California State University, Sacramento
College of Engineering and Computer Science

Computer Science 35: Introduction to Computer Architecture

Spring 2022 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
Zoom #	331 390 3761

Website

All the information in this syllabus – as well as other helpful information presented during the course – can be found online.

Website	`athena.ecs.csus.edu/~dcook/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

Major Topics

- Numeric and non-numeric data representation. Representation of Elementary Language Data Types: integer, real, Boolean, character
- Processors, registers, and instruction encoding
- Von Neumann architecture and processor design philosophies
- Memory location alignments and data movement instructions
- Conditional logic
- Modules: defining subroutines, calling subroutines
- Addressing modes: registers and memory locations
- Interrupts, vector tables, and interaction with the operating system
- High-level language interfacing, inline assembly, introduction to code generation

Academic Integrity

- Do **not** plagiarize. Plagiarism is the act of incorporating another person's work into yours and claiming it as your own.
- Do **not** aid any student to commit academic fraud. This means you cannot show your solution to another student or show how to do it.
- In **any** case of cheating, both the student, that copied the solution, **and** the student who allowed it, will receive a zero. For severe incidents, it will result in an automatic **F** in the course.
- Any assignments done in prior semesters, *even if you took this class*, are **not** allowed. Any prior work will receive an automatic zero.

Lectures

- Attendance is vital to your success in the course. If miss a class, you are responsible for checking with a classmate about the material we covered
- Please ask questions or give comments. I enjoy back-and-forth interactions with students. There are no dumb questions!
- 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

- Work is performed on a UNIX server using Telnet software. This software is freely available.
- You only get to submit each assignment **once** – so make sure you did it correctly!
- Late assignments are penalized. I will take off 10%, per day, starting immediately after the assignment is due. Weekend days are counted.
- 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 give an answer!
- **Do not ask other students for help.** All assignments are individual work only.

Grading

Title	Percent
Assignments	30%
Midterm Exams	40%
Final Exam	30%
	100%

- The Final is comprehensive.
- Any material covered in the lectures, or the notes can be included in the exams.
- **Note:** Depending on how much material is covered during the semester, the percentages may vary.

Student Resources

- **Student Health & Counseling Services**
  https://www.csus.edu/student-life/health-counseling
- **Crisis Assistance & Resource Education Support (CARES)**
  https://www.csus.edu/student-affairs/crisis-assistance-resource-education-support
- **Services for Students with Disabilities**
  https://www.csus.edu/student-affairs/centers-programs/services-students-disabilities
- **Reading and Writing Center**
  https://www.csus.edu/undergraduate-studies/writing-program