ECE 337: Computer Arch & Organization

Course:

ECE 337: , Computer Arch & Organization, Fall 2011. 3 credits.

Course Instructor:

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Office Hours: by appointment

Course Description:

Survey of various levels of computer architecture and design: microprogramming and processor architecture, advanced assembly language programming, operating system concepts, and input/output via the operating system.

Prerequisites:

C or better in 238, either 231 or CS241L

Recommended Text:

A.S. Tanenbaum, Structured Computer Organization, 5th edition, Prentice Hall, 2005, (required).

Grading:

The distribution of weights for the exams, laboratories and projects is as follows:

Midterm	30%
Final	35%
Homeworks/Labs	30%
Class Participation	5%

No incompletes will be given, except as required by university policy for truly exceptional circumstances.

Students are encouraged to participate in class.

Cheating at any time in this course will cause you to fail the course.
For a complete description of academic dishonesty, refer to the UNM Student Handbook.

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Course Learning Outcomes: At the completion of this course students will:

1. Understand the important components of a computer system, and how these components are interrelated.
2. Understand how some high level functionalities are supported by the hardware.
3. Know about the nature and characteristics of modern computer systems.
4. Be familiar with parallel computer architecture, pipeline structure and superscalar processor design.

Topics Covered:

1. Introduction, structured computer organization, computer history
2. Computer system organization, components
3. Digital logic level
4. Microarchitecture level
5. Introduction to VHDL
5. Instruction Set Architecture level
6. Operating system level
7. Assembly language level
8. Parallel computer architecture

Contribution of course to meeting the requirements of Criterion 5: This course addresses the Engineering Topics category.

Changes/Additions to this schedule will be posted on my web site
http://www.ece.unm.edu/faculty/jimp/
Syllabus and course modeled after Patrick Schaumont's course at Virginia Tech:
http://www.ece.vt.edu/schaum/codesign2.html