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	Distribution Systems		
Lecturer (for lectures)	Korunović M. Lidija		
Lecturer/associate (for exercises)			
Lecturer/associate (for OFE)			
Number of ECTS	10	**Course status (obligatory/elective)**	Elective
Prerequisites			
Course objectives	Studying of up to date distribution systems, balanced and unbalanced distribution networks, load flow calculation, calculation of faulty conditions, voltage regulation, the ways of power flow control and load management, and calculation of networks with distributed generation.		
Course outcomes	Knowledge of up to date distribution system operation. Knowledge of mathematical methods for the analysis of distribution network operating regimes.		
Course outline			
Theoretical teaching	Concepts of European and American distribution networks, as representatives of all types of distribution networks. Unbalanced distribution networks and unbalanced operating conditions. Load flow calculation and calculation of faulty conditions of balanced and unbalanced distribution networks. Voltage regulation in distribution networks. The ways of power flow control and load control in distribution networks. Load flow calculation in steady state condition and short-circuit analysis in the networks with small generations.		
Practical teaching (exercises, OFE, study and research			
Textbooks/references			
1	T.Gonen, Electric Power Distribution System Enginering, CRC Press, Taylor & Francis Group, Boca Raton, 2008.		
2	L. M. Korunović, Load Model Parameters of Distribution Network (in Serbian), Library dissertatio, Foundation Andrejević, Belgrade, 2010.		
3	V. Strezoski, D. Janjić, System for Voltage Regulation in Distribution Networks (in Serbian), Institute for Power Engineering and Electronics, FTN Novi Sad, 2008.		
4	J. Nahman, V. Mijailović, Reliability of Electric Power Distribution Systems (in Serbian), Academic mind, Belgrade, 2009.		
5	A. Keyhani, M. N. Marwali, M. Dai, Integration of Green and Renewable Energy in Electric Power Systems, John Wiley & Sons, Hoboken, New Jersey, 2010.		

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	Teching includes the classic lectures and consultations. It comprehends the interactive work with students in different areas of modern distribution systems, related to the study of scientific literature, computer simulations and the work on seminar paper.			

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		