

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		Special Electrical Instalations		
Lecturer (for lectures)		Janjić D. Aleksandar		
Lecturer/associate (for exercises)		Vučković D. Dragan		
Lecturer/associate (for OFE)				
Number of ECTS	5	Course status (obligatory/elective)	Elective	
Prerequisites				
Course objectives	The aim of the course is to familiarize students with the advanced techniques of electrical installation design and lighting of more complex and non-standard objects, installations with distributed power generation, the concept of "intelligent" buildings, as well as regulation about the impact of the distributed generation on the quality of power and lighting.			
Course outcomes	Students will be trained to work on the project documentation and verification of implemented installations with distributed generation as well as "intelligent" building. Flood lighting of objects with different purposes and complexity, Design of electrical installations for outdoor lighting of roads and buildings.			
Course outline				
Theoretical teaching	Autonomous sources of electrical energy. Static devices for uninterruptible power supply. Diesel-electric engines. Battery charger. Systems for uninterrupted supply . Solar generators - different ways of generating electricity, technical characteristics and types of solar panels and inverters. Wind turbines. Sizing elements of the hybrid power supply. Electric light sources. Incandescent sources. Sources of electrical discharge. LED sources. Projecting light industrial space. Lighting of roads. Lighting of tunnels. Flood lighting. Lighting of sports facilities. Lighting installation in "intelligent" buildings. Regulations relating to the power quality.			
Practical teaching (exercises, OFE, study and research)	Solving the problems of the choice of the autonomous power system. Sizing of hybrid power systems. Sizing the system of industrial installations. Individual work on the road lighting design. Research work consists of project design of a instalation of outdoor lighting, including some segment of industrial electrical instalation.			
Textbooks/references				
1	M. Kostic „Lighting techniques guide“ (in serbian) Minel Schreder 2000			
2	Radaković, Z., Jovanović, M.: "Special electrical installations" (in serbian), Akademska misao, Beograd 208			
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. Consultations.			
Grade (maximum number of points 100)				
Pre-exam duties	Points	Final exam	Points	
Activity during lectures		Written exam	30	
Exercises		Oral exam	20	
Colloquia	40			
Projects	10			