — I didn't write them just for the fun of it. Any communication of reactions, corrections, or confusions will be most welcome! Feel free to write on them; if you like, after the class is done, you can ceremoniously throw them into the recycling bin — unless, that is, you prefer to cherish every word throughout your life, and then to bequeath them to your oldest grandchild. That's fine, too.

If you want a published textbooks, you might try Bryant and O'Hallaron's *Computer Systems: A Programmer's Perspective* or Tanenbaum's *Structured Computer Organization*, both from Prentice Hall. Bryant and O'Hallaron's book covers more material related to this class; Tanenbaum's book is written better.

## Plagiarism / cheating

You must properly attribute any work or ideas you use in assignments for this course which are quoted or derived from others. Plagiarism includes not only copying the ideas and the written and spoken words of others, but also copying or otherwise appropriating their computer files as well. Interfering with the work of others including their use of computing facilities is also a serious academic offense. I will report all instances of plagiarism, cheating, or other academic misconduct to the appropriate Academic Dean, and I will give an F for that assignment or for the course at my discretion.

Note that discussing the specifics of assignment solutions with classmates (prior to handing them in) is definitely out of bounds, except as allowed by assignments. A strong correlation between your solution and a classmate's solution constitutes evidence of cheating. In this class, you will be able to complete most laboratory assignments in cooperation with one (1) classmate.

## Conclusion

This will be a challenging class.  
This will be an educational class.  
This will be a fun class.  
Make the most of it, and enjoy.