

1.	Course title	Image and audio computer processing		
2.	Course code	SI-I-03		
3.	Study program	Master studies of Computer Science and Engineering - Software Engineering		
4.	Unit offering the course	FCSE		
5.	Undergraduate/master/PhD	Master		
6.	Year/semester 2/winter/elective	7. ECTS: 6		
8.	Teacher(s)	prof. dr. Dragan Mihajlov /assist. prof. dr. Ivica Dimitrovski		
9.	Course prerequisites	None		
10.	Goals (competences): Upon completion of the course the student is expected to know and be able to apply various algorithms for image processing and sound.			
11.	Course content: Transformation algorithms, coding and compression of audio, image and video. Basic techniques for processing sound, images and video. Hardware and software support for the digitization and processing of sound, image and video. Sound, image and video formats and their conversion. Digital photography and digital film. Processing, identification and synthesis of sound, speech and music. Perception, acoustics and frequency. Computer generated music and algorithmic composition.			
12.	Teaching methods: Lectures supported by slide presentations, interactive lectures, trainings (using lab equipment and software packages), team work, case studies, invited guests and lectures, individual practical assignments presentations, seminar paper, e-learning (forums, consultations).			
13.	Total available time	6 ECTS x 30 hours = 180 hours		
14.	Distribution of the available time	60 + 0 + 120 = 180 hours		
15.	Teaching activities	15.1.	Lectures	60 hours
		15.2.	Training (labs, problem solving), seminar and team work	0 hours
16.	Other activities	16.1.	Project work	40 hours
		16.2.	Self study	40 hours
		16.3.	Home work	40 hours
17.	Grading			
	17.1.	Tests		45 points
	17.2.	Seminar work/project (written or oral presentation)		45 points
	17.3.	Active participation		10 points
18.	Grading criteria	to 59 points		5 (five) (F)
		from 60 to 68 points		6 (six) (E)
		from 69 to 76 points		7 (seven) (D)

		from 77 to 84 points	8 (eight) (C)			
		from 85 to 92 points	9 (nine) (B)			
		from 93 to 100 points	10 (ten) (A)			
19.	Final exam prerequisites	Successfully completed activities 15.1 and 15.2				
20.	Course language	Macedonian and English				
21.	Quality assurance methods	Internal evaluation and student questionnaires				
22.	Literature					
	22.1.	Compulsory				
		No.	Authors	Title	Publisher	Year
		1.	J. R. Parker	Algorithms for Image Processing and Computer Vision	John Wiley & Sons	1996
		2.	A. K. Jain	Fundamentals of Digital Image Processing, First edition	Prentice Hall	1988
	3.	A. Hunt, R. Kirk	Digital Sound Processing for Music and Multimedia	Focal Press		
	22.2.	Additional				
		No.	Authors	Title	Publisher	Year
		1.	P. Winsor, G. DeLisa	Computer Music in C	University of North Texas Press	1991
		2.				
3.						