

Subject card

Subject name and code	Didactics of mathematics in elementary school I, PG_00155418						
Field of study	Mathematics						
Date of commencement of studies	October 2024		Academic year of realisation of subject		2026/2027		
Education level	Bachelor'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	3		Language of instruction		Polish		
Semester of study	5		ECTS credits		2.0		
Learning profile	academic		Assessment form		credit		
Conducting unit	Division of Didactics of Mathematics -> Institute of Mathematics -> Faculty of Mathematics, Physics and Informatics -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		dr Elżbieta Mrozek				
	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		5.0		15.0	50
Subject objectives	The aim of the course is to prepare students in the field of mathematics didactics to teach mathematics in primary school.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[MATL3_K01] is ready to accept the limitations of his/her own knowledge and understands the need for further education		The student is ready to form the habit of systematic learning and using various sources of knowledge (including the Internet) and to learn throughout life.		[SK1] oral statement/conversation/discussion [SK5] implementation of a problem task [SK8] observation of student's independent or team work		
	[MATL3_K04] is ready to understand and appreciate the importance of intellectual honesty in one's own and other people's actions; is willing to act ethically		The student is ready to build a system of values and develop ethical attitudes of students and shape their communication skills and cultural habits.		[SK1] oral statement/conversation/discussion [SK5] implementation of a problem task [SK8] observation of student's independent or team work		

Subject contents	1. Teaching mathematics in relation to mathematics as a scientific discipline.		
	2. Core curriculum. Objectives and content of teaching mathematics in primary school.		
	3. Review of mathematics curricula and school textbooks. Criteria for assessing school curricula and textbooks.		
	4. Methods and forms of teaching mathematics. Unconventional teaching methods, e.g. project method, activating methods.		
	5. Planning didactic work - creating lesson and extracurricular lesson scenarios, material breakdowns, teaching programs.		
	6. Teaching elements of the mathematical method and the stage of the student's mental development.		
	7. Shaping mathematical concepts related to natural, integer, rational numbers.		
	8. Methodology of solving tasks, including tasks with an increased level of difficulty for gifted students.		
	9. Teaching aids in teaching mathematics, including the use of media and information and communication technologies.		
	10. Popularization of mathematics in the school and extracurricular environment.		
Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	project	51.0%	20.0%
	test	51.0%	60.0%
	observation of the student's attitude	51.0%	0.0%
	activity	51.0%	20.0%
Recommended reading	Basic literature	1. Polya, G.: Jak to rozwiązać?, Wydawnictwo Naukowe PWN, Warszawa. 2. Semadeni, Z.(red.): Nauczanie początkowe matematyki, WSiP, Warszawa, t.I - 1981, t.II - 1984, t.III - 1986, t.IV - 1988. 3. Turnau, S.: Wykłady o nauczaniu matematyki, PWN, Warszawa, 1991. 4. Zaremba, D.: Podstawy nauczania matematyki, czyli jak matematykę przybliżyć uczniom, Wydawnictwa Naukowo-Techniczne, Warszawa, 2006. 5. Zaremba, D.: Sztuka nauczania matematyki w szkole podstawowej i gimnazjum, GWO, Gdańsk, 2004. 6. Programs and textbooks for teaching mathematics in primary school. 7. Collections of tasks with an increased level of difficulty. 8. Multimedia resources for teaching mathematics in primary school - multi-textbooks, films, interactive exercises, etc. 9. Articles from selected magazines for teacher („Dydaktyka Matematyki" „Matematyka", „Matematyka w Szkole", „Nauczyciele i Matematyka plus Technologia Informacyjna" i itp.). 10. Websites with materials for teachers, including popular educational publications, ORE, discussion forums, etc. 11. MEN Regulations - regarding the organization of mathematics teaching, selection of school programs and textbooks, assessment and examination of students, professional advancement of teachers.	
	Supplementary literature	not included	
	eResources addresses		
Example issues/ example questions/ tasks being completed	not included		
Work placement	Not applicable		

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