Utah State University  
ECE 5750: High Performance Microcomputer Architecture  
Spring 2007  

Instructor: Dr. Brandon Eames  
Office: EL 304D (soon…)  
Office Hours: MW 3:30-5:30, F 2:30-4:00, Other times by appointment.  
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Lecture: MWF 10:30-11:20, Engr 304  
Course website: http://www.engineering.usu.edu/classes/ece/5750  

Course Description:  

ECE 5750, Computer Architecture I: Modern architecture fundamentals, instruction set analysis and design, pipelined and superscalar architectures, software-hardware interaction, cache systems. Stresses processor-specific low-level code optimization. Prerequisite: ECE 3710 or equivalent. (3F)  

Prerequisites  

ECE 3710 (Microcomputer Hardware and Software) or equivalent topics:  
1. Assembly Language Programming (absolutely required!)  
2. Digital Electronics through Sequential Machines  

Grading  

The grading policy in the class will follow a “Modified Contract,” where students scoring in the ranges below are guaranteed the associated grade. I reserve the right to curve the grades up at the end of the semester.  

Grading scale:  

A : 93%-100%  
A-: 90%-92%  
B+: 86%-89%  
B : 83%-85%  
B-: 80%-82%  
C+: 76%-79%  
C : 73%-75%  
C-: 70%-72%  
D+: 66%-69%  
D : 63%-65%  
D-: 60%-62%
F: <= 59%

Grading weights

<table>
<thead>
<tr>
<th>Component</th>
<th>Weight</th>
</tr>
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<tbody>
<tr>
<td>Homework</td>
<td>40%</td>
</tr>
<tr>
<td>Midterms (2 midterm exams, 15% each)</td>
<td>30%</td>
</tr>
<tr>
<td>Final Exam</td>
<td>30%</td>
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Homework Assignments

I will regularly assign homework assignments from the textbook. Please note that there is a solutions guide available for the textbook problems. These assignments will typically require short written answers, and will be due at the beginning of class on their assigned due date. In preparation for the theory lectures, I will assign reading from the textbook, which students are expected to cover prior to the lecture. At times, I may give a short, unannounced quiz, covering the topics in the assigned reading. Missed quizzes count as a zero, so preparation and attendance is highly encouraged. Also, please make sure to check the errata page for the textbook, as errors in the text are often encountered after printing.

Exams

There will be three exams in this class, two midterms and a final. All exams are mandatory. The midterms are not comprehensive (where possible), but the final exam is comprehensive. All exams will be open book, open note, unless otherwise specified. The dates of the midterms will be announced in class, at least one week prior to the exam date. The date of the final will be as posted in the USU schedule of classes (Monday April 30th, from 9:30 – 11:20 AM). Please note the date of the final exam and be sure to attend, as only official medical excuses will be accepted for missing the final. Also note that the final will not be given early, except for reasons of medical or family emergencies.

Late Work

It is very important that you complete your homework on time. I will accept late homework assignments according to the following policy: if your assignment is late, I will accept it with a 25% reduction in score, for one class period after it is due. After one class period of tardiness, I will not accept the assignment. Assignments are due by the beginning of class on the day they are assigned. It is the student’s responsibility to ensure that the homework assignment is received by the deadline. Electronic submission of homework assignments is acceptable, but it is the student’s responsibility to ensure that the submission has been received (i.e. “the email server ate my homework” is not acceptable). If there are extenuating circumstances, please contact me prior to the deadline to make arrangements.

Academic Honesty
Students in the class are expected to adhere to University policies on academic honesty. All work in this class is to be individually done. There is to be no collaboration on homework assignments or exams. While general discussions and consulting between students on topics relating to assignments is acceptable and encouraged, all work specifically relating to class assignments and exams is to be the original work of each student. Do not share solutions with each other. Do not copy other students’ work. Do not seek or distribute answers or assignments from previous years of this course. Students caught cheating (copying, allowing someone to copy, “close” collaboration with other students, downloading solutions/answers from the internet (excepting, of course, the solutions guide from the textbook webpage), or referencing assignments/exams from prior years of this class without instructor consent) will receive a zero on the assignment or exam, and will be docked a full letter grade for the course. Drastic or repeat offences will result in failure of the course.

Schedule

The schedule will follow the chapters in the textbook. However, we will initially cover chapter 1, followed by appendix A, then chapters 2, 3, 4 and 5.

Statement on Disabilities

In cooperation with the Disability Resource Center, reasonable accommodation will be provided for qualified students with disabilities. Please meet with the instructor during the first week of class to make arrangements. Alternate format print materials (large print, audio, diskette or Braille) will be available through the Disability Resource Center.