

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		Static Electricity		
Lecturer (for lectures)		Cvetković Ž. Zlata		
Lecturer/associate (for exercises)				
Lecturer/associate (for OFE)				
Number of ECTS	10	Course status (obligatory/elective)	Elective	
Prerequisites				
Course objectives	Introduction to the problems of static electricity in technological processes, ways of eliminating static electricity and protection techniques.			
Course outcomes	Acquired basic knowledge about static electricity in technological processes, the ability to assess and address various problems in industry and to use techniques of eliminating static electricity and protection measures.			
Course outline				
Theoretical teaching	Phenomenon of static electricity in technological processes. Theory of ignition of flammable mixtures. Theory of static electricity discharges from conducting and dielectric surfaces. High voltage generation. Modeling of industrial and electrostatic filters. Dangers from static electricity during transportation and storage of flammable and explosive materials. Techniques for measuring electrostatic charges, fields and potentials. Protection measures and elimination of static electricity in technological processes.			
Practical teaching (exercises, OFE, study and research)	Reference collecting. Study the selected chapters. Analysis of real problems. Independent research work.			
Textbooks/references				
1	Lüttgens G., Wilson N. "Electrostatic Hazards," Oxford: Butterworth – Heinemann, 1997.			
2	Taylor D. M., Secker P. E. "Industrial Electrostatics: fundamentals and measurements," J. Wiley, Research Studies Press: New York, 1994.			
3	Britton L. G. "Avoiding Static Ignition Hazards in Chemical Operations," American Institute of Chemical Engineers, New York, 1999.			
4	Leonard J. T. "Generation of Electrostatic Charge in Fuel Handling Systems: A Literature Survey," NRL Report 8484, Naval Research Laboratory, Washington DC, 1981.			
5	Technical norms guidelines for static electricity protection (in Serbian), Službeni Glasnik, No. 62, 1973.			
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, consultations, 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		