

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

INFORMATION SHEET OF THE SUBJECT

Code: XMIB018		Name: ICT for Mathematics Teachers	
Cover: Department of Mathematics and Computer Science			
Type of educational activity: Seminar		Number of credits: 3	Recommended semester: ST
Scope of educational activity (in hours): Weekly: 2 For term of study: LS 60			Study grade: Bachelor
Method of educational activity: Attendance			
Recommended semester	Study programme		
2.year ST	Matematika_Bc (XM_Bc) Teaching Mathematics and Teaching English and Literature (XM-Aj-D1) Teaching Mathematics and Teaching Biology (XM-B-D1) Teaching Mathematics and Teaching Ethics (XM-Ev-D1) Teaching Mathematics and Teaching History (XM-His D1) Teaching Mathematics and Teaching Chemistry (XM-Ch-D1) Teaching Mathematics and Teaching Informatics (XM-I-D1) Teaching Mathematics and Teaching German and Literature (XM-Nj D1) Teaching Mathematics and Teaching of Religions Education (XM-Nv-D1) Teaching Mathematics and Teaching Civic Education (XM-VOD1) Teaching Mathematics and Teaching Fine Arts (XM-Vu-D1)		
3.year ST	Matematika_Bc (XM_Bc) Teaching Mathematics and Teaching English and Literature (XM-Aj-D1) Teaching Mathematics and Teaching Biology (XM-B-D1) Teaching Mathematics and Teaching Ethics (XM-Ev-D1) Teaching Mathematics and Teaching History (XM-His D1) Teaching Mathematics and Teaching Chemistry (XM-Ch-D1) Teaching Mathematics and Teaching Informatics (XM-I-D1) Teaching Mathematics and Teaching German and Literature (XM-Nj D1) Teaching Mathematics and Teaching of Religions Education (XM-Nv-D1) Teaching Mathematics and Teaching Civic Education (XM-VOD1) Teaching Mathematics and Teaching Fine Arts (XM-Vu-D1)		
Underlie subjects:			
Conditions for passing the course:			
Method of evaluation: Completion by taking an examination			
Continuous evaluation: the continuous assessment consists of three tests that students take at the computers. The first test focuses on solving problems using Excel spreadsheets and can be scored up to a maximum of 30 points. The second test focuses on solving problems using dynamic geometry software and can be scored up to a maximum of 35 points. The third test is aimed at solving problems using the Computer Algebra System and is worth a maximum of 35 points.			
Final evaluation: none			
Finished: the course is completed on the basis of the sum of the scores from three intermediate tests. A minimum of 91 points is required for an A grade, 81 points for a B grade, 71 points for a C grade, 61 points for a D grade and 51 points 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 seminar, regular preparation for the next seminar, independent problem solving in Excel, dynamic geometry software and computer algebra system, study of recommended study literature, study of video recordings available in Teams, preparation for midterm tests.			
Learning outcomes:			
VV1 The student is able to recognize problems in which it is appropriate to use a spreadsheet, dynamic geometry software or a computer algebra system			
VV2 The student can effectively use Excel spreadsheet in solving mathematical problems			
VV3 The student can effectively use dynamic geometry software to solve problems in planimetry and stereometry			
VV4 The student is able to effectively use a computer algebra system to accelerate and simplify the solution of algebra and mathematical analysis.			
VV5 The student is able to apply the acquired knowledge in his/her future experience as a mathematics teacher			
Schedule of subject:			
Mathematical, financial and database functions of the Microsoft Excel spreadsheet and their effective use in solving specific mathematical problems (matrices, integral sums, graphs of functions, basic problems in financial mathematics, algebra, mathematical analysis, mathematical statistics and probability, ...).			
Effective use of the computer algebra system in solving problems such as modifying expressions, equations and systems of equations, graphical representation of functions, limits, derivatives, approximations by Taylor polynomials, integration, sums, vectors, matrices, etc.			
The use of dynamic geometry software in solving planimetric problems.			
The use of dynamic geometry software in solving stereometric problems.			
Recommended reading:			
Navarrů, M.: Excel 2019, Podrobný průvodce uživatele. Grada, 2019.			
Laurenčík, M.: Excel 2019 - Práce s databázemi a kontingenčními tabulkami. Grada, 2020.			

Gergelitsová, Š.: Počítač ve výuce nejen geometrie: Průvodce Geogebrou. Generation Europe, 2012.
Fulier, J. - Ďuriš, V. - Frantová, P.: Systémy počítačovej algebry CAS vo vyučovaní matematiky. UKF Nitra, 2007.

Language requirements: Slovak

Notes:

Course evaluation:

Assessed students in total: 100

A	B	C	D	E	FX
79%	8%	4%	4%	2%	3%

Lecturers:

PaedDr. Jana Fialová, PhD., lecturer, examiner, instructor, seminary supervisor

Date of last change: 01.09.2026

Approved by: doc. RNDr. Dušan Holý, CSc., univer. prof.