

Specification for the book of courses

Study program		Electrical Engineering and Computer Science		
Module		Computing and Informatics		
Type and level of studies		Undergraduate Academic Studies		
The name of the course		Multimedia Systems		
Lecturer (for lectures)		Janković S. Dragan, Rajković J. Petar		
Lecturer/associate (for exercises)		Rajković J. Petar, Jovanović D. Martin		
Lecturer/associate (for OFE)		Jovanović D. Martin		
Number of ECTS	5	Course status (obligatory/elective)	Elective	
Prerequisites				
Course objectives	Introduction to the concept of multimedia systems, basic features and elements of the media, classifications, and multimedia systems design.			
Course outcomes	After completion of course students should fully understand all elements that make multimedia systems with special emphasis on the types of media, removable media, media file formats, compression techniques, standards, types of multimedia systems and applications.			
Course outline				
Theoretical teaching	Introduction and overview of the media. The requirements of multimedia processing. Network protocols for multimedia and streaming information. Formats for audio, text, and smooth moving picture. Methods for image, audio and video compression. The complete MPEG-4 standard for multimedia. Other MPEG standards. Protection of multimedia content and methods for watermarking. Types of multimedia systems and applications (e.g. video conferencing, learning on demand, etc ...). Multimedia systems architecture. Performance of multimedia systems. Mobile multimedia systems. Perspectives on the development of multimedia systems.			
Practical teaching (exercises, OFE, study and research)	Auditory, demonstrations and laboratory exercises: work with a variety of media formats, compression algorithms, design of multimedia system, demonstration and evaluation of the quality of videoconferencing by changing the connection parameters.			
Textbooks/references				
1	Ze-Nian Li, Mark Drew, Fundamentals of Multimedia, Prentice-Hall, 2004.			
2	Jennifer Coleman Dowling, Multimedia demystified, McGraw Hill, 2012.			
3	Tay Vaughan, Multimedia making it work, 8th ed, McGraw Hill, 2011.			
4	Lectures in a form of Power Point presentations			
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	0	0
Teaching methods	Lectures, Exercises, Laboratory Exercises, Consultations,			
Grade (maximum number of points 100)				
Pre-exam duties	Points	Final exam		Points
Activity during lectures	5	Written exam		30
Exercises	15	Oral exam		20
Colloquia	30			
Projects				