California State University, Sacramento
College of Engineering and Computer Science
Department of Computer Science

CSc 137 - Computer Organization
Fall 2020

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Catalog Description

Introduction to computer organization and architecture. Topics include combinational devices, sequential and synchronized circuits, memory organization, CPU architecture and organization, bus structures, input/output, interrupts, DMA, memory hierarchy, introduction to instruction level parallelism, multithreading, and multiprocessing; exposure to hardware security issues. Prerequisite: CSC 28, CSC 35, and CSC 130; 3 units.

Texts:

Textbook: Digital Logic Design and Computer Organization-with computer architecture for security, Nikrouz Faroughi, McGraw Hill.

Grading Policy:

For grading scale, see details below.

Quiz/Homework/Technical presentation	30%	Subject to change. Also see the Notes below
Midterm	35%	
Final	35%	Comprehensive

Notes 1:

1. No make-up exams.
2. You are responsible for all the materials presented and announcements made in class.
3. To pass the class you must do satisfactory work in assignments, technical presentation, and exams.
4. No late homework will be accepted. Homework is due at the **beginning** of the class time; homework turned in at the end of the class will not be accepted.
5. Drops after the 6th week will be permitted only with serious and compelling reasons.
6. For Academic Honesty, Policy & Procedures refer to:
   http://www.ecs.csus.edu/wcm/csc/academic/academicintegrity.html.

Note 2:

The assignments will be posted on Canvas. You should check the web site periodically for new items.
We will adhere to all CSUS and CsC department policy and procedures.

Tentative schedule:

Topics	Readings (Selected Sections)	Tentative
Introduction	Sections 1.1-1.4	1 week
Combinational logic: Small circuits	Section 2.1-2.4, 2.5.1, 2.6, 2.7.1, 2.7.3, 2.8, 2.9, 2.10 (skip 2.10.4)	2 1/2 weeks
Combinational logic: Large circuits	Sections 3.1-3.3 (skip large CLA adder), 3.5-3.6.1, 3.83.8.2	1 week
Sequential circuits: Core modules	Sections 4.1-4.5.3 (skip negative hold time), 4.6	1/2 week
Sequential circuits: Small designs	Chapter 5 Sections 5.1, 5.2.1, 5.3, 5.4 (selected topics), 5.6.1, and 5.7	1 ½ weeks
Sequential circuits: Large designs	6.1 to 6.3 (except 6.3.2),	1 1/2 weeks
Memory organization, technology, and access	Sections 7.1 to 7.4.1, 7.4.4, 7.5.3, 7.5.4, 7.6, and 7.7	1 week
Instruction set architecture (ISA)	Sections 8.1 to 8.3.3.	1 1/2 weeks
System interconnection	Chapter 9	1 hour
Memory hierarchy	Sections 10.1 to 10.2.	1 ½ week
Exams		1 ½ weeks

Additional Policies

Read this carefully - I want you to succeed in this class! I will do everything I can to help you. Please help me to help you do well! By completing assignments on time, staying current with the readings, participating in the class, and doing a good job on your technical presentations, you will not only enjoy the class more, your performance will likely be quite high. Let's work together to maximize learning!

In order to succeed in this course, you are to read the textbook and come to class prepared. We simply do not have time in class to cover every single detail in the textbook – you must read it and either come to my office hours or arrange a meeting time with me to go over any of questions you may have after reading the text and participating in class.

Next, any form of cheating is simply not tolerated in this class. In fact, for this class as well as all of your CSUS classes, you should be familiar with and abide by the CSUS Policy Manual related to student conduct. To learn more, please see the weblink below:

http://www.ecs.csus.edu/wcm/csc/academic/academicintegrity.html.

I am here to help you succeed! That's my ultimate goal.

Grading scale

Grade	Range:	
A	100 %	to 94.0%
A-	< 94.0 %	to 90.0%
B+	< 90.0 %	to 87.0%
B	< 87.0 %	to 84.0%
B-	< 84.0 %	to 80.0%
C+	< 80.0 %	to 77.0%
C	< 77.0 %	to 74.0%
C-	< 74.0 %	to 70.0%
D+	< 70.0 %	to 67.0%
D	< 67.0 %	to 64.0%
D-	< 64.0 %	to 61.0%
F	< 61.0 %	to 0.0%

ECS Career Services: http://career.ecs.csus.edu/

FYI: Basic Needs Support:

If you are experiencing challenges in the area of food and/or stable housing, help is just a click, email or phone call away! Sacramento State offers basic needs support for students who are experiencing challenges in these areas. Please visit our Basic Needs website to learn more about your options and resources available. https://www.csus.edu/basicneeds/