

Specification for the book of courses

Study program		Electrical Engineering and Computer Science		
Module		Electronics - Multimedia technologies		
Type and level of studies		Undergraduate Academic Studies		
The name of the course		TV Systems		
Lecturer (for lectures)		Nikolić V. Saša		
Lecturer/associate (for exercises)		Cvetković S. Stevica		
Lecturer/associate (for OFE)		Cvetković S. Stevica		
Number of ECTS	5	Course status (obligatory/elective)	Elective	
Prerequisites				
Course objectives				
Transfer the theoretical and practical knowledge of the basic systems for distribution of TV signals. Introducing of color spaces. Present standards for analogue and digital TV signal transmission. Transfer of knowledge about systems for distribution of TV signals using satellite and cable digital television.				
Course outcomes				
Knowledge of systems for distribution of TV signals. Knowledge of the color space. Knowledge of the DVB standard for digital terrestrial television. Training for work in digital cable distribution systems.				
Course outline				
Theoretical teaching				
Introduction to TV systems. Overview and comparison of different systems for the distribution of TV signals. Color spaces. Overview the video signals, NTSC and PAL. Digital Terrestrial Television - DVB standard. Coding of video signals. Sampling the video signal. Video signal compression. Multiplexing video signals. Channel coding. OFDM modulation. Satellite and cable digital television.				
Practical teaching (exercises, OFE, study and research)				
Using software for analyse of the MPEG transport stream. Exercises on the computer in Matlab. Practical training to work at the station for the distribution of digital cable television.				
Textbooks/references				
1	Charles Poynton, Digital Video and HDTV - Algorithms and Interfaces, Morgan Kaufmann Publishers, San Francisco 2007			
2				
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	1	1	0	0
Teaching methods				
Lectures, exercises, laboratory exercises, homework, course project, consultations				
Grade (maximum number of points 100)				
Pre-exam duties		Points	Final exam	Points
Activity during lectures		5	Written exam	30
Exercises		5	Oral exam	30
Colloquia		20		
Projects		10		