

CONTENT

1. Algebra I.....	2
2. Algebra II.....	3
3. Application of ICT into mathematics teaching.....	4
4. Didactics of mathematics I.....	6
5. Didactics of mathematics II.....	8
6. Discrete mathematics.....	10
7. Geometry I.....	11
8. Geometry II.....	12
9. Logic and set theory.....	13
10. Mathematical analysis I.....	14
11. Mathematical analysis II.....	16
12. Mathematical problem solving strategies I.....	17
13. Mathematical problem solving strategies II.....	18
14. Mathematical problem solving strategies III.....	19
15. Mathematics and didactics of mathematics.....	20
16. Probability and statistics.....	21
17. Seminar on didactics of mathematics.....	22
18. Teaching practice.....	23
19. Thesis.....	24
20. Thesis defence.....	25

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice					
Faculty: Faculty of Science					
Course ID: ÚMV/ rALGa/12		Course name: Algebra I			
Course type, scope and the method: Course type: Lecture Recommended course-load (hours): Per week: Per study period: 39s Course method: present					
Number of ECTS credits: 11					
Recommended semester/trimester of the course: 1.					
Course level: N					
Prerequisites:					
Conditions for course completion:					
Learning outcomes:					
Brief outline of the course:					
Recommended literature:					
Course language:					
Notes:					
Course assessment Total number of assessed students: 59					
A	B	C	D	E	FX
8.47	6.78	18.64	18.64	22.03	25.42
Provides: prof. RNDr. Danica Studenovská, CSc.					
Date of last modification: 31.01.2019					
Approved:					

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice					
Faculty: Faculty of Science					
Course ID: ÚMV/ rALGb/12		Course name: Algebra II			
Course type, scope and the method: Course type: Lecture Recommended course-load (hours): Per week: Per study period: 26s Course method: present					
Number of ECTS credits: 8					
Recommended semester/trimester of the course: 2.					
Course level: N					
Prerequisites: ÚMV/rALGa/12					
Conditions for course completion:					
Learning outcomes:					
Brief outline of the course:					
Recommended literature:					
Course language:					
Notes:					
Course assessment Total number of assessed students: 41					
A	B	C	D	E	FX
21.95	19.51	36.59	4.88	12.2	4.88
Provides: doc. RNDr. Miroslav Ploščica, CSc.					
Date of last modification: 03.05.2015					
Approved:					

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚMV/ rAIM/12	Course name: Application of ICT into mathematics teaching
Course type, scope and the method: Course type: Practice Recommended course-load (hours): Per week: Per study period: 26s Course method: present	
Number of ECTS credits: 7	
Recommended semester/trimester of the course: 5.	
Course level: N	
Prerequisites:	
Conditions for course completion: two tests elaborated on the computer, solving problems from worksheets final project	
Learning outcomes: To learn students standard work procedures with the basic types of mathematical software systems and to provide examples and ideas on the possibility of using these software systems in mathematics teaching. To develop the knowledge and skills of students to use investigation and modelling in the digital environment for mathematical problems solving. Develop creative and evaluation abilities of students allow to prepare mathematics lessons with effective and meaningful use of modern technologies.	
Brief outline of the course: Possibilities of using numerical and graphical tools of spreadsheet to solve mathematical problems. Use of dynamic geometry systems in solving geometry problems, examples of their use in the implementation of constructivist approaches to mathematics teaching. Mathematical modelling and solving of problems in a CAS environment. The use of modern IT for active acquisition of knowledge in mathematics teaching.	
Recommended literature: M. Černochová a kol.: Využití počítače při vyučování, Portál, 1998. S. Lukáč: Multimédiá a počítačom podporované učenie sa v matematike, PF UPJŠ Košice 2001. J. Vaníček: Počítačové kognitivní technologie ve výuce geometrie. Univerzita Karlova v Praze, 2009. Časopisy MFI, MIF a Obzory matematiky, fyziky a informatiky.	
Course language: Slovak	
Notes:	

Course assessment					
Total number of assessed students: 32					
A	B	C	D	E	FX
28.13	34.38	25.0	9.38	3.13	0.0
Provides: doc. RNDr. Stanislav Lukáč, PhD.					
Date of last modification: 03.05.2015					
Approved:					

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚMV/ rDDMa/12	Course name: Didactics of mathematics I
Course type, scope and the method: Course type: Lecture Recommended course-load (hours): Per week: Per study period: 39s Course method: present	
Number of ECTS credits: 11	
Recommended semester/trimester of the course: 3.	
Course level: N	
Prerequisites:	
Conditions for course completion: Seminar paper - 20% of assessment Continuous assessment - 20% Exam - 80%	
Learning outcomes: Master the basic principles and methods of teaching mathematics in secondary and primary schools.	
Brief outline of the course: Subject didactics of mathematics, the development of mathematics and mathematics education The objectives and tasks of teaching mathematics Planning in mathematics Logical and didactic curriculum analysis Determining the learning objectives Didactic principles, methods and forms of teaching mathematics Assessment of learning outcomes, creation of didactic tests Math problems, creating systems tasks Assessment in mathematics, educational tests The content and scope of the concept, sorting and classification of terms Statements, statements of operations Definitions, requirements definition Induction and deduction, analogy Mathematical sentences Proofs of mathematical theorems	
Recommended literature: [1] M.Hejný a kol.: Teorie vyučovania matematiky, SPN Blava 1989, [2] L.Frantíková,K.Hončarivová,O.Kopanev: Didaktika matematiky, UPJŠ 1982 [3] R.Fischer,G.Malle: Človek a matematika, SPN Bratislava 1992 [4] Polya, G.: How to solve it, Princeton University Press, 1957.	
Course language:	
Notes:	

Course assessment					
Total number of assessed students: 34					
A	B	C	D	E	FX
14.71	26.47	35.29	20.59	2.94	0.0
Provides: doc. RNDr. Dušan Šveda, CSc.					
Date of last modification: 03.05.2015					
Approved:					

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice					
Faculty: Faculty of Science					
Course ID: ÚMV/ rDDMb/12		Course name: Didactics of mathematics II			
Course type, scope and the method: Course type: Lecture Recommended course-load (hours): Per week: Per study period: 26s Course method: present					
Number of ECTS credits: 8					
Recommended semester/trimester of the course: 4.					
Course level: N					
Prerequisites: ÚMV/rDDMa/12					
Conditions for course completion: Seminar paper - 20% of assessment Continuous assessment - 20% Exam - 80%					
Learning outcomes: Acquire knowledge about different ways of teaching particular subjects of mathematics education.					
Brief outline of the course: Developing the concept of number in school mathematics Session, views and functions in school mathematics Geometry in the school mathematics Combinatorics, probability and statistics in school mathematics					
Recommended literature: [1] M.Hejný a kol.: Teorie vyučovania matematiky, SPN Blava 1989, [2] L.Frantíková,K.Hončarivová,O.Kopanev: Didaktika matematiky, UPJŠ 1982 [3] R.Fischer,G.Malle: Človek a matematika, SPN Bratislava 1992 [4] Polya, G.: How to solve it, Princeton University Press, 1957. [5] Hejný, M., Kuřina, F.: Dítě, škola a matematika: Konstruktivistické přístupy k vyučování. Portál, Praha 2001.					
Course language:					
Notes:					
Course assessment Total number of assessed students: 32					
A	B	C	D	E	FX
9.38	18.75	31.25	25.0	15.63	0.0
Provides: doc. RNDr. Dušan Šveda, CSc.					
Date of last modification: 03.05.2015					

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice					
Faculty: Faculty of Science					
Course ID: ÚMV/ rDSM/12		Course name: Discrete mathematics			
Course type, scope and the method: Course type: Lecture Recommended course-load (hours): Per week: Per study period: 26s Course method: present					
Number of ECTS credits: 8					
Recommended semester/trimester of the course: 1.					
Course level: N					
Prerequisites:					
Conditions for course completion: Based on written exam.					
Learning outcomes: To provide a knowledge on basics of discrete mathematics and its applications in computer science.					
Brief outline of the course: Mathematical induction and pigeonhole principle. Sum and product rule. Permutations, k-permutations, combinations. Selections with repetitions. The inclusion/exclusion principle. Recurrence equations. The introduction to graph theory. Graph searching algorithms. Trees. Eulerian and hamiltonian graphs. Planar graphs. Graph colourings.					
Recommended literature: S. Jendroľ, P. Mihók: Diskrétna matematika I., UPJŠ Košice 1992 J. Nešetřil, J. Matoušek: Kapitoly z diskretní matematiky E. R. Scheinerman: Mathematics - a discrete introduction, Brooks/Cole Publ. Comp. Pacific Grove 2000. R.P. Grimaldi: Discrete and Computational Mathematics, Addison-Wesley Publ. Co.-Rending 1994					
Course language:					
Notes:					
Course assessment Total number of assessed students: 58					
A	B	C	D	E	FX
3.45	0.0	8.62	22.41	41.38	24.14
Provides: RNDr. Igor Fabrici, Dr. rer. nat.					
Date of last modification: 03.05.2015					
Approved:					

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice					
Faculty: Faculty of Science					
Course ID: ÚMV/ rGEOa/12		Course name: Geometry I			
Course type, scope and the method: Course type: Lecture Recommended course-load (hours): Per week: Per study period: 26s Course method: present					
Number of ECTS credits: 8					
Recommended semester/trimester of the course: 2.					
Course level: N					
Prerequisites:					
Conditions for course completion:					
Learning outcomes:					
Brief outline of the course:					
Recommended literature:					
Course language:					
Notes:					
Course assessment Total number of assessed students: 41					
A	B	C	D	E	FX
4.88	7.32	26.83	21.95	36.59	2.44
Provides: RNDr. Veronika Hubeňáková, PhD.					
Date of last modification: 03.05.2015					
Approved:					

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice					
Faculty: Faculty of Science					
Course ID: ÚMV/ rGEOb/12		Course name: Geometry II			
Course type, scope and the method: Course type: Lecture Recommended course-load (hours): Per week: Per study period: 26s Course method: present					
Number of ECTS credits: 8					
Recommended semester/trimester of the course: 3.					
Course level: N					
Prerequisites: ÚMV/rGEOa/12					
Conditions for course completion:					
Learning outcomes:					
Brief outline of the course:					
Recommended literature:					
Course language:					
Notes:					
Course assessment Total number of assessed students: 37					
A	B	C	D	E	FX
8.11	5.41	10.81	24.32	40.54	10.81
Provides: RNDr. Igor Fabrici, Dr. rer. nat.					
Date of last modification: 03.05.2015					
Approved:					

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice					
Faculty: Faculty of Science					
Course ID: ÚMV/ rLTM/12		Course name: Logic and set theory			
Course type, scope and the method: Course type: Lecture Recommended course-load (hours): Per week: Per study period: 26s Course method: present					
Number of ECTS credits: 8					
Recommended semester/trimester of the course: 3.					
Course level: N					
Prerequisites:					
Conditions for course completion:					
Learning outcomes:					
Brief outline of the course:					
Recommended literature:					
Course language:					
Notes:					
Course assessment Total number of assessed students: 35					
A	B	C	D	E	FX
5.71	14.29	11.43	25.71	42.86	0.0
Provides: RNDr. Jaroslav Šupina, PhD.					
Date of last modification: 03.05.2015					
Approved:					

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice					
Faculty: Faculty of Science					
Course ID: ÚMV/ rMANa/12		Course name: Mathematical analysis I			
Course type, scope and the method: Course type: Lecture Recommended course-load (hours): Per week: Per study period: 39s Course method: present					
Number of ECTS credits: 11					
Recommended semester/trimester of the course: 1.					
Course level: N					
Prerequisites:					
Conditions for course completion: Written exam.					
Learning outcomes: The course provides an introductory knowledge about real numbers, sequences and functions of real variable, and a development of certain calculation skills in the field.					
Brief outline of the course: 1. Basics of mathematical logic and notations. 2. Sets of real numbers - axioms of real numbers, properties of subsets of reals. 3. Real functions - basic properties (monotone, bounded, even/odd, inverse). 4. Infinite sequences - operations, boundedness, monotonicity, convergence. 5. Limit and continuity of real functions, properties of continuous functions on the interval, elementary functions.					
Recommended literature: 1. Brannan, D.: A First Course in Mathematical Analysis, Cambridge University Press, Cambridge 2006. 2. Bruckner, A. M., Bruckner J. B., Thomson, B. S.: Real Analysis, Second Edition, ClassicalRealAnalysis.com, 2008. 3. Zorich, V. A.: Mathematical Analysis I, Springer-Verlag 2002.					
Course language:					
Notes:					
Course assessment Total number of assessed students: 52					
A	B	C	D	E	FX
5.77	5.77	23.08	23.08	21.15	21.15
Provides: doc. RNDr. Dušan Šveda, CSc.					
Date of last modification: 03.05.2015					

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice					
Faculty: Faculty of Science					
Course ID: ÚMV/ rMANb/12		Course name: Mathematical analysis II			
Course type, scope and the method: Course type: Lecture Recommended course-load (hours): Per week: Per study period: 39s Course method: present					
Number of ECTS credits: 11					
Recommended semester/trimester of the course: 2.					
Course level: N					
Prerequisites: ÚMV/rMANa/12					
Conditions for course completion: Written exam.					
Learning outcomes: To obtain basic knowledge in differential and integral calculus of functions of one real variable.					
Brief outline of the course: 1. Derivative, differentiability and properties of differentiable functions. 2. Calculus of derivatives and its usage for functions behavior. 3. L'Hospital's rules, Taylor's polynomial. 4. Primitive function, indefinite integral. 5. Basic methods of computing indefinite integrals. 6. Riemann's definite integral, its properties and methods of computation.					
Recommended literature: 1. Brannan, D.: A First Course in Mathematical Analysis, Cambridge University Press, Cambridge 2006. 2. Bruckner, A. M., Bruckner J. B., Thomson, B. S.: Real Analysis, Second Edition, ClassicalRealAnalysis.com, 2008. 3. Zorich, V. A.: Mathematical Analysis I, Springer-Verlag 2002.					
Course language:					
Notes:					
Course assessment Total number of assessed students: 39					
A	B	C	D	E	FX
12.82	12.82	10.26	17.95	41.03	5.13
Provides: doc. RNDr. Ingrid Semanišínová, PhD.					
Date of last modification: 03.05.2015					
Approved:					

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice					
Faculty: Faculty of Science					
Course ID: ÚMV/ rMRUa/12		Course name: Mathematical problem solving strategies I			
Course type, scope and the method: Course type: Practice Recommended course-load (hours): Per week: Per study period: 13s Course method: present					
Number of ECTS credits: 7					
Recommended semester/trimester of the course: 2.					
Course level: N					
Prerequisites:					
Conditions for course completion: continuous assessment and final test					
Learning outcomes: To deepen and systematize the knowledge and skills of students to use appropriate methods for solving of tasks at primary and secondary school and to characterize the specific problems of mathematics teaching at primary and secondary school.					
Brief outline of the course: Basic knowledge of school mathematics, various methods of problem solving, the problems from mathematical competitions for the topics Equations and inequalities and their systems, Elementary functions, Financial mathematics.					
Recommended literature: [1] Hejný, M. a kol., Teória vyučovania matematiky 2. SPN, Bratislava 1989. [2] Kopka, J., Hrozny problémů ve školské matematice, Univerzita J. E. Purkyně, Ústí nad Labem 1999. [3] Učebnice a zbierky úloh z matematiky ZŠ a SŠ.					
Course language: Slovak					
Notes:					
Course assessment Total number of assessed students: 39					
A	B	C	D	E	FX
23.08	17.95	30.77	10.26	17.95	0.0
Provides: doc. RNDr. Stanislav Lukáč, PhD.					
Date of last modification: 03.05.2015					
Approved:					

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice					
Faculty: Faculty of Science					
Course ID: ÚMV/ rMRUb/12		Course name: Mathematical problem solving strategies II			
Course type, scope and the method: Course type: Practice Recommended course-load (hours): Per week: Per study period: 26s Course method: present					
Number of ECTS credits: 3					
Recommended semester/trimester of the course: 4.					
Course level: N					
Prerequisites:					
Conditions for course completion:					
Learning outcomes:					
Brief outline of the course:					
Recommended literature:					
Course language:					
Notes:					
Course assessment Total number of assessed students: 32					
A	B	C	D	E	FX
46.88	12.5	12.5	15.63	12.5	0.0
Provides: doc. RNDr. Ingrid Semanišínová, PhD.					
Date of last modification: 03.05.2015					
Approved:					

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice					
Faculty: Faculty of Science					
Course ID: ÚMV/ rMRUc/12		Course name: Mathematical problem solving strategies III			
Course type, scope and the method: Course type: Practice Recommended course-load (hours): Per week: Per study period: 13s Course method: present					
Number of ECTS credits: 3					
Recommended semester/trimester of the course: 5.					
Course level: N					
Prerequisites:					
Conditions for course completion:					
Learning outcomes:					
Brief outline of the course:					
Recommended literature:					
Course language:					
Notes:					
Course assessment Total number of assessed students: 32					
A	B	C	D	E	FX
28.13	28.13	15.63	28.13	0.0	0.0
Provides: doc. RNDr. Matúš Harminc, CSc.					
Date of last modification:					
Approved:					

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice					
Faculty: Faculty of Science					
Course ID: ÚMV/ rMDM/12		Course name: Mathematics and didactics of mathematics			
Course type, scope and the method: Course type: Recommended course-load (hours): Per week: Per study period: Course method: present					
Number of ECTS credits: 0					
Recommended semester/trimester of the course:					
Course level: N					
Prerequisites: ÚMV/rDDMb/12					
Conditions for course completion:					
Learning outcomes:					
Brief outline of the course:					
Recommended literature:					
Course language:					
Notes:					
Course assessment Total number of assessed students: 32					
A	B	C	D	E	FX
15.63	12.5	40.63	12.5	18.75	0.0
Provides:					
Date of last modification: 03.05.2015					
Approved:					

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice					
Faculty: Faculty of Science					
Course ID: ÚMV/ rPST/12		Course name: Probability and statistics			
Course type, scope and the method: Course type: Lecture Recommended course-load (hours): Per week: Per study period: 39s Course method: present					
Number of ECTS credits: 11					
Recommended semester/trimester of the course: 4.					
Course level: N					
Prerequisites: ÚMV/rMANb/12					
Conditions for course completion:					
Learning outcomes:					
Brief outline of the course:					
Recommended literature:					
Course language:					
Notes:					
Course assessment Total number of assessed students: 32					
A	B	C	D	E	FX
9.38	12.5	31.25	18.75	28.13	0.0
Provides: RNDr. Daniel Klein, PhD.					
Date of last modification: 03.05.2015					
Approved:					

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice					
Faculty: Faculty of Science					
Course ID: ÚMV/ rSDM/12		Course name: Seminar on didactics of mathematics			
Course type, scope and the method: Course type: Practice Recommended course-load (hours): Per week: Per study period: 39s Course method: present					
Number of ECTS credits: 11					
Recommended semester/trimester of the course: 5.					
Course level: N					
Prerequisites:					
Conditions for course completion:					
Learning outcomes:					
Brief outline of the course:					
Recommended literature:					
Course language:					
Notes:					
Course assessment Total number of assessed students: 32					
A	B	C	D	E	FX
40.63	25.0	12.5	18.75	3.13	0.0
Provides: doc. RNDr. Ingrid Semanišínová, PhD.					
Date of last modification:					
Approved:					

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚMV/ rPDP/12	Course name: Teaching practice
Course type, scope and the method: Course type: Practice Recommended course-load (hours): Per week: Per study period: 20s Course method: present	
Number of ECTS credits: 6	
Recommended semester/trimester of the course: 5.	
Course level: N	
Prerequisites:	
Conditions for course completion:	
Learning outcomes:	
Brief outline of the course:	
Recommended literature:	
Course language:	
Notes:	
Course assessment Total number of assessed students: 32	
abs	n
100.0	0.0
Provides: doc. RNDr. Dušan Šveda, CSc., doc. RNDr. Ingrid Semanišínová, PhD.	
Date of last modification:	
Approved:	

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚMV/ rZPM/12	Course name: Thesis
Course type, scope and the method: Course type: Recommended course-load (hours): Per week: Per study period: Course method: present	
Number of ECTS credits: 10	
Recommended semester/trimester of the course: 5.	
Course level: N	
Prerequisites:	
Conditions for course completion:	
Learning outcomes:	
Brief outline of the course:	
Recommended literature:	
Course language:	
Notes:	
Course assessment Total number of assessed students: 32	
abs	n
100.0	0.0
Provides:	
Date of last modification:	
Approved:	

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice					
Faculty: Faculty of Science					
Course ID: ÚMV/ rOZP/12		Course name: Thesis defence			
Course type, scope and the method: Course type: Recommended course-load (hours): Per week: Per study period: Course method: present					
Number of ECTS credits: 0					
Recommended semester/trimester of the course:					
Course level: N					
Prerequisites:					
Conditions for course completion:					
Learning outcomes:					
Brief outline of the course:					
Recommended literature:					
Course language:					
Notes:					
Course assessment Total number of assessed students: 32					
A	B	C	D	E	FX
9.38	28.13	40.63	15.63	6.25	0.0
Provides:					
Date of last modification:					
Approved:					