

Subject card

Subject name and code	Mathematics, PG_00053409						
Field of study	Chemistry						
Date of commencement of studies	October 2025		Academic year of realisation of subject		2025/2026		
Education level	Bachelor's studies		Subject group		Obligatory subject group in the field of study		
Mode of study	full-time studies		Mode of delivery		at the university		
Year of study	1		Language of instruction		Polish		
Semester of study	1		ECTS credits		3.0		
Learning profile	academic		Assessment form		exam		
Conducting unit	Faculty of Mathematics, Physics and Informatics -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		dr Nikodem Mrożek				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	0.0	0.0	0.0	0.0	30
	E-learning hours included: 0.0						
Learning activity and number of study hours	Learning activity	Participation in didactic classes included in study plan		Participation in consultation hours		Self-study	SUM
	Number of study hours	30		5.0		40.0	75
Subject objectives	Introduction of students to basic mathematical tools.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[CHEML3_W06] Chooses higher mathematics techniques to the extent necessary to understand and describe the physical processes important for understanding chemistry.	classifies basic elementary functions and lists their properties; lists the basic formulas of differential and integral calculus and applies them to solve tasks; uses differential and integral calculus to study the properties of functions of one variable; lists the basic formulas of matrix calculus and applies them to solving tasks	[SW4] test/exam - oral or written
	[CHEML3_W08] Demonstrates knowledge of basic computational methods to solve problems in chemistry, physics, mathematics.	classifies basic elementary functions and lists their properties; lists the basic formulas of differential and integral calculus and applies them to solve tasks; uses differential and integral calculus to study the properties of functions of one variable; lists the basic formulas of matrix calculus and applies them to solving tasks	[SW4] test/exam - oral or written
	[CHEML3_U09] Is able to learn independently.	classifies basic elementary functions and lists their properties; lists the basic formulas of differential and integral calculus and applies them to solve tasks; uses differential and integral calculus to study the properties of functions of one variable; lists the basic formulas of matrix calculus and applies them to solving tasks	[SU4] test/exam - oral or written [SU8] observation of student's independent or team work
	[CHEML3_W01] Enumerates basic laws and theories in chemistry, physics, mathematics and biology.	classifies basic elementary functions and lists their properties; lists the basic formulas of differential and integral calculus and applies them to solve tasks; uses differential and integral calculus to study the properties of functions of one variable; lists the basic formulas of matrix calculus and applies them to solving tasks	[SW4] test/exam - oral or written
Subject contents	- Basic concepts and elementary functions, finding zeros. - The concept of a sequence and its limit, the limit and continuity of functions. - Derivative and integral of a function of one variable with selected applications. - Operations on matrices and vectors, determinant of a matrix, solving systems of linear equations. - Complex numbers.		
Prerequisites and co-requisites	Knowledge of high school level mathematics.		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Written exam	50.0%	100.0%
Recommended reading	Basic literature	NA	
	Supplementary literature	NA	
	eResources addresses		
Example issues/ example questions/ tasks being completed			
Work placement	Not applicable		

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