

Specification for the book of courses

Study program		Electrical Engineering and Computer Science		
Module		Computing and Informatics		
Type and level of studies		Undergraduate Academic Studies		
The name of the course		Computer Architecture and Organization I		
Lecturer (for lectures)		Milentijević Z. Ivan, Ćirić M. Vladimir		
Lecturer/associate (for exercises)		Vojinović M. Oliver, Simić S. Vladimir		
Lecturer/associate (for OFE)		Vojinović M. Oliver, Simić S. Vladimir, Petrović N. Nenad		
Number of ECTS	6	Course status (obligatory/elective)	Obligatory	
Prerequisites				
Course	The goal is to transfer basic knowledge on computer architectures to students.			
Course outcomes	At the end of the course students are expected to be familiar with computer architectures and processor programming model. Students will be able to create programs in assembly language.			
Course outline				
Theoretical teaching	Review of the basic components of computer systems. Processor instruction set. Addressing modes. Design of a hypothetical processor starting from the instruction set. The structure of the processor and its functions. Register set. Fetch and execution of instructions. Microprocessor programming model. Macros. Procedures and parameter passing. Bus. Memory subsystem. Interrupt procedures. Organization of inputs / outputs. Interrupt-driven I/O. DMA.			
Practical teaching (exercises, OFE, study and research)	Assembly language programming. Combining assembly and C/C++ code.			
Textbooks/references				
1	N. Stojanovic, I.Z.Milentijevic:"Computer Systems: Lab Practicing" (in serbian), Faculty of Electronic Engineering Nis, 2000.			
2	W. Stallings: "Computer organization and Architecture", serbian translation of the 9th ed., CET, Beograd, 2013.			
3	Noam Nisan, Shimon Schocken, "The Elements of Computing Systems: Building a Modern Computer from First Principles", The MIT Press, 2005.			
4				
5				
Number of classes of active education per week during semester/trimester/year				
Lectures	Exercises	OFE	Study and research work	Other classes
2	2	1	0	0
Teaching methods	Lectures, auditive excercises, lab practicing			
Grade (maximum number of points 100)				
Pre-exam duties	Points	Final exam		Points
Activity during lectures		Written exam		
Exercises	20	Oral exam		40
Colloquia	40			
Projects				