Study programmes: PhD studies - Informatics

Course name: R420 - Advanced computer architecture

Lecturers: Miroslav Marić and other lecturers from the Department of Computer Science and Informatics

Status: Optional

ECTS: 9

Attendance prerequisites: None

Course aims: Acquisition of general and specific knowledge of computer hardware, components, computer organisation and operation.

Course outcome: Upon completion of the course, the student has detailed knowledge of computer organisation, machine language and assembly, as well as knowledge on the architecture of existing systems.

Course content:

- Basic computer structure.
- Instruction set architecture, groups and formats.
- Intel architecture.
- Input/output organisation.
- Memory system.
- Arithmetic.
- Pipelining.
- Peripheral devices.
- Large systems.

Literature:

Carl Hamacher, Zvonko G. Vranesic, Safwat G. Zaky, Computer Organization, 5th Edition
(The lecturer can choose any other appropriate literature)

Number of hours: 10	**Lectures: 4**	**Tutorials: -**	**Laboratory: -**	**Research: 6**

Teaching and learning methods: Frontal, Interactive, Individual and Exercises.

Assessment (maximal 100 points)

Course assignments	**points**	**Final exam**	**points**
Lectures	-	Written exam	60
Exercises / Tutorials	-	Oral exam	-
Colloquia	40	Written-oral exam	-
Essay / Project	-		