Specification for the book of courses

Study program	Electrical Engineering and Computer Science		
Module	Electrical Power Engineering		
Type and level of studies	Undergraduate Academic Studies		
The name of the course	Electric Power Components		
Lecturer (for lectures)	Tasić S. Dragan		
Lecturer/associate (for exercises)	Stojanović S. Miodrag		
Lecturer/associate (for OFE)			
Number of ECTS	5	**Course status (obligatory/elective)**	Elective
Prerequisites			
Course objectives	The objective of the course is to introduce students with current (electrodynamic and thermal) and voltage stress of electric poweer components, and also with physical processes that occur in switchgear when changing network topology. Besides, students will meet with different kinds of switchgear and their basic construction elements.		
Course outcomes	Students will be able to work in production, testing and exploitation of high voltage switchgear. Because of knowledge about switchgear characteristics it can be usefull to designers of poweer substations.		
Course outline			
Theoretical teaching	Classification of electric power components. Short-circuit current. Electrodynamic stress. Electrodynamic forces in single phase and three phase systems. Thermal load. Steady state heating. Heating during short-circuit. Basics of electric arc. AC electric arc characteristics. Ways of electric arc suppression. Commutation overvoltages. Interruption of short-circuit currents. Contacts. Classification and construction characteristics of high voltage switchgear: power switches, disconnectors, fuses, resistors, AC chokes, capacitors, surge arresters.		
Practical teaching (exercises, OFE, study and research	Auditory exercises in the field of: electrodynamic forces, thermal heating, electric arc models and interaction between power switch, network and electrical contacts.		
Textbooks/references			
1	D. Tasić, N. Rajaković,M. Stojanović, Electric Power Components, Press Series: Textbooks, Faculty of Electronic Engineering, Niš, 2014. (in Serbian)		
2	M. Savić, High Voltage Switchgear, School of Electrical Engineering and Akademska misao, Belgrade, 2004. (in Serbian)		
3	R. D. Garzon, High Voltage Circuit Breakers – Design and Applications, Marcel Dekker, New York – Basel, 2002.		
4	H. M. Ryan (editor), High Voltage Engineering and Testing, The Institution of Electrical Engineers, London 2001.		
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	0	0
Teaching methods	Lectures, auditory exercises, discusions, demonstrations.			

Grade (maximum number of points 100)			
Pre-exam duties	**Points**	**Final exam**	**Points**
Activity during lectures	5	**Written exam**	30
Exercises		**Oral exam**	25
Colloquia	40		
Projects			