Course Unit Descriptor

Study Programme: Traffic Engineering			
Course Unit Title: Multimedia communications			
Course Unit Code: S1I52P			
Name of Lecturer(s): Kranjac Mirjana			
Type and Level of Studies: Bachelor level			
Course Status (compulsory/elective): compulsory			
Semester (winter/summer): Summer			
Language of instruction: English			
Mode of course unit delivery (face-to-face/distance learning): Face-to-face			
Number of ECTS Allocated: 5			
Prerequisites: None			
Course Aims: Introduction to basic procedures of representation and processing of multimedia signals, and the technologies of modern multimedia communications which ensure a high quality of multimedia signal.			
Learning Outcomes: Knowledge about the basic approaches to processing of multimedia signals, ways of compression of multimedia signals and basic techniques of objective and subjective evaluation of the quality of multimedia signals in communication networks and end multimedia applications and devices. Additional outcome is the skills of designing multimedia systems, processional knowledge and skills in selecting, analyzing and automatic control of multimedia system.			
Syllabus: Multimedia communications: models, user and network demands, multimedia terminals. Formation and representation of audio and video signals. Visual and acoustic perception of video and audio signals. Audio-visual integration. Processing of multimedia signals: analysis, interpolation, extraction of characteristic features, adaptive filtering, estimation and quality enhancement, techniques of audio and video coding, watermark, speech, audio and video streaming, multimedia processors. Distributed multimedia systems and their application: interactive TV, video on demand, hypermedia applications. Multimedia communication standards. Multimedia communication systems networking. Networks with universal multimedia access. Determining the quality of service in multimedia communications based on parameters of transmission of multimedia streaming and decoding information in end multimedia applications and devices.			
Required Reading: Relevant literature in English TBD			
Weekly Contact Hours: 4	**Lectures: 2**	**Practical work: 0**	
Teaching Methods: Lectures, auditory and computer practice			
Knowledge Assessment (maximum of 100 points):			

Pre-exam obligations	points	**Final exam**	points
Lecture attendance	10	Oral part of the exam	30
Exercise attendance	10		
Colloquim exam	30		
Term paper	20		

The methods of knowledge assessment may differ; the table presents only some of the options: written exam, oral exam, project presentation, seminars, etc.