

1.	Field of study	Mathematics
2.	Faculty	Faculty of Science and Technology
3.	Academic year of entry	2024/2025 (winter term)
4.	Level of qualifications/degree	first-cycle studies
5.	Degree profile	general academic
6.	Mode of study	full-time

7. General information about the module	
Module name	Teaching methodology I
Module code	W4-MT-S1-24-MSzk1
Number of the ECTS credits	2
Language of instruction	Polish
Purpose and description of the content of education	<p>Celem modułu jest gromadzenie doświadczeń związanych z pracą dydaktyczno – metodyczną nauczyciela matematyki na II etapie edukacyjnym (klasy IV - VIII szkoły podstawowej) i konfrontowanie nabytej wiedzy z zakresu matematyki, dydaktyki ogólnej i dydaktyki matematyki z działaniami praktycznymi.</p> <p>Kształtowanie odpowiednich kompetencji dydaktycznych i metodycznych studentów odbywa się poprzez:</p> <ul style="list-style-type: none"> - opracowanie przez zespół studentów lekcji w formie scenariusza (konspektu) oraz prezentacji multimedialnej - przygotowywanie się studenta do samodzielnego prowadzenia lekcji matematyki; - prezentację przygotowanej przez zespół studentów lekcji – omówienie doboru celów, metod, form pracy, środków dydaktycznych; organizacja oraz tok lekcji; - obserwowanie aktywności studenta oraz wszelkich czynności podejmowanych przez niego w trakcie zajęć; - współdziałanie (z prowadzącym, nauczycielem oraz pozostałymi studentami) w toku planowania oraz ostatecznego przygotowywania lekcji - właściwe reagowanie na uwagi oraz propozycje zastosowania innych rozwiązań.
List of modules that must be completed before starting this module (if necessary)	[W4-MT-S1-24-PPSTut] Preparation for Work in Primary School

8. Learning outcomes of the module			
Code	Description	Learning outcomes of the programme	Level of competenc (scale 1-5)
MSzk1_01	zna i rozumie podstawę programową z matematyki, cele kształcenia i treści nauczania na II etapie edukacyjnym, przedmiot w kontekście wcześniejszego i dalszego kształcenia oraz strukturę wiedzy przedmiotu	KN.2023_U07	4
		KN.2023_W14	4
		KN.2023_W15	4
MSzk1_02	zna i rozumie kompetencje merytoryczne, dydaktyczne i wychowawcze nauczyciela, w tym potrzebę zawodowego rozwoju, także z wykorzystaniem technologii informacyjno-komunikacyjnej oraz dostosowywania sposobu komunikowania się do poziomu rozwoju uczniów i stymulowania aktywności poznawczej uczniów	KN.2023_KS03	3
		KN.2023_U02	3
		KN.2023_W12	3
		KN.2023_W14	3
		KN.2023_W15	3

MSzk1_03	zna i rozumie konwencjonalne i niekonwencjonalne metody nauczania, proces uczenia się przez działanie, odkrywanie lub dociekanie, a także zasady doboru metod nauczania typowych dla matematyki	KN.2023_KS01 KN.2023_U02 KN.2023_U07 KN.2023_W15	3 3 3 3
MSzk1_04	zna i rozumie metodykę realizacji poszczególnych treści kształcenia w obrębie matematyki – rozwiązania merytoryczne i metodyczne, dobre praktyki, dostosowanie oddziaływań do potrzeb i możliwości uczniów lub grup uczniowskich o różnym potencjale i stylu uczenia się, typowe dla przedmiotu błędy uczniowskie, ich rolę i sposoby wykorzystania w procesie dydaktycznym	KN.2023_KS01 KN.2023_U02 KN.2023_W14 KN.2023_W15	2 2 2 2
MSzk1_05	potrafi identyfikować typowe zadania szkolne z celami kształcenia, w szczególności z wymaganiami ogólnymi podstawy programowej, oraz z kompetencjami kluczowymi; przeanalizować rozkład materiału; identyfikować powiązania treści przedmiotu z innymi treściami nauczania; dostosować sposób komunikacji do poziomu rozwojowego uczniów	KN.2023_U02 KN.2023_W12 KN.2023_W14 KN.2023_W15	4 4 4 4
MSzk1_06	dobierać metody pracy klasy oraz środki dydaktyczne, w tym z zakresu technologii informacyjno-komunikacyjnej, aktywizujące uczniów i uwzględniające ich zróżnicowane potrzeby edukacyjne; rozpoznać typowe dla błędy uczniowskie i wykorzystać je w procesie dydaktycznym	KN.2023_U07 KN.2023_W06 KN.2023_W14 KN.2023_W15 KN_I_U07	4 4 4 4 4
MSzk1_07	est gotów do adaptowania metod pracy do potrzeb i różnych stylów uczenia się uczniów; promowania odpowiedzialnego i krytycznego wykorzystywania mediów cyfrowych; rozwijania u uczniów ciekawości, aktywności i samodzielności poznawczej oraz logicznego i krytycznego myślenia; kształtowania nawyku systematycznego uczenia się i korzystania z różnych źródeł wiedzy, w tym z Internetu; stymulowania uczniów do uczenia się przez całe życie przez samodzielną pracę	KN.2023_U02 KN.2023_U03 KN.2023_U07 KN.2023_U08 KN.2023_W06 KN.2023_W15	3 3 3 3 3 3

9. Methods of conducting classes		
Code	Category	Name (description)
a05	Lecture methods / expository methods	Explanation/clarification <i>explication involving the derivation of a predetermined theorem from other, already known ones, in the number of steps specified by the person teaching the course</i>
b04	Problem-solving methods	Activating method – discussion / debate <i>an exchange of views supported by substantive arguments leading to a clash of different views, a compromise or the identification of common positions; it proceeds according to previously agreed-upon rules regarding the time, manner and turn-taking as well as the principles of civil discourse; a discussion is not a competition but aims at finding the best solutions or presenting different points of view; its varieties include brainstorming, Oxford-style debate, panel discussion, decision tree, conference discussion; a debate is an orderly dispute between supporters and opponents of a viewpoint, usually specialists in the field or pre-selected representatives of a group dealing with a common problem</i>
b08	Problem-solving methods	Activating method – peer learning

		<i>learning through the exchange of knowledge in a group/team/pair of students, i.e., in the so-called learning cell; a kind of mutual learning; an approach focused on student activity under the guidance of the person teaching the course; a learning situation where students with a similar level of experience learn from one another</i>
b09	Problem-solving methods	Activating method – flipped classroom <i>anticipatory learning; work in class is based on previously studied material indicated by the person teaching the course; preparation outside the classroom serves the purpose of getting familiar with the issues whose knowledge is necessary for participating in the in-class discussion and the training in the related practical skills; the activity is based on the work of students under the guidance of the person teaching the course</i>
c07	Demonstration methods	Screen presentation <i>a presentation of synthetic image content using computer graphics, e.g., a series of slides or other multimedia forms, usually accompanied by a commentary; typical components of a screen presentation include text organized into bulleted points, charts, images and animations, sometimes sound effects or music; a multimedia illustration of course content presented in the form of a projected image</i>
d01	Programmed learning methods	Working with a computer <i>e.g., Webquest; implementation of educational tasks using electronic and digital devices, computer programs and Internet applications; the academic teacher acts as a consultant; students' work is carried out step by step according to the plan laid own by the person teaching the course and following his instructions, and proceeds towards producing the indicated results within the set deadline</i>
d02	Programmed learning methods	Working with a programmed textbook <i>working with a textbook containing instructional material covering part of or the entire curriculum of the module as well as a formula for studying the content; includes working with a subject textbook, an atlas, a catalogue, a problem book, etc.</i>
d03	Programmed learning methods	Working with another teaching tool <i>e.g. using websites in any way or according to the rules set by the teacher; or making use of other subject-specific tools</i>
e07	Practical methods	Simulation <i>an indirect method; imitating reality in order to gain experience approximating a real one; recreating a real-world situation so that its participant can acquire an experience close to the authentic one; work on "replacement" material</i>
f01	Methods of self-learning	Self-education <i>a method which involves independent acquisition of knowledge, skills and social competences, extending their scope and quality; complementary to the learning process taking place in class; taking on the task of developing and adjusting qualifications on one's own; self-study</i>
f02	Methods of self-learning	Individual work with a text <i>searching for and acquiring new information using textbooks and other written sources (including their digital versions); searching for texts, selecting fragments for analysis/interpretation, using other texts to solve a problem related to the studied issue</i>
f03	Methods of self-learning	Conceptual work <i>a (mainly intellectual) activity carried out independently (or in a selected group) resulting in the creation of a concept, idea or project; creating a plan based on a vision; developing a general outline of a project; producing a simplified sketch of the variant versions of a procedure/product/work</i>

10. Forms of teaching

Code	Name	Number of hours	Assessment of the learning outcomes of the module	Learning outcomes of the module	Methods of conducting classes
01	workshop	30	course work	MSzk1_01, MSzk1_02, MSzk1_03, MSzk1_04, MSzk1_05, MSzk1_06,	a05, b04, b08, b09, c07, d01, d02, d03, e07, f01, f02, f03

11. The student's work, apart from participation in classes, includes in particular:			
Code	Category	Name (description)	Is it part of the BUNA?
a01	Preparation for classes	Search for materials and review activities necessary for class participation <i>reviewing literature, documentation, tools and materials as well as the specifics of the syllabus and the range of activities indicated in it as required for full participation in classes</i>	No
a03	Preparation for classes	Developing practical skills <i>activities involving the repetition, refinement and consolidation of practical skills, including those developed during previous classes or new skills necessary for the implementation of subsequent elements of the curriculum (as preparation for class participation)</i>	Yes
a04	Preparation for classes	Consulting materials complementary to those indicated in the syllabus <i>agreeing on materials complementary to those indicated in the syllabus, supporting the implementation of tasks resulting from or necessary for class participation</i>	Yes
a05	Preparation for classes	Production/preparation of tools, materials or documentation necessary for class participation <i>developing, preparing and assessing the usefulness of tools and materials (e.g. aids, scenarios, research tools, equipment, etc.) to be employed in class or as an aid when preparing for classes</i>	Yes
b01	Consulting the curriculum and the organization of classes	Getting acquainted with the syllabus content <i>reading through the syllabus and getting acquainted with its content</i>	Yes
c01	Preparation for verification of learning outcomes	Determining the stages of task implementation contributing to the verification of learning outcomes <i>devising a task implementation strategy embracing the division of content, the range of activities, implementation time and/or the method(s) of obtaining the necessary materials and tools, etc.</i>	Yes
c02	Preparation for verification of learning outcomes	Studying the literature used in and the materials produced in class <i>exploring the studied content, inquiring, considering, assimilating, interpreting it, or organizing knowledge obtained from the literature, documentation, instructions, scenarios, etc., used in class as well as from the notes or other materials/artifacts made in class</i>	Yes
c03	Preparation for verification of learning outcomes	Implementation of an individual or group assignment necessary for course/phase/ examination completion <i>a set of activities aimed at performing an assigned task, to be executed out of class, as an obligatory phase/element of the verification of the learning outcomes assigned to the course</i>	Yes
d01	Consulting the results of the verification of learning outcomes	Analysis of the corrective feedback provided by the academic teacher on the results of the verification of learning outcomes <i>reading through the academic teacher's comments, assessments and opinions on the implementation of the task aimed at checking the level of the achieved learning outcomes</i>	Yes
d02	Consulting the results of the verification of learning outcomes	Development of a corrective action plan as well as supplementary/corrective tasks <i>reviewing and selecting tasks and activities enabling the elimination of errors indicated by the academic teacher, their verification or correction resulting in completing the task with at least the minimum passing grade</i>	No

Information on the details of the module implementation in a given academic year can be found in the syllabus available in the USOS system: <https://usosweb.us.edu.pl>.