Cleveland State University
Department of Electrical Engineering and Computer Science

EEC 581 Computer Architecture, Fall

Catalog Data: EEC 581 Computer Architecture (4-0-4).
Prerequisite: Graduate standing.
The design of high-performance computer systems, with emphasis on cost-performance tradeoff, performance evaluation, instruction set design, hardwired control-unit design, micro- and nano-programming, pipelining, memory hierarchy, and I/O interfaces.

Textbook: Computer Architecture: A Quantitative Approach, by John L. Hennessy and David A. Patterson, 4th Edition, Morgan Kaufmann Publishers, Inc., 2006.

Coordinator: Dr. Chansu Yu,
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Course objectives: To provide a comprehensive overview of the modern microprocessor organization with an emphasis on various types of parallelism – instruction level parallelism (ILP), thread-level parallelism such as simultaneous multithreading (SMT), and multiprocessors. Topics include including dynamic scheduling, hardware-based speculation, multithreading, shared-memory multiprocessor, distributed shared memory architecture, cache coherency, memory consistency models, memory hierarchy design and storage systems.

Course Requirements:
Course requirements include five homework assignments, many pop quizzes and a term project. Students will form a group of three or four for the term project.

Grading Policy:

Midterm Exam	30% (Two of them)
Final Exam	30% (Comprehensive)
Quiz	10% (Many pop quizzes, review & preview)
Project	20% (3~4-person project, four sub-parts)
Homework	10% (5 homework assignments)