

Name of university, Name of faculty: Trnava University
Faculty of Education

INFORMATION SHEET OF THE SUBJECT

Code: YMIM005		Name: Theory and Practice of Teaching Mathematics 1	
Cover: Department of Mathematics and Computer Science			
Type of educational activity: Lecture, Seminar, Professional Training		Number of credits: 5	Recommended semester: WT
Scope of educational activity (in hours): Weekly: 2/1/1 For term of study: ZS 46,23,23			Study grade: Master
Method of educational activity: Attendance			
Recommended semester	Study programme		
1.year WT	Matematika_Mgr (YM_Mgr) Teaching Mathematics and Teaching English and Literature (YM-Aj-D2) Teaching Mathematics and Teaching Biology (YM-B-D2) Teaching Mathematics and Teaching Ethics (YM-Ev-D2) Teaching Mathematics and Teaching History (YM-His D2) Teaching Mathematics and Teaching Chemistry (YM-CH-D2) Teaching Mathematics and Teaching Informatics (YM-I-D2) Teaching Mathematics and Teaching of Religions Education (YM-Nv-D2) Teaching Mathematics and Teaching Civic Education (YM-VO-D2) Teaching Mathematics and Teaching Fine Arts (YM-Vu-D2) Teaching German and Literature and Teaching Mathematics (YNj-M-D2)		
Underlie subjects:			
Conditions for passing the course:			
Method of evaluation: Completion by taking an examination			
Continuous evaluation:			
Final evaluation: a written test on the content of the course, for which the student may obtain a maximum of 40 points. An oral examination on the content of the course material, for which the student may obtain a maximum of 20 points.			
Finished: the course is completed on the basis of the sum of points from the continuous and final assessment. The student must score a minimum of 10 points on the portfolio and a minimum of 30 points on the final evaluation (sum of the written test and the oral exam), otherwise the student's grade in the course is FX. A minimum of 91 points is required for an A grade, a minimum of 81 points is required for a B grade, a minimum of 71 points is required for a C grade, a minimum of 61 points is required for a D grade, and a minimum of 51 points is required for an E grade. A condition for passing the course is also the implementation of the non-contact part of the course. This part is implemented mainly by regular study of the material covered in the last lecture, regular preparation for the next seminar, preparation and elaboration of the seminar thesis, preparation and elaboration of the portfolio from the teaching practice, regular preparation for the teaching practice, study of the recommended study literature, study of the video recordings in Teams, preparation for the final test.			
Learning outcomes:			
VV1 The student knows the content of teaching mathematics in lower and upper secondary education			
VV2 The student knows the aims and objectives of mathematics education in lower and upper secondary education			
VV3 The student has an overview of adequate teaching methods, forms and means in teaching mathematics			
VV4 The student is able to prepare for a mathematics lesson and teach the lesson according to it			
VV5 The student is able to apply the acquired knowledge from the field of mathematics and the theory of mathematics teaching to pedagogical practice			
Schedule of subject:			
Didactics of mathematics and its position in the system of sciences.			
Curriculum documents.			
Didactic principles in the teaching of mathematics. Appropriate teaching methods. Heuristics, reasoning and hypothesis formation in mathematics education. Communication in mathematics. Motivation in the teaching of mathematics.			
The personality of the mathematics teacher: professional preparation, lifelong learning, professional development.			
Didactical analysis of thematic units in the areas of Numbers, variable and numerical operations with numbers and Sequences, relations, functions, tables, diagrams (ISCED 2, ISCED 3A). Presentation and analysis of model lessons.			
Recommended reading:			
BLAŽKOVÁ, R.: Didaktika matematiky I. Brno, 2013.			
FROBISHER, A. – FROBISHER, L. – BERO, P.: Didaktika matematiky I. Raabe, 2015.			
FROBISHER, A. – FROBISHER, L. – BERO, P.: Didaktika matematiky II. Raabe, 2015.			
HEJNÝ, M. a kol.: Teória vyučovania matematiky 2. Bratislava: SPN, 1989			
HEJNÝ, M. – KUŘINA, F.: Dítě, škola a matematika. Portál, 2009.			
HEJNÝ, M. – NOVOTNÁ, J. – STEHLÍKOVÁ, N.: Dvacet pět kapitol z didaktiky matematiky. Univerzita Karlova, Praha 2004.			
KOPKA, J.: Hrozny problémů ve školské matematice. Ústí nad Labem: Acta UP, 1999.			
POLÁK, J.: Didaktika matematiky. Nakladatelství Fraus, 2014.			
POLÁK, J.: Didaktika matematiky II. část. Nakladatelství Fraus, 2017.			
Učebnice matematiky pre 2. stupeň ZŠ. (Sady od rôznych autorov)			
Učebnice matematiky pre gymnáziá. (Sady od rôznych autorov)			
Language requirements: Slovak			

Notes:					
Course evaluation: Assessed students in total: 119					
A	B	C	D	E	FX
45%	20%	20%	5%	7%	3%
Lecturers: doc. PaedDr. Milan Pokorný, PhD., lecturer, examiner, instructor					
Date of last change: 01.09.2026					
Approved by: doc. RNDr. Dušan Holý, CSc., univer. prof.					