

Subject card

Subject name and code	Presentation of Mathematical Content, PG_00207066						
Field of study	Mathematics						
Date of commencement of studies	October 2026		Academic year of realisation of subject		2027/2028		
Education level	Master'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	2		Language of instruction		Polish		
Semester of study	4		ECTS credits		3.0		
Learning profile	academic		Assessment form		credit		
Conducting unit							
Name and surname of lecturer (lecturers)	Subject supervisor		dr Aleksandra Nowel				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	30.0	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		3.0		42.0	75
Subject objectives	The aim of the course is to develop students' skills in professional preparation and presentation of advanced mathematical content, the ability to construct reliable mathematical arguments and communicate them precisely, adapt language to the recipient, proficiency in editing tools and building substantive argumentation in scientific debate.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[MATMU2_U07] can present results from a selected field of mathematics or its applications in writing, orally, as a multimedia presentation or poster, using specialist terminology; can find the necessary information in specialist literature, both in databases and other sources		The student is able to develop and present mathematical research results in various formats (talk, multimedia presentation, scientific poster) using precise terminology and editorial standards (e.g., LaTeX); they efficiently search for and select data in professional mathematical databases (such as MathSciNet or arXiv).		[SU2] presentation/project/paper/report [SU8] observation of student's independent or team work		
	[MATMU2_U06] can effectively communicate on specialized topics in the field of mathematics and its applications with diverse audiences (specialists and non-specialists), skillfully justifying their position; can lead a debate		The student is able to formulate and communicate complex mathematical issues in a manner understandable to both specialists and non-experts, choosing the appropriate level of abstraction; they skillfully justify their theses and substantively address counterarguments during scientific discussions.		[SU2] presentation/project/paper/report [SU8] observation of student's independent or team work		

Subject contents	Proof Structure and Logical Rigor: Analyzing the validity of proofs, identifying logical gaps and hidden assumptions in scientific texts. Mathematical Precision: Eliminating ambiguity, correctly using quantifiers and symbols in formal notation. Argument Construction Methodology: Building a coherent argumentative path from axioms and lemmas to the main theorem. Critical Literature Analysis: Verifying proofs in scientific publications and identifying key construction steps. Proof Workshop: Peer-review of reasoning and pointing out flaws in peer arguments. Rhetoric of Proof: How to present complex logical transitions clearly while maintaining full mathematical rigor. Information Retrieval Methodology, Text Editing, Visualization, Popularization vs. Formalized Communication		
Prerequisites and co-requisites	none		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Observation of student attitude	51.0%	0.0%
	Active participation in discussions on other students' presentations (asking questions, substantive criticism)	51.0%	10.0%
	Presentation	51.0%	90.0%
Recommended reading	Basic literature	1. How to write mathematics; Norman E. Steenrod Paul R. Halmos Menahem M. Schiffer Jean A. Dieudonne; AMS 2. Mathematical Reasoning Writing and Proof, Ted Sundstrom, Grand Valley State University 3. Handbook of Writing for the Mathematical Sciences, Nicholas J. Higham 4. The Craft of Scientific Presentations, Michael Alley 5. Mathematical Writing, Franco Vivaldi	
	Supplementary literature	- Constructing and Writing Mathematical Proofs: A Guide for Mathematics Students,Ted Sundstrom, Grand Valley State University - How to Think Like a Mathematician: A Companion to Undergraduate Mathematics, Kevin Houston	
	eResources addresses	Basic https://arxiv.org/archive/math - arXiv.org (Mathematics) https://mathscinet.ams.org/mathscinet - MathSciNet (American Mathematical Society)	
Example issues/ example questions/ tasks being completed	-		
Work placement	Not applicable		

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