CSE 378 - Fall 2010

Instructor: Mark Oskin, oskin@cs, cell: 206-293-9456 (for emergency use only)
Office Hours: M,W,F drop-in, CSE 564; T during lab in CSE 003
TAs: Aaron Miller, ajmiller@cs; Steven Lockhart, srl7@cs
Office Hours: M 4:00 - 5:00, CSE 003   F 2:30 - 3:30, CSE 003

JOIN THE EMAIL LIST IMMEDIATELY: cse378@cs

My wife is expecting our first child any day now. This may not cause any class disruption, or it might cause 1-2 lecture cancellations / guest lectures. Please join the email list as I will send updates to it.

Key times:
Lecture: M,W,F: 11:30 - 12:20 EEB 0045
Lab A: T: 2:30 - 5:20 CSE 003
Lab B: Th: 9:30 - 12:20 CSE 003

Key dates:
(subject to change) Midterm I: ~October 25th: Assembly language programming
(subject to change) Midterm II: November 24th: Basic microarchitecture
Final exam: December 15th 2:30 - 4:20: The whole shebang

General class policies:
- Work individually on homework; help each other out by answering questions.
- Do labs in groups of 1 or 2 people (not 3)
- **Speak!** This is your class. You will get the most out of it by talking in class.
- Obviously, midterms are to be done alone.
- During section, the lab is yours. When no other class is assigned there, feel free to work there. When a class is scheduled there, they have the right to kick you out or ask you to move to another machine.
- Late policy: You can turn in 2 assignments 1 day late; and 1 assignment 7 days late. Beyond this, late assignments are not accepted.
- Cheating / Academic Misconduct: Don't go there. You won't like the result.

Advice:
- You can take notes excessively, but you will probably get the most out of this class by participating (see Speak! above). The homework and lab should solidify the actual concepts.
- If I had to gauge the overall average difficulty of the labs on a scale of 1-3, they would go like this: Lab1: 3; Lab2: 1; Lab3: 2; Lab4: 3. The homework would be: HW1: 1, HW2: 2, HW3: 3.
- The book is quite interesting. It is also very helpful for doing the labs.
Approximate Schedule:
---------- Week 0 --------- Sep 29th
- Reading: 1.1 - 1.10
W: A Simplified Microprocessor
- Assign HW #1: Comment compiled C code
F: Making ASM do something
---------- Week 1 --------- Oct 4th
- Reading: 2.1 - 2.7, 2.17
M: Making ASM do some more
- HW #1 due
- Assign HW #2: Write basic string routines
W: x64 - basics
F: x64 - memory addressing
---------- Week 2 --------- Oct 11th
- Reading: 2.8, 2.14, 2.15
M: x64 - memory addressing part 2
- HW #2 due
- Assign HW #3: Write sort routine in x86
W: x64 - C to ASM
F: x64 - C# to ASM
---------- Week 3 --------- Oct 18th
- Start lab 1: Datapath
- Reading: x64 ABI Standard (focus on Linux/Win64 calling and OS interfaces)
- Reading: 2.18 - 2.20
M: x64 - OS calls
- HW #3 due
- Assign HW #4: Write sort routine in MIPS
W: x32 - The wild west
F: MIPS
---------- Week 4 --------- Oct 25th
- Reading: 4.1 - 4.4
M: MIDTERM I
- HW #4 due
W: Midterm I - Answer day
F: Q/A finish up assembly
---------- Week 5 --------- Nov 1st
- Reading 4.5 - 4.6
- Lab 1 due
- Lab 2 start: Control
M: A non-pipelined MIPS processor
W: A non-pipelined MIPS processor, continued
F: A non-pipelined MIPS processor, continued
---------- Week 6 --------- Nov 8th
- Reading: 4.7, 4.8
M: Pipelining (theory)
W: A two-stage MIPS pipeline
F: A five-stage MIPS pipeline
---------- Week 7 --------- Nov 15th
- Reading 4.9 - 4.11
- Lab 2 due
- Lab 3 start: pipelining
M: A five-stage MIPS pipeline (continued)
W: A five-stage MIPS pipeline (continued)
F: A five-stage MIPS pipeline (continued)
---------- Week 8 --------- Nov 22nd
- Reading 4.13 - 4.15
- Lab 3 due
- Lab 4 start: hazards
M: Prep for midterm
W: MIDTERM II
F: Holiday
---------- Week 9 --------- Nov 29th
- Reading: 5.4, 5.2, 5.3, 5.7, 6.6
M: Midterm II - Answer day
W: Advanced pipelining
F: Virtual Memory
---------- Week 10 --------- Dec 6th
- Reading: 7.1 - 7.3
- Lab 4 due
M: Memory systems
W: I/O
F: Wrap-up/Review