Politecnico di Torino

Academic Year 2010/11 (first time established in A.Y.2007/08)

01LSEJA

Computer architectures

1st degree and Bachelor-level of the Bologna process in Electronic And Computer Engineering - Vercelli (III FACOLTA' DI INGEGNERIA)

Teacher	Status	SSD	Les	Ex	Lab	Years Stability
Serra Angelo	PO	ING-INF/05	4.5	1	0.5	1

SSD	CFU	Activities	Area context
ING-INF/05	2	F - Altre (art. 10, comma 1, lettera f)	Altro
ING-INF/05	4	A - Di base	Matematica, informatica e statistica

Objectives of the course

The course aims to describe the main architectural aspects of computer systems, particularly focusing on microprocessor systems. The general concepts are developed and discussed in more detail with respect to the architecture and the assembly programming language of the Intel microprocessors.

Expected skills

Knowledge of computer organization and architecture.
Skill in assembly language programming.

Prerequisites

Basic concepts about information coding and processing.

Syllabus

1. Computer function and structure
2. Computer components
3. Interconnection structures
4. Internal and external memory
5. Input / output
6. CPU structure and function
7. Architecture of microprocessor systems
8. Architecture and instruction set of Intel microprocessors

Laboratories and/or exercises

The personal computer laboratory will be used to practice the development of computer programs in assembly language.

Bibliography

W. Stallings: Computer Organization & Architecture, Pearson Education 2006.
-Additional material on the web site: http://didattica.polito.it

Revisions / Exam

Two written examinations have to be passed, also in different calls.
The first test is about the topics presented in the lectures.
The second test consists in the development of a program in assembly language.

Programma definitivo per l'A.A.2010/11

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