

1.	Course title	Digital Signal Processing		
2.	Course code	CSES608		
3.	Study program	IKI		
4.	Unit offering the course	FCSE		
5.	Undergraduate/postgraduate/PhD	Undergraduate		
6.	Year/semester 2 / summer / elective	7. ECTS: 6		
8.	Teacher(s)	Asst. Prof. Lasko Basnarkov		
9.	Course prerequisites	Calculus 2		
10.	Goals (competences): Understanding basics and techniques of digital signal processing is important for every engineer that works with applications where signal processing is necessary. Within this course the students are introduced to the theoretical basis of the digital signal processing: discretization, Fourier and Z-transform. Students will acquire basic knowledge about the digital IIR and FIR filters.			
11.	Course content: Discrete signals and systems. Fourier series and Fourier transform. Z-transform and inverse Z-transform. Discrete Fourier transform. Fast Fourier transform. IIR digital filters. FIR digital filters.			
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	Total available time		
14.	Distribution of the available time	30+45+30+25+50 = 180 h		
15.	Teaching activities	15.1.	Lectures	30 hours
		15.2.	Training (labs, problem solving), seminar and team work	45 hours
16.	Other activities	16.1.	Project work	30 hours
		16.2.	Self study	25 hours
		16.3.	Home work	50 hours
17.	Grading			
	17.1.	Mid-term exams (2)	60 points	
	17.2.	Project	35 points	
	17.3.	Active participation	5 points	
18.	Grading criteria	up to 50 points		5 (five) (F)
		from 51 to 60 points		6 (six) (E)
		from 61 to 70 points		7 (seven) (D)
		from 71 to 80 points		8 (eight) (C)
		from 81 to 90 points		9 (nine) (B)

		from 91 to 100 points	10 (ten) (A)			
19.	Final exam prerequisites	Successful completion of activities 15.1 and 15.2				
20.	Course language	Macedonian and English				
21.	Quality assurance methods	Internal evaluation mechanisms supported by student polls				
22.	Literature					
	22.1.	Compulsory				
		No.	Authors	Title	Publisher	Year
		1.	A.V. Oppenheim and A. S. Willsky	Signals and Systems, Second Edition	Prentice Hall	1997
		2.	S. W. Smith	The Scientist and Engineer's Guide to Digital Signal Processing	California Technical Publishing, San Diego	2000
	3.					
	22.2.	Additional				
		No.	Authors	Title	Publisher	Year
		1.				
		2.				
3.						