

## Specification for the book of courses

<b>Study program</b>	Electrical Engineering and Computer Science			
<b>Module</b>	Control Systems			
<b>Type and level of studies</b>	Undergraduate Academic Studies			
<b>The name of the course</b>	Organization of Computer Systems			
<b>Lecturer (for lectures)</b>	Milentijević Z. Ivan, Ćirić M. Vladimir			
<b>Lecturer/associate (for exercises)</b>	Vojinović M. Oliver			
<b>Lecturer/associate (for OFE)</b>	Vojinović M. Oliver			
<b>Number of ECTS</b>	6	<b>Course status (obligatory/elective)</b>	Obligatory	
<b>Prerequisites</b>				
<b>Course</b>	The objective is to transfer to students the basic knowledge on computer systems.			
<b>Course outcomes</b>	At the end of the course students are expected to have basic knowledge on organization of computer systems and programming model of the processor. Students will be able to create programs in assembly language.			
<b>Course outline</b>				
<b>Theoretical teaching</b>	Review of the basic components of computer systems. Organization of a computer system. Processor. Memory subsystem. Busses. Input/output (I/O) subsystem. The structure of the processor and its functions. Register set. Instruction fetch and execution stages. Arithmetic logic unit. Memory model. Interrupt system. Microprocessor programming model. Procedures and parameter passing. Interrupt procedures. Organization of inputs / outputs.			
<b>Practical teaching (exercises, OFE, study and research)</b>	Assembly language programming. Combining assembly and C/C++ code.			
<b>Textbooks/references</b>				
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, 9th Edition (Serbian translation), 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				
<b>Number of classes of active education per week during semester/trimester/year</b>				
<b>Lectures</b>	<b>Exercises</b>	<b>OFE</b>	<b>Study and research work</b>	<b>Other classes</b>
2	2	1	0	0
<b>Teaching methods</b>	Lectures, auditive excercises, lab practicing			
<b>Grade (maximum number of points 100)</b>				
<b>Pre-exam duties</b>	<b>Points</b>	<b>Final exam</b>		<b>Points</b>
<b>Activity during lectures</b>		<b>Written exam</b>		
<b>Exercises</b>	20	<b>Oral exam</b>		40
<b>Colloquia</b>	40			
<b>Projects</b>				