No. 1

	Course syllabus for First cycle studies			
1.	**Course title**	Mathematics 1		
2.	**Code**	FTM1M1		
3.	**Study Program**	Clothing Design and Engineering		
4.	**Study program organizer (unit, institute, department, division)**	Faculty of Technology and Metallurgy, Ss. Cyril and Methodius University in Skopje		
5.	**Degree (first, second, third cycle)**	First		
6.	**Academic year/semester**	First Year / First Semester	7. **Number of ECTS**	7
8.	**Instructors**	Prof. Dr. Beti Andonovikj, responsible professor Prof. Dr. Pavel Dimovski		
9.	**Prerequisites for course enrollment**	None		
10.	**Objectives of the course syllabus (competencies):** The course aims to provide students with the necessary knowledge of differential and integral calculus for functions of a single variable, which forms the mathematical foundation for many engineering subjects. **Acquired skills (competences):**			
11.	**Content of the course:** The set of real numbers, intervals, and absolute values. Functions of one real variable (definition, boundedness, monotonicity, periodicity, symmetries, inverse function). Overview of elementary functions. Sequences, convergence of a sequence, the number e. Limits of functions, continuity, and asymptotes. Concept of the derivative, derivatives of elementary functions, differentiation rules. Derivatives of composite, inverse, parametric, and implicit functions. Geometric interpretation of the derivative, equations of tangent and normal lines. Differential. Higher-order derivatives and higher-order differentials. L'Hôpital's rule. Basic theorems of differential calculus. Analysis of functions using derivatives and their graphical representation. Indefinite integral, tabular integrals, and integration rules. Methods for solving indefinite integrals (substitution, partial integration, integration of rational functions). Definition of definite integrals and the relationship between indefinite and definite integrals. Applications of definite integrals (area of planar figures and arc length).			
12.	**Study methods:** Lectures and exercises, consultations, homework assignments, and independent study.			
13.	**Total available time**	240		
14.	**Allocation of available time**			
15.	**Teaching activities**	15.1.	Lectures - Theoretical Instruction:	45 hours
		15.2.	**Exercises (Laboratory, Tutorials), Seminars, Teamwork:**	45 hours

15		15.3	Practical Work:		0 hours
16.	**Other types of activities**	16.1.	Project Assignments:		0 hours
		16.2.	Independent Assignments:		30 hours
		16.3.	Homework:		120 hours
17.	**Grading system**				
	17.1.	Tests (Points):			90
	17.2.	Seminar Work/Project, Written and Oral Presentation (Points):			10
	17.3.	Final Exam (Points):			0
18.	**Grading criteria (points/grade)**	Up to 61 points			5 (five) (F)
		From 61 to 69 points			6 (six) (E)
		From 70 to 79 points			7 (seven) (D)
		from 80 to 89 points			8 (eight) (S)
		From 90 to 95 points			9 (nine) (B)
		from 95 to 100 points			10 (ten) (A)
19.	**Prerequisites for taking the final exam**	Attended the course			
20.	**Language in which lectures are conducted**	English			
21.	**Method for monitoring the quality of lectures**	Self-evaluation, questionnaires			
22.	**LITERATURE**				

22.1.	Compulsory literature				
	No.	Author	Title	Publisher	Year
	1.	Howard Anton, Irl C. Bivens, Stephen	Calculus: Multivariable, 12th Edition	Wiley	1992
	2.				
	3.				
22.2.	Additional literature				
	No.	Author	Title	Publisher	Year
	1.	G. James	Mathematics for Modern Engineering	Pearson	2020
	2.				
	3.				