

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	Devices of Vacuum and Gas Electronics			
Lecturer (for lectures)	Ristić S. Goran			
Lecturer/associate (for exercises)				
Lecturer/associate (for OFE)				
Number of ECTS	10	Course status (obligatory/elective)	Elective	
Prerequisites				
Course objectives	Introduction to students with the types and principles of work of modern components of vacuum and gas electronics			
Course outcomes	Mastering theoretical knowledge related to the physical fundamentals of mechanisms and processes used in modern components of vacuum and gas electronics, as well as the principles of their work			
Course outline				
Theoretical teaching	Theoretical lessons will be delivered through lectures in the following areas: electrons in electric and magnetic fields, electronic emissions, electronic cannons and mirrors. Electronic tubes controlled by gratings. Microwave components and circuits. Clistrons, multiplying components. Photoelectronic components, voltage regulating tubes, gas rectifier tubes, tiratrons, plasma displays, gas sources of light.			
Practical teaching (exercises, OFE, study and research)				
Textbooks/references				
1	A. Engel, Electric Plasmas: Their nature and users, Taylor and Francis Ltd, London&New york, 1983			
2	M. Sedlacek, Electron Physics of Vacuum and Gaseous Devices, John Wiley&Sons, 1996			
3				
4				
5				
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	Presentations on specific topics, seminars and projects			
Grade (maximum number of points 100)				
Pre-exam duties	Points	Final exam	Points	
Activity during lectures		Written exam		
Exercises		Oral exam	60	
Colloquia				
Projects	40			