Specification for the book of courses

Study program	Electrical Engineering and Computer Science		
Module	Electronics - Electronic Circuits and Embedded Systems		
Type and level of studies	Undergraduate Academic Studies		
The name of the course	Pulse and Digital Electronics		
Lecturer (for lectures)	Stančić Z. Goran		
Lecturer/associate (for exercises)	Stančić Z. Goran		
Lecturer/associate (for OFE)			
Number of ECTS	6	**Course status (obligatory/elective)**	Obligatory
Prerequisites			
Course objectives	Introducing dioda and transistor in saturation. CMOS inverter as comparator. NOR, NAND and inverter application in realization of pulse generators. Operation amplifiers as comparators.		
Course outcomes	Mastering the methods for analysis and design of generators of rectangle and triangle pulses. Understanding of various logical circuits families and their characteristics. Mastering the techniques for design of sequence generators and periodic signals of rectangle, sawtooth wave and other shapes.		
Course outline			
Theoretical teaching	Transistor and diode working regions. Transistor as a switch. Timer 555 and it's applications. CMOS inverter, NAND and NOR circuits and their application in impulse generator realization. Astable multivibrators, monostable multivibrators and retrigerable monostable multivibrators. Miller and Bootstrap integrators in sawtooth wave impulse generation. Application of rectangle and triangle impulse generators in realization of complex systems.		
Practical teaching (exercises, OFE, study and research	Detailed analysis of start-stop generators, astable multivibrators, monostable multivibrators, retrigerable multivibrators, Miller integrators and Bootstrap integrators.		
Textbooks/references			
1	Dejan Živković, Miodrag Popović, Impulse and digital electronics (in Serbian), 1993		
2	Stančić Goran, Jevtić Milun, Impulse electroinics (in Serbian), Zbirka rešenih zadataka, 2004		
3	Milun Jevtić, Goran Stančić, Marko Cvetković, Digital integrated circuits (in Serbian) - Praktikum za laboratorijske vežbe, Elektronski fakultet u Nišu, Niš, 2006.		
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	0	0	0
Teaching methods	Lectures, auditory exercises, laboratory exercises, consultation			

Grade (maximum number of points 100)			
Pre-exam duties	**Points**	**Final exam**	**Points**
Activity during lectures		**Written exam**	30
Exercises		**Oral exam**	40
Colloquia	30		
Projects			