

06-88-448: Digital Computer Architecture, Winter 2011

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| COURSE WEBSITE | HTTP://WWW.VLSI.UWINDSOR.CA/~HWU/TEACHING/448/ |
| Time & Location | Lecture:2:30pm-3:50pm, Mon & Wed, 113 Biology Building Lab: 8:30am-9:50am, Mon,113 BB (tutorial) or 250 EH (lab) |
| Instructor: | Dr. H.Wu, Phone: ext 2568, Email: hwu@uwindsor.ca, Office: EH 230A |
| Office hours: | 9:50am-11:20am Monday and Wednesday |
| Midterm Exam: | 2:30pm-3:50pm, Mon. Feb 14, 2011 (in class) |
| Final Exam: | 12:00pm-2:30pm, Wed. April 20, Slot# 38 |

Objective:

Students should be able to understand the principles of computer architecture and organization, the techniques and principles for the development of high performance computer systems, the details of extant computer architectures. We also quantitatively analyze aspects of computer architectures and draw conclusions about their performance.

Contents:

This course introduces the principles of computer organization and basic architecture concepts. The main topics include design process, performance and cost analysis, review of computer arithmetic, review of controller and data path design, memory systems, data hazards and pipelining. MIPS assembly language and C will be used in the class.

Textbook:

"Computer Organization and Design: The Hardware/Software Interface", 4th Ed. by David A. Patterson and John L. Hennessy. 2009, ISBN 978-0-12-374493-7 Paperback, Morgan Kaufmann.

Grading:

| Assignments | Labs | One Midterm | Final Exam | Attendance | Total |
|-------------|------|-------------|------------|------------|-------|
| 15% | 20% | 25% | 35% | 5% | 100% |

The final grade will be determined in accordance with the proportions outlined above. The final conversion from the assigned numerical grade to letter grade will be performed in compliance with the following table.

| A+ | A | A- | B+ | B | B- | C+ | C | C- | D+ | D | D- | F | F- |
|--------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|---------|
| 93-100 | 87-92.99 | 80-86.99 | 77-79.99 | 74-76.99 | 70-73.99 | 67-69.99 | 64-66.99 | 60-63.99 | 57-59.99 | 54-56.99 | 50-53.99 | 36-49.99 | 0-35.99 |

Assignments:

The due date for submission of an assignment is usually a lecture day. You should submit your assignment in classroom before or after the class. (please **do not** put it in my mail box!). A submission on the following day or later will not be accepted. Questions regarding to missing an assignment with medical/religious reason please refer to the course website.

Attendance:

Attendance will be taken for every class starting from the third class.

Labs:

There are 2-3 labs (please refer to the updated information at the course website)

Midterm & Final Exam:

- Midterm (in class): Closed Book. Two pages of notes are allowed. Time: Mon. Feb 14, 2011
- Final: Closed book. Four pages of notes are allowed. Time: Wed. Apr 20, 2011