Computer System Organization

Course: 2301732 Computer System Organization

Year: Fall 2011

Instructors: Prof. Dr. Chidchanok Lursinsap

               Assoc. Prof. Dr. Peraphon Sophatsathit

Description: Computer system analysis and design, organizational dependence on computations, speed and cost, instruct set design, pipeline and vector machines, memory hierarchy design, systolic machines.

Textbook: Computer System Architecture, M. Morris Mano, Prentice-Hall, Inc., 1993.

References: 1.   Computer Architecture—A Quantitative Approach, J. L. Hennessy and D. A. Patterson, Third Edition, Morgan Kaufmann Publishers, Inc., 2003.

               2.   Introduction to Discrete Mathematics, S. C. Althoen and R. J. Bumcrot, PWS-KENT Publishing Company, 1988.

Course outline:

1 - 2	Data Representation
3 - 5	Digital Logic Circuits
6 - 8	Combinational Logic Design Fundamentals
9 - 12	Sequential Circuits
13 - 15	Register Transfer and Microoperations
16 - 20	Computer Arithmetic
21 - 24	Instruction Set Architecture
25 - 26	Machine Language
27 - 30	Midterm Exam
31 - 34	Instruction-Level Parallelism
35 - 38	Exploiting Instruction-Level Parallelism with Software Approaches
39 - 41	Memory Hierarchy and Storage Systems
42 - 43	Interconnection Networks and Clusters
44 - 45	Pipelining

Course	Midterm	40%		
evaluation	Final	60%		

Grading criteria	86 – 100	A	83 – 85	B+
	80 – 82	B	75 – 79	C+
	65 – 74	C	60 – 64	D+
	50 – 59	D	0 - 49	F