1.	Course title	Calculus 1/Mathematics 1		
2.	Course code			
3.	Study program	AIS, CSE, CNT, EI, ICE		
4.	Unit offering the course	**FCSE**		
5.	Undergraduate/postgraduate/PhD	**Undergraduate**		
6.	Year/semester 1/Winter/Compulsory	7. ECTS: **6**		
8.	Teacher(s)	Prof. Smile Markovski Prof. Verica Bakeva Asst. Prof. Vesna Dimitrova		
9.	Course prerequisites			
10.	Goals (competences): This course is a support course that is inevitable for introducing the terms of a function, limits and derivate. These are important for almost all courses in the following years.			
11.	Course content: Function definition. Function properties. Operations with functions. Lines. Family of functions. Parametric equations. Limits. Limit calculations. Continuity. Derivates and continuity of trigonometric functions. Derivate definition. Derivation techniques. Derivate of trigonometric functions. Derivate of a composite function. Implicit differentiation. Tangent and deferential approximation. Inverse functions. Exponential and logarithmic functions. Inverse trigonometric functions. L'Hôpital's rule. Function monotonicity. Concave and convex functions. Local extreme values. Properties of functions and making graph of a function. Global extreme values. Rolle's theorem and the mean value theorems.			
12.	Teaching methods: The new terms, properties and techniques are being learned with self study; solving given problems and exercise problems; making a project assignment.			
13.	Total available time	6 ECTS x 30 hours = 180 hours		
14.	Distribution of the available time	45+45+45+45 = 180 hours		
15.	Teaching activities	15.1.	Lectures	45 hours
		15.2.	Training (labs, problem solving), seminar and team work	45 hours
16.	Other activities	16.1.	Project work	
		16.2.	Self study	45 hours
		16.3.	Home work	45 hours
17.	Grading			
	17.1.	Tests		80

			points
	17.2.	Seminar work/project (written or oral presentation)	
	17.3.	Active participation	20 points
18.	Grading criteria	to 49 points	5 (five) (F)
		from 50 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	Tests: Minimum 20 points Active participation: Minimum 10 points	
20.	Course language	Macedonian and English	
21.	Quality assurance methods	Internal evaluation mechanisms supported by student polls	

22. Literature

Mandatory

No.	Authors	Title	Publisher	Year
1.	H.Anton, I.Biven, S.Davis	*Calculus*	John Willey & Sons, Inc.	2002
2.				
3.				

Compulsory

No.	Authors	Title	Publisher	Year
1.	Robert Ellis, Denny Gulick	*Calculus with analytic geometry*	Harcourt Brace Jovanovich Publishers	1990
2.				
3.				