

Specification for the book of courses

Study program		Communications and Information Technologies		
Module		System Engineering and Radio-Communications		
Type and level of studies		Master studies		
The name of the course		Design of Telecommunication Networks and Systems		
Lecturer (for lectures)		Marinković D. Zlatica, Marković V. Vera		
Lecturer/associate (for exercises)		Atanasković S. Aleksandar		
Lecturer/associate (for OFE)		Atanasković S. Aleksandar		
Number of ECTS	4	Course status (obligatory/elective)	Elective	
Prerequisites				
Course objectives		Getting to know the content and preparation of technical documentation for telecommunication networks and systems. Introduction to the legal and technical regulations. Training for the design of telecommunication networks and systems.		
Course outcomes		Knowledge about regulations and procedures for preparation of the technical documentation for telecommunication networks and systems. Knowledge about the procedure for obtaining a license for certified designer of telecommunication networks and systems. Ability to design independently typical telecommunication networks and systems and to make the corresponding technical documentation.		
Course outline				
Theoretical teaching		Procedures for the state professional exam and for obtaining a license for certified designer of telecommunication networks and systems. The legal regulation for the design of telecommunication networks and systems in Serbia. The content and process of making technical documentation. Technical documentation control, control of construction/installation of telecommunication objects and control of built objects. Planning, design and technical regulations for typical telecommunication networks and systems (wireless radio links, optical and HFC networks). Case studies of actual projects of telecommunication networks and systems. Software support for design of telecommunication networks and systems. Fundamentals of project management in telecommunications.		
Practical teaching (exercises, OFE, study and research)		Exercises: Examples of calculations in the considered telecommunications systems and networks. Analysis and discussion of actual projects. Practical work with software packages for the design of telecommunication networks and systems. Design and preparation of a particular networks or a system and preparing the corresponding technical documentation.		
Textbooks/references				
1	Harry R. Anderson, Fixed broadband wireless system design, Wiley, 2003.			
2	Roger L. Freeman, Telecommunication System Engineering, Wiley, 2004			
3	Z. Marinković, B. Stošić, A. Atanasković, N. Dončov, „Collection of solved problems for cable and optoelectronic communication systems (in Serbian)“, Faculty of Electronic Engineering Niš, 2017.			
4	National regulations related to the process of making technical documentation. National and international standards and recommendations for specific telecommunications networks and systems.			
5	Technical documentation of actual telecommunication networks and systems. Additional material given by the teachers.			
Number of classes of active education per week during semester/trimester/year				
Lectures	Exercises	OFE	Study and research work	Other classes
2	1	1	0	0
Teaching methods		Lectures; Exercises; Project; Consultations		
Grade (maximum number of points 100)				
Pre-exam duties		Points	Final exam	Points
Activity during lectures		5	Written exam	40
Exercises			Oral exam	20
Colloquia		10		
Projects		25		

