Specification for the book of courses

Study program	Electrical Power Engineering		
Module	Electrical Power Engineering		
Type and level of studies	Master studies		
The name of the course	Distribution Network Management		
Lecturer (for lectures)	Janjić D. Aleksandar, Stajić P. Zoran		
Lecturer/associate (for exercises)	Stojanović S. Miodrag		
Lecturer/associate (for OFE)			
Number of ECTS	5	**Course status (obligatory/elective)**	Elective
Prerequisites			
Course objectives	Introduction to the principles of operation of a distribution network, network automation and different types of control systems. Introduction to the equipment for the network control. Introducing the concept of "smart grid".		
Course outcomes	Students are trained to select the optimal strategy for network management, the selection of the hierarchical levels of management. Depending on the desired functionality, students are qualified for selection of equipment and methods of communication.		
Course outline			
Theoretical teaching	The concept of control and automation in the distribution network. Different types of control systems. Concept and components of a "smart grid." The basic architecture of the system. The database structure and interfaces. Network Management Systems (DMS - Distribution Management System) and systems for real-time control. System for fault management in the network. Primary and secondary equipment for network management, equipment management and protection. Communication systems for the management of the distribution network. Communication interfaces and protocols. Standards for interoperability in advanced distribution networks		
Practical teaching (exercises, OFE, study and research	Practical work with systems for automation and control of the distribution network. Setting the parameters of the SCADA system. Practical work with computer platforms for the distribution network management (DMS). Calculation, setting and monitoring of basic system parameters on DMS platform.		
Textbooks/references			
1	J. Northcote-Green, „Control and Automation of Electrical Power Distribution System“ CRC Press, 2007		
2	J. Momoh, “Smart grid: Fundamentals of Design and Analysis” IEEE Press, 2011.		
3			
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		
Teaching methods	Teaching and computational examples are performed by lecturing, on a board. Students are doing their works independently, with the assistant supervision. Consulations.			

Grade (maximum number of points 100)			
Pre-exam duties	**Points**	**Final exam**	**Points**
Activity during lectures	5	**Written exam**	20
Exercises	15	**Oral exam**	20
Colloquia	40		
Projects			