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	Electronic Circuits Testing		
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	The student learns the mechanisms of defect generation in electronic circuits (analogue, digital and mixed-signal circuits), as well as procedures for synthesizing test signals for testing integrated electronic circuits.		
Course outcomes	The student will be familiar with the causes of defects in the integrated electronic circuits and will be able to create a test signal to detect defects in integrated electronic circuits (analogue, digital and mixed-signal circuits). Also, the student will learn the design techniques that facilitate the testing process both in the laboratory and in the mass production of integrated circuits.		
Course outline			
Theoretical teaching	Defect models in analog and digital circuits. Concurrent simulation of defects. Digital circuits testing. Testing of combinational, sequentials and circuits with regular topology. Automation of test pattern generation. Testing and simulation of delay defects. Testing of systems with mixed signals. Design for testability. Basic Concepts of the Boundary Scan. Built-in self-test. Testing of electronics devices.		
Practical teaching (exercises, OFE, study and research			
Textbooks/references			
1	V. Litovski, Basics of Electronic circuit testing (in Serbian), Facylty of electronic engineering, University of Niš, 2010, ISBN 978-86-85195-71-6		
2	V. Litovski, Examples of electronic circuits testing (in Serbian), Facylty of electronic engineering, University of Niš, 2010, ISBN 978-86-6125-008-8.		
3	М. Милић, ет. ал, Практикум лабораторијских вежби из тестирања и дијагностике електронских кола, Електронски факултет, Ниш, 2010, ИСБН 978-86-6125-007-1.		
4	Abramovici, M., et all, Digital system testing and testable design, Computer Science Press, New York, USA, 1990.		
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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 and Public Defense of Student Scientific Research			

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		