

1.	Course Title	Calculus
2.	Code	F18L1S013
3.	Study program	Software engineering and information systems
4.	Study Program Organizer	Faculty of Computer Science and Engineering
5.	Degree (first, second, third cycle)	first cycle
6.	Academic year / semester 1 / summer / optional	7. ECTS credits 6
8.	Teacher	full professor Verica Bakeva, associate professor Vesna Dimitrova, assistant professor Natasha Ilievska, assistant professor Vesna Dimitrievska Ristovska, assistant professor Biljana Tojtovska, assistant professor Aleksandra Popovska Mitrovikj
9.	Course enrollment prerequisites	
10.	<p>Course program goals (competencies): This course is a support course that is essential for introducing the terms of a function, limits, derivate and integrals. These terms are important for almost all courses in the following years.</p>	
11.	<p>Course program content: (1) Function definition. Function properties. Operations with functions. (2) Lines. Families of functions. (1) Limits. Computing limits. Continuity. (2) Definition of derivative. Techniques of differentiation. Derivative of a composite function. (1) L'Hôpital's rule. (1) Application of derivatives: monotonicity of functions, concave and convex functions, relative extrema. (1) Analysis of properties and sketching the graph of a function. Absolute extrema. (1) Integration: indefinite integral, integration by substitution. (1) Definite integral. Fundamental theorem of calculus.</p>	
12.	<p>Learning methods: Lectures using presentations, interactive lectures, exercises (using equipment and software packages), teamwork, case studies, invited guest lecturers, independent preparation and defense of a project assignment and seminar work.</p>	
13.	Total available time	6 ECTS x 30 hours = 180 hours

14.	Distribution of the available time		45 + 45 + 0 + 10 + 80 = 180 hours			
15.	Teaching activity forms		15.1.	Lectures – theoretical teaching	45 hours	
			15.2.	Exercises (laboratory, auditory), seminar papers, teamwork	45 hours	
16.	Other activity forms		16.1.	Project Tasks	0 hours	
			16.2.	Independent Learning Tasks	10 hours	
			16.3.	Home learning	80 hours	
17.	Assessment methodology					
	17.1.	Tests			0 points	
	17.2.	Seminar paper/project (presentation: written and oral)			0 points	
	17.3.	Activity and learning			0 points	
	17.4.	Final exam			100 points	
18.	Assessment criteria (points/grade)		up to 50 points		5 (five) (F)	
			51 to 60 points		6 (six) (E)	
			61 to 70 points		7 (seven) (D)	
			71 to 80 points		8 (eight) (C)	
			81 to 90 points		9 (nine) (B)	
			91 to 100 points		10 (ten) (A)	
19.	Course completion and final exam requirements		Realized activities 15.1 and 15.2			
20.	Teaching Language		Macedonian and English			
21.	Teaching quality evaluation method		Internal evaluation mechanisms and questionnaires			
22.	Course Material					
	22.1.	Mandatory course material				
		No	Author	Title	Publisher	Year
		1	H.Anton, I.Bivens, S.Davis	Calculus	John Willey & Sons, Inc.	2012
	22.2.	Additional course material				
		No.	Author	Title	Publisher	Year

