

Subject card

Subject name and code	Master Seminar III, PG_00209948						
Field of study	Mathematics						
Date of commencement of studies	October 2025		Academic year of realisation of subject		2026/2027		
Education level	Master's studies		Subject group				
Mode of study	full-time studies		Mode of delivery		at the university		
Year of study	2		Language of instruction		Polish		
Semester of study	3		ECTS credits		5.0		
Learning profile	academic		Assessment form		credit		
Conducting unit	Institute of Mathematics -> Faculty of Mathematics, Physics and Informatics -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. Tomasz Czlapiński				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	0.0	0.0	0.0	30.0	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		90.0	125
Subject objectives	The aim of the seminar is to prepare students for independent research and professional work, creatively solving mathematical problems using various tools.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[MATMU2_K01] is willing to acknowledge the limitations of his or her own knowledge and is willing to pursue further education	The student is aware of the limitations of their own knowledge and is prepared for continued independent learning and academic development.	[SK8] observation of student's independent or team work
	[MATMU2_K02] is ready to precisely formulate questions to deepen his/her understanding of a given topic or find missing elements of reasoning	The student is prepared to formulate precise questions aimed at deepening their understanding of a given topic and identifying missing elements in the reasoning.	[SK1] oral statement/conversation/discussion
	[MATMU2_U08] is able to prepare in-depth written works in Polish and at least one foreign language in a selected field of mathematics	The student is capable of preparing in-depth written works in Polish and at least one foreign language on selected topics in mathematics, demonstrating precision and substantive accuracy.	[SU2] presentation/project/paper/report
	[MATMU2_U07] is able to define his/her interests and develop them; in particular, is able to establish contact with specialists in his/her field, e.g. understand their lectures intended for young mathematicians	The student is able to identify and develop their scientific interests systematically. They are capable of establishing contact with specialists in their field and understanding lectures and materials aimed at young mathematicians.	[SU8] observation of student's independent or team work
	[MATMU2_W07] knows and understands the basic legal and ethical conditions related to scientific and teaching activities	The student knows and understands the basic legal and ethical conditions related to scientific and teaching activities and is able to apply them in practice.	[SW2] presentation/project/paper/report
	[MATMU2_U03] can understand mathematical texts of various types from selected fields of mathematics	The student is able to understand mathematical texts of varying nature and complexity from selected areas of mathematics.	[SU8] observation of student's independent or team work
	[MATMU2_K04] is ready to understand and appreciate the importance of intellectual honesty in one's own and other people's actions; ethical conduct	The student is prepared to understand and appreciate the importance of intellectual honesty in their own actions and those of others, as well as to adhere to ethical conduct.	[SK8] observation of student's independent or team work
	[MATMU2_U04] is able, at an advanced level and including modern mathematics, to apply and present, orally and in writing, methods of at least one selected branch of mathematics	The student is able, at an advanced level including modern mathematical approaches, to apply and clearly present in both oral and written form methods from at least one selected branch of mathematics.	[SU8] observation of student's independent or team work
	[MATMU2_W03] knows and understands in-depth a selected field of theoretical or applied mathematics and is able to understand the formulations of issues in this field that are still at the research stage and knows the connections of issues in this field with other areas of mathematics	The student has an in-depth knowledge and understanding of a selected area of theoretical or applied mathematics, is able to interpret and analyze research-level problem formulations, and understands the connections of this area with other branches of mathematics.	[SW2] presentation/project/paper/report
	[MATMU2_K05] is ready to independently search for information in literature, also in foreign languages	The student is prepared to independently search for and analyze information in professional literature, including sources in foreign languages.	[SK8] observation of student's independent or team work
	[MATMU2_U05] can perform proofs in a selected field and, if necessary, also use tools from other areas of mathematics	The student is able to carry out rigorous proofs and analyses in a selected area of mathematics, employing tools and methods from other branches of mathematics when necessary.	[SU8] observation of student's independent or team work
	[MATMU2_K06] is ready to formulate opinions on basic mathematical issues	The student is able to formulate and express opinions on fundamental mathematical issues, demonstrating the ability to argue and justify their viewpoints.	[SK1] oral statement/conversation/discussion

	Course outcome	Subject outcome	Method of verification
	[MATMU2_U09] can prepare oral presentations in-depth in Polish and at least one foreign language, in a selected field of mathematics	The student is able to prepare and deliver in-depth oral presentations in Polish and at least one foreign language on topics from a selected area of mathematics, presenting knowledge clearly and convincingly.	[SU2] presentation/project/paper/report
	[MATMU2_U02] can express mathematical content in speech and writing, in mathematical texts of various nature	The student is able to clearly and accurately communicate mathematical content both orally and in writing, handling mathematical texts of varying complexity.	[SU2] presentation/project/paper/report
Subject contents	Presentation and discussion of topics covered in the diploma theses.		
Prerequisites and co-requisites	• Basic knowledge of mathematical analysis and linear algebra. • Ability to read and understand scientific texts in English.		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Observation of the student's attitude	51.0%	0.0%
	Oral presentations and written reports	51.0%	80.0%
	Activity during classes	51.0%	20.0%
Recommended reading	Basic literature	1. Halmos, P. R. (1970). How to Write Mathematics. L'Enseignement Mathématique, 16(1), 123-152. 2. Halmos, P. R. (1974). How to Talk Mathematics. Notices Amer. Math. Soc., 21, 155-158.	
	Supplementary literature	• J. Trzeciak, Writing Mathematical Papers in English. A Practical Guide, 2nd revised edition, European Mathematical Society, 2005.	
	eResources addresses		
Example issues/ example questions/ tasks being completed	not included		
Work placement	Not applicable		

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