

1.	Course title	Calculus 3		
2.	Course code			
3.	Study program	All		
4.	Unit offering the course	FCSE		
5.	Undergraduate/postgraduate/PhD	Undergraduate		
6.	Year/semester 2/Winter/Compulsory	7. ECTS: 6		
8.	Teacher(s)	Assist. Prof. Vesna Dimitrova, Assoc. Prof. Verica Bakeva		
9.	Course prerequisites	Calculus 1		
10.	Goals (competences): The course covers methods for solving differential equations of first and second order, numerical solving of mathematical problems and application of some significant mathematical transformations in engineering.			
11.	Course content: Differential equations. Solving equations with separable variables, linear differential equations of first order, homogeneous and non-homogeneous linear differential equations of second order. Numerical methods and calculations, approximate numbers: presentation of numbers and operations. Analysis of errors. Numerical methods for solving systems of linear equations. Approximately solving nonlinear equations. Approximation of functions. Polynomial interpolation of functions. Numerical differentiation and integration. Numerical solution of differential equations. Complex numbers, complex functions, Fourier series, Fourier transformation and Laplace transformation. Application in engineering.			
12.	Teaching methods: Lectures, trainings, individual work, project, seminar work.			
13.	Total available time	6 ECTS x 30 hours = 180 hours		
14.	Distribution of the available time	30+30+15+25+40+40 = 180 hours		
15.	Teaching activities	15.1.	Lectures	30 hours
		15.2.	Training (labs, problem solving), seminar and team work	30+15hours
16.	Other activities	16.1.	Project work	25 hours
		16.2.	Self study	40 hours
		16.3.	Home work	40 hours
17.	Grading			
	17.1.	Tests		80 points
	17.2.	Seminar work/project (written or oral presentation)		10 points
	17.3.	Active participation		10 points
18.	Grading criteria	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 and 16				
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.	H.Anton, I.Bivens, S.Davis	Calculus	Jon Wiley &Sons, INC	2002
		2.	Robert Ellis, Denny Gulick	Calculus with analytic geometry	Harcourt Brace Jovanovich Publishers	1990
		3.				
	22.2.	Mandatory				
		No.	Authors	Title	Publisher	Year
		1.				
		2.				
3.						