University of Gdańsk

Subject card

Subject name and code	Didactics of mathematics in elementary school II, PG_00179378		
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	6	ECTS credits	5.0
Learning profile	academic	Assessment form	exam
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 Mrożek	
	Teachers		

Lesson types

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	30.0	30.0	0.0	0.0	0.0	60

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	60	5.0	60.0	125

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_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
[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

Subject contents

1. Planning of didactic work - creating lesson and extracurricular lesson plans, material breakdowns, curricula.
2. Teaching algorithms at school - benefits and risks.
3. Mathematical modeling.
4. Teaching elements of the mathematical method and the stage of the student's mental development. Shaping mathematical concepts related to flat and spatial geometry, algebra, percentages.
5. Methodology of solving text problems and tasks of increased difficulty for gifted students.
6. Planning of repetition and consolidation of material.
7. Control of student work. In-school assessment. Out-of-school assessment, exams. Diagnosing.
8. Popularization of mathematics in the school and out-of-school environment.

Prerequisites and co-requisites

<table>
<tr><td>Assessment methods and criteria</td><td colspan="2"><table>
<tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr>
<tr><td>exam</td><td>51.0%</td><td>60.0%</td></tr>
<tr><td>activity</td><td>51.0%</td><td>20.0%</td></tr>
<tr><td>observation of the student's attitude</td><td>51.0%</td><td>0.0%</td></tr>
<tr><td>project</td><td>51.0%</td><td>20.0%</td></tr>
</table></td></tr>
<tr><td rowspan="3">Recommended reading</td><td>Basic literature</td><td>1. Polya, G.: How to solve it?, PWN Scientific Publishing House, Warsaw.
2. Zaremba, D.: Fundamentals of teaching mathematics, or how to bring mathematics closer to students, Scientific and Technical Publishing House, Warsaw, 2006
3. Zaremba, D.: The art of teaching mathematics in primary and secondary schools, GWO, Gdańsk, 2004
4. Programs and textbooks for teaching mathematics in primary school
5. Collections of tasks with an increased level of difficulty
6. Multimedia resources for teaching mathematics in primary school - multi-textbooks, films, interactive exercises, etc.
7. Articles from selected magazines for teachers (,,Dydaktyka Matematyki",,Matematyka",,Matematyka w Szkole",,Nauczyciele i Matematyka plus Information Technology" and etc.).
8. Websites with materials for teachers, including popular educational publications, ORE, discussion forums, etc.
9. MEN Regulations - regarding the organization of mathematics teaching, selection of school programs and textbooks, assessment and examination of students, professional advancement of teachers.</td></tr>
<tr><td>Supplementary literature</td><td>not included</td></tr>
<tr><td>eResources addresses</td><td></td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td colspan="2">not included</td></tr>
<tr><td>Work placement</td><td colspan="2">Not applicable</td></tr>
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