ECE 552: Introduction to Computer Architecture

Fall 2010

Instructor: Prof. Mikko Lipasti

Final Exam Review Information

The final exam is cumulative in nature, but will focus on topics discussed in class for material in Chapter 5, 6, and 7, and material from Chapter 3 on integer multiplication and division and floating point arithmetic. SECDED codes will also be covered, based on the lecture notes and the additional handout posted on the web page (this material is not in the textbook). Finally, the lecture coverage of superscalar out-of-order processors, multicore processors, and power consumption, as well as the content of the MIPS R10000 paper, are included. Use the following table as a reference.

The exam will be closed book and closed notes. However, you are allowed to bring one double-sided 8.5"x11" cheat sheet that contains whatever reference information you would like. The focus of the exam will not be to test your ability to memorize details. Rather, details will be provided and you will be asked to think and solve problems given those details.

You will be expected to do simple paper-based logic design similar to the midterm (both combinational and sequential logic). You MUST USE FULLY SYNCHRONOUS DESIGN (FSD) in your solutions on the exam.

There will also be discussion questions on topics discussed in class and in the text.

Please answer exam questions using a pencil--scribbled-out mistakes in ink are unpleasant to grade, and make assigning partial credit difficult.

Week	Dates	Assignments	Topics	Readings
0	9/3		Introduction	Ch 1
1	9/8,9/10	HW1 out	Performance and Cost	Ch 1.4
2	9/13,9/15,9/17		Instruction Sets	Ch 2
3	9/20,9/22,9/24	HW1 due, HW2 out	Arithmetic I	Ch 3.1-3.2
4	9/25,9/29,10/1		Datapath design	Ch 4.1 - 4.3, App C
5	10/4,10/6,10/8	HW2 due, HW3 out	Control	Ch 4.4, App C
6	10/11,10/13,10/15	Project out	Pipelining	Ch 4.5-4.9
7	10/18,10/20,10/22	HW3 due	Intro to Superscalar	Ch 4.10
8	10/25,10/27,10/29		Review and Midterm 10/29	MIPS R10K paper
9	11/1,11/3,11/5	HW4 out	Memory Technology	Ch 5.1, Slides
10	11/8,11/10,11/12	HW4 due, HW5 out	Memory Hierarchies	Ch 5.2 - 5.5
11	11/15,11/17,11/19		Memory Hierarchies cont'd	Ch 5.2 - 5.5
12	11/22,11/24	HW5 due	Arithmetic II	Ch 3.3 - 3.5
13	11/29,12/1,12/3		I/O	Ch 6
14	12/6,12/8,12/10	Project report due 12/10 Project demo 12/11	Parallel processing	Ch 5.7-5.9, Ch. 7
15	12/13,12/15		Review	--
16	12/20		Final Exam, 12:25pm Monday	EH2317