EE 4720: Computer Architecture

Syllabus

Where/When/Web/RSS
Room 210 Tureaud Hall
Monday Wednesday Friday 10:40–11:30 Spring 2010
http://www.ece.lsu.edu/ee4720/
RSS: http://www.ece.lsu.edu/ee4720/rss_home.xml

Who
David M. Koppelman
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Tentative Office Hours: Monday–Friday: 14:00–15:00.

Topics
Instruction-Set Architecture and Microarchitecture
Architecture and microarchitecture (implementation).
Instruction set design and examples.

CPU Implementation
Datapath components.
Basic pipelining techniques.
Basic scheduling techniques.
Dynamic scheduling, register renaming techniques.
Branch and target prediction, speculation, and, of course, misprediction recovery.
Multiple instruction issue: superscalar and VLIW/EPIC.

Memory System Implementation
Locality, the computer engineer’s best friend.
Caches.
Virtual memory.

Text

Grading
40% Midterm Exam ● 40% Final Exam ● 20% Homework
Final exam weight may be increased for students who show significant improvement on the final exam.

Late-homework penalty: 10% per day late deducted. Missed-midterm-exam policy: at instructor’s discretion either a makeup exam, use final exam grade for midterm grade (i.e., 80% final exam weight), or use zero for midterm grade. Daily attendance: optional, however students are responsible for all material, instructions, and notices presented in class.