

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		Logic Design		
Lecturer (for lectures)		Radmanović M. Miloš		
Lecturer/associate (for exercises)		Radmanović M. Miloš		
Lecturer/associate (for OFE)		Jovanović D. Martin		
Number of ECTS	6	Course status (obligatory/elective)	Obligatory	
Prerequisites				
Course objectives	Understanding the principles for designing and testing logical networks and the possibilities of their application in solving practical problems.			
Course outcomes	Students should know the methodology for designing and testing logical networks. They are trained to use appropriate software packages for problem solving.			
Course outline				
Theoretical teaching	Introduction to logic design, the basics of VHDL language for describing logical networks, combinatorial logic networks, combinatoril logic design in VHDL, MSI combinatorial logic networks, MSI combinatorial logic design in VHDL, sequential networks, sequential logic design in VHDL, memory, programmable logic, arithmetic logic circuits, introduction to design of computer systems.			
Practical teaching (exercises, OFE, study and research)	The exercises concern a series of solved problems. Examples of logical designs in VHDL. Design, simulation, testing of logical networks in the software package Quatrus2.			
Textbooks/references				
1	B. LaMeres, Introduction to Logic Circuits & Logic Design with VHDL, Springer 2017.			
2	S. Brown, Z. Vranesic, Fundamentals of Digital Logic with VHDL Design, McGraw-Hill, 2009.			
3	J. Astola, R. S. Stanković, Fundamentals of Switching Theory and Logic Design, Springer, 2006.			
4	R. Stojanović, Automated Design of Digital Systems (VHDL and FPGA) [in Serbian], University of Montenegro, 2008.			
5	Documents on Web site: http://cs.elfak.ni.ac.rs/nastava/			
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 and demonstration exercises using slides, stand-alone practical exercises with the use of computers.			
Grade (maximum number of points 100)				
Pre-exam duties	Points	Final exam	Points	
Activity during lectures		Written exam	20	
Exercises	20	Oral exam	40	
Colloquia	20			
Projects				