**Laurea specialistica in ingegneria informatica
(in English)**

Computer Architecture

(01KTM)

Matteo SONZA REORDA - Ernesto SANCHEZ

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Goal of the course

The course aims at providing the students with a basic knowledge about the architecture of an embedded system, with special emphasis on the microprocessor core.

Prerequisites

The course is better followed if the student owns the basic knowledge about

- **The architecture of computer systems**
- **The basic architecture and behavior of microprocessor-based systems.**

Some programming knowledge is also assumed.

Content

- **RISC processors architecture and behavior**
- **The ARM core**
- **Typical ARM-based system architecture**
- **Superscalar processors**

Labs

Students will be allowed to perform some practical experiences on an ARM-based development board.

An instructor will be available at the LABINF every Wednesday from 12.30 to 14.30.

Textbooks

J.L. Hennessy, D.A. Patterson
Computer Architecture: a Quantitative Approach
Morgan Kaufmann Publishers, Inc., IV Edition, 2007

Steve Furber
ARM system-on-chip architecture
Addison-Wesley, 2000

Website

Students may access to the website of the course at the URL
`http://www.cad.polito.it/~sonza/01ktm/`
where they can found:

- **transparencies**

- **general information**

Time schedule

Tue	14.30-16.30	room 14
Thu	8.30-10.30	room 10
Fri	8.30-12.30	room 2D

Exam

The exam corresponds to an oral examination, to be held in the scheduled date and room.

No booking is required to students to access the exam.

Students are suggested to check the correct recording of the exam result on their web page.

Assignment

Students may develop some program on an ARM development board, whose specifications will be detailed later.

Their program will then be evaluated, and they will possibly receive a bonus of up to 5 points.

The development of the program is done on a volunteer basis.

Communications

Students are requested to check periodically the course web site and their official email address for possible communications by the teacher.

Contacting the teachers

Students may contact the teachers using the following references:

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