CS220 – Computer Architecture   **Fall 2017**

Dr. Jill Zimmerman
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Office Hours:

> 10:30 - 11:30 M
> 8:30 - 9:30 T
> 12:00 - 1:00 W
> others by drop in or appointment

Text: N. Nisan and S. Schocken, *The Elements of Computing Systems: Building a Modern Computer from First Principles.* The MIT Press, 2008 (Also used in CS 224).

Course web page http://phoenix.goucher.edu/~jillz/cs220

Course Description:
This course introduces the organization of contemporary computing systems: instruction set design, arithmetic circuits, control, the memory hierarchy, and I/O.

Course Learning Outcomes:
After successful completion of this course you will be able to:

- L1: Implement a computer system from the chip set to the computer architecure.

- L2: Implement translators for assembly and virtual machine programs, using a stack architecture used by many high level languages.

Course Mechanics:
I expect you to bring your textbook to class every day and be prepared to be an active learner. You will need to read the relevant chapters of the text ahead of working on the projects.

Course Schedule:

Topics	Due Dates
Chapter 1 Boolean Logic - Project 1	Sept 6
Chapter 2 Boolean Arithmetic - Project 2	Sept 13
Chapter 3 Sequential Logic - Project 3	Sept 20
Exam 1	Sept 27
Chapter 4 Machine Language Programming - Project 4	Oct 4
Chapter 5 Computer Architecture - Project 5	Oct 16
Chapter 6 Assembler - Project 6	Oct 25
Exam 2	Oct 30
Chapter 7 Virtual Machine Translator I - Project 7	Nov 13
Chapters 8 Virtual Machine Translator II	Dec 6
Chapter 9 Multithreading - Lab 5	Nov 8
Final	TBA

Grading:
The following table shows the grading percentages.

Projects	45%
mbed labs	5%
Exam1	15%
Exam2	15%
Final	20%
Total	100%

Academic Dishonesty:
Turning in work that was produced by someone else is cheating and will be subject to an Honor code violation. I will give you a lot of opportunity to collaborate with your fellow students and ask me for assistance, but if you violate that trust and cheat by submitting work that is not yours and your partners' you will be hurting yourself and others in the following ways:

1. You would be failing to engage in the authentic learning and mastery of the academic material and thus harming your own education.

2. You would be reducing the enjoyment of accomplishments earned through genuine effort.

3. You would b creating an environment of broken trust, which then limits the ability of students to work together meaningfully and collaboratively.

4. You would be harming your reputation and face serious consequences.