EE 4720: Computer Architecture

Syllabus

Where/When/Web/RSS
Room 114 Lockett Hall
Monday Wednesday Friday 9:30–10:20 Spring 2017
http://www.ece.lsu.edu/ee4720/
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.
Instruction set design and examples.

CPU Implementation
Datapath components and basic pipelining techniques.
Basic scheduling techniques.
Get the most out of your datapath: dynamic scheduling (out-of-order execution).
Branch and target prediction, and of course misprediction recovery.
Provide more datapath: Superscalar, VLIW, and deeper pipelines.
Parallel organizations: cluster, multi-core, many-core.

Memory system implementation.
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.

A.D.A.
Louisiana State University is committed to providing reasonable accommodations for all persons with disabilities. This syllabus is available in alternate formats upon request. Any student with a documented disability needing academic adjustments is requested to speak with Disability Services and the instructor, as early in the semester as possible. All discussions will remain confidential. Please contact Disability Services in 115 Johnston Hall, 225-578-5919 or at http://www.lsu.edu/disability.