CPCS-413 Syllabus

Catalog Description

CPCS-413 Computer Architecture (II)
Credit: 3 (Theory: 3, Lab: 0, Practical: 0)
Prerequisite: CPCS-241
Classification: Elective

The objective of this course is to explore modern computer architecture approaches, such as designing advanced computer instructions, parallelism, and the advanced methods of data processing.

Class Schedule

Meet 50 minutes 3 times/week or 80 minutes 2 times/week

Lab/Tutorial 90 minutes 1 times/week

Textbook

John L. Hennessy, David A. Patterson, Andrea C. Arpaci-Dusseau, , "Computer Architecture: CD-ROM" 4 edition (2007)

ISBN-13 9780123704900   **ISBN-10** 0123704901

Grade Distribution

Week	Assessment	Grade %

Topics Coverage Durations

Topics	Weeks
Advanced methods of instructions designing	2
Parallelism	1
Modern techniques of data input and output	1
Memory management and advanced architecture of memories	1
Measuring computer performance	1
Estimating cost in relation to performance	1
Identification of system problems	1
Dynamic instructions scheduling	1
Vector processors	1
Memory organization	1
Measuring computer reliability	1
Structure simulation tools and techniques	1
Using the assembly language and high-level programming languages for advanced features	1

Last Articulated

Relationship to Student Outcomes

a	b	c	d	e	f	g	h	i	j	k
x	x	x								

Course Learning Outcomes (CLO)

By completion of the course the students should be able to

1. To understand the recent methods of building computers and the advanced techniques used in designing instructions. ()
2. To understand the instruction cycle. ()
3. To know the code-generation methods and the advanced technologies of processors. ()
4. To be familiar with the advanced methods of memory and I/O System management. ()
5. To be familiar with performance optimization methods. ()
6. To be familiar with the modern techniques of Structure simulation. ()

Coordinator(s)