

EE 4720: Computer Architecture

Syllabus

Where/When/Web/RSS

Room 225 Tureaud Hall
Monday Wednesday Friday 9:30–10:20 **Spring 2013**
<http://www.ece.lsu.edu/ee4720/>
http://www.ece.lsu.edu/ee4720/rss_home.xml

Who

David M. Koppelman
Room 3191 Patrick F. Taylor Hall
578-5482, koppel@ece.lsu.edu,
<http://www.ece.lsu.edu/koppel>
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.
- 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.
- Parallel organizations: cluster, multi-core, many-core.

Memory System Implementation

- Caches.
- Virtual memory.

Text

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

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.

