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		Power Cable Engineering		
Lecturer (for lectures)		Tasić S. Dragan, Raičević B. Nebojša		
Lecturer/associate (for exercises)				
Lecturer/associate (for OFE)				
Number of ECTS	10	**Course status (obligatory/elective)**	Elective	
Prerequisites				
Course objectives	The aim of the course is that students learn modern methods for the calculation of electrical and thermal fields in the cables, joints and cable terminations, cable ampacity in various service conditions and estimation of the lifetime of cables.			
Course outcomes	Upon completion of this course, students will be trained in understanding phizics of the problem and solving the complex problems of construction and operation of electric power cables and cable accessories.			
Course outline				
Theoretical teaching	Finite element method. Equivalent electrode method. Boundary conditions for the electrical field calculation. Calculation of the electrical field in single and three-wire cables, joints and terminations. Boundary conditions for the calculation of thermal field. Calculation of thermal fields in single and three-wire cables, joints and terminations. Calculation of cable ampacity in working conditions. Aging of cables. Cable lifetime estimation. Calculation of ampacity with respect to cable aging.			
Practical teaching (exercises, OFE, study and research				
Textbooks/references				
1	D. Tasić, Basics of Power Cable Engineering, Press Series: Textbooks, Faculty of Electronic Engineering, Niš, 2001. (in Serbian)			
2	G. J. Anders, Rating of Electric Power Cables in Unfavorable Thermal Environment, IEEE Pres, 2005			
3	A. B. J. Reece, T. W. Preston, Finite Element Methods in Electrical Power Engineering, Oxford University Press, 2000.			
4	IEC 60287, IEC 60853, . IEC 62095			
5	Cigre Report JWG 21/33			

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	Lectures, discussions and research work.			

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		