Study programmes: Bachelor studies - Informatics

Course name: R222 - Computer architecture

Lecturers: Teachers from Department of Computer Science

Status: Optional

ECTS: 6

Attendance prerequisites: R120, R220

Course aims: Acquiring general and specific knowledge about computer hardware, computer components, its organization and function, as well as about chip design and fabrication (VLSI design).

Course outcome: After the course is finished, the student has deep knowledge about computer organization, machine and assembly languages, architecture of existing systems, and chip design and fabrication.

Course content:

- Intel architecture
- Microprogramming
- MOS transistor and its characteristics
- Chip design and fabrication
- VLSI design of basic circuits
- VLSI design of complex circuits

Literature:

V. Carl Hamacher, Zvonko G. Vranesic, Safwat G. Zaky: Computer organization, McGraw-Hill, 2002
(a teacher may also choose other contemporary literature)

Number of hours: 5	Lectures: 2	Tutorials: 3	Laboratory: -	Research: -

Teaching and learning methods: Frontal, Group, Exercises.

Assessment (maximal 100 points)

Course assignments	points	Final exam	points
Lectures	5	Written exam	-
Exercises / Tutorials	-	Oral exam	-
Colloquia	35	Written-oral exam	60
Essay / Project	-		