

Specification for the book of courses

Study program		Electrical Engineering and Computer Science		
Module		Common		
Type and level of studies		Doctoral studies		
The name of the course		System-on-Chip Design		
Lecturer (for lectures)		Milić Lj. Miljana		
Lecturer/associate (for exercises)				
Lecturer/associate (for OFE)				
Number of ECTS	10	Course status (obligatory/elective)	Elective	
Prerequisites				
Course objectives	Training students for designing integrated circuits at the system level on the chip using standard design tools.			
Course outcomes	The designer is competent to independently design a system on a chip with detailed knowledge of the problems that characterize the design of the system on the chip. The designer acquires knowledge to practically independently applies one of the industrial design standards.			
Course outline				
Theoretical teaching	Classification of electronic systems. Specification of the systems on the chip. Data flows in the system on the chip. The integrity of the signal to the system on the chip. Effects of long lines. Application of different design methodologies on a single chip. Hierarchical levels of design. Application of IP blocks. Functional verification of the project. Physical verification and analysis.			
Practical teaching (exercises, OFE, study and research)	Lectures and public defense of student scientific research.			
Textbooks/references				
1	Dokic B., Integrated circuits (in Serbian), Faculty of Electrical Engineering in Banja Luka, Bosnia and Herzegovina, 1999.			
2	Baker, R. J. CMOS Mixed-Signal Design, IEEE Press, Piscataway, NJ, USA, 1988.			
3	Wolf, W, Modern VLSI Design: System-on-Chip Design, Prentice Hall, N.Y. USA, 2006.			
4				
5				
Number of classes of active education per week during semester/trimester/year				
Lectures	Exercises	OFE	Study and research work	Other classes
3	0	0	0	0
Teaching methods	Presentations on specific topics, seminars and projects			
Grade (maximum number of points 100)				
Pre-exam duties	Points	Final exam	Points	
Activity during lectures		Written exam		
Exercises		Oral exam	50	
Colloquia				
Projects	50			