

## Specification for the book of courses

<b>Study program</b>		Electrical Engineering and Computer Science		
<b>Module</b>		Electrical Power Engineering		
<b>Type and level of studies</b>		Undergraduate Academic Studies		
<b>The name of the course</b>		Power Distribution and Industrial Networks		
<b>Lecturer (for lectures)</b>		Korunović M. Lidija, Janjić D. Aleksandar		
<b>Lecturer/associate (for exercises)</b>		Anastasijević B. Ivan, Vučković D. Dragan		
<b>Lecturer/associate (for OFE)</b>		Anastasijević B. Ivan, Radić M. Milan		
<b>Number of ECTS</b>	6	<b>Course status (obligatory/elective)</b>	Obligatory	
<b>Prerequisites</b>				
<b>Course objectives</b>	The goal of the subject is to introduce the principles and the issues regarding operation and planning of distribution and industrial networks, to the students. Besides, the students should be learned the economical aspects of network operation and permissible thermal regimes.			
<b>Course outcomes</b>	Students will be habilitated to perform individually tasks relating to design, planning and analysis of distribution and industrial networks, with the emphasis on computer application for these purposes.			
<b>Course outline</b>				
<b>Theoretical teaching</b>	Characteristics of electricity consumption. Distribution network configurations. Industrial network configurations. Electrical energy and power forecasting. Load flow and voltage profile calculation in distribution networks. Reconfiguration of distribution networks. Electrical energy losses. Reliability and security of distribution networks. Techno-economical aspects of distribution networks. Thermal limits of distribution network element loading. Reactive energy compensation. Voltage regulation.			
<b>Practical teaching (exercises, OFE, study and research)</b>	Numerical examples are of different topics: characteristics of electricity consumption, configurations of distribution networks, load forecasting, basic distribution network calculations - voltage drops and load flows, estimation of energy losses, distribution network reliability, technical and economical aspects of the networks, reactive power compensation, and voltage regulation in distribution and industrial networks.			
<b>Textbooks/references</b>				
1	Nikola Rajaković, Dragan Tasić: Power distribution and industrial networks (in Serbian), Academic mind, Belgrade, 2008.			
2	Nikola Rajaković, Dragan Tasić, Nebojsa Arsenijević, Miodrag Stojanović: Collected problems of distributed and industrial networks (in Serbian), Academic mind, Belgrade, 2005.			
3				
4				
5				
<b>Number of classes of active education per week during semester/trimester/year</b>				
<b>Lectures</b>	<b>Exercises</b>	<b>OFE</b>	<b>Study and research work</b>	<b>Other classes</b>
2	2	1	0	0
<b>Teaching methods</b>	Theoretical lectures are performed on a board, using also up to date methods for teaching. Exercises include the solution of computational examples that relate to the theoretical lectures. The students are encouraged to independently solve problems from engineering practice. Laboratory exercises habilitate students to use commercial software for the solution of problems in the areas treated during theoretical lectures and computational exercises, under the assistant supervision.			
<b>Grade (maximum number of points 100)</b>				
<b>Pre-exam duties</b>	<b>Points</b>	<b>Final exam</b>		<b>Points</b>
<b>Activity during lectures</b>		<b>Written exam</b>		25
<b>Exercises</b>	10	<b>Oral exam</b>		25
<b>Colloquia</b>	40			
<b>Projects</b>				