

## Specification for the book of courses

<b>Study program</b>		Electrical Power Engineering		
<b>Module</b>		Electrical Power Engineering		
<b>Type and level of studies</b>		Master studies		
<b>The name of the course</b>		Selected Chapters of Power Systems Analysis		
<b>Lecturer (for lectures)</b>		Tasić S. Dragan		
<b>Lecturer/associate (for exercises)</b>				
<b>Lecturer/associate (for OFE)</b>		Stojanović S. Miodrag		
<b>Number of ECTS</b>	5	<b>Course status (obligatory/elective)</b>	Elective	
<b>Prerequisites</b>				
<b>Course objectives</b>	Objective of the course is that students learn the modern methods for calculating steady states and also disordered states in power systems.			
<b>Course outcomes</b>	After finishing this course, students should be able for solving and understanding complex physical steady state and disordered state problems in power systems with an emphasis on computer applications.			
<b>Course outline</b>				
<b>Theoretical teaching</b>	Power flow calculation for unbalanced load. Fuzzy approach for power flow calculation. Short-circuit current calculations. Fault current distribution. Time flow of short-circuit currents. Distribution of the aperiodic component of short-circuit current throughout the network. Simultaneous faults. Multimachine system models for stability analysis at large disturbances. Numerical methods for transient stability analysis. Voltage stability.			
<b>Practical teaching (exercises, OFE, study and research)</b>	Laboratory exercises on computers in the field of: power flow, short-circuits and power system stability.			
<b>Textbooks/references</b>				
1	D. Tasić, Power Systems and Networks Analysis, Press Series: Textbooks, Faculty of Electronic Engineering, Niš, 2010. (in Serbian)			
2	V. Stezoski, Basic calculations of power systems, Volume 1 and Volume 2, Faculty of Technical Sciences, Novi Sad, 2017. (in Serbian)			
3	N. Rajaković, Power System Analysis I, School of Electrical Engineering and Akademska Misao, Belgrade, 2002. (in Serbian)			
4	N. Rajaković, Power System Analysis II, Akademska Misao, Belgrade, 2007. (in Serbian)			
5	N. Tleis, Power Systems Modelling and Fault Analysis – Theory and Practice, Elsevier Ltd., 2008.			
<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	0	2		
<b>Teaching methods</b>	Lectures, laboratory exercises, seminary work, consultations.			
<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>	
<b>Exercises</b>		10	<b>Oral exam</b>	40
<b>Colloquia</b>				
<b>Projects</b>		50		