California State University, Sacramento
College of Engineering and Computer Science

Computer Science 35: Introduction to Computer Architecture

Fall 2018 Syllabus

Instructor

Devin Cook, M.S.

Contact Information

I use the same e-mail address to answer questions and to receive your coursework. So, please use a descriptive subject in your e-mail. I get quite a bit of e-mail, and the subject helps a lot.

E-Mail	dcook@csus.edu
Office	Riverside Hall 5009

Website

All the information in this syllabus – as well as other helpful information presented during the course – can be found online. Please note the lack of "www" and the tilde symbol before "cookd".

Website	**`http://athena.csus.edu/~cookd/35`**

Course Description

Catalog Description

Internal representation of numeric and non-numeric data, assembly level machine architecture, addressing modes, subroutine linkage, polled input/output, interrupts, high-level language interfacing, macros and pseudo operations. Lecture two hours, technical activity and laboratory two hours.

Prerequisites

CSc 15

Textbook

None

Topics Covered

- How integer and floating point numbers are stored
- Binary and floating point arithmetic
- Non-numeric data representation
- Representation of Elementary Language Data Types: integer, real, Boolean, character
- Von Neumann architecture
- Processor design philosophies
- Conditional branch instructions
- Memory location alignments and data movement instructions
- Modules: defining subroutines, calling subroutines
- Addressing modes: registers and memory locations
- Interrupts and vector tables
- Interacting with the operating system
- High-level language interfacing, inline assembly, introduction to code generation

Lectures

- Please ask questions and give comments. I enjoy back-and-forth interactions with students. There are no dumb questions!
- Attendance is vital to your success in the course. If you miss a class, you are responsible for checking with a classmate about the material we covered.
- Pop quizzes, if given, **cannot** be made up.
- During lectures **no** electronic devices, of any type, are allowed. This includes laptops, phones, and other texting devices. **No** exceptions.
- You **cannot** use lab computers during lecture. Doing so will result in a **zero** in the lab.
- I will provide all the lecture slides in PDF format on the website. So, you don't have to take notes.

Assignments

- My job is not to give you the correct solution, but to help you figure it out by yourself. There are no "dumb" questions, so don't be afraid to ask. But, don't be upset if I don't given an answer!
- I don't mind students discussing, ahead of time, how to find a solution. In fact, it's a great idea! Just don't share solutions – just ideas!
- Late assignments are penalized. I will take off 10%, per day, starting immediately after the assignment is due. Weekend days are counted.
- You only get to submit each assignment once – so make sure you did it correct!
- Do **not** cheat or help others cheat. This means you cannot show your solution to another student or show how to do it. For example: don't copy off another student's screen or let them copy off yours.
- In **any** case of cheating, both the student, that copied the solution, and the one who allowed it, will receive a zero. Depending on the severity, I might have to notify the College.

Exams

- There are two midterms during the semester. Each is spaced approximately with 4 weeks in between.
- The two hour Final is comprehensive.
- If, for some reason, you will not be able to attend the exam, you must contact me *before* the exam date.
- Any material covered in the lectures or labs can be included in the exams.

Grading

Title	Percent	
Labs	20%	40%
Projects	20%	
Midterm Exams	30%	60%
Final Exam	30%	
	100%	

Note:

Depending on how much material is covered during the semester, the percentages may vary.

Resources

Students with Disabilities

If you have a disability and require accommodations, you need to provide disability documentation to SSWD (Services to Students with Disabilities). Please discuss your accommodation needs with me after class or in lab early in the semester.

Website: **www.csus.edu/sswd**

Writing Center

For free, one-on-one help with reading or writing in any class, visit the University Reading and Writing Center (URWC) in Calaveras Hall 128.

Website: **www.csus.edu/writingcenter**