Specification for the book of courses

Study program	Electronics and Microsystems		
Module	Electronics and Microsystems		
Type and level of studies	Master studies		
The name of the course	Gas discharge devices –characterization and application		
Lecturer (for lectures)	Živanović N. Emilija, Golubović M. Snežana		
Lecturer/associate (for exercises)	Živanović N. Emilija		
Lecturer/associate (for OFE)	Živanović N. Emilija		
Number of ECTS	5	**Course status (obligatory/elective)**	Elective
Prerequisites			
Course objectives	Theoretical knowledge is acquired, necessary for understanding the operating principles of gas devices, as well as their characterization and application.		
Course outcomes	Introduction of theoretical and practical knowledge of physical processes in gases. Introduction to the operation principle of gas photocell and photomultiplier, gas surge arresters, gas light sources, gas sensors of ionized radiation, gas lasers, gas electrical switches.		
Course outline			
Theoretical teaching	Introducing students with the operating principle of different types of gas components and systems. Gas photocells and photomultipliers, gas surge arresters, gas light sources, gas sensors of ionized gases, gas lasers, gas electric switches.		
Practical teaching (exercises, OFE, study and research	Practical classes take place at the Laboratory for Applied Physics and Laboratory for Gas and Vacuum Engineering. It implies demonstration and practical presentation of the operation principle of gas systems.		
Textbooks/references			
1	Momčilo Pejović, „Uvod u električna gasna pražnjenja. Gasne elektronske komponente“, 2008.		
2	Emilija Živanović, „Procesi inicirani električnim probojem i pražnjenjem odgovorni za memorijski efekat u azotu i vazduhu“, doktorska disertacija, Elektronski fakultet, Univerzitet u Nišu, 2014.		
3	Emilija Živanović, „Fizičko-hemijski procesi koji dovode do iniciranja električnog proboja u azotu na niskim pritiscima“, magistarska teza, Elektronski fakultet, Univerzitet u Nišu, 2004.		
4	Y. P. Rayzer, „Gas Discharge Physics“, Berlin: Springer, 1991.		
5			

Number of classes of active education per week during semester/trimester/year				
Lectures	**Exercises**	**OFE**	**Study and research work**	**Other classes**
2	2	1		
Teaching methods	Teaching takes place through lectures, auditory and laboratory exercises and consultations.			

Grade (maximum number of points 100)			
Pre-exam duties	**Points**	**Final exam**	**Points**
Activity during lectures		**Written exam**	25
Exercises	10	**Oral exam**	25
Colloquia	20		
Projects	20		