

Subject card

Subject name and code	Faculty Lecture - Mathematics, PG_00182572						
Field of study	Physics						
Date of commencement of studies	October 2025		Academic year of realisation of subject		2025/2026		
Education level	Master's studies		Subject group		Obligatory subject group in the field of study Optional subject group		
Mode of study	full-time studies		Mode of delivery		at the university		
Year of study	1		Language of instruction		Polish		
Semester of study	2		ECTS credits		3.0		
Learning profile	academic		Assessment form		credit		
Conducting unit	Faculty of Mathematics, Physics and Informatics -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. Tomasz Człapiński				
	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		0.0		45.0	75
Subject objectives	Familiarization with the development of mathematics and its applications in physical theories.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[FIZMU2_K02] is aware of the conclusive role of experiment in the verification of physical theories; is aware of the scientific method in the accumulation of knowledge		A student who knows the stages of development of mathematics is aware of the problems associated with obtaining the proper formalism.		[SK4] test/exam - oral or written		
	[FIZMU2_K01] knows the limitations of his own knowledge and skills; can formulate questions precisely; understands the need for further education and other		The student knows the limitations of his/her own knowledge and understands the need for further education		[SK8] observation of student's independent or team work		
	[FIZMU2_K04] understands and appreciates the importance of intellectual integrity in their own and others' actions; is aware of ethical problems in the context of research integrity		The student appreciates the importance of intellectual honesty in his/her own and other people's actions.		[SK8] observation of student's independent or team work		
	[FIZMU2_K06] is aware of the risks associated with obtaining information from unverified sources, including the Internet		By gaining knowledge, the student is able to avoid threats by obtaining information from reliable sources.		[SK4] test/exam - oral or written		
	[FIZMU2_K08] is ready to form competent opinions on advanced professional issues and opinions on certain issues of public interest		Student express opinions on the development of mathematics and its applications in physical theories.		[SK4] test/exam - oral or written		

Subject contents	1. The first examples of mathematical thinking. 2. Selected issues from the development of mathematics in ancient Greece. The first use of mathematics in astronomy. 3. The regression of mathematics in the Middle Ages. 4. The development of concepts leading to the discovery of differential and integral calculus and its relationship to physics. 5. Formalization of mathematical reasoning. 6. Selected issues for differential equations occurring in physical theories.		
Prerequisites and co-requisites	none		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	observation of the student's attitude	51.0%	0.0%
	test	51.0%	100.0%
Recommended reading	Basic literature	1. M. Kordos, Wykłady z historii matematyki, WSiP, Warszawa 1994. 2. D.M. Burton, Historia matematyki, Wydawnictwo Naukowe PWN, Warszawa 2023. 3. A.K. Wróblewski, Historia fizyki, PWN, Warszawa 2006. 4. C.B. Boyer, Historia rachunku różniczkowego i całkowego i rozwój jego pojęć, PWN, Warszawa 1964	
	Supplementary literature	1. Z. Kamont, Równania różniczkowe zwyczajne, Wyd. UG, Gdańsk 1999. 2. M. Krzyżański, Równania różniczkowe cząstkowe rzędu drugiego, PWN, Warszawa 1957.	
	eResources addresses		
Example issues/ example questions/ tasks being completed	not included		
Work placement	Not applicable		

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