Specification for the book of courses

Study program	Electrical Engineering and Computer Science		
Module	Electronics		
Type and level of studies	Undergraduate Academic Studies		
The name of the course	Basics of Electronics		
Lecturer (for lectures)	Petković M. Predrag, Dimitrijević A. Marko, Milić Lj. Miljana		
Lecturer/associate (for exercises)	Mirković D. Dejan, Đorđević D. Srđan, Dimitrijević A. Marko, Milić Lj. Miljana		
Lecturer/associate (for OFE)	Mirković D. Dejan, Đorđević D. Srđan		
Number of ECTS	6	**Course status (obligatory/elective)**	Obligatory
Prerequisites			
Course objectives	Acquiring basic knowledge of electronics, amplifying techniques, oscillators, rectifiers and voltage regulators.		
Course outcomes	Students will be able to recognize schematics, understand the principle of operation, and to understand the application of basic electronic circuits: amplifiers, oscillators of sinewave signals, rectifiers and voltage regulators.		
Course outline			
Theoretical teaching	Diodes and diode circuits. Bipolar transistor, operating point and and load line. Model of bipolar transistors. MOSFET transistor,operating point and and load line. Model MOSFET transistors. Basic amplifier stages with bipolar and MOSFET transistor. Multistage amplifiers. Amplifier with direct coupling. Differential and operational amplifier. Application of operational amplifiers. Negative feedback. Oscillators. Large-signal amplifiers. Rectifiers and voltage regulators.		
Practical teaching (exercises, OFE, study and research	Basic amplifier stages; Applications of operational amplifiers, Negative feedback, Oscillators, Power amplifiers, Rectifiers, and Voltage regulators		
Textbooks/references			
1	V. Litovski, Osnovi elektronike – teorija, rešeni zadaci i ispitna pitanja, Akademska misao, Beograd, 2006.		
2	V. Pavlović et.al., Laboratorijski praktikum iz predmeta Osnovi elektronike, Elektronski fakultet Niš, 2012.		
3	Razavi B., Fundamentals of Microelectronics, 2nd Edition, Wiley; (April 8, 2013) ISBN-10: 9781118156322		
4	A. Sedra, K. Smith, Microelectronic Circuits, Oxford University Press, 2009, ISBN-13: 978-0195323030		
5	Presentation and notes of lectures (pdf), http://leda.elfak.ni.ac.rs/?page=education/elektronika/elektronika.htm		

Number of classes of active education per week during semester/trimester/year				
Lectures	**Exercises**	**OFE**	**Study and research work**	**Other classes**
3	2	1	0	0
Teaching methods	Lectures; Practical exercises; Laboratory exercises; Consultations.			

Grade (maximum number of points 100)			
Pre-exam duties	**Points**	**Final exam**	**Points**
Activity during lectures	10	**Written exam**	20
Exercises	10	**Oral exam**	20
Colloquia	40		
Projects	0		