EE444 Course Syllabus
Spring 2016
Monday/wednesday 9: 50 -11:40 am

Instructor

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Office hours: MW7:30- 9:30 am

Course number EE 444
Course name Computer Architecture
Credits 4 units
Contact hours 4 hours/week

Text book

Computer Organization and Architecture, 10/E
William Stallings
ISBN-10: 0134101618 • ISBN-13: 9780134101613

Course Information

a) Description: Computing Systems. Integrated study of computer hardware and firmware. Introduction to parallel architectures.
b) Prerequisites: CS 245
c) Required/Elective: This course is required in the CS BS program.

Course Goals

The Student Learning Outcomes that are addressed by the course are:

Students will have a fundamental understanding of computer systems.
Other outcomes of instruction:
At the end of the course, students are able to

- Familiar with computer organization and Architecture
- Familiar with structure and function
- Familiar with computer evolution and performance
- Have a Top-Level View of Computer Function and interconnection
- Memory System
- Computer Arithmetic
- An overview of Instruction set & Addressing Mode
- CPU control, Microprogramming
- Single Cycle Datapath

Brief list of topics to be covered

1. Introduction to computer architecture and organization/ structure and function
2. Brief history of computers
3. Computer components / Bus Interconnection
4. Logic Operations and Boolean Algebra-- Class Notes

5. Arithmetic Logic Unit, Integer, and floating point representation
6. Machine Instruction Characteristics , types of operands, types of operations
7. Addressing Modes and Formats
8. Cache Memory principles, Elements of Cache Design
9. Semiconductor Main Memory
10. External Memory
11. Control Unit Operation, Micro-Operation

Grading Policy

- Homework 30% (2 assignments)
- Midterm Exam. 30%
- Final Exam. 40%

A	90 - 100 %
B	80 - 90 %
C	60 - 80 %
NC	below 60 %

Class Schedule:

Week 1		
Week 2		
Week 3		
Week 4		
Week 5	Midterm	
Week 6		
Week 7		
Week 8		
Week 9		
Week 10		
Week 11	Final	June 9th 1:30 -4:00pm

Academic Integrity: Cheating will not be tolerated. Cheating on any assignment or exam will be taken seriously. All parties involved will receive a grade of F for the course and be reported to the Academic Senate.