

CEG 720 Computer Architecture I

Fall Quarter, 2009

Catalog Data : Review of sequential computer architecture and study of parallel computers. Topics include memory hierarchy, reduced instruction set computer, pipeline processing, multiprocessing, various parallel computers, interconnection networks, and fault-tolerant computing.

Prerequisite : CEG633, or CEG520 and CEG611

Prerequisite Topics: Process management, CPU scheduling, Memory management, Cache management, Disk management. If not familiar with these topics, take CEG433/633 (Operating Systems) first.

Instructor : Dr. Soon M. Chung, 403 Russ Engineering Center (937-775-5119)
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Class : M. W. 6:05-7:20 pm at 157 Rike Hall

Office hour : M. W. 2:30-3:30 pm at 403 Russ, or by appointment.
*use e-mail for short questions.

References :

- J. L. Hennessy and D. A. Patterson, Computer Architecture, 4th edition, Morgan Kaufmann, 2007.
- K. Hwang, Advanced Computer Architecture: Parallelism, Scalability, and Programmability, McGraw-Hill, 1993.
- A. Silberschatz, P. Galvin, and G. Gagne, Operating System Concepts.

Topics : Overview of computer architecture and parallel processing

Processors and Memory Hierarchy
Bus, Cache, and Shared Memory
Interconnection Networks
Pipeline and Superscalar Techniques
Multivector and SIMD Computers
Multiprocessors and Multicomputers

Grading : A:[85,100], B:[75,85), C:[65,75), D:[55,65), F:[0,55)

Midterm 30% (10/19, M.)

Final 40% (11/18, W., 8:00-10:00 pm)

Paper-review project 30% { papers referenced 7%, report organization 6%,
written presentation 8%, discussion 9% }