EE 4720: Computer Architecture

Syllabus

Where/When/How/URL
3140 CEBA Building
Monday Wednesday Friday 10:40–11:30 Fall 2003
Call Number 7587
http://www.ece.lsu.edu/ee4720/

Who
David M. Koppelman
Room 349 Electrical Engineering Building
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Tentative Office hours: Monday & Wednesday: 14:00–15:00, Tuesday & Thursday 9:00–10:30.

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
“Computer architecture, a quantitative approach,” John L. Hennessy & David A. Patterson, or

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.