

# CONTENT

1. Academic English.....	4
2. Algebra I.....	6
3. Algebra II.....	7
4. Algebra and number theory.....	8
5. Alternative Education.....	9
6. Automata and formal languages.....	10
7. Bachelor Project.....	12
8. Bachelor Thesis and its Defence.....	13
9. Bachelor project.....	14
10. Bachelor thesis and its defence.....	15
11. Basics of Karstology and Speleology.....	16
12. Biology of Children and Adolescents.....	17
13. Bridge fundamentals.....	18
14. Cartography and Geoinformatics.....	20
15. Civil Law and Intellectual Property Rights.....	22
16. Communicative Competence in English.....	23
17. Communicative Grammar in English.....	25
18. Communicative Grammar in German Language.....	26
19. Complex geographic characteristics of selected world regions.....	27
20. Cultural geography.....	29
21. Discrete mathematics I.....	31
22. Discrete mathematics II.....	33
23. Discrete mathematics III.....	35
24. Drug Addiction Prevention in University Students.....	37
25. Educational software.....	39
26. English Language of Natural Science.....	41
27. Fieldwork in Human Geography.....	43
28. Fieldwork in Hydrology.....	44
29. Function of real variable.....	45
30. Fundamentals of Geology for Geographers.....	47
31. Geoecology.....	48
32. Geographic Information Systems.....	49
33. Geography.....	51
34. Geography of mining.....	52
35. Geography of population and settlements.....	54
36. Geography of the Czech Republic.....	56
37. Geological excursion.....	57
38. Geometry I.....	58
39. Geomorphological mapping.....	60
40. Geomorphology.....	62
41. History of Philosophy 2 (General Introduction).....	63
42. Human Geography Excursion.....	64
43. Human Geography of Slovakia.....	65
44. Human geography (Non-production Systems).....	66
45. Human geography (productive sphere).....	68
46. Inclusive Pedagogy.....	70
47. Informatics course for teachers of mathematics.....	71
48. International Excursion 1.....	73

49. Introduction to Geographic Information Systems.....	74
50. Introduction to Geography and Planetary Geography.....	76
51. Introduction to Study of Sciences.....	77
52. Introduction to data analysis.....	78
53. Introduction to mathematics.....	80
54. Linear and integer programming.....	82
55. Linux and open source GIS.....	83
56. Logic and set theory.....	84
57. Macroeconomics.....	85
58. Math proseminar.....	86
59. Mathematical analysis III.....	87
60. Mathematical analysis IV.....	89
61. Mathematical analysis IV.....	90
62. Mathematical analysis of function of real variable.....	92
63. Mathematical problem solving strategies I.....	94
64. Mathematical problem solving strategies II.....	95
65. Mathematical problem solving strategies III.....	97
66. Mathematical statistics.....	99
67. Mathematics.....	101
68. Microeconomics.....	102
69. Microgeography.....	103
70. Mineral Resources - geological and environmental relations.....	105
71. Multiculturalism and Multicultural Education.....	106
72. Number theory.....	107
73. Pedagogy.....	108
74. Physical Geography Excursion.....	109
75. Physical Geography of Slovakia.....	110
76. Physical geography 1.....	111
77. Physical geography 2.....	112
78. Political geography and geopolitics.....	114
79. Population growth in Slovakia.....	115
80. Positive Psychology.....	117
81. Probability theory.....	119
82. Psychology.....	121
83. Psychology of Everyday Life.....	122
84. Quantitative Methods in Geography.....	123
85. School Administration and Legislation.....	124
86. Seaside Aerobic Exercise.....	125
87. Selected Topics in Philosophy of Education (General Introduction).....	127
88. Selected topics in algebra.....	128
89. Selected topics in elementary mathematics.....	129
90. Seminar for Bachelor Thesis I.....	130
91. Seminar for Bachelor Thesis II.....	132
92. Seminar on history of mathematics.....	134
93. Seminar to mathematical clubs.....	136
94. Social and Political Context of Education.....	138
95. Specialised German Language - Natural Sciences 1.....	139
96. Sports Activities I.....	140
97. Sports Activities II.....	142

98. Sports Activities III.....	144
99. Sports Activities IV.....	145
100. Student Scientific Conference in Geography.....	146
101. Students scientific conference.....	147
102. Students` Digital Literacy.....	148
103. Summer Course-Rafting of TISA River.....	150
104. Survival Course.....	152
105. Theory of Education.....	154

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> CJP/ PFAJAKA/07		<b>Course name:</b> Academic English			
<b>Course type, scope and the method:</b> <b>Course type:</b> Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 2 <b>Per study period:</b> 28 <b>Course method:</b> combined, present					
<b>Number of ECTS credits:</b> 2					
<b>Recommended semester/trimester of the course:</b>					
<b>Course level:</b> I., II., N					
<b>Prerequisites:</b>					
<b>Conditions for course completion:</b> Combined method of teaching (classroom/distance) Active classroom participation, assignments handed in on time, 2 absences tolerated 1 test (10th week), no retake. (in classroom, in case of distance learning due to worsened epidemiological situation – online) Presentation on chosen topic (in case of distance learning - online thorough MS Teams) Final evaluation- average assessment of test (40%), essay (30%) and presentation (30%). Grading scale: A 93-100%, B 86-92%, C 79-85%, D 72-78%, E 65-71%, FX 64% and less					
<b>Learning outcomes:</b>					
<b>Brief outline of the course:</b>					
<b>Recommended literature:</b> Seal B.: Academic Encounters, CUP, 2002 T. Armer :Cambridge English for Scientists, CUP 2011 M. McCarthy M., O'Dell F. - Academic Vocabulary in Use, CUP 2008 Zemach, D.E, Rumisek, L.A: Academic Writing, Macmillan 2005 Olsen, A. : Active Vocabulary, Pearson, 2013 <a href="http://www.bbclearningenglish.com">www.bbclearningenglish.com</a> Cambridge Academic Content Dictionary, CUP, 2009					
<b>Course language:</b> English language, level B2 according to CEFR.					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 379					
A	B	C	D	E	FX
33.77	22.16	15.3	10.03	6.6	12.14
<b>Provides:</b> Mgr. Viktória Mária Slovenská					
<b>Date of last modification:</b> 17.09.2020					

**Approved:** doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> ÚMV/ ALGa/10		<b>Course name:</b> Algebra I			
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture / Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 3 / 3 <b>Per study period:</b> 42 / 42 <b>Course method:</b> present					
<b>Number of ECTS credits:</b> 7					
<b>Recommended semester/trimester of the course:</b> 1.					
<b>Course level:</b> I.					
<b>Prerequisites:</b>					
<b>Conditions for course completion:</b> According to the results from the semester and in view of the results of the written and oral final exam..					
<b>Learning outcomes:</b> To obtain basic knowledge from number theory concerning divisibility and from linear algebra concerning systems of linear equations. To be able to apply it in concrete exercises.					
<b>Brief outline of the course:</b> Divisibility in $\mathbb{Z}$ . Fields. Systems of linear equations, Gauss elimination. Maps, permutations. Computing with matrices. Determinants, Cramer rule.					
<b>Recommended literature:</b> T.S Blyth, E.F. Robertson: Basic linear algebra, Springer Verlag, 2001. K. Jänich: Linear algebra, Springer Verlag, 1991.					
<b>Course language:</b> Slovak					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 1279					
A	B	C	D	E	FX
11.81	11.65	19.0	17.9	28.3	11.34
<b>Provides:</b> prof. RNDr. Danica Studenovská, CSc., RNDr. Igor Fabrici, Dr., RNDr. Lucia Janičková, PhD., RNDr. Simona Rindošová, RNDr. Ivana Varga					
<b>Date of last modification:</b> 31.01.2019					
<b>Approved:</b> doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> ÚMV/ ALG2b/10		<b>Course name:</b> Algebra II			
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture / Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 4 / 2 <b>Per study period:</b> 56 / 28 <b>Course method:</b> present					
<b>Number of ECTS credits:</b> 7					
<b>Recommended semester/trimester of the course:</b> 2.					
<b>Course level:</b> I.					
<b>Prerequisites:</b> ÚMV/ALGa/10					
<b>Conditions for course completion:</b> According to tests and to the exam.					
<b>Learning outcomes:</b> To obtain basic knowledge on matrices, linear spaces, linear transformations and polynomials and their roots over a field; to be able to apply the theory in concrete exercises.					
<b>Brief outline of the course:</b> Linear spaces, bases. Rank of a matrix. Systems of homogeneous linear equations. Linear transformations. Ring, fields. Polynomials over a field. Factorization into irreducible factors, roots. Roots of complex numbers. Cubic equations. Polynomials with several unknowns, symmetric polynomials.					
<b>Recommended literature:</b> A. Kurosh: Higher Algebra, Mir Publishers, 1975.					
<b>Course language:</b> Slovak					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 173					
A	B	C	D	E	FX
20.81	16.18	16.18	15.61	27.75	3.47
<b>Provides:</b> prof. RNDr. Danica Studenovská, CSc.					
<b>Date of last modification:</b> 31.01.2019					
<b>Approved:</b> doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> ÚMV/ ATC/10		<b>Course name:</b> Algebra and number theory			
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture / Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 2 / 1 <b>Per study period:</b> 28 / 14 <b>Course method:</b> present					
<b>Number of ECTS credits:</b> 4					
<b>Recommended semester/trimester of the course:</b> 4.					
<b>Course level:</b> I.					
<b>Prerequisites:</b> ÚMV/ALG2b/10					
<b>Conditions for course completion:</b> It is based on the results of written checks carried out during the semester. Final evaluation is based on the results of written checks carried out during the semester, of test, written and oral exam.					
<b>Learning outcomes:</b> Obtain basic knowledge about groups and from the elementary number theory.					
<b>Brief outline of the course:</b> Groups, subgroups, quotient groups, homomorphism theorems for groups, selected topics of the number theory.					
<b>Recommended literature:</b> G.Birkoff, S.Mac Lane: A Survey of Modern Algebra, New York 1965 I.R. Shafarevich: Basic Notions of Algebra, Springer, 2005					
<b>Course language:</b> Slovak					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 159					
A	B	C	D	E	FX
15.09	18.87	27.04	20.13	15.09	3.77
<b>Provides:</b> doc. RNDr. Matúš Harminc, CSc.					
<b>Date of last modification:</b> 03.05.2015					
<b>Approved:</b> doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.					



## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> KPE/ ALP/06		<b>Course name:</b> Alternative Education			
<b>Course type, scope and the method:</b> <b>Course type:</b> Practice <b>Recommended course-load (hours):</b> <b>Per week: 2 Per study period: 28</b> <b>Course method:</b> present					
<b>Number of ECTS credits:</b> 2					
<b>Recommended semester/trimester of the course:</b> 4.					
<b>Course level:</b> I.					
<b>Prerequisites:</b>					
<b>Conditions for course completion:</b>					
<b>Learning outcomes:</b>					
<b>Brief outline of the course:</b>					
<b>Recommended literature:</b>					
<b>Course language:</b>					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 208					
A	B	C	D	E	FX
64.9	30.77	1.44	0.96	0.48	1.44
<b>Provides:</b> Mgr. Katarína Petříková, PhD.					
<b>Date of last modification:</b> 12.02.2021					
<b>Approved:</b> doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> ÚINF/ AFJ1a/15		<b>Course name:</b> Automata and formal languages			
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture / Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 2 / 1 <b>Per study period:</b> 28 / 14 <b>Course method:</b> present					
<b>Number of ECTS credits:</b> 4					
<b>Recommended semester/trimester of the course:</b>					
<b>Course level:</b> I.					
<b>Prerequisites:</b>					
<b>Conditions for course completion:</b> Oral examination.					
<b>Learning outcomes:</b> To provide theoretical background for studying computer science in general, by giving the necessary knowledge in theory of automata.					
<b>Brief outline of the course:</b> Chomsky hierarchy of grammars and languages. Finite-state transducers and mapping, construction of a reduced automaton. Finite-state acceptors, nondeterministic acceptors, regular expressions. Closure properties of regular languages. Context-free grammars, Chomsky and Greibach normal forms. Pushdown automata, Pumping lemma. Closure properties of context-free languages.					
<b>Recommended literature:</b> J.E. Hopcroft, R.Motwani, J.D. Ullman: Introduction to automata theory, languages, and computation, Addison-Wesley, 2001. J. Shallit: A second course in formal languages and automata theory, Cambridge University press, 2009. M. Sipser: Introduction to the theory of computation, Thomson Course Technology, 2006.					
<b>Course language:</b>					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 832					
A	B	C	D	E	FX
25.36	18.03	23.92	17.91	9.86	4.93
<b>Provides:</b> Mgr. Alexander Szabari, PhD., prof. RNDr. Viliam Geffert, DrSc., RNDr. Zuzana Bednárová, PhD.					
<b>Date of last modification:</b> 24.08.2018					

**Approved:** doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice	
<b>Faculty:</b> Faculty of Science	
<b>Course ID:</b> ÚGE/ BKP/14	<b>Course name:</b> Bachelor Project
<b>Course type, scope and the method:</b> <b>Course type:</b> <b>Recommended course-load (hours):</b> <b>Per week: Per study period:</b> <b>Course method:</b> present	
<b>Number of ECTS credits:</b> 2	
<b>Recommended semester/trimester of the course:</b> 5.	
<b>Course level:</b> I.	
<b>Prerequisites:</b>	
<b>Conditions for course completion:</b>	
<b>Learning outcomes:</b>	
<b>Brief outline of the course:</b>	
<b>Recommended literature:</b>	
<b>Course language:</b>	
<b>Notes:</b>	
<b>Course assessment</b>	
Total number of assessed students: 94	
abs	n
96.81	3.19
<b>Provides:</b>	
<b>Date of last modification:</b> 03.05.2015	
<b>Approved:</b> doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.	

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> ÚGE/ BPO/14		<b>Course name:</b> Bachelor Thesis and its Defence			
<b>Course type, scope and the method:</b> <b>Course type:</b> <b>Recommended course-load (hours):</b> <b>Per week: Per study period:</b> <b>Course method:</b> present					
<b>Number of ECTS credits:</b> 4					
<b>Recommended semester/trimester of the course:</b>					
<b>Course level:</b> I.					
<b>Prerequisites:</b>					
<b>Conditions for course completion:</b>					
<b>Learning outcomes:</b>					
<b>Brief outline of the course:</b>					
<b>Recommended literature:</b>					
<b>Course language:</b>					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 136					
A	B	C	D	E	FX
38.97	30.15	13.97	8.82	7.35	0.74
<b>Provides:</b>					
<b>Date of last modification:</b> 31.07.2015					
<b>Approved:</b> doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice	
<b>Faculty:</b> Faculty of Science	
<b>Course ID:</b> ÚMV/ BKP2/14	<b>Course name:</b> Bachelor project
<b>Course type, scope and the method:</b> <b>Course type:</b> Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 1 <b>Per study period:</b> 14 <b>Course method:</b> present	
<b>Number of ECTS credits:</b> 2	
<b>Recommended semester/trimester of the course:</b> 5.	
<b>Course level:</b> I.	
<b>Prerequisites:</b>	
<b>Conditions for course completion:</b> To prepare and present a contribution related to thesis and its topic.	
<b>Learning outcomes:</b> To get students familiar with basic knowledge on the form and content of thesis and thesis presentation as well as with the support for its realisation.	
<b>Brief outline of the course:</b> Necessary elements and formal aspects of a thesis. WYSIWYG editors, LaTeX, drawing programs. Presentation software, Microsoft PowerPoint and its clones, Beamer. Suggestions for presentation and contribution making.	
<b>Recommended literature:</b> electronic information sources	
<b>Course language:</b> Slovak or English	
<b>Notes:</b>	
<b>Course assessment</b> Total number of assessed students: 134	
abs	n
100.0	0.0
<b>Provides:</b> doc. RNDr. Dušan Šveda, CSc.	
<b>Date of last modification:</b> 03.05.2015	
<b>Approved:</b> doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.	

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> ÚMV/ BPO/14		<b>Course name:</b> Bachelor thesis and its defence			
<b>Course type, scope and the method:</b> <b>Course type:</b> <b>Recommended course-load (hours):</b> <b>Per week: Per study period:</b> <b>Course method:</b> present					
<b>Number of ECTS credits:</b> 4					
<b>Recommended semester/trimester of the course:</b>					
<b>Course level:</b> I.					
<b>Prerequisites:</b>					
<b>Conditions for course completion:</b> Acquiring the required number of credits in the structure defined by the study plan.					
<b>Learning outcomes:</b> Evaluation of student's competences with respect to the profile of the graduate.					
<b>Brief outline of the course:</b> Presentation of results of the bachelor thesis, answering the questions of the thesis supervisor and answering the questions of members of evaluation committee.					
<b>Recommended literature:</b>					
<b>Course language:</b>					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 65					
A	B	C	D	E	FX
67.69	20.0	6.15	4.62	1.54	0.0
<b>Provides:</b>					
<b>Date of last modification:</b> 03.05.2015					
<b>Approved:</b> doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> ÚGE/ KAR/05		<b>Course name:</b> Basics of Karstology and Speleology			
<b>Course type, scope and the method:</b> <b>Course type:</b> Practice <b>Recommended course-load (hours):</b> <b>Per week: 2 Per study period: 28</b> <b>Course method:</b> present					
<b>Number of ECTS credits:</b> 2					
<b>Recommended semester/trimester of the course:</b> 4.					
<b>Course level:</b> I.					
<b>Prerequisites:</b>					
<b>Conditions for course completion:</b>					
<b>Learning outcomes:</b>					
<b>Brief outline of the course:</b>					
<b>Recommended literature:</b>					
<b>Course language:</b>					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 222					
A	B	C	D	E	FX
77.48	15.32	5.41	0.0	1.8	0.0
<b>Provides:</b> doc. RNDr. Zdenko Hochmuth, CSc., RNDr. Alena Gessert, PhD.					
<b>Date of last modification:</b> 27.08.2020					
<b>Approved:</b> doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.					



## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> ÚBEV/ BDD/05		<b>Course name:</b> Biology of Children and Adolescents			
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture / Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 2 / 0 <b>Per study period:</b> 28 / 0 <b>Course method:</b> present					
<b>Number of ECTS credits:</b> 2					
<b>Recommended semester/trimester of the course:</b> 4., 6.					
<b>Course level:</b> I.					
<b>Prerequisites:</b>					
<b>Conditions for course completion:</b> Written test					
<b>Learning outcomes:</b> The aim of the subject is to gain the particular level of knowledge about human body and its development. It is necessary for the understanding of specific biological characteristics of children and adolescents linked to development.					
<b>Brief outline of the course:</b> Human ontogenesis. Postnatal development. Age specific features of skeletal and muscular, circulatory, respiratory, gastrointestinal and urinary systems. Reproductive system. Endocrine system. Nervous system. Age specifics of selected diseases and drug dependence arise. Human population and environment.					
<b>Recommended literature:</b> Drobný I., Drobná M.: Biológia dieťaťa pre špeciálnych pedagógov I. a II. Bratislava, PdF UK, 2000 Lipková V.: Somatický a fyziologický vývoj dieťaťa. Osveta Bratislava, 1980 Malá H., Klementa J.: Biológia detí a dorastu. Bratislava, SPN, 1989					
<b>Course language:</b>					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 1473					
A	B	C	D	E	FX
31.5	23.35	17.45	17.58	9.57	0.54
<b>Provides:</b> doc. RNDr. Monika Kassayová, CSc.					
<b>Date of last modification:</b> 03.05.2015					
<b>Approved:</b> doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice	
<b>Faculty:</b> Faculty of Science	
<b>Course ID:</b> ÚMV/ ZBR/14	<b>Course name:</b> Bridge fundamentals
<b>Course type, scope and the method:</b> <b>Course type:</b> Practice <b>Recommended course-load (hours):</b> <b>Per week: 2 Per study period: 28</b> <b>Course method:</b> present	
<b>Number of ECTS credits:</b> 2	
<b>Recommended semester/trimester of the course:</b> 5.	
<b>Course level:</b> I.	
<b>Prerequisites:</b>	
<b>Conditions for course completion:</b> Active participation on exercises.	
<b>Learning outcomes:</b> A student gets acquainted with fundamentals of the contract bridge, develops his/her logical thinking and consolidates his/her habits of positive social behaviour.	
<b>Brief outline of the course:</b> Bridge rules. Principles of the bidding system Standard American. Basic techniques of declarer's play. Basic techniques of the defence. Lead conventions, signals. Common bidding conventions. Selected advanced techniques of the card play. Partnership cooperation in the contract bridge. Bridge ethics.	
<b>Recommended literature:</b> T. Menyhért: Kurz bridžu 2013, <a href="http://new.bridgekosice.sk/kurz-bridzu-2013/">http://new.bridgekosice.sk/kurz-bridzu-2013/</a> R. Pavlicek: Learn To Play Bridge!, <a href="http://www.rpbridge.net/1a00.htm">http://www.rpbridge.net/1a00.htm</a> ACBL SAYC System Booklet, <a href="http://ebookbrowse.net/acbl-sayc-pdf-d201415187">http://ebookbrowse.net/acbl-sayc-pdf-d201415187</a>	
<b>Course language:</b> Slovak or English	
<b>Notes:</b> Minimum number of participants is 4.	
<b>Course assessment</b> Total number of assessed students: 25	
abs	n
96.0	4.0

**Provides:** doc. RNDr. Miroslav Ploščica, CSc., prof. RNDr. Mirko Horňák, CSc.

**Date of last modification:** 03.05.2015

**Approved:** doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice	
<b>Faculty:</b> Faculty of Science	
<b>Course ID:</b> ÚGE/ KAG/15	<b>Course name:</b> Cartography and Geoinformatics
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture / Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 2 / 2 <b>Per study period:</b> 28 / 28 <b>Course method:</b> present	
<b>Number of ECTS credits:</b> 5	
<b>Recommended semester/trimester of the course:</b> 1.	
<b>Course level:</b> I.	
<b>Prerequisites:</b>	
<b>Conditions for course completion:</b> During the semester it is necessary to pass out the work outputs from the exercises. The knowledge gained on the exercises will be verified by continuous written examinations. The number of work outputs and written examinations will be announced at the beginning of the semester. It is possible to obtain 30% of the assessment criteria for the exercise (work outputs and written examinations). The final evaluation of the exercises is determined by the instructor of the subject based on the completion of tasks in the exercises during the semester. The final evaluation of the study subject is based on the combination of the evaluation conditions from the exercise and the final exam. The final exam may be enrolled by a student who has fulfilled the requirements for attending the exercises and who achieves a rating of at least minimum 16 % in evaluation in exercises. The final assessment is the weighted average of the exercise assessment (30 %) and the final exam (70 %). Credits are awarded only to a student who achieves rating at least at the grade level of E, i.e. he achieves the rating of at least 51 %. Credits will not be awarded to a student who does not meet the requirements of the exercise and the exam is rated FX. Rating scale: A (100-91%), B (81-90%), C (71-80%), D (61-70%), E (51-60%).	
<b>Learning outcomes:</b> The main learning outcomes include theoretical and practical skills in cartography and geoinformatics. Students understand cartographic and GIS terminology, students can apply cartographic approaches and methods using GIS, projections and define the content and composition of maps in GIS. The student masters the design, use and evaluation of the properties of cartographic representations in various geoinformatics applications.	
<b>Brief outline of the course:</b> Cartography - the branch of science, position in the system of sciences, the history of cartography, topographic mapping in Slovakia; Cartographic projects, cartographic interpretation; Description maps, geographical names, cartographic generalization, State map series; Cartometry and morphometry; Mathematical cartography (reference area map projection and distortion). Geoinformatics – the branch of science, elements of GIS, digital representation of landscape, raster and vector data, data collection and processing data for GIS, geospatial database, visualization and cartographic representation using GIS, applications of GIS.	
<b>Recommended literature:</b>	

HOFIERKA, J., J. KAŇUK, M. GALLAY, 2014. Geoinformatika. Košice: Univerzita Pavla Jozefa Šafárika v Košiciach. ISBN 978-80-8152-178-2.  
 HOJOVEC, V. et al., 1987. Kartografie. Praha: Geodetický a kartografický podnik v Praze. ISBN 29-621-87.  
 LONGLEY, P.A., M. GOODCHILD, D. J. MAGUIRE, D. W. RHIND, 2010. Geographic Information Systems and Science. 3rd ed. Hoboken: Wiley & Sons, ISBN 978-0-470-72144-5.  
 PRAVDA, J., D. KUSEDOVÁ, 2004. Počítačová tvorba tematických máp. Bratislava: Univerzita Komenského v Bratislave. ISBN 80-223-2011-0.  
 ROBINSON, A. H. et al., 1995. Elements of Cartography. 6th ed. Hoboken: Wiley & Sons. ISBN 0-471-55579-7.  
 VOŽENÍLEK, V. et al., 2011. Metody tematické kartografie - Vizualizace prostorových jevů. Olomouc: Univerzita Palackého v Olomouci. ISBN 978-80-24427-90-4.

**Course language:**

Slovak

**Notes:**

withot notes

**Course assessment**

Total number of assessed students: 421

A	B	C	D	E	FX
14.73	21.62	21.14	19.48	18.29	4.75

**Provides:** prof. Ing. Vladimír Sedlák, PhD., Mgr. Ján Šašak, Mgr. Katarína Onáčillová, doc. RNDr. Ján Kaňuk, PhD.

**Date of last modification:** 28.09.2020

**Approved:** doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice	
<b>Faculty:</b> Faculty of Science	
<b>Course ID:</b> KOP/ OPaPDV/14	<b>Course name:</b> Civil Law and Intellectual Property Rights
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture <b>Recommended course-load (hours):</b> <b>Per week: 2 Per study period: 28</b> <b>Course method:</b> present	
<b>Number of ECTS credits:</b> 4	
<b>Recommended semester/trimester of the course:</b> 3., 5.	
<b>Course level:</b> I., N	
<b>Prerequisites:</b>	
<b>Conditions for course completion:</b>	
<b>Learning outcomes:</b>	
<b>Brief outline of the course:</b>	
<b>Recommended literature:</b>	
<b>Course language:</b>	
<b>Notes:</b>	
<b>Course assessment</b> Total number of assessed students: 103	
abs	n
94.17	5.83
<b>Provides:</b> doc. JUDr. Renáta Bačárová, PhD., LL.M., prof. JUDr. Peter Vojčík, CSc.	
<b>Date of last modification:</b> 16.12.2020	
<b>Approved:</b> doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.	

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice	
<b>Faculty:</b> Faculty of Science	
<b>Course ID:</b> CJP/ PFAJKKA/07	<b>Course name:</b> Communicative Competence in English
<b>Course type, scope and the method:</b> <b>Course type:</b> Practice <b>Recommended course-load (hours):</b> <b>Per week: 2 Per study period: 28</b> <b>Course method:</b> combined, present	
<b>Number of ECTS credits:</b> 2	
<b>Recommended semester/trimester of the course:</b>	
<b>Course level:</b> I., II., N	
<b>Prerequisites:</b>	
<b>Conditions for course completion:</b> Active participation in class and completed homework assignments. Students are allowed to miss two classes at the most. Online teaching (MS Teams), in case of an improved epidemiological situation = on-site teaching. 2 credit tests (presumably in weeks 6/7 and 12/13) and a short oral presentation in English. The tests will be taken online (MS Teams) during online teaching and in class in case of on-site classes. The presentation will be sent to the course instructor as a video recording. Final evaluation consists of the scores obtained for the 2 tests (70%) and the presentation (30%). Final grade will be calculated as follows: A 93-100 %, B 86-92%, C 79-85%, D 72-78%, E 65-71%, FX 64 % and less.	
<b>Learning outcomes:</b> Uplatnenie a aktívne používanie svojich teoretických vedomostí v praktických komunikačných situáciách. Zdokonalenie jazykových vedomostí a zručností študenta, rečovej, pragmatickej a vecnej kompetencie, predovšetkým zlepšujú komunikáciu, schopnosť prijímať a formulovať výpovede, efektívne vyjadrovať svoje myšlienky ako aj orientovať sa v obsahovom pláne výpovede. Precvičovanie rečových intencií kontaktných (napr. pozdravy, oslovenia, pozvanie, oslovenie), informatívnych (napr. získavanie a podávanie informácií, vyjadrenie priestorových a časových vzťahov), regulačných (napr. prosba, poďakovanie, zákaz, pochvala, súhlas, nesúhlas) a hodnotiacich (napr. vyjadrenie vlastného názoru, stanoviska, želania, emócií). Výsledkom budovania praktickej jazykovej kompetencie majú byť vedomosti a zručnosti zodpovedajúce požiadavkám a kritériám dokumentu Spoločný európsky referenčný rámec pre vyučovanie jazykov.	
<b>Brief outline of the course:</b> Rodina, jej formy a problémy Vyjadrovanie pocitov a dojmov Dom, bývanie a budúcnosť Formy a dialekty v anglickom jazyku Život v meste a na vidieku Kolokácie a idiomy, zaužívané slovné spojenia Prázdniny a sviatky vo svete	

<p>Životné prostredie a ekológia  Výnimky zo slovosledu  Frázové slovesá a ich použitie  Charakteristiky neformálneho diškurzu</p>					
<p><b>Recommended literature:</b>  www.bbclearningenglish.com  McCarthy M., O'Dell F.: English Vocabulary in Use, Upper-Intermediate. CUP, 1994.  Misztal M.: Thematic Vocabulary. SPN, 1998.  Fictumova J., Ceccarelli J., Long T.: Angličtina, konverzace pro pokročilé. Barrister and Principal, 2008.  Peters S., Gráf T.: Time to practise. Polyglot, 2007.  Jones L.: Communicative Grammar Practice. CUP, 1985.  Alexander L.G.: Longman English Grammar. Longman, 1988.</p>					
<p><b>Course language:</b>  English language, B2 level according to CEFR</p>					
<p><b>Notes:</b></p>					
<p><b>Course assessment</b>  Total number of assessed students: 241</p>					
A	B	C	D	E	FX
38.59	22.41	19.5	9.54	6.64	3.32
<p><b>Provides:</b> Mgr. Barbara Mitriková</p>					
<p><b>Date of last modification:</b> 11.02.2021</p>					
<p><b>Approved:</b> doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.</p>					



## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> CJP/ PFAJGA/07		<b>Course name:</b> Communicative Grammar in English			
<b>Course type, scope and the method:</b> <b>Course type:</b> Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 2 <b>Per study period:</b> 28 <b>Course method:</b> combined, present					
<b>Number of ECTS credits:</b> 2					
<b>Recommended semester/trimester of the course:</b>					
<b>Course level:</b> I., II., N					
<b>Prerequisites:</b>					
<b>Conditions for course completion:</b> Active classroom participation (max. 2x90 min. absences tolerated). 2 test (5th/6th and 12/13th week), no retake. Final evaluation- average assessment of tests. Grading scale: A 93-100%, B 86-92%, C 79-85%, D 72-78%, E 65-71%, FX 64% and less.					
<b>Learning outcomes:</b>					
<b>Brief outline of the course:</b>					
<b>Recommended literature:</b> Vince M.: Macmillan Grammar in Context, Macmillan, 2008 McCarthy, O'Dell: English Vocabulary in Use, CUP, 1994 C. Oxengen, C. Latham-Koenig: New English File Advanced, Oxford 2010 Misztal M.: Thematic Vocabulary, Fragment, 1998 www.bbclearningenglish.com ted.com/talks					
<b>Course language:</b>					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 406					
A	B	C	D	E	FX
39.66	18.97	16.75	8.62	5.91	10.1
<b>Provides:</b> Mgr. Lenka Klimčáková					
<b>Date of last modification:</b> 14.09.2019					
<b>Approved:</b> doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> KGER/ NJKG/07		<b>Course name:</b> Communicative Grammar in German Language			
<b>Course type, scope and the method:</b> <b>Course type:</b> Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 2 <b>Per study period:</b> 28 <b>Course method:</b> present					
<b>Number of ECTS credits:</b> 2					
<b>Recommended semester/trimester of the course:</b>					
<b>Course level:</b> I., II.					
<b>Prerequisites:</b>					
<b>Conditions for course completion:</b>					
<b>Learning outcomes:</b>					
<b>Brief outline of the course:</b>					
<b>Recommended literature:</b>					
<b>Course language:</b>					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 54					
A	B	C	D	E	FX
59.26	11.11	9.26	3.7	9.26	7.41
<b>Provides:</b> Mgr. Blanka Jenčíková					
<b>Date of last modification:</b> 03.05.2015					
<b>Approved:</b> doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice	
<b>Faculty:</b> Faculty of Science	
<b>Course ID:</b> ÚGE/ KRS/08	<b>Course name:</b> Complex geographic characteristics of selected world regions
<b>Course type, scope and the method:</b> <b>Course type:</b> Practice <b>Recommended course-load (hours):</b> <b>Per week: 2 Per study period: 28</b> <b>Course method:</b> present	
<b>Number of ECTS credits:</b> 3	
<b>Recommended semester/trimester of the course:</b> 6.	
<b>Course level:</b> I.	
<b>Prerequisites:</b>	
<b>Conditions for course completion:</b> At the beginning of the semester, students choose a region from provided list. During the semester, they elaborate presentation reflecting formal and content requirements explained by teacher at the beginning of the semester. This part constitute 50% of total total evaluation. Another 10% represents the activity at the seminars. Remaining 40 % of evaluation is represented by written verification of acquired knowledge. Evaluation of all - the presentation, activity and written verification must reach at least 50% to complete the course. To get an A grade, it is necessary to obtain at least 90% of weighted average. 80% to grade B, 70% to C, 60% to D, and at least 50% to grade E.	
<b>Learning outcomes:</b> Understanding of causal relations between individual geographic phenomena in spatial and temporal context of individual regions; extended knowledge about selected regions.	
<b>Brief outline of the course:</b> Geographic location, geologic history and structure, orography and shapes of coast, climate, hydrology, soils and biogeography, protection of nature, current landscape and its transformation, historical and political development, population and sites, economy and integration groupings in selected regions of the world.	
<b>Recommended literature:</b> DE BLIJ, H. J. et al: 2013: The World Today - Concepts and Regions in Geography, 6th edition. New York (Wiley), 528 p. HOBBS, J. J. 2010: Fundaments of World Regional Geography, 2nd edition. Belmont (Brooks/ Cole), 438 p. WEIGHTMAN, B. 2010: Dragons and Tigers – A Geography of South, East and Southeast Asia, 3rd edition. Hoboken (Wiley), 523 p. BAAR, V. 2002: Národy na prahu 21. století. Emancipace nebo nacionalismus? Ostrava (Ostravská univerzita), 416 s. BRADSHAW, W. et al. 2012: Contemporary World Regional Geography, 4th edition. New York (McGrawHill), 620 p.	
<b>Course language:</b> Slovak and English	

<b>Notes:</b>					
<b>Course assessment</b>					
Total number of assessed students: 486					
A	B	C	D	E	FX
27.78	36.01	22.63	8.23	4.73	0.62
<b>Provides:</b> Mgr. Ladislav Novotný, PhD.					
<b>Date of last modification:</b> 01.04.2020					
<b>Approved:</b> doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice	
<b>Faculty:</b> Faculty of Science	
<b>Course ID:</b> ÚGE/ KUL/12	<b>Course name:</b> Cultural geography
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture / Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 2 / 1 <b>Per study period:</b> 28 / 14 <b>Course method:</b> present	
<b>Number of ECTS credits:</b> 4	
<b>Recommended semester/trimester of the course:</b> 3.	
<b>Course level:</b> I., II.	
<b>Prerequisites:</b>	
<b>Conditions for course completion:</b>	
<b>Learning outcomes:</b>	
<b>Brief outline of the course:</b>	
<b>Recommended literature:</b> ANDĚL, J. 1998: Kultúrní geografie. UJEP Ústí nad Labem, 146 s. ANDERSON, K. et al. 2003: Handbook of cultural geography. 601 p. BARŠA, P. 1999: Politická teorie multikulturalismu, CDK. BERGMAN, E. F. 1995: Human Geography. Cultures, Connections and Landscapes. Prentice Hall, Engewood Cliffs. BONNEMAISON, J. 2005: Culture and Space. I. B. Tauris. DIAMOND, J. 1997: Guns, germs and steel: the fates of human societies. Norton & co., New York. DIAMOND, J. 2019: Otrasy – Ako národy riešia svoje krízy. Premedia, 408 s. DOSTÁL, P. 1999: Ethnicity, mobilization and territory: an overview of recent experien-ces. Acta UC, Geographica, XXXIV, 1, s. 45-58. HEŘMANOVÁ, E., CHROMÝ, P. a kol. 2009: Kulturní regiony a geografie kultury. 1. vyd. Praha: ASPI, a. s., 292-301. KRUPA, V., GENZOR, J. 1996: Jazyky sveta v priestore a čase. Veda, SAV Bratislava, 356 s. MACDONALD, F., MASON, A. 2009: Kultúra ľudstva. Ottova encyklopédia. Ottovo nakladateľství, s. r. o. Praha, 256 s. MURRAY, W, E. 2006: Geographies of Globalization. Routledge Contemporary Human Geography. Routledge Taylor & Francis Group London and New York, 32 s. ROGERS, A. 1994: Lidé a kultúry. Nakladatelský dům Praha, 256 s.	
<b>Course language:</b> Slovak	
<b>Notes:</b>	

<b>Course assessment</b>					
Total number of assessed students: 548					
A	B	C	D	E	FX
54.2	32.3	10.04	3.1	0.36	0.0
<b>Provides:</b> prof. RNDr. Peter Spišiak, CSc., Mgr. Marián Kulla, PhD., Mgr. Štefan Kolečanský					
<b>Date of last modification:</b> 09.10.2020					
<b>Approved:</b> doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> ÚMV/ DSMa/10		<b>Course name:</b> Discrete mathematics I			
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture / Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 2 / 2 <b>Per study period:</b> 28 / 28 <b>Course method:</b> present					
<b>Number of ECTS credits:</b> 5					
<b>Recommended semester/trimester of the course:</b> 3.					
<b>Course level:</b> I.					
<b>Prerequisites:</b>					
<b>Conditions for course completion:</b> Examination.					
<b>Learning outcomes:</b> To be familiar with some factual knowledge of combinatorics and graph theory. To understand and appreciate mathematical notions, definitions, and proofs, to solve problems requiring more than just standard recipes, and to express mathematical thoughts precisely and more rigorously.					
<b>Brief outline of the course:</b> Basic principles. Counting and binomial coefficients, Binomial theorem, polynomial theorem. Recurrence: Some miscellaneous problems, Fibonacci-type relations, Using generating functions, miscellaneous methods. The inclusion-exclusion principle. Rook polynomials. Introduction to graphs: The concept of graphs, paths in graphs. Connectivity. Trees, bipartite graphs. Planarity. Polyhedra. Traveling round a graph: Eulerian graphs, Hamiltonian graphs. Partitions and colourings: Vertex colourings of graphs. Edge colourings of graphs					
<b>Recommended literature:</b> 1. I. Anderson, A first course in discrete mathematics, Springer-Verlag London, 2001. 2. J. Matoušek and J. Nešetřil, Invitation to discrete mathematics, Oxford University Press Inc. , New York 1999.					
<b>Course language:</b> Slovak					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 300					
A	B	C	D	E	FX
15.67	17.67	21.0	24.67	17.67	3.33

**Provides:** doc. RNDr. Roman Soták, PhD., RNDr. Mária Maceková, PhD.

**Date of last modification:** 20.09.2020

**Approved:** doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.



## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice	
<b>Faculty:</b> Faculty of Science	
<b>Course ID:</b> ÚMV/ DSMb/10	<b>Course name:</b> Discrete mathematics II
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture / Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 2 / 2 <b>Per study period:</b> 28 / 28 <b>Course method:</b> present	
<b>Number of ECTS credits:</b> 5	
<b>Recommended semester/trimester of the course:</b> 4.	
<b>Course level:</b> I.	
<b>Prerequisites:</b> ÚMV/DSMa/10 and leboÚMV/DSM3a/10	
<b>Conditions for course completion:</b> Two tests during the semester It is made on the base of results of two tests during the semester (50%) and a final written exam and an oral exam (50%)	
<b>Learning outcomes:</b> Mastered fundamental methods of graph theory. To be familiar with some possibilities of applications of graph theory	
<b>Brief outline of the course:</b> Introduction to graphs. Connectivity and distance in graphs. Trees, spanning subgraphs Independence and coverings. Introduction to the Ramsey theory. Introduction to the extremal graph theory. Matchings: Theorem of Hall, theorem of Berge, optimal assignment problems. Vertex colorings: Theorem of Brooks, Theorem of Erdos and Szekeres. Chromatic polynomials. Edge colourings, Theorem of Koenig. Introduction to directed graphs: Basic notions, connectivities, tournaments, acyclic graphs, base and kernel of a graph. Introduction to applications of graphs.	
<b>Recommended literature:</b> 1. A. Bondy and U.S.R. Murty: Graph theory, Springer-Verlag 2008 2. G. Chartrand, L. Lesniak, and P. Zhang, Graphs and digraphs, CRC Press, Boca Raton 2011 3. R. Diestel: Graph Theory, Springer-Verlag, New York, Inc. 1997 4. M.N.S. Swamy and K. Thulasiraman: Graphs, Networks and Algorithms. Willey Interscience Publ., New York 1981	
<b>Course language:</b> Slovak	

<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 170					
A	B	C	D	E	FX
13.53	10.0	24.12	27.06	18.82	6.47
<b>Provides:</b> RNDr. Igor Fabrici, Dr., RNDr. Mária Maceková, PhD.					
<b>Date of last modification:</b> 03.05.2015					
<b>Approved:</b> doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice	
<b>Faculty:</b> Faculty of Science	
<b>Course ID:</b> ÚMV/ DSMc/10	<b>Course name:</b> Discrete mathematics III
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture / Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 2 / 2 <b>Per study period:</b> 28 / 28 <b>Course method:</b> present	
<b>Number of ECTS credits:</b> 5	
<b>Recommended semester/trimester of the course:</b>	
<b>Course level:</b> I.	
<b>Prerequisites:</b> ÚMV/DSMb/10	
<b>Conditions for course completion:</b> Two tests during the semester It is made on the base of results of two tests during the semester (50%) and a final written exam and an oral exam (50%)	
<b>Learning outcomes:</b> Mastered fundamental methods of graph theory. Abilities of applications of graph theory.	
<b>Brief outline of the course:</b> Eulerian and Hamiltonian graphs. Connectivity: Theorem of Menger. Matching: Theorem of Tutte. Planar graphs: Theorem of Kuratowski. Plane graphs: Euler polyhedral formula and its consequences, Introduction to the theory of light graphs in plane graphs. Colourings of plane graphs. Crossing numbers of graphs. Introduction to the topological graph theory. Edge colourings: Theorem of Vizing. Application of Graph theory: The shortest path problem, the critical path method.	
<b>Recommended literature:</b> 1. A. Bondy and U.S.R. Murty: Graph theory, Springer-Verlag 2008 2. G. Chartrand, L. Lesniak, and P. Zhang, Graphs and digraphs, CRC Press, Boca Raton 2011 3. R. Diestel: Graph Theory, Springer-Verlag, New York, Inc. 1997 4. M.N.S. Swamy and K. Thulasiraman: Graphs, Networks and Algorithms. Willey Interscience Publ., New York 1981	
<b>Course language:</b> Slovak	
<b>Notes:</b>	

<b>Course assessment</b>					
Total number of assessed students: 77					
A	B	C	D	E	FX
15.58	31.17	15.58	24.68	12.99	0.0
<b>Provides:</b> prof. RNDr. Tomáš Madaras, PhD., RNDr. Mária Maceková, PhD.					
<b>Date of last modification:</b> 03.05.2015					
<b>Approved:</b> doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice	
<b>Faculty:</b> Faculty of Science	
<b>Course ID:</b> KPPaPZ/PUDB/15	<b>Course name:</b> Drug Addiction Prevention in University Students
<b>Course type, scope and the method:</b> <b>Course type:</b> Practice <b>Recommended course-load (hours):</b> <b>Per week: 2 Per study period: 28</b> <b>Course method:</b> present	
<b>Number of ECTS credits:</b> 2	
<b>Recommended semester/trimester of the course:</b> 3., 5.	
<b>Course level:</b> I.	
<b>Prerequisites:</b>	
<b>Conditions for course completion:</b> Students can get a maximum of 50 points for the course: Part 1 of the assessment: participation in the training (30p) - replaces the classic lessons, students choose the date of the training at the introductory first meeting to the course, therefore their participation is necessary. As the training takes place in two days, participation in the entire training is required. If it is impossible to participate in both days of training, the student must change to another date of training, which he will be able to complete. The training takes place partly over the weekend and also outside the school or in the training center in Danišovce (it starts on Thursday evening and ends on Saturday with lunch). The costs of accommodation, meals and travel are paid by the student himself. 2nd part of assessment: workshops (20p) - they replace classic lectures, are held 4 times per semester and for each workshop the student can get 5p (a total of 20p for workshops). In total, students can get 50p per subject and the final evaluation is as follows: 50 – 45: A; 44 – 40: B; 39 – 35: C; 34 – 30: D; 29 – 25: E; 24 a menej: FX. Any modifications to the implementation of the course in connection with the current order of the Rector are listed in the electronic board of the course.	
<b>Learning outcomes:</b> To provide students with more detailed information on the psychological aspects of drug prevention through an interesting, engaging explanation of theory and practice. Development of skills relevant for the prevention of drug use also through the use of experiential methods in teaching.	
<b>Brief outline of the course:</b>	
<b>Recommended literature:</b> Orosová, O. a kol. (2012). Základy prevencie užívania drog a problematického používania internetu v školskej praxi. Košice: UPJŠ. Sloboda, Z., & Bukoski, J. (Eds.). (2006). Handbook of Drug Abuse Prevention: Theory, Science, and Practice. New York: Springer.	
<b>Course language:</b> slovak	
<b>Notes:</b>	

<b>Course assessment</b>					
Total number of assessed students: 407					
A	B	C	D	E	FX
69.29	22.6	5.65	2.21	0.25	0.0
<b>Provides:</b> prof. PhDr. Oľga Orosová, CSc., Mgr. Marta Dobrowolska Kulanová, PhD., Mgr. Lucia Barbierik, PhD.					
<b>Date of last modification:</b> 16.02.2021					
<b>Approved:</b> doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice	
<b>Faculty:</b> Faculty of Science	
<b>Course ID:</b> ÚINF/ EDS/15	<b>Course name:</b> Educational software
<b>Course type, scope and the method:</b> <b>Course type:</b> Practice <b>Recommended course-load (hours):</b> <b>Per week: 2 Per study period: 28</b> <b>Course method:</b> present	
<b>Number of ECTS credits:</b> 2	
<b>Recommended semester/trimester of the course:</b> 5.	
<b>Course level:</b> I.	
<b>Prerequisites:</b>	
<b>Conditions for course completion:</b> 1 Preparation of interim assignments: a) Worksheet for student (with custom graphics) b) Multimedia educational presentation (with pictures, animations and sounds) c) Interactive educational quiz (with several types of quiz items) d) Methodological guidance on the use of interactive applications in teaching selected topic of chosen school subject. 2 Creation and presentation of final project on the use of educational software in education.	
<b>Learning outcomes:</b> 1. To acquire an overview of the educational software types and its exploitation in education. 2. To gain or enhance basic skills in working with: a) presentation software, programs for creation and editing images, animations, diagrams, sounds, concept maps, b) programs for creation of quizzes, questionnaires, voting, c) simulation and modeling software, d) selected subject-oriented educational programs, 3. To create and present a final project on the use of educational software in education.	
<b>Brief outline of the course:</b> Educational software types. Onlilne educational sources and tools. Multimedia processing. Tools for creation of teaching aids.	
<b>Recommended literature:</b> 1. Digitálna gramotnosť učiteľa : učebný materiál- modul 1 / Rastislav Adámek ... [et al.]. - Košice : Ústav informácií a prognóz školstva, 2009. - 80 s. - ISBN 9788080861193(brož.). 2. Moderná didaktická technika v práci učiteľa : učebný materiál modul 2 / Rastislav Adámek ... [et al.] ; recenzenti Viliam Fedák, Anton Lavrin. - Košice : Elfa, 2010. - 200 s. - ISBN 9788080861353 (brož.). 3. Web, Multimédiá / Martin Homola ... [et al.]. - Bratislava : Štátny pedagogický ústav, 2010. - 68 s. - Č. projektu: ŠPVV ĎVUi 26120130001. - ISBN 9788081180514 (brož.).	
<b>Course language:</b>	

**Notes:**

Content of lessons will be flexibly adapted to the field of study of learners. Language learners will be able to work more with pictures and sounds, physicists with simulation programs, mathematicians with mathematical software, etc.

**Course assessment**

Total number of assessed students: 52

A	B	C	D	E	FX
61.54	19.23	13.46	0.0	5.77	0.0

**Provides:** doc. RNDr. Ľubomír Šnajder, PhD.

**Date of last modification:** 03.05.2015

**Approved:** doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.



## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice	
<b>Faculty:</b> Faculty of Science	
<b>Course ID:</b> CJP/ PFAJ4/07	<b>Course name:</b> English Language of Natural Science
<b>Course type, scope and the method:</b> <b>Course type:</b> Practice <b>Recommended course-load (hours):</b> <b>Per week: 2 Per study period: 28</b> <b>Course method:</b> present	
<b>Number of ECTS credits:</b> 2	
<b>Recommended semester/trimester of the course:</b> 4.	
<b>Course level:</b> I.	
<b>Prerequisites:</b>	
<b>Conditions for course completion:</b> Distant form of study (Online through MS teams) - based on the syllabus Active participation in class and completed homework assignments. Students are allowed to miss 2 classes at the most (in case of online form - not attending online class/ assignments not handed in) Continuous assessment: 2 credit tests taken thorough MS Teams online(presumably in weeks 6 and 13) and academic presentation in English given through MS Teams online. In order to be admitted to the final exam, a student has to score at least 65 % as a sum of both credit tests. The exam test results represent 50% of the final grade for the course, continuous assessment results represent the other 50% of the final grade. The final grade for the course will be calculated as follows: A 93-100, B 86-92, C 79-85, D 72-78, E 65-71, FX 64 and less.	
<b>Learning outcomes:</b> Enhancement of students' language skills (speaking, writing, reading and listening comprehension) in English for specific purposes and development of students' language competence (familiarization with selected phonological, lexical and syntactic phenomena), improvement of students' pragmatic competence (familiarization with selected language functions) and improvement of presentation skills at B2 level (CEFR) with focus on terminology of English for natural science.	
<b>Brief outline of the course:</b> 1. Introduction to studying language 2. Selected aspects of scientific language 3. Talking about academic study 4. Discussing science 5. Defining scientific terminology and concepts 6. Expressing cause and effect 7. Describing structures 8. Explaining processes 9. Comparing objects, structures and concepts 10. Talking about problem and solution 11. Referencing authors	

12. Giving examples  
13. Visual aids and numbers  
14. Referencing time and place  
Presentation topics related to students' study fields.

**Recommended literature:**

study materials provided by the course instructor

Redman, S.: English Vocabulary in Use, Pre-intermediate, Intermediate. Cambridge University Press, 2003.

Armer, T.: Cambridge English for Scientists. CUP, 2011.

Wharton J.: Academic Encounters. The Natural World. CUP, 2009.

Murphy, R.: English Grammar in Use. Cambridge University Press, 1994.

P. Fitzgerald : English for ICT studies. Garnet Publishing, 2011.

<https://worldservice/learningenglish>, <https://spectator.sme.sk>

[www.isllibrary.com](http://www.isllibrary.com)

**Course language:**

**Notes:**

**Course assessment**

Total number of assessed students: 2605

A	B	C	D	E	FX
37.16	25.03	17.04	10.21	8.29	2.26

**Provides:** Mgr. Lenka Klimčáková, Mgr. Barbara Mitříková, Mgr. Viktória Mária Slovenská, PhDr. Helena Petruňová, CSc.

**Date of last modification:** 14.02.2021

**Approved:** doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> ÚGE/ MHG1/07		<b>Course name:</b> Fieldwork in Human Geography			
<b>Course type, scope and the method:</b> <b>Course type:</b> Practice <b>Recommended course-load (hours):</b> <b>Per week: Per study period:</b> 4d <b>Course method:</b> present					
<b>Number of ECTS credits:</b> 3					
<b>Recommended semester/trimester of the course:</b> 6.					
<b>Course level:</b> I.					
<b>Prerequisites:</b>					
<b>Conditions for course completion:</b>					
<b>Learning outcomes:</b>					
<b>Brief outline of the course:</b>					
<b>Recommended literature:</b>					
<b>Course language:</b>					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 545					
A	B	C	D	E	FX
95.6	0.92	1.47	1.47	0.55	0.0
<b>Provides:</b> prof. RNDr. Peter Spišiak, CSc., RNDr. Stela Csachová, PhD., Mgr. Marián Kulla, PhD., RNDr. Janetta Nestorová-Dická, PhD.					
<b>Date of last modification:</b> 31.03.2020					
<b>Approved:</b> doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> ÚGE/ HYP/15		<b>Course name:</b> Fieldwork in Hydrology			
<b>Course type, scope and the method:</b> <b>Course type:</b> Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 2 <b>Per study period:</b> 28 <b>Course method:</b> present					
<b>Number of ECTS credits:</b> 3					
<b>Recommended semester/trimester of the course:</b> 4.					
<b>Course level:</b> I.					
<b>Prerequisites:</b>					
<b>Conditions for course completion:</b>					
<b>Learning outcomes:</b>					
<b>Brief outline of the course:</b>					
<b>Recommended literature:</b>					
<b>Course language:</b>					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 69					
A	B	C	D	E	FX
97.1	2.9	0.0	0.0	0.0	0.0
<b>Provides:</b> RNDr. Dušan Barabas, CSc.					
<b>Date of last modification:</b> 09.11.2020					
<b>Approved:</b> doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> ÚMV/ FRPa/19		<b>Course name:</b> Function of real variable			
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture / Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 2 / 4 <b>Per study period:</b> 28 / 56 <b>Course method:</b> present					
<b>Number of ECTS credits:</b> 7					
<b>Recommended semester/trimester of the course:</b> 1.					
<b>Course level:</b> I.					
<b>Prerequisites:</b>					
<b>Conditions for course completion:</b> Written exam.					
<b>Learning outcomes:</b> The course provides an introductory knowledge on basic tools of differential and integral calculus of real functions of one real variable, and a development of certain calculation skills in the field.					
<b>Brief outline of the course:</b> 1. Basics of mathematical logic and notations. 2. Real functions - basic notions, operation, graphs, continuity. 3. Differential calculus of functions of one real variable - differentiability, using the derivative. 4. Integral calculus of functions of one real variable - Newton integral.					
<b>Recommended literature:</b> 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.					
<b>Course language:</b>					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 621					
A	B	C	D	E	FX
7.89	9.02	15.46	22.38	35.59	9.66
<b>Provides:</b> doc. RNDr. Ondrej Hutník, PhD., RNDr. Jaroslav Šupina, PhD., RNDr. Lenka Halčinová, PhD.					
<b>Date of last modification:</b> 26.03.2019					

**Approved:** doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> ÚGE/ GEP2/18		<b>Course name:</b> Fundamentals of Geology for Geographers			
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture / Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 2 / 2 <b>Per study period:</b> 28 / 28 <b>Course method:</b> present					
<b>Number of ECTS credits:</b> 6					
<b>Recommended semester/trimester of the course:</b> 1.					
<b>Course level:</b> I.					
<b>Prerequisites:</b>					
<b>Conditions for course completion:</b>					
<b>Learning outcomes:</b>					
<b>Brief outline of the course:</b> Courses have following objectives: firstly, to introduce the current theories of processes which occur in the Earth (global tectonics, species of magmatism), secondly, to describe the rock-forming minerals, taxology of intrusive rocks, taxology of sedimentary rocks and rocks which had overcome metamorphosis, basics of the regional geology of Slovakia, basics of the historical geology and paleontology.					
<b>Recommended literature:</b>					
<b>Course language:</b>					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 1075					
A	B	C	D	E	FX
7.07	16.0	32.0	27.81	11.26	5.86
<b>Provides:</b> doc. RNDr. Zdenko Hochmuth, CSc., doc. Ing. Katarína Bónová, PhD., Ing. Ján Bóna					
<b>Date of last modification:</b> 28.08.2020					
<b>Approved:</b> doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> ÚGE/ GEE2/07		<b>Course name:</b> Geoecology			
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture / Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 2 / 1 <b>Per study period:</b> 28 / 14 <b>Course method:</b> present					
<b>Number of ECTS credits:</b> 5					
<b>Recommended semester/trimester of the course:</b>					
<b>Course level:</b> I.					
<b>Prerequisites:</b>					
<b>Conditions for course completion:</b>					
<b>Learning outcomes:</b>					
<b>Brief outline of the course:</b> Focus will be put on the development of this discipline, different dimensions of the physical – geographic complexes, regularities of the space differentiation of the physical – geographic sphere, evolution, and dynamics of the physical – geographic complexes. Synthesis of the principles of landscape and landscape-ecological planning.					
<b>Recommended literature:</b> BEDRNA, Z., a kol. 1992: Analýza a čiastkové syntézy zložiek krajinej štruktúry. Bratislava. Učebné texty, 95 s.. MIČIAN, L., ZATKALÍK, F. 1984: Náuka o krajine a starostlivosť o životné prostredie. UK Bratislava skriptá, 137s. MIČIAN, L. 1989: Pokus o novú definíciu krajinej ekológie. Ekológia (ČSFR), 3,1, Veda, Bratislava, s. 7-12. MIČIAN, L. 2008: Všeobecná geoekológia. Bratislava: Geo-grafika, 88 s. – Skriptá.					
<b>Course language:</b>					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 668					
A	B	C	D	E	FX
5.24	12.72	20.66	23.95	35.18	2.25
<b>Provides:</b> doc. RNDr. Zdenko Hochmuth, CSc., RNDr. Dušan Barabas, CSc., Mgr. Imrich Sládek, PhD.					
<b>Date of last modification:</b> 19.08.2020					
<b>Approved:</b> doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.					



## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> ÚGE/ GIS/15		<b>Course name:</b> Geographic Information Systems			
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture / Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 2 / 2 <b>Per study period:</b> 28 / 28 <b>Course method:</b> present					
<b>Number of ECTS credits:</b> 6					
<b>Recommended semester/trimester of the course:</b> 5.					
<b>Course level:</b> I.					
<b>Prerequisites:</b>					
<b>Conditions for course completion:</b> The assessment is a combination of continual control during the practicals and the final exam in the examination period. The continual assessment is performed during the semester and it involves 1 written test in the mid-term of the semester and a project report generated according to the assignment and practical skills acquired during the practicals. The student can go for the final exam in case he or she acquired at least the E mark in the continual assessment. The final assessment mark is the result of the average of the marks received in the mid-term test, project report and final exam. The final exam is a written test. The credits are given in case the student had reached at least the E mark in continual assessment and final exam. The following marking scheme is applied in the assessment: A (100-90 points), B (80-89 points), C (70-79 points), D (60-69 points), E (50-59 points), FX (0-49 points).					
<b>Learning outcomes:</b> The student will understand the basics of the theory of geoinformation science, GIS, and Remote Sensing. The student will be able perform tasks in a GIS software, generate thematic maps and conduct basic spatial analyses such as spatial queries, attribute queries, terrain modelling, editing custom geodata, importing geodata.					
<b>Brief outline of the course:</b>					
<b>Recommended literature:</b>					
<b>Course language:</b> Slovak or Czech or English					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 344					
A	B	C	D	E	FX
29.65	25.0	25.58	13.37	6.4	0.0
<b>Provides:</b> doc. Mgr. Michal Gallyay, PhD., Mgr. Michaela Nováková					
<b>Date of last modification:</b> 16.09.2017					

**Approved:** doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> ÚGE/ GEOM/15		<b>Course name:</b> Geography			
<b>Course type, scope and the method:</b> <b>Course type:</b> <b>Recommended course-load (hours):</b> <b>Per week: Per study period:</b> <b>Course method:</b> present					
<b>Number of ECTS credits:</b> 1					
<b>Recommended semester/trimester of the course:</b>					
<b>Course level:</b> I.					
<b>Prerequisites:</b>					
<b>Conditions for course completion:</b>					
<b>Learning outcomes:</b>					
<b>Brief outline of the course:</b>					
<b>Recommended literature:</b>					
<b>Course language:</b>					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 136					
A	B	C	D	E	FX
15.44	19.85	26.47	16.91	19.85	1.47
<b>Provides:</b>					
<b>Date of last modification:</b> 26.02.2016					
<b>Approved:</b> doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice	
<b>Faculty:</b> Faculty of Science	
<b>Course ID:</b> ÚGE/ MG/18	<b>Course name:</b> Geography of mining
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture <b>Recommended course-load (hours):</b> <b>Per week: 2 Per study period: 28</b> <b>Course method:</b> present	
<b>Number of ECTS credits:</b> 2	
<b>Recommended semester/trimester of the course:</b> 3.	
<b>Course level:</b> I.	
<b>Prerequisites:</b>	
<b>Conditions for course completion:</b> The evaluation is based on a combination of continuous and final control. The continuous control is carried out during the teaching part by written test with a share of 30 % of the final evaluation. The final control is written and constitutes 70 % of the final evaluation. The resulting evaluation is a weighted average of the continuous (30 %) and final (70 %) controls. Credits will be awarded only to student who achieves the evaluation at the minimum level of the mark E in every part of the evaluation.	
<b>Learning outcomes:</b> To acquaint students with basic facts and knowledge of the history of mining science from the view of geographic aspect to obtain information overview of the history of the Slovak and world mining from a geographical point of view.	
<b>Brief outline of the course:</b> Historical foundations of the global mining industry, mining oldest written records of mining heyday in the Middle Ages, the first mining maps, Slovak ore mining in the Austro-Hungarian Empire, First World Mining Academy in Banská Štiavnica mining and migration of the population, the world "gold rush", salt roads Europe, coal mining and electrification of industry, environmental consequences of mining devastation, mining open-air museums in Slovakia and Europe and their importance for the promotion of tourism.	
<b>Recommended literature:</b> Ježek, B. a Hummel, J., 2006: Georgius Agricola, Dvanásť kníh o baníctve a hutníctve. Preklad z českého originálu: Petr, K. a Petrová, M., Ostrava: Montanex a.s., 2006, 546s., ISBN 80-7225-218-6. Puzder, J., 2000: Samuel Mikovíni, život a dielo. Košice: FBERG TU Košice, 115s. Vozár, J., 2000: Zlatá kniha baníctva. Košice: Tibor Turčan/Banská agentúra, 2000, 263s., ISBN 80-968421-4-5. Vozár, J., 2002: Kódex mestského a banského práva Banskej Štiavnice. Košice: Tibor Turčan/Banská agentúra, 2002, 71s., ISBN 80-968621-2-X. Zícha, Z., 2005: Back to the past. The history of technology and manpower in the mining is a legacy which cannot be forgotten. Ústí nad Labem: CDL Design s.r.o., 2005, 98p., ISBN 80-902278-9-9.	

<b>Course language:</b> Slovak					
<b>Notes:</b> without notes					
<b>Course assessment</b> Total number of assessed students: 9					
A	B	C	D	E	FX
77.78	11.11	11.11	0.0	0.0	0.0
<b>Provides:</b> prof. Ing. Vladimír Sedlák, PhD.					
<b>Date of last modification:</b> 19.08.2020					
<b>Approved:</b> doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice	
<b>Faculty:</b> Faculty of Science	
<b>Course ID:</b> ÚGE/ OBY2/18	<b>Course name:</b> Geography of population and settlements
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture / Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 2 / 2 <b>Per study period:</b> 28 / 28 <b>Course method:</b> present	
<b>Number of ECTS credits:</b> 6	
<b>Recommended semester/trimester of the course:</b> 3.	
<b>Course level:</b> I.	
<b>Prerequisites:</b>	
<b>Conditions for course completion:</b> Evaluation of student performance is carried out by combining ongoing review during the term of examination for the period of the semester. Continuous control consists of min. 80 % of the active participation of students in teaching and successfully solving assignments. If a student does not reach required active participation of teaching and successfully does not solve the given problem can not log on to the test.	
<b>Learning outcomes:</b> The student will acquire theoretical and methodological basis of Geography of Population and Settlements. Students will acquire a basic spatial differentiation of population and settlements in the world according to basic characteristics.	
<b>Brief outline of the course:</b> Population geography as a science discipline; Trends and forecasts of the world population; Distribution of population; Natural and mechanical movement of population (natality, mortality, balance natural movement of the population, model of demographic cycle, population migration); Population structure on the basis of biological, cultural and economic characteristics; Geography settlements as a scientific discipline; Settlement development and settlement systems; Geographical location of settlements; The structure of settlements by size, dynamics and morphology; Urban geography (definition of city, creation of city and functions cities); The hierarchy of settlements and Gravity; Urbanization (basic concepts, indicators, aspects and methods of research); Rural settlement systems (compact and scattered rural settlements and their geographical interpretation). Seminars Seminars during the semester are oriented to problem solving in order to practice, resp. demonstrate phenomena studied in different regional units of Slovakia, Europe or Worldwide.	
<b>Recommended literature:</b> BAŠOVSKÝ, O., MLÁDEK, J. 1989: Geografia obyvateľstva a sídel. Prírodovedecká fakulta UK, Bratislava, 221. CHALUPA, P., TARABOVÁ, Z. 1990: Geografie obyvateľstva, demografie, geografie sídel. MU, Brno.	

MATLOVIČ, R. 2001: Geografia relígií. Fakulta humanitných a prírodných vied Prešovskej univerzity v Prešove. Prešov, 375.  
 MLÁDEK, J. 1992: Základy geografie obyvateľstva. SPN Bratislava, 230.  
 MLÁDEK, J. a kol. 2006: Atlas obyvateľstva Slovenska. UK Bratislava, 168.  
 MLÁDEK, J., KUSEDOVÁ, D., MARENČÁKOVÁ, J., PODOLÁK, P., VAŇO, B. 2006: Demogeografická analýza Slovenska. UK Bratislava, 222.  
 PAVLÍK, Z., RYCHTAŘÍKOVÁ, J., ŠUBRTOVÁ, A. 1986: Základy demografie. Academia Praha.  
 VOTRUBEC, C. 1980: Lidská sídla, jejich typy a rozmístění ve světě. Academia Praha.  
 SHORT, J. R. 1994: Lidská sídla. Velká geografická encyklopedie světa. Nakladatelský dům OP Praha

**Course language:**

Slovak

**Notes:**

**Course assessment**

Total number of assessed students: 838

A	B	C	D	E	FX
8.71	14.2	21.84	22.91	28.76	3.58

**Provides:** prof. RNDr. Peter Spišiak, CSc., RNDr. Janetta Nestorová-Dická, PhD.

**Date of last modification:** 21.02.2018

**Approved:** doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> ÚGE/ GCR/12		<b>Course name:</b> Geography of the Czech Republic			
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture / Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 2 / 1 <b>Per study period:</b> 28 / 14 <b>Course method:</b> present					
<b>Number of ECTS credits:</b> 4					
<b>Recommended semester/trimester of the course:</b> 5.					
<b>Course level:</b> I., II.					
<b>Prerequisites:</b>					
<b>Conditions for course completion:</b>					
<b>Learning outcomes:</b>					
<b>Brief outline of the course:</b> Introduction, location, basic FG features of the Czech Republic. Geological structure of the Czech Republic, main geological entities according to the newest classification. Geomorphological structure and the relief evolution, geomorphological entities and units. Climate, hydrography of the Czech Republic, underground waters and mineral waters. Soils, phytogeography and zoogeography, present landscape types. History of settlements in the Czech Republic from the historical perspective. National, linguistic and religious structure. Urban and rural settlements. Administrative division and its historical development. Economy of the country - natural resources, agriculture, industry, transport, education and tourism.					
<b>Recommended literature:</b>					
<b>Course language:</b>					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 284					
A	B	C	D	E	FX
52.46	31.34	13.73	2.46	0.0	0.0
<b>Provides:</b> Mgr. Marián Kulla, PhD., Mgr. Imrich Sládek, PhD.					
<b>Date of last modification:</b> 28.08.2020					
<b>Approved:</b> doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.					



## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> ÚGE/ GEX1/07		<b>Course name:</b> Geological excursion			
<b>Course type, scope and the method:</b> <b>Course type:</b> Practice <b>Recommended course-load (hours):</b> <b>Per week: Per study period:</b> 3d <b>Course method:</b> present					
<b>Number of ECTS credits:</b> 2					
<b>Recommended semester/trimester of the course:</b> 2.					
<b>Course level:</b> I.					
<b>Prerequisites:</b>					
<b>Conditions for course completion:</b>					
<b>Learning outcomes:</b>					
<b>Brief outline of the course:</b> Visiting of different localities in the Western Carpathian tectonic units - Flysh belt, Klippen belt, Central Western Carpathians. Visiting of several localities of mining in Slovakia and getting to know the process of manufacturing of the rocks.					
<b>Recommended literature:</b> Regionálne geologické mapy Slovenska (1:50 000) + Vysvetlivky. ŽEC, B. et al., 2005: Exkurzný sprievodca ku kongresu Slovenskej geologickej spoločnosti Zemplínska šírava - Medvedia hora. CompuGraph, Košice, 138s. BIELY, A. et al., 1996: Geologická mapa Slovenska, 1 : 500 000. MŽP SR, ŠGÚDŠ, Bratislava. COE, A. L. (ed.) et al., 2010: Geological Field techniques. Wiley-Blackwell, UK, 323 pp.					
<b>Course language:</b>					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 436					
A	B	C	D	E	FX
80.5	14.68	2.98	0.0	0.0	1.83
<b>Provides:</b> doc. Ing. Katarína Bónová, PhD.					
<b>Date of last modification:</b> 26.08.2020					
<b>Approved:</b> doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice	
<b>Faculty:</b> Faculty of Science	
<b>Course ID:</b> ÚMV/ GEO2a/15	<b>Course name:</b> Geometry I
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture / Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 3 / 2 <b>Per study period:</b> 42 / 28 <b>Course method:</b> present	
<b>Number of ECTS credits:</b> 5	
<b>Recommended semester/trimester of the course:</b> 6.	
<b>Course level:</b> I.	
<b>Prerequisites:</b>	
<b>Conditions for course completion:</b> Two written tests. Written and oral examinations For continuous evaluation - max. 40 points for the written test - max. 20 points for oral exams - max. 40 points) Final score: A: 100-91 points, B: 90-81, C: 80-71, D: 70-61, E: 60-51, F: less than 51 points Note: In each of the student needs to have at least 40% max. number of points	
<b>Learning outcomes:</b> To acquaint students with the analytical geometry of linear and quadratic figures in Affine and Euclidean space.	
<b>Brief outline of the course:</b> Affine n-dimensional space - definition. Linear coordinate system. Subspaces, the parametric and non-parametric representation. The relative position of the two subspaces. Bundles of lines. The arrangement of points on the line. Convex sets. Changing the system of linear coordinates. Euclidean space - definition of (scalar and outer product). Euclidean distances and deviations subspaces. The rate of the size of convex sets. Triangle and trigonometric theorems. Conic and line.	
<b>Recommended literature:</b> 1. M.Sekanina, L.Boček, M.Kočandrlé, J.Šedivý: Geometrie 1, SPN Praha 1986 2. M.Hejný, V.Zaťko, P.Kršňák: Geometria 1, SPN Bratislava 1985 3. J.Eliaš, J.Horváth, J.Kajan: Zbierka úloh z vyššej matematiky 1, Alfa Bratislava	

4. M.Trenkler: Materiály uvedené na Internete.					
<b>Course language:</b> Slovak					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 137					
A	B	C	D	E	FX
18.25	16.79	21.9	18.25	16.06	8.76
<b>Provides:</b> doc. RNDr. Dušan Šveda, CSc., RNDr. Lucia Janičková, PhD.					
<b>Date of last modification:</b> 03.05.2015					
<b>Approved:</b> doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice	
<b>Faculty:</b> Faculty of Science	
<b>Course ID:</b> ÚGE/ GMAP/13	<b>Course name:</b> Geomorphological mapping
<b>Course type, scope and the method:</b> <b>Course type:</b> Practice <b>Recommended course-load (hours):</b> <b>Per week: 2 Per study period: 28</b> <b>Course method:</b> present	
<b>Number of ECTS credits:</b> 2	
<b>Recommended semester/trimester of the course:</b> 4.	
<b>Course level:</b> I., II.	
<b>Prerequisites:</b>	
<b>Conditions for course completion:</b> The evaluation of the subject consists of assesment of one main semestral work - geomorphological map of the area (50 points) and 2-3 partial works (50 points), the total amount of points is 100. The student has to aquire minimum of half points from each work. For successful graduation of the subject the student has to aquire 51 points and more.	
<b>Learning outcomes:</b> after the graduation of the subject the student should information applied to the praxis and be able to map area with the main aim of high quality map and the legenda.	
<b>Brief outline of the course:</b> The main of the subject is to understand the topic of the geomorphological mapping, geomorphological map and its importance. It deals with the history of the geomorphological mapping, maps in slovak and foreign literature, about theory and praxis of field works and maps compilation, creating of the geomorphological map legenda for different relief types. With help of graphical softwers we are working with morphometric and morphographic relief character, the morphogenetical nad morphodynamical interpretation of the geomorphological map. After the theoretical part of seminars there is practical field mapping in the scale of 1: 10 000 at the and of the semester.	
<b>Recommended literature:</b> DEMEK, J. (edit.), 1972: Manual of detailed geomorphological mapping. Academia, Brno, 344 s. MINÁR, J., 1995: Niektoré teoreticko-metodologické problémy geomorfologie vo väzbe na tvorbu komplexných geomorfologických máp. Acta Facultatis Rerum Naturalium Universitatis Comenianae, Geographica Nr. 36, Bratislava, 7-125. SMITH, M., PARON P., GRIFFITHS, J., 2011: Geomorphological mapping – methods and applications. School of Geography, Geology and the Environment, Kingston University, UK. 610 s. URBÁNEK, J., 1997: Geomorfologická mapa: niektoré problémy geomorfologického mapovania na Slovensku. Geografický časopis, 49, 3-4, 175-186. ZAŤKO, M. et al. 1986: Obecná geomorfologická mapa a jej legenda. In: Cvičenia z fyzickej geografie. Prírodovedecká fakulta Univerzity Komenského, Bratislava. 43-53.	

<b>Course language:</b>					
<b>Notes:</b>					
<b>Course assessment</b>					
Total number of assessed students: 10					
A	B	C	D	E	FX
90.0	0.0	10.0	0.0	0.0	0.0
<b>Provides:</b> RNDr. Alena Gessert, PhD.					
<b>Date of last modification:</b> 27.08.2020					
<b>Approved:</b> doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> ÚGE/ GEM2/18		<b>Course name:</b> Geomorphology			
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture / Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 2 / 2 <b>Per study period:</b> 28 / 28 <b>Course method:</b> present					
<b>Number of ECTS credits:</b> 6					
<b>Recommended semester/trimester of the course:</b> 2.					
<b>Course level:</b> I.					
<b>Prerequisites:</b>					
<b>Conditions for course completion:</b>					
<b>Learning outcomes:</b>					
<b>Brief outline of the course:</b>					
<b>Recommended literature:</b>					
<b>Course language:</b>					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 1211					
A	B	C	D	E	FX
10.4	21.97	20.97	16.1	20.56	9.99
<b>Provides:</b> doc. RNDr. Zdenko Hochmuth, CSc., RNDr. Alena Gessert, PhD.					
<b>Date of last modification:</b> 27.08.2020					
<b>Approved:</b> doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> KF/DF2p/03		<b>Course name:</b> History of Philosophy 2 (General Introduction)			
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture / Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 2 / 1 <b>Per study period:</b> 28 / 14 <b>Course method:</b> present					
<b>Number of ECTS credits:</b> 4					
<b>Recommended semester/trimester of the course:</b> 6.					
<b>Course level:</b> I., II.					
<b>Prerequisites:</b>					
<b>Conditions for course completion:</b>					
<b>Learning outcomes:</b>					
<b>Brief outline of the course:</b>					
<b>Recommended literature:</b>					
<b>Course language:</b>					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 739					
A	B	C	D	E	FX
60.89	13.8	12.58	8.66	3.38	0.68
<b>Provides:</b> Doc. PhDr. Peter Nezník, CSc.					
<b>Date of last modification:</b> 25.03.2020					
<b>Approved:</b> doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> ÚGE/ EXHG1/15		<b>Course name:</b> Human Geography Excursion			
<b>Course type, scope and the method:</b> <b>Course type:</b> Practice <b>Recommended course-load (hours):</b> <b>Per week: Per study period:</b> 6d <b>Course method:</b> present					
<b>Number of ECTS credits:</b> 3					
<b>Recommended semester/trimester of the course:</b> 5.					
<b>Course level:</b> I.					
<b>Prerequisites:</b>					
<b>Conditions for course completion:</b>					
<b>Learning outcomes:</b>					
<b>Brief outline of the course:</b>					
<b>Recommended literature:</b>					
<b>Course language:</b>					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 706					
A	B	C	D	E	FX
81.16	9.77	6.52	0.99	0.85	0.71
<b>Provides:</b> prof. RNDr. Peter Spišiak, CSc., RNDr. Stela Csachová, PhD., Mgr. Marián Kulla, PhD., Mgr. Ladislav Novotný, PhD., RNDr. Janetta Nestorová-Dická, PhD.					
<b>Date of last modification:</b> 03.05.2015					
<b>Approved:</b> doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.					



## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> ÚGE/ HGS/15		<b>Course name:</b> Human Geography of Slovakia			
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture / Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 3 / 1 <b>Per study period:</b> 42 / 14 <b>Course method:</b> present					
<b>Number of ECTS credits:</b> 5					
<b>Recommended semester/trimester of the course:</b> 6.					
<b>Course level:</b> I.					
<b>Prerequisites:</b>					
<b>Conditions for course completion:</b>					
<b>Learning outcomes:</b>					
<b>Brief outline of the course:</b>					
<b>Recommended literature:</b>					
<b>Course language:</b>					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 463					
A	B	C	D	E	FX
3.67	10.15	18.79	36.07	26.78	4.54
<b>Provides:</b> prof. RNDr. Peter Spišiak, CSc., Mgr. Marián Kulla, PhD., RNDr. Janetta Nestorová-Dická, PhD., Mgr. Loránt Pregi					
<b>Date of last modification:</b> 31.03.2020					
<b>Approved:</b> doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> ÚGE/ HUGN/15		<b>Course name:</b> Human geography (Non-production Systems)			
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture / Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 2 / 1 <b>Per study period:</b> 28 / 14 <b>Course method:</b> present					
<b>Number of ECTS credits:</b> 3					
<b>Recommended semester/trimester of the course:</b> 5.					
<b>Course level:</b> I.					
<b>Prerequisites:</b>					
<b>Conditions for course completion:</b>					
<b>Learning outcomes:</b>					
<b>Brief outline of the course:</b>					
<b>Recommended literature:</b> BOROVSKÝ, J. a kol., 2008: Cestovný ruch, trendy a perspektívy. Iura Edition, 280 s. GOELDNER, CH.R., BRENT RICHIE, J.R., 2014: Cestovní ruch - principy, příklady, trendy. Biz books, 545 s. HALÁS, M., 2000: Zahraničný obchod SR s ČR. Geographical Studies 7, Constantine the Philosopher University Nitra, s. 98-107. HALL, C.M. - PAGE, S.J. 2002: The geography of tourism and recreation, 2. edition, London and New York, 399 p. HAVRLANT, J., 2007: Geografie cestovního ruchu I. Základy geografie cestovního ruchu, Ostravská univerzita, 41 s. MARIOT, P., 1983: Geografia cestovného ruchu. Veda, Bratislava, 224 s. OTRUBOVÁ, E., 2003: Humánna geografia II (Geografia zahraničného obchodu, Geografia cestovného ruchu). Prírodovedecká fakulta UPJŠ, Košice, 105 s. ŠTEPÁNEK, KOPAČKA, ŠÍP, 2001: Geografie cestovního ruchu, Vydalo Karolinum Praha, 228s.					
<b>Course language:</b>					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 477					
A	B	C	D	E	FX
15.72	23.69	27.88	20.55	10.9	1.26
<b>Provides:</b> Mgr. Marián Kulla, PhD., prof. RNDr. Peter Spišiak, CSc., Mgr. Martina Magdošková					
<b>Date of last modification:</b> 20.09.2018					

**Approved:** doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice	
<b>Faculty:</b> Faculty of Science	
<b>Course ID:</b> ÚGE/ HUG2a/05	<b>Course name:</b> Human geography (productive sphere)
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture / Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 3 / 1 <b>Per study period:</b> 42 / 14 <b>Course method:</b> present	
<b>Number of ECTS credits:</b> 5	
<b>Recommended semester/trimester of the course:</b> 4.	
<b>Course level:</b> I.	
<b>Prerequisites:</b>	
<b>Conditions for course completion:</b>	
<b>Learning outcomes:</b>	
<b>Brief outline of the course:</b> Location theories, factors and methods of industry evaluation. Territorial industrial units and regionalisation of the industry in Slovakia. Geographical characteristics of selected types of industry. Relationship of industry and environment. Trends in development and problems of the world economy. Development of agriculture and regularities of distribution of agricultural lands. The agricultural countries and their typology. The land use map. Geography of forests and its typology.	
<b>Recommended literature:</b> FALKOWSKI, J., KOSTROWICKI, J., 2001: Geografia rolnictwa świata. PWN, Warszawa, 516 p. KNOX, P., L., et al. 2010: Human geography. Places and regions in Global Context. pearson International Edition., 513 p. KOREC, P. 1994: Humánna geografia 1. Prírodovedecká fakulta, Univerzita Komenského, Bratislava, 120 s. MIRVALD, S., 2002: Geografie dopravy II. ZČU Plzeň, 56 s. MIRVALD, S., 2002: Geografie dopravy III. ZČU Plzeň, 43 s. POPJAKOVÁ, D., 1997: Základné kapitoly z geografie priemyslu, Prešov: PU, 144 s. SPIŠIAK, P., 2005: Základy geografie poľnohospodárstva a lesného hospodárstva. Prírodovedecká fakulta, Univerzita Komenského, Bratislava. 140 s. TOUŠEK, V. a kol., 2008: Ekonomická a sociální geografie, Plzeň, 2008, 411 s.	
<b>Course language:</b>	
<b>Notes:</b>	

<b>Course assessment</b>					
Total number of assessed students: 639					
A	B	C	D	E	FX
7.82	20.97	29.58	27.86	11.58	2.19
<b>Provides:</b> prof. RNDr. Peter Spišiak, CSc., Mgr. Marián Kulla, PhD., Mgr. Martina Magdošková, Mgr. Štefan Kolečanský					
<b>Date of last modification:</b> 29.03.2020					
<b>Approved:</b> doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> KPE/ INP/17		<b>Course name:</b> Inclusive Pedagogy			
<b>Course type, scope and the method:</b> <b>Course type:</b> Practice <b>Recommended course-load (hours):</b> <b>Per week: 2 Per study period: 28</b> <b>Course method:</b> present					
<b>Number of ECTS credits:</b> 2					
<b>Recommended semester/trimester of the course:</b> 5.					
<b>Course level:</b> I.					
<b>Prerequisites:</b>					
<b>Conditions for course completion:</b>					
<b>Learning outcomes:</b>					
<b>Brief outline of the course:</b>					
<b>Recommended literature:</b>					
<b>Course language:</b>					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 42					
A	B	C	D	E	FX
83.33	16.67	0.0	0.0	0.0	0.0
<b>Provides:</b> PaedDr. Janka Ferencová, PhD.					
<b>Date of last modification:</b> 12.02.2021					
<b>Approved:</b> doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> ÚMV/ IPU/10		<b>Course name:</b> Informatics course for teachers of mathematics			
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture / Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 1 / 1 <b>Per study period:</b> 14 / 14 <b>Course method:</b> present					
<b>Number of ECTS credits:</b> 2					
<b>Recommended semester/trimester of the course:</b> 6.					
<b>Course level:</b> I.					
<b>Prerequisites:</b>					
<b>Conditions for course completion:</b> Elaborating test by using a computer. Solving problems of worksheet and elaboration of seminar work.					
<b>Learning outcomes:</b> To develop the students' knowledge and skills in the basics of working with standard ICT, which provide opportunities for their use in mathematics education. To teach students to use the basic commands of Logo language for writing and generalization algorithms for constructing geometric shapes and basic principles of creation of constructions in the environment of dynamic geometry. To develop creative and evaluative students' ability to allow meaningful integration of modern technologies in mathematics education.					
<b>Brief outline of the course:</b> Basics of development of algorithms in Logo. Basics of working in the dynamic geometry environment. Educational applications and Internet in mathematics education. Use of numerical and graphical representations of data and modelling in the spreadsheet environment.					
<b>Recommended literature:</b> B. Brdička: The Role of Internetu in Education, 2003, <a href="http://it.pedf.cuni.cz/~bobr/role/econt.htm">http://it.pedf.cuni.cz/~bobr/role/econt.htm</a> . S. Lukáč a kol.: IKT vo vyučovaní matematiky, Asociácia projektu Infovek 2002. M. Černochová a kol.: Využití počítače při vyučování. Portál, 1998. Z. Šťastný: Matematické a statistické výpočty v Microsoft Excelu, Computer Press 2001.					
<b>Course language:</b> Slovak					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 102					
A	B	C	D	E	FX
49.02	26.47	16.67	5.88	1.96	0.0
<b>Provides:</b> doc. RNDr. Stanislav Lukáč, PhD.					

**Date of last modification:** 03.05.2015

**Approved:** doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.



## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> ÚGE/ ZAE1/18		<b>Course name:</b> International Excursion 1			
<b>Course type, scope and the method:</b> <b>Course type:</b> Practice <b>Recommended course-load (hours):</b> <b>Per week: Per study period:</b> 10d <b>Course method:</b> present					
<b>Number of ECTS credits:</b> 5					
<b>Recommended semester/trimester of the course:</b> 4.					
<b>Course level:</b> I.					
<b>Prerequisites:</b>					
<b>Conditions for course completion:</b>					
<b>Learning outcomes:</b>					
<b>Brief outline of the course:</b>					
<b>Recommended literature:</b>					
<b>Course language:</b>					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 5					
A	B	C	D	E	FX
20.0	0.0	40.0	20.0	20.0	0.0
<b>Provides:</b>					
<b>Date of last modification:</b> 09.12.2019					
<b>Approved:</b> doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice	
<b>Faculty:</b> Faculty of Science	
<b>Course ID:</b> ÚGE/ UGIS/15	<b>Course name:</b> Introduction to Geographic Information Systems
<b>Course type, scope and the method:</b> <b>Course type:</b> Practice <b>Recommended course-load (hours):</b> <b>Per week: 2 Per study period: 28</b> <b>Course method:</b> present	
<b>Number of ECTS credits:</b> 3	
<b>Recommended semester/trimester of the course:</b> 2.	
<b>Course level:</b> I.	
<b>Prerequisites:</b>	
<b>Conditions for course completion:</b> During the semester, students will need to hand in the outputs of the practicals. The resulting assessment is based on the final practical skills verification and delivery of the outputs of practicals. From the practical skills verification, students must obtain at least 90 points to get the A mark, at least 80 points to get B, at least 70 points to get C, at least 60 points to get D, at least 50 points to get E. The credits shall not be granted to a student who does not hand in one or more outputs of the practicals or he/she will get less than 50 points out of 100.	
<b>Learning outcomes:</b> The main learning outcomes include understanding of GIS terminology, practical skills in basic geodata processing in GIS software. In particular, the skills involve data editing and creation of map layouts.	
<b>Brief outline of the course:</b> <ul style="list-style-type: none"> <li>- Basic GIS terminology (eg. geodata layer, geodata formats, structure of GIS, graphics map elements, attribute table, structure of relational databases)</li> <li>- Basic control elements of GIS software (add and configure a data layer and properties, zooming, adjusting color data layer, display and basic work with attribute tables)</li> <li>- Prepare and connect an external database with the data layer</li> <li>- Set the legend (selection of cartographic methods of spatial information)</li> <li>- Creating map layouts and advanced graphics tools for creating map layouts</li> </ul>	
<b>Recommended literature:</b> BOLTÍŽIAR M. 2008: Geografické informačné systémy pre geografov I. Univerzita Konštantína Filozofa v Nitre, Fakulta Prírodných vied. 120 s. BOLTÍŽIAR, M. VOJTEK M. 2009. Geografické informačné systémy pre geografov II. Univerzita Konštantína Filozofa v Nitre, Fakulta Prírodných vied. 140 s. MICHAEL D. KENNEDY. 2013: Introducing Geographic Information Systems with ArcGIS: A Workbook Approach to Learning GIS, 3rd Edition. Wiley. 672 p. LAW M, COLLINS A. 2013: Getting to Know ArcGIS for Desktop. Edition 3. Esri Press. 768 p.	
<b>Course language:</b>	
<b>Notes:</b>	

<b>Course assessment</b>					
Total number of assessed students: 851					
A	B	C	D	E	FX
12.57	13.16	26.32	23.74	21.27	2.94
<b>Provides:</b> doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ján Kaňuk, PhD., Mgr. Ján Šášak					
<b>Date of last modification:</b> 28.03.2020					
<b>Approved:</b> doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> ÚGE/ UGP/18		<b>Course name:</b> Introduction to Geography and Planetary Geography			
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture / Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 1 / 1 <b>Per study period:</b> 14 / 14 <b>Course method:</b> present					
<b>Number of ECTS credits:</b> 2					
<b>Recommended semester/trimester of the course:</b> 1.					
<b>Course level:</b> I.					
<b>Prerequisites:</b>					
<b>Conditions for course completion:</b>					
<b>Learning outcomes:</b>					
<b>Brief outline of the course:</b>					
<b>Recommended literature:</b>					
<b>Course language:</b>					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 446					
A	B	C	D	E	FX
36.1	27.58	18.16	12.11	5.83	0.22
<b>Provides:</b> prof. Mgr. Jaroslav Hofierka, PhD., prof. Ing. Vladimír Sedlák, PhD., Mgr. Štefan Kolečanský					
<b>Date of last modification:</b> 17.09.2020					
<b>Approved:</b> doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice	
<b>Faculty:</b> Faculty of Science	
<b>Course ID:</b> Dek. PF UPJŠ/USPV/13	<b>Course name:</b> Introduction to Study of Sciences
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture / Practice <b>Recommended course-load (hours):</b> <b>Per week: Per study period:</b> 12s / 3d <b>Course method:</b> present	
<b>Number of ECTS credits:</b> 2	
<b>Recommended semester/trimester of the course:</b> 1.	
<b>Course level:</b> I.	
<b>Prerequisites:</b>	
<b>Conditions for course completion:</b>	
<b>Learning outcomes:</b>	
<b>Brief outline of the course:</b>	
<b>Recommended literature:</b>	
<b>Course language:</b>	
<b>Notes:</b>	
<b>Course assessment</b>	
Total number of assessed students: 1731	
abs	n
86.48	13.52
<b>Provides:</b>	
<b>Date of last modification:</b> 25.09.2019	
<b>Approved:</b> doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.	

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice	
<b>Faculty:</b> Faculty of Science	
<b>Course ID:</b> ÚMV/ UAD/10	<b>Course name:</b> Introduction to data analysis
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture / Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 1 / 1 <b>Per study period:</b> 14 / 14 <b>Course method:</b> present	
<b>Number of ECTS credits:</b> 2	
<b>Recommended semester/trimester of the course:</b> 3.	
<b>Course level:</b> I.	
<b>Prerequisites:</b>	
<b>Conditions for course completion:</b> Test and individual project work. Oral presentation of the individual project work.	
<b>Learning outcomes:</b> To know the basic purpose of statistical data analysis, its methods and statistical thinking and understand its importance for science and practical life. To understand elementary statistical concepts. To gain experience in handling real data using spreadsheet Excel and statistical software R.	
<b>Brief outline of the course:</b> 1. Introduction (the basic philosophy and aim of statistical data analysis, descriptive and inductive statistics) 2. Collecting Data (types of data, random sample, randomized experiment) 3. Handling Data (visualization, summarizing – measures of center, measures of variability, skewness and kurtosis, relationships in data – introduction to regression and correlation) 4. Statistical inference (elementary view into estimation and testing hypothesis)	
<b>Recommended literature:</b> 1. Anděl, J.: Statistické metody, Matfyzpress, Praha, 1998 (in Czech) 2. Rossman, A.J. et al.: Workshop Statistics: Discovery with Data and Fathom, 3rd ed. Wiley, 2009 3. Utts, J.M.: Seeing Through Statistics, 4th ed., Thomson Brooks/Cole, Belmont, 2014 4. Utts, J.M., Heckard R.F.: Mind on Statistics, 5th ed. Thomson Brooks/Cole, Belmont, 2014 5. Zvára, K., Štěpán, J.: Pravděpodobnost a matematická statistika, Matfyzpress, Praha, 2001 (in Czech)	
<b>Course language:</b> Slovak	
<b>Notes:</b>	

<b>Course assessment</b>					
Total number of assessed students: 328					
A	B	C	D	E	FX
33.54	25.3	28.96	11.28	0.61	0.3
<b>Provides:</b> prof. RNDr. Ivan Žežula, CSc., RNDr. Martina Hančová, PhD.					
<b>Date of last modification:</b> 18.09.2020					
<b>Approved:</b> doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice	
<b>Faculty:</b> Faculty of Science	
<b>Course ID:</b> ÚMV/ UDM/10	<b>Course name:</b> Introduction to mathematics
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture / Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 1 / 2 <b>Per study period:</b> 14 / 28 <b>Course method:</b> present	
<b>Number of ECTS credits:</b> 3	
<b>Recommended semester/trimester of the course:</b> 1.	
<b>Course level:</b> I.	
<b>Prerequisites:</b>	
<b>Conditions for course completion:</b> Two tests during the semester.	
<b>Learning outcomes:</b> Repetition of problematic sections of the secondary mathematics by interesting tasks.	
<b>Brief outline of the course:</b> Simplification of algebraic expressions. Real number, absolute value of real numbers; equations and inequalities. Irrational equations and inequalities. Concept of function. Linear and quadratic function; equations and inequalities. Exponential and logarithmic function; equations and inequalities. Goniometric functions; equations and inequalities. Complex numbers.	
<b>Recommended literature:</b> 1. V. Medek - L. Mišík - T. Šalát: REPETITÓRIUM STREDOŠKOLSKEJ MATEMATIKY, Alfa Bratislava, 1976 2. S. Richtárová - D. Kyselová: MATEMATIKA (pomôcka pre maturantov a uchádzačov o štúdium na vysokých školách), Enigma Nitra, 1998 3. O. Hudec – Z. Kimáková – E. Švidroňová: PRÍKLADY Z MATEMATIKY (pre uchádzačov o štúdium na TU v Košiciach), EF TU Košice, 1999 4. F. Peller – V. Šáner – J. Eliáš – Ľ. Pinda: MATEMATIKA – Podklady na prijímacie testy pre uchádzačov o štúdium, Ekonóm Bratislava, 2000/2001 5. F. Vesajda – F. Talafous: ZBIERKA ÚLOH Z MATEMATIKY pre stredné všeobecnovzdelávacie školy a gymnáziá, SPN Bratislava, 1973 6. J. Lukášová – O. Odvárko – B. Riečan – J. Šedivý – J. Vyšín: ÚLOHY Z MATEMATIKY pre 4. ročník gymnázia, SPN Bratislava, 1976	
<b>Course language:</b> Slovak	
<b>Notes:</b>	



<b>Course assessment</b>					
Total number of assessed students: 471					
A	B	C	D	E	FX
22.51	19.75	17.41	16.99	11.68	11.68
<b>Provides:</b> doc. RNDr. Matúš Harminc, CSc., RNDr. Zuzana Gönciová, RNDr. Lucia Janičková, PhD.					
<b>Date of last modification:</b> 03.05.2015					
<b>Approved:</b> doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> ÚMV/ LCO/10		<b>Course name:</b> Linear and integer programming			
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture / Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 2 / 2 <b>Per study period:</b> 28 / 28 <b>Course method:</b> present					
<b>Number of ECTS credits:</b> 5					
<b>Recommended semester/trimester of the course:</b>					
<b>Course level:</b> I.					
<b>Prerequisites:</b> ÚMV/ALGa/10					
<b>Conditions for course completion:</b> Two tests, using software CASSIM, oral exam					
<b>Learning outcomes:</b> To learn the solving methods of linear programming					
<b>Brief outline of the course:</b> Formulation of linear and integer programs. Graphic solution. Simplex method, its variants and finiteness. Duality and its economic interpretation. Sensitivity analysis and parametric programming. Algorithms for integer programming.					
<b>Recommended literature:</b> Ch. Papadimitriou – K. Steiglitz: Combinatorial Optimization: Algorithms and Complexity, 1984 R.J. Vanderbei, Linear Programming: Foundations and Extensions (Kluwer 2001), electronic version: <a href="http://www.princeton.edu/~rvdb/LPbook/">http://www.princeton.edu/~rvdb/LPbook/</a>					
<b>Course language:</b> Slovak					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 128					
A	B	C	D	E	FX
21.88	16.41	20.31	22.66	18.75	0.0
<b>Provides:</b> doc. RNDr. Roman Soták, PhD., RNDr. Andrej Gajdoš, PhD.					
<b>Date of last modification:</b> 03.05.2015					
<b>Approved:</b> doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> ÚGE/ LOS/18		<b>Course name:</b> Linux and open source GIS			
<b>Course type, scope and the method:</b> <b>Course type:</b> Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 2 <b>Per study period:</b> 28 <b>Course method:</b> present					
<b>Number of ECTS credits:</b> 3					
<b>Recommended semester/trimester of the course:</b> 3.					
<b>Course level:</b> I., II.					
<b>Prerequisites:</b>					
<b>Conditions for course completion:</b>					
<b>Learning outcomes:</b>					
<b>Brief outline of the course:</b>					
<b>Recommended literature:</b>					
<b>Course language:</b>					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 44					
A	B	C	D	E	FX
70.45	29.55	0.0	0.0	0.0	0.0
<b>Provides:</b> doc. Mgr. Michal Gallay, PhD., prof. Mgr. Jaroslav Hofierka, PhD., Mgr. Michaela Nováková					
<b>Date of last modification:</b> 29.08.2018					
<b>Approved:</b> doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> ÚMV/ LTM/10		<b>Course name:</b> Logic and set theory			
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture / Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 3 / 2 <b>Per study period:</b> 42 / 28 <b>Course method:</b> present					
<b>Number of ECTS credits:</b> 6					
<b>Recommended semester/trimester of the course:</b> 5.					
<b>Course level:</b> I., II.					
<b>Prerequisites:</b> ÚMV/MANb/19 and leboÚMV/FRPb/19					
<b>Conditions for course completion:</b> Exam					
<b>Learning outcomes:</b> To obtain a basic knowledge on the mathematical notion of an infinity. Analysis of the notion of a proof.					
<b>Brief outline of the course:</b> Set as a mathematical formularization of an infinity. Properties of the set of reals. Mathematical induction. Relations and mappings. Finite and countable sets. Cardinality of continuum. Elementary cardinal arithmetics. Sentential calculus, an axiomatization. Completeness Theorem. Methods of proofs. Language of predicate calculus, examples. Axiomatizations of predicate calculus and the notion of a proof. Methods of proofs in predicate calculus.					
<b>Recommended literature:</b> E. Mendelson, Introduction to Mathematical Logic, van Nostrand 1964.					
<b>Course language:</b> Slovak					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 226					
A	B	C	D	E	FX
10.62	18.14	20.35	15.93	32.74	2.21
<b>Provides:</b> doc. RNDr. Jaroslav Ivančo, CSc., RNDr. Jaroslav Šupina, PhD.					
<b>Date of last modification:</b> 03.05.2015					
<b>Approved:</b> doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> ÚMV/ MAE/10		<b>Course name:</b> Macroeconomics			
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture / Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 2 / 1 <b>Per study period:</b> 28 / 14 <b>Course method:</b> present					
<b>Number of ECTS credits:</b> 4					
<b>Recommended semester/trimester of the course:</b> 5.					
<b>Course level:</b> I.					
<b>Prerequisites:</b>					
<b>Conditions for course completion:</b> Final mark is given based on the results of the tests written during the semester and oral exam, that evaluates the verbal argument about the studied models.					
<b>Learning outcomes:</b>					
<b>Brief outline of the course:</b> Basic macroeconomic notions: Gross domestic product, inflation, unemployment.. Analysis of goods markets. Financial markets. IS-LM model in closed economy. Open economy. IS-LM model in open economy. Models of labour market. Inflation and economic growth. High depth.					
<b>Recommended literature:</b> 1. Olivier Blanchard, Alessia Amighini, Francesco Giavazzi:MACROECONOMICS, A EUROPEAN PERSPECTIVE, Pearson Education, 2010 2. N.GREGORY MANKIW, MACROECONOMICS, 7th Edition, Harvard University, Worth Publishers 2009					
<b>Course language:</b> Slovak and English					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 80					
A	B	C	D	E	FX
25.0	13.75	21.25	21.25	12.5	6.25
<b>Provides:</b> prof. RNDr. Katarína Cechlárová, DrSc.					
<b>Date of last modification:</b> 31.01.2019					
<b>Approved:</b> doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice	
<b>Faculty:</b> Faculty of Science	
<b>Course ID:</b> ÚMV/ PMA/18	<b>Course name:</b> Math proseminar
<b>Course type, scope and the method:</b> <b>Course type:</b> Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 2 <b>Per study period:</b> 28 <b>Course method:</b> present	
<b>Number of ECTS credits:</b> 0	
<b>Recommended semester/trimester of the course:</b> 1.	
<b>Course level:</b> I.	
<b>Prerequisites:</b>	
<b>Conditions for course completion:</b>	
<b>Learning outcomes:</b>	
<b>Brief outline of the course:</b>	
<b>Recommended literature:</b>	
<b>Course language:</b>	
<b>Notes:</b>	
<b>Course assessment</b>	
Total number of assessed students: 0	
abs	n
0.0	0.0
<b>Provides:</b> RNDr. Igor Fabrici, Dr., RNDr. Lenka Halčinová, PhD.	
<b>Date of last modification:</b>	
<b>Approved:</b> doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.	

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice	
<b>Faculty:</b> Faculty of Science	
<b>Course ID:</b> ÚMV/ MAN2c/10	<b>Course name:</b> Mathematical analysis III
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture / Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 2 / 2 <b>Per study period:</b> 28 / 28 <b>Course method:</b> present	
<b>Number of ECTS credits:</b> 5	
<b>Recommended semester/trimester of the course:</b> 3.	
<b>Course level:</b> I.	
<b>Prerequisites:</b> ÚMV/MANb/19	
<b>Conditions for course completion:</b> Two written test during semester and activity student to practice. Final evaluation is given by continuous assessment, written and oral part of the exam.	
<b>Learning outcomes:</b> The purpose of the course is to provide introductory knowledge in Riemann integral calculus of real functions of one real variable and series of real functions. To develop computational skills in the field and extend the student ability to use this theory in applications. To teach the basic knowledge of the subject mater in the syllabus and develop the ability to use this theory.	
<b>Brief outline of the course:</b> Definite Riemann integral - definition, elementary properties, calculation methods, applications. Improper Riemann integral. Sequences and series of real functions – pointwise and uniform convergence, properties of the limit function and the sum. Power series, Taylor series and their applications.	
<b>Recommended literature:</b> 1. O. Hutník: Určitý integrál, UPJŠ, Košice, 2012 (in Slovak). 2. Brannan, D.: A First Course in Mathematical Analysis, Cambridge University Press, Cambridge 2006. 3. Bruckner, A. M. - Bruckner J. B. - Thomson, B. S.: Real Analysis, Second Edition, ClassicalRealAnalysis.com, 2008. 4. Zorich, V. A.: Mathematical Analysis I, Springer-Verlag 2002.	
<b>Course language:</b> Slovak	
<b>Notes:</b>	

<b>Course assessment</b>					
Total number of assessed students: 187					
A	B	C	D	E	FX
12.3	13.37	14.44	17.11	35.29	7.49
<b>Provides:</b> doc. RNDr. Ondrej Hutník, PhD., RNDr. Zuzana Ontkovičová					
<b>Date of last modification:</b> 03.05.2015					
<b>Approved:</b> doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.					



## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> ÚMV/ MAN1d/10		<b>Course name:</b> Mathematical analysis IV			
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture / Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 4 / 2 <b>Per study period:</b> 56 / 28 <b>Course method:</b> present					
<b>Number of ECTS credits:</b> 7					
<b>Recommended semester/trimester of the course:</b>					
<b>Course level:</b> I.					
<b>Prerequisites:</b> ÚMV/MAN1c/10 and lebo ÚMV/MAN2c/10					
<b>Conditions for course completion:</b> exam					
<b>Learning outcomes:</b> Understanding of the basic rigorous ideas of Mathematical Analysis.					
<b>Brief outline of the course:</b> Metric spaces. Complete, compact and connected sets. Rings sigma-rings. Measure. Outer measure. Lebesgue measure. Measurable sets. Measurable functions. Lebesgue integral. Lebesgue integral versus Riemann integral. Calculations of Lebesgue integrals. Applications.					
<b>Recommended literature:</b> B. S. Thomson, J. B. Bruckner, A. M. Bruckner: Elementary Real Analysis, Prentice Hall, 2001. A. M. Bruckner, J. B. Bruckner, B. S. Thomson: Real Analysis, Prentice Hall, 1997. T. Neubrunn, B. Riečan: Miera a integrál, Veda, Bratislava, 1981. B. Riečan, T. Neubrunn: Teória miery, Veda, Bratislava, 1992. G. S. Nelson, A User-Friendly Introduction to Lebesgue Measure and Integration, American Mathematical Society, 2015					
<b>Course language:</b> Slovak					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 91					
A	B	C	D	E	FX
1.1	5.49	15.38	16.48	59.34	2.2
<b>Provides:</b> prof. RNDr. Jozef Doboš, CSc.					
<b>Date of last modification:</b> 04.03.2019					
<b>Approved:</b> doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice	
<b>Faculty:</b> Faculty of Science	
<b>Course ID:</b> ÚMV/ MAN2d/10	<b>Course name:</b> Mathematical analysis IV
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture / Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 2 / 2 <b>Per study period:</b> 28 / 28 <b>Course method:</b> present	
<b>Number of ECTS credits:</b> 5	
<b>Recommended semester/trimester of the course:</b> 4.	
<b>Course level:</b> I.	
<b>Prerequisites:</b> ÚMV/MANb/19	
<b>Conditions for course completion:</b> Continuous assessment is taken the form of small tests and two main tests during the semester. Final evaluation is given by continuous assessment (40%), written and oral part of the exam (60%).	
<b>Learning outcomes:</b> To teach the basic knowledge of the subject matter in the syllabus and develop the ability to use this theory. The students also learn mathematical culture, notation and mathematical way of thinking and expression.	
<b>Brief outline of the course:</b> 1. Metric space - Euclidean space, topological properties of points and sets in metric space. 2. Function of several real variables - basic concepts, limits and continuity. 3. Differential calculus of functions of several real variables - partial derivative, differentiability and total differential (also higher order), Taylor polynomials, directional derivative, local and global extrema, constrained local extrema. 4. Double (two dimensional) integral - definition, calculation methods, applications.	
<b>Recommended literature:</b> 1. L. Kluvánek, I. Mišík, M. Švec: Matematika I, II, SVTL, Bratislava, 1959 (in Slovak). 2. Z. Došlá, O. Došlý: Diferenciální počet funkcí více proměnných, vysokoškolský učebný text, Masarykova univerzita v Brne, Brno, 2003 (in Czech). 3. R. E. Williamson, H. F. Trotter: Multivariable mathematics, Prentice Hall (Pearson), Upper Saddle River, 2004. 4. B. S. Thomson, J. B. Bruckner, A. M. Bruckner: Elementary real analysis, Prentice Hall (Pearson), Lexington, 2008. 5. J. Stewart: Calculus: Early transcendentals, Brooks Cole (Thomson), Toronto, 2008. 6. P. Pták: Calculus II (A course for engineers), ČVUT v Prahe, Praha, 1997. 7. J. Eliaš, J. Horváth, J. Kajan: Zbierka úloh z vyššej matematiky 3, 4, SVTL, Bratislava, 1966 (in Slovak).	
<b>Course language:</b> Slovak	
<b>Notes:</b>	

<b>Course assessment</b>					
Total number of assessed students: 43					
A	B	C	D	E	FX
25.58	16.28	23.26	13.95	18.6	2.33
<b>Provides:</b> RNDr. Lenka Halčinová, PhD.					
<b>Date of last modification:</b> 03.05.2015					
<b>Approved:</b> doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> ÚMV/ MANb/19		<b>Course name:</b> Mathematical analysis of function of real variable			
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture / Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 4 / 3 <b>Per study period:</b> 56 / 42 <b>Course method:</b> present					
<b>Number of ECTS credits:</b> 8					
<b>Recommended semester/trimester of the course:</b> 2.					
<b>Course level:</b> I.					
<b>Prerequisites:</b> ÚMV/FRPa/19					
<b>Conditions for course completion:</b> Two written test during semester and activity student to practice. Final evaluation is given by continuous assessment, written and oral part of the exam.					
<b>Learning outcomes:</b> The purpose of the course is to strengthen the knowledge in differential and integral calculus of real functions of one real variable and to develop computational skills in the field.					
<b>Brief outline of the course:</b> Limit and continuity of real functions, elementary functions. Differential calculus - derivatives of the first and of higher orders, the basic theorems of differential calculus and their use to study properties and behavior of functions.					
<b>Recommended literature:</b> 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.					
<b>Course language:</b> Slovak					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 267					
A	B	C	D	E	FX
10.11	10.86	15.36	23.6	34.83	5.24
<b>Provides:</b> doc. RNDr. Ondrej Hutník, PhD., RNDr. Lenka Halčinová, PhD., Mgr. Katarína Lučivjanská, PhD.					
<b>Date of last modification:</b> 17.02.2021					

**Approved:** doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> ÚMV/ MRUa/15		<b>Course name:</b> Mathematical problem solving strategies I			
<b>Course type, scope and the method:</b> <b>Course type:</b> Practice <b>Recommended course-load (hours):</b> <b>Per week: 2 Per study period: 28</b> <b>Course method:</b> present					
<b>Number of ECTS credits:</b> 2					
<b>Recommended semester/trimester of the course:</b> 4.					
<b>Course level:</b> I.					
<b>Prerequisites:</b>					
<b>Conditions for course completion:</b> Evaluation will be awarded on the basis of continuous assessment and final test.					
<b>Learning outcomes:</b> To acquaint students with problems and strategies for the solutions of the problems at the primary and secondary school, and with the specific problems of teaching mathematics at primary and secondary school.					
<b>Brief outline of the course:</b> Basic knowledge of school mathematics, different strategy of problem solution, problems from mathematical competitions concerning Equations and inequalities and their systems, Functions, Financial Mathematics.					
<b>Recommended literature:</b> [1] Hejný, M. a kol., Teória vyučovania matematiky 2. SPN, Bratislava 1989 (in Slovak) [2] Kopka, J., Hrozny problémů ve školské matematice, Univerzita J. E. Purkyně, Ústí nad Labem 1999 (in Czech) [3] Učebnice a zbierky úloh z matematiky ZŠ a SŠ (in Slovak)					
<b>Course language:</b> Slovak					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 172					
A	B	C	D	E	FX
32.56	21.51	22.67	11.05	11.05	1.16
<b>Provides:</b> doc. RNDr. Stanislav Lukáč, PhD.					
<b>Date of last modification:</b> 03.05.2015					
<b>Approved:</b> doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> ÚMV/ MRUb/15		<b>Course name:</b> Mathematical problem solving strategies II			
<b>Course type, scope and the method:</b> <b>Course type:</b> Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 2 <b>Per study period:</b> 28 <b>Course method:</b> present					
<b>Number of ECTS credits:</b> 2					
<b>Recommended semester/trimester of the course:</b> 5.					
<b>Course level:</b> I.					
<b>Prerequisites:</b> ÚMV/MRUa/15					
<b>Conditions for course completion:</b> The award is based on the results of written checks carried out during the semester. The resulting trial is granted on the basis of continuous assessment and seminar work.					
<b>Learning outcomes:</b> To acquaint students with problems and strategies for the solutions of the problems at the primary and secondary school, and with the specific problems of teaching mathematics at primary and secondary school.					
<b>Brief outline of the course:</b> Basic knowledge of school mathematics, various methods for the task, the role of mathematical competitions for thematic units Planimetry, stereometry, goniometry.					
<b>Recommended literature:</b> [1] Hejný, M. a kol., Teória vyučovania matematiky 2. SPN, Bratislava 1989 (in Slovak) [2] Kopka, J., Hrozny problémů ve školské matematice, Univerzita J. E. Purkyně, Ústí nad Labem 1999 (in Czech) [3] Jonson-Wilder.S., Mason.J.: Developing thinking in Geometry, Sage, 2009 [4] Učebnice a zbierky úloh z matematiky ZŠ a SŠ					
<b>Course language:</b> Slovak					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 152					
A	B	C	D	E	FX
31.58	30.26	24.34	9.21	4.61	0.0
<b>Provides:</b> doc. RNDr. Dušan Šveda, CSc.					
<b>Date of last modification:</b> 03.05.2015					

**Approved:** doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.



## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> ÚMV/ MRUc/15		<b>Course name:</b> Mathematical problem solving strategies III			
<b>Course type, scope and the method:</b> <b>Course type:</b> Practice <b>Recommended course-load (hours):</b> <b>Per week: 2 Per study period: 28</b> <b>Course method:</b> present					
<b>Number of ECTS credits:</b> 2					
<b>Recommended semester/trimester of the course:</b> 6.					
<b>Course level:</b> I.					
<b>Prerequisites:</b> ÚMV/MRUb/15					
<b>Conditions for course completion:</b> During the semester will be 3 written exams. Evaluation A - at least 90% of the points, evaluation B - at least 80%, evaluation C at least 70%, evaluation D at least 60%, evaluation E rating of at least 50% of the points. Credits shall not be granted to a student who receives less than 50% of the points.					
<b>Learning outcomes:</b> Students become familiar with the tasks, methods of problem solving, solving strategies and with specific problems of teaching mathematics at primary and secondary schools to topics combinatorics, probability and statistics.					
<b>Brief outline of the course:</b> Basic knowledge of school mathematics, from the topics: combinatorics, probability and statistics.					
<b>Recommended literature:</b> Hecht, T., Sklenáriková, Z., Metódy riešenia matematických úloh, Bratislava, SPN, 1992. (in slovak) Hecht, T. a kol., Matematika pre 1.-4. ročník gymnázií a SOŠ, OrbisPictusIstropolitana, Bratislava 1999-2002. (in slovak) Krantz, S.G., Techniques of Problem Solving, AMS, 1997. Larson, L.C., Metódy riešenia matematických problémov, Bratislava, Alfa, 1990. (in slovak)					
<b>Course language:</b> Slovak					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 143					
A	B	C	D	E	FX
30.77	30.77	21.68	10.49	6.29	0.0
<b>Provides:</b> RNDr. Ingrid Semanišinová, PhD.					
<b>Date of last modification:</b> 03.05.2015					

**Approved:** doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> ÚMV/ MST/19		<b>Course name:</b> Mathematical statistics			
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture / Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 2 / 2 <b>Per study period:</b> 28 / 28 <b>Course method:</b> present					
<b>Number of ECTS credits:</b> 5					
<b>Recommended semester/trimester of the course:</b>					
<b>Course level:</b> I., II.					
<b>Prerequisites:</b>					
<b>Conditions for course completion:</b> To obtain at least 50% in two written tests during the semester. Total evaluation based on written tests and oral exam.					
<b>Learning outcomes:</b> Student should obtain the knowledge about basic statistical methods and the ability to apply theoretical knowledge in practical problems solving.					
<b>Brief outline of the course:</b> Random vectors, their distributions and characteristics. Joint and marginal distributions. Correlation and regression, properties of correlation coefficient. Random sample, sampling distributions and characteristics. Some important statistics and their distributions. Point estimators and their properties. Maximum likelihood method. Interval estimates, confidence interval construction. Testing of statistical hypothesis, critical region, level of significance. Methods for searching optimal critical regions. Some important parametric and nonparametric tests.					
<b>Recommended literature:</b> 1. Skřivánková V.: Pravdepodobnosť v príkladoch, UPJŠ, Košice, 2006 (in Slovak) 2. Skřivánková V.-Hančová M.: Štatistika v príkladoch, UPJŠ, Košice, 2005 (in Slovak) 3. CASELLA, G., BERGER, R., Statistical Inference, 2nd ed., Duxbury Press, 2002 4. DeGroot, M. H., Schervish, M. J.: Probability and Statistics, 4th ed., Pearson, Boston, 2012 5. Utts, J.M., Heckard, R.F.: Mind od Statistics, 5th ed., Thomson Brooks/Cole, 2014 6. Anděl J.: Základy matematické statistiky, MatfyzPress, Praha, 2011 (in Czech)					
<b>Course language:</b> Slovak					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 124					
A	B	C	D	E	FX
20.97	21.77	15.32	21.77	12.9	7.26

**Provides:** prof. RNDr. Ivan Žežula, CSc., RNDr. Martina Hančová, PhD.

**Date of last modification:** 18.03.2019

**Approved:** doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> ÚMV/ MTM/14		<b>Course name:</b> Mathematics			
<b>Course type, scope and the method:</b> <b>Course type:</b> <b>Recommended course-load (hours):</b> <b>Per week: Per study period:</b> <b>Course method:</b> present					
<b>Number of ECTS credits:</b> 1					
<b>Recommended semester/trimester of the course:</b>					
<b>Course level:</b> I.					
<b>Prerequisites:</b> ÚMV/MAN2c/10,ÚMV/ALG2b/10,ÚMV/ATC/10					
<b>Conditions for course completion:</b> Acquiring the required number of credits in the structure defined by the study plan.					
<b>Learning outcomes:</b> Evaluation of student's competences with respect to the profile of the graduate.					
<b>Brief outline of the course:</b>					
<b>Recommended literature:</b>					
<b>Course language:</b> Slovak					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 59					
A	B	C	D	E	FX
28.81	16.95	23.73	20.34	10.17	0.0
<b>Provides:</b>					
<b>Date of last modification:</b> 21.05.2016					
<b>Approved:</b> doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> ÚMV/ MIE/13		<b>Course name:</b> Microeconomics			
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture / Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 2 / 1 <b>Per study period:</b> 28 / 14 <b>Course method:</b> present					
<b>Number of ECTS credits:</b> 4					
<b>Recommended semester/trimester of the course:</b> 5.					
<b>Course level:</b> I.					
<b>Prerequisites:</b>					
<b>Conditions for course completion:</b> The minimum necessary number of points from tests written during semester is 50%, plus the ability of verbal argumentation in the final oral exam.					
<b>Learning outcomes:</b> Understanding of basic principles of microeconomics and ability to apply them in practical situations.					
<b>Brief outline of the course:</b> Economics and economy. Supply and demand. Consumer Theory. Theory of firm. Perfect competition. Monopoly. Labour market. Market failure. Externalities and Public goods.					
<b>Recommended literature:</b> 1. <a href="http://umv.science.upjs.sk/cechlarova/MIE/MIE.htm">http://umv.science.upjs.sk/cechlarova/MIE/MIE.htm</a> - podklady k prednáška, testy na cvičenia, materiály z dennej tlače 2. H.L. Varian, Intermediate Mikroekonomics, WW Norton, 1993 3. J.M. Perloff, Microeconomics, 6th Edtion, Addison Wesley, 2012 4. J. Sloman, Economics, 6th Edition, Prentice Hall, 2006					
<b>Course language:</b> Slovak					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 79					
A	B	C	D	E	FX
22.78	24.05	17.72	18.99	13.92	2.53
<b>Provides:</b> prof. RNDr. Katarína Cechlárová, DrSc., RNDr. Veronika Jurková, PhD.					
<b>Date of last modification:</b> 03.05.2015					
<b>Approved:</b> doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice	
<b>Faculty:</b> Faculty of Science	
<b>Course ID:</b> ÚGE/ MIK/15	<b>Course name:</b> Microgeography
<b>Course type, scope and the method:</b> <b>Course type:</b> Practice <b>Recommended course-load (hours):</b> <b>Per week: 2 Per study period: 28</b> <b>Course method:</b> present	
<b>Number of ECTS credits:</b> 3	
<b>Recommended semester/trimester of the course:</b>	
<b>Course level:</b> I.	
<b>Prerequisites:</b>	
<b>Conditions for course completion:</b> Elaboration and presentation of a semester work with a weight of 70% of the total evaluation, passing a final test with a success rate of over 50% and a weight of 30% of the total evaluation. The course consists of theoretical and practical part. In the theoretical part, students are presented with the basic knowledge necessary to master the practical part - semester work, which the student demonstrates independent mastery of the issue.	
<b>Learning outcomes:</b> Ability to analyze and synthesize a selected micro-region (local country) for the needs of state administration, self-government and teaching practice.	
<b>Brief outline of the course:</b> 1. Theory and methodology of the subject, object and subject of microgeography. 2. Historical development and present of microgeography; genius loci, identity with territory 3. - 4. Differentiation of the landscape sphere on the example of a selected microregion I. - physical geography (location and delimitation of the area - geological conditions - relief - climate - water - soils - flora - fauna) 5. - 6. Differentiation of the landscape sphere on the example of a selected microregion II. - human geography (population - settlement structure - production sphere - non-production sphere). 7. Presentation of the first part of the semester work - physical geography 8. Regionalization; microregional associations of municipalities, local action groups, examples of microregions in the Košice region 9. - 10. Application of knowledge of microgeography in practice (in state administration, self-government and teaching practice), 11. Presentation II. parts of semester work - human geography 12. Final test 13. Final evaluation	
<b>Recommended literature:</b> DUBCOVÁ, A. 2012: Mikrogeografia – krajina okolo nás, UKF Nitra, 185 s. HASPROVÁ, M. 2006: Geografia miestnej krajiny v edukačnom procese, UKF Nitra, 203 s. KANDRÁČOVÁ, V., MICHAELI, E. 1996: Mikrogeografia v edukácii, výskume a pre prax.	

In: Krajina východného Slovenska v odborných a vedeckých prácach. Prešov: KGG PdF UPJŠ, 1997, s. 265 – 285  
 KROPILÁK, M. (ed.) 1977: Vlastivedný slovník obcí na Slovensku I. 1. vyd. Bratislava : Veda, 526 s.  
 KROPILÁK, M. (ed.) 1977: Vlastivedný slovník obcí na Slovensku II. 1. vyd. Bratislava : Veda, 517 s.  
 KROPILÁK, M. (ed.) 1978: Vlastivedný slovník obcí na Slovensku III. 1. vyd. Bratislava : Veda, 532 s.  
 LUKNIŠ, M., 1977: Geografia krajiny Jura pri Bratislave. UK, Bratislava. 211 s.  
 Ďalšia literatúra podľa zvoleného územia

**Course language:**

Slovak

**Notes:**

**Course assessment**

Total number of assessed students: 80

A	B	C	D	E	FX
45.0	41.25	11.25	2.5	0.0	0.0

**Provides:** prof. RNDr. Peter Spišiak, CSc., Mgr. Imrich Sládek, PhD.

**Date of last modification:** 28.08.2020

**Approved:** doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.



## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> ÚGE/ NSGE/15		<b>Course name:</b> Mineral Resources - geological and environmental relations			
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture / Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 2 / 1 <b>Per study period:</b> 28 / 14 <b>Course method:</b> present					
<b>Number of ECTS credits:</b> 4					
<b>Recommended semester/trimester of the course:</b> 6.					
<b>Course level:</b> I.					
<b>Prerequisites:</b>					
<b>Conditions for course completion:</b>					
<b>Learning outcomes:</b>					
<b>Brief outline of the course:</b>					
<b>Recommended literature:</b>					
<b>Course language:</b>					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 109					
A	B	C	D	E	FX
45.87	20.18	18.35	11.93	0.92	2.75
<b>Provides:</b> doc. RNDr. Zdenko Hochmuth, CSc., doc. Ing. Katarína Bónová, PhD.					
<b>Date of last modification:</b> 26.08.2020					
<b>Approved:</b> doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> KPE/MMKV/17		<b>Course name:</b> Multiculturalism and Multicultural Education			
<b>Course type, scope and the method:</b> <b>Course type:</b> Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 2 <b>Per study period:</b> 28 <b>Course method:</b> present					
<b>Number of ECTS credits:</b> 2					
<b>Recommended semester/trimester of the course:</b> 4.					
<b>Course level:</b> I.					
<b>Prerequisites:</b>					
<b>Conditions for course completion:</b>					
<b>Learning outcomes:</b>					
<b>Brief outline of the course:</b>					
<b>Recommended literature:</b>					
<b>Course language:</b>					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 82					
A	B	C	D	E	FX
51.22	24.39	21.95	1.22	1.22	0.0
<b>Provides:</b> PaedDr. Janka Ferencová, PhD.					
<b>Date of last modification:</b> 12.02.2021					
<b>Approved:</b> doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> ÚMV/ TCS/10		<b>Course name:</b> Number theory			
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture <b>Recommended course-load (hours):</b> <b>Per week:</b> 2 <b>Per study period:</b> 28 <b>Course method:</b> present					
<b>Number of ECTS credits:</b> 3					
<b>Recommended semester/trimester of the course:</b> 5.					
<b>Course level:</b> I.					
<b>Prerequisites:</b> ÚMV/ATC/10					
<b>Conditions for course completion:</b> According to tests and exam.					
<b>Learning outcomes:</b> To obtain knowledge on quadratic congruences.					
<b>Brief outline of the course:</b> Chinese remainder theorem, Euler function, quadratic congruences, Pythagorean equation.					
<b>Recommended literature:</b> M. B. Nathanson: Elementary Methods in Number Theory. Springer, 2000. H. E. Rose: A Course in Number Theory. Clarendon Press, Oxford, 1994.					
<b>Course language:</b> Slovak					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 104					
A	B	C	D	E	FX
34.62	26.92	22.12	14.42	1.92	0.0
<b>Provides:</b> doc. RNDr. Matúš Harminc, CSc.					
<b>Date of last modification:</b> 03.05.2015					
<b>Approved:</b> doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> KPE/ Pg/15		<b>Course name:</b> Pedagogy			
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture <b>Recommended course-load (hours):</b> <b>Per week:</b> 2 <b>Per study period:</b> 28 <b>Course method:</b> present					
<b>Number of ECTS credits:</b> 2					
<b>Recommended semester/trimester of the course:</b> 3., 5.					
<b>Course level:</b> I.					
<b>Prerequisites:</b>					
<b>Conditions for course completion:</b>					
<b>Learning outcomes:</b>					
<b>Brief outline of the course:</b>					
<b>Recommended literature:</b>					
<b>Course language:</b>					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 638					
A	B	C	D	E	FX
20.06	27.12	26.02	15.67	10.34	0.78
<b>Provides:</b> Mgr. Katarína Petříková, PhD.					
<b>Date of last modification:</b> 12.02.2021					
<b>Approved:</b> doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> ÚGE/ EXFG/15		<b>Course name:</b> Physical Geography Excursion			
<b>Course type, scope and the method:</b> <b>Course type:</b> Practice <b>Recommended course-load (hours):</b> <b>Per week: Per study period:</b> 6d <b>Course method:</b> present					
<b>Number of ECTS credits:</b> 3					
<b>Recommended semester/trimester of the course:</b> 4.					
<b>Course level:</b> I.					
<b>Prerequisites:</b>					
<b>Conditions for course completion:</b>					
<b>Learning outcomes:</b>					
<b>Brief outline of the course:</b>					
<b>Recommended literature:</b>					
<b>Course language:</b>					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 737					
A	B	C	D	E	FX
89.96	7.87	1.22	0.14	0.41	0.41
<b>Provides:</b> doc. RNDr. Zdenko Hochmuth, CSc., RNDr. Dušan Barabas, CSc., RNDr. Alena Gessert, PhD.					
<b>Date of last modification:</b> 19.08.2020					
<b>Approved:</b> doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> ÚGE/ FGS/15		<b>Course name:</b> Physical Geography of Slovakia			
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture / Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 2 / 1 <b>Per study period:</b> 28 / 14 <b>Course method:</b> present					
<b>Number of ECTS credits:</b> 5					
<b>Recommended semester/trimester of the course:</b> 5.					
<b>Course level:</b> I.					
<b>Prerequisites:</b>					
<b>Conditions for course completion:</b>					
<b>Learning outcomes:</b>					
<b>Brief outline of the course:</b>					
<b>Recommended literature:</b>					
<b>Course language:</b>					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 488					
A	B	C	D	E	FX
21.52	28.07	31.15	13.32	3.89	2.05
<b>Provides:</b> doc. RNDr. Zdenko Hochmuth, CSc., RNDr. Alena Gessert, PhD.					
<b>Date of last modification:</b> 01.09.2020					
<b>Approved:</b> doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> ÚGE/ FYG1/18		<b>Course name:</b> Physical geography 1			
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture / Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 3 / 1 <b>Per study period:</b> 42 / 14 <b>Course method:</b> present					
<b>Number of ECTS credits:</b> 6					
<b>Recommended semester/trimester of the course:</b> 3.					
<b>Course level:</b> I.					
<b>Prerequisites:</b>					
<b>Conditions for course completion:</b>					
<b>Learning outcomes:</b>					
<b>Brief outline of the course:</b> Hydrology of the running water, genesis and development of river basins, measuring of water and its flow. Genesis and the main types of lakes, temperatures, water movements. Sea and water currents, its chemical properties, relief of the sea-floor. Subsurface waters, glaciers. In the section of soil science and soil geography, physical and chemical nature of soils will be treated as well as actual and presently used systems of the soil classification. Distribution of different soil types in the world and Slovakia, principles of the soil zonality.					
<b>Recommended literature:</b>					
<b>Course language:</b>					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 739					
A	B	C	D	E	FX
2.3	5.28	20.84	27.74	36.4	7.44
<b>Provides:</b> RNDr. Dušan Barabas, CSc., RNDr. Alena Gessert, PhD., Mgr. Imrich Sládek, PhD.					
<b>Date of last modification:</b> 19.08.2020					
<b>Approved:</b> doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> ÚGE/ FYG2/05		<b>Course name:</b> Physical geography 2			
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture / Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 3 / 1 <b>Per study period:</b> 42 / 14 <b>Course method:</b> present					
<b>Number of ECTS credits:</b> 5					
<b>Recommended semester/trimester of the course:</b> 4.					
<b>Course level:</b> I.					
<b>Prerequisites:</b>					
<b>Conditions for course completion:</b>					
<b>Learning outcomes:</b>					
<b>Brief outline of the course:</b> Atmosphere: 1. Introduction to the study of meteorology and climatology (basic terms and definitions, history of meteorology and climatology in the world and in Slovakia, methods of obtaining data on weather and climate) 2. Atmosphere (composition and vertical division of the atmosphere, temperature and radiation balance) 3. Meteorological elements (solar radiation, air temperature, water in the atmosphere - air humidity, air pressure, air flow - wind) 4. Global atmospheric circulation (tropical and mimotropic circulation, air masses and atmospheric fronts) 5. Global climate (Earth's climate system, climate classifications in the world and in Slovakia) 6. Climate change (climate change in the geological history of the Earth, current climate change) In the study of biogeography we will focus on the biosphere as a part of the physical-geographic sphere. Further focus will be put on the function and position of organisms on the surface, as well as the main regularities of their distribution throughout the world. Phytogeographical and zoogeographical regions of the world and Slovakia. In the practical part students acquaint with the soil profiles and important kinds of plants in Slovakia.					
<b>Recommended literature:</b>					
<b>Course language:</b>					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 671					
A	B	C	D	E	FX
29.36	27.72	25.48	10.88	6.11	0.45



**Provides:** doc. RNDr. Zdenko Hochmuth, CSc., RNDr. Alena Gessert, PhD.

**Date of last modification:** 28.08.2020

**Approved:** doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> ÚGE/ POL1/18		<b>Course name:</b> Political geography and geopolitics			
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture / Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 1 / 2 <b>Per study period:</b> 14 / 28 <b>Course method:</b> present					
<b>Number of ECTS credits:</b> 5					
<b>Recommended semester/trimester of the course:</b> 4.					
<b>Course level:</b> I., II.					
<b>Prerequisites:</b>					
<b>Conditions for course completion:</b>					
<b>Learning outcomes:</b>					
<b>Brief outline of the course:</b>					
<b>Recommended literature:</b>					
<b>Course language:</b>					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 308					
A	B	C	D	E	FX
43.18	31.82	16.23	6.49	1.95	0.32
<b>Provides:</b> doc. RNDr. Zdenko Hochmuth, CSc., RNDr. Stela Csachová, PhD.					
<b>Date of last modification:</b> 12.09.2020					
<b>Approved:</b> doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice	
<b>Faculty:</b> Faculty of Science	
<b>Course ID:</b> ÚGE/ PVS/18	<b>Course name:</b> Population growth in Slovakia
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture / Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 2 / 1 <b>Per study period:</b> 28 / 14 <b>Course method:</b> present	
<b>Number of ECTS credits:</b> 5	
<b>Recommended semester/trimester of the course:</b> 4.	
<b>Course level:</b> I.	
<b>Prerequisites:</b>	
<b>Conditions for course completion:</b> The evaluation of student's performance is implemented through a combination of current, random control during the term and the examination part within a particular period of the semester. This type of continuous control includes at least 80% of students' active participation in teaching and successful solutions of given assignments. If a student does not follow and fulfil these two conditions, i. e. compulsory active learning part of the course, together with active participation and in addition will not solve assigned tasks successfully cannot register, assign for the examination (oral/written). If the student receives more than 51% in the written form may proceed to the oral form. If a student does not demonstrate particular knowledge during the oral examination student has to take both forms of the examination once again.	
<b>Learning outcomes:</b> The Student shall acquires deeper knowledge of the population of Slovakia in terms of time and 3-D.	
<b>Brief outline of the course:</b> Development of the population and its spatial differentiation, population Dynamics (natural, migration, the total movement); Reproduction of the population; Migration for work, Foreign and internal migration; The ageing of the population; The specificities of the Roma population in Slovakia; The educational structure of the population; Economic, social, according to the marital status of the population structure; Ethnic and religions structure of the population ; Slovakia in the EU in terms of population processes; The demographic future of Slovakia. Seminars Workshops during the semester are focused on filling the solution of tasks in order to practice or demonstrate the phenomena studied in the different regional units.	
<b>Recommended literature:</b>	
<b>Course language:</b>	
<b>Notes:</b>	

<b>Course assessment</b>					
Total number of assessed students: 131					
A	B	C	D	E	FX
60.31	4.58	15.27	7.63	9.16	3.05
<b>Provides:</b> prof. RNDr. Peter Spišiak, CSc., RNDr. Janetta Nestorová-Dická, PhD.					
<b>Date of last modification:</b> 29.03.2020					
<b>Approved:</b> doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice	
<b>Faculty:</b> Faculty of Science	
<b>Course ID:</b> KPPaPZ/PP/15	<b>Course name:</b> Positive Psychology
<b>Course type, scope and the method:</b> <b>Course type:</b> Practice <b>Recommended course-load (hours):</b> <b>Per week: 2 Per study period: 28</b> <b>Course method:</b> present	
<b>Number of ECTS credits:</b> 2	
<b>Recommended semester/trimester of the course:</b> 4., 6.	
<b>Course level:</b> I.	
<b>Prerequisites:</b>	
<b>Conditions for course completion:</b> Assessment is based on interim evaluation.	
<b>Learning outcomes:</b> The aim of the course is to learn about the basic theory and current research, as well as the possibility of application of Positive Psychology as a new and rapidly developing field of psychology. The aim of the subject is mainly to develop and apply critical thinking to the challenges and issues that Positive Psychology brings and raises in the context of the individual in contemporary society. Emphasis is placed on the ability to independently and critically process current topics of positive psychology.	
<b>Brief outline of the course:</b> <ol style="list-style-type: none"><li>1. Different perspectives on well-being and happiness in psychology</li><li>2. Main theoretical approaches to positive psychology</li><li>3. Positive emotions and positivity</li><li>4. Meaningfulness</li><li>5. Positive interpersonal relations</li><li>6. Post-traumatic growth</li><li>7. Hope and optimism</li><li>8. Gratitude</li><li>9. Spirituality as a personality dimension</li><li>10. Wisdom</li><li>11. Positive institutions</li><li>12. New themes and topics in PP</li></ol>	
<b>Recommended literature:</b> Brewer, M. B, Hwestone, M: Emotion and Motivation, Blackwell, 2004 Deci, E., Ryan R. M., Handbook of Self – Determination Research, Rochester, 2002 Křivohlavý, J.: Pozitivní psychologie. Praha, Portál, 2003 Křivohlavý, J.: Psychologie vděčnosti a nevďěčnosti. Praha, Grada, 2007 Křivohlavý, J.: Psychologie moudrosti a dobrého života, Praha, Grada, 2012 Křivohlavý, J.: Psychologie pocitu štěstí, Grada, 2013 McAdams, D. P., The Person, New York, 2002	

Seligman, M. E. P., & Csikszentmihalyi, M. (Eds.). (2000). Positive psychology [Special issue] *American Psychologist*, 55(1).  
Říčan, P.: Psychologie náboženství a spirituality, Praha, Portál, 2007  
Slezáčková, A.: Průvodce pozitivní psychologií, Praha, Grada, 2012

**Course language:**

**Notes:**

**Course assessment**

Total number of assessed students: 222

A	B	C	D	E	FX
98.2	0.9	0.45	0.0	0.45	0.0

**Provides:** Mgr. Jozef Benka, PhD. et PhD.

**Date of last modification:** 18.02.2021

**Approved:** doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> ÚMV/ TPP/19		<b>Course name:</b> Probability theory			
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture / Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 2 / 2 <b>Per study period:</b> 28 / 28 <b>Course method:</b> present					
<b>Number of ECTS credits:</b> 5					
<b>Recommended semester/trimester of the course:</b> 4.					
<b>Course level:</b> I.					
<b>Prerequisites:</b> ÚMV/MAN1c/10 and lebo ÚMV/MAN2c/10 and lebo ÚMV/FRPa/19					
<b>Conditions for course completion:</b> To obtain at least 50% in two written tests during the semester. Total evaluation based on written tests and oral exam.					
<b>Learning outcomes:</b> To obtain knowledge of the axiomatic theory of probability, random variables and their characteristics, special types of distributions and their applications.					
<b>Brief outline of the course:</b> Probability space, definitions and properties of probability. Conditional probability and independence. Random variables, their distribution function and characteristics. Mean, variance and skewness.. Discrete and absolutely continuous distributions. Quantile and characteristic functions, their properties. Relation between characteristic function and moments. Median and mode. Transformation of random variables. Special types of distributions with applications (binomial, Poisson, geometric, uniform, exponential, normal, chí-square, Student, Fisher). Central limit theorem.					
<b>Recommended literature:</b> 1. Skřivánková V.: Pravdepodobnosť v príkladoch, UPJŠ, Košice, 2006 (in Slovak) 2. DeGroot, M. H., Schervish, M. J.: Probability and Statistics, 4th ed., Pearson, Boston, 2012 3. Evans, M. J., Rosenthal, J. S.: Probability and Statistics: The Science of Uncertainty, 2nd Ed., W. H. Freeman, 2009 4. Riečan et al.: Pravdepodobnosť a matematická štatistika, Alfa, Bratislava, 1984 (in Slovak)					
<b>Course language:</b> Slovak					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 281					
A	B	C	D	E	FX
11.03	13.17	20.28	24.56	21.71	9.25

**Provides:** prof. RNDr. Ivan Žežula, CSc., RNDr. Daniel Klein, PhD.

**Date of last modification:** 11.03.2019

**Approved:** doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.



## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> KPPaPZ/Ps/15		<b>Course name:</b> Psychology			
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture <b>Recommended course-load (hours):</b> <b>Per week:</b> 2 <b>Per study period:</b> 28 <b>Course method:</b> present					
<b>Number of ECTS credits:</b> 2					
<b>Recommended semester/trimester of the course:</b> 1., 3., 5.					
<b>Course level:</b> I.					
<b>Prerequisites:</b>					
<b>Conditions for course completion:</b>					
<b>Learning outcomes:</b>					
<b>Brief outline of the course:</b>					
<b>Recommended literature:</b>					
<b>Course language:</b>					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 516					
A	B	C	D	E	FX
22.87	16.09	21.71	18.6	17.83	2.91
<b>Provides:</b> PhDr. Anna Janovská, PhD., Mgr. Jozef Benka, PhD. et PhD.					
<b>Date of last modification:</b> 10.02.2021					
<b>Approved:</b> doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> KPPaPZ/PKŽ/15		<b>Course name:</b> Psychology of Everyday Life			
<b>Course type, scope and the method:</b> <b>Course type:</b> Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 2 <b>Per study period:</b> 28 <b>Course method:</b> present					
<b>Number of ECTS credits:</b> 2					
<b>Recommended semester/trimester of the course:</b> 3.					
<b>Course level:</b> I.					
<b>Prerequisites:</b>					
<b>Conditions for course completion:</b>					
<b>Learning outcomes:</b>					
<b>Brief outline of the course:</b>					
<b>Recommended literature:</b>					
<b>Course language:</b>					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 164					
A	B	C	D	E	FX
51.22	14.02	25.61	6.71	1.83	0.61
<b>Provides:</b> Mgr. Ondrej Kalina, PhD.					
<b>Date of last modification:</b> 10.02.2021					
<b>Approved:</b> doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> ÚGE/ KMG/17		<b>Course name:</b> Quantitative Methods in Geography			
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture / Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 1 / 2 <b>Per study period:</b> 14 / 28 <b>Course method:</b> present					
<b>Number of ECTS credits:</b> 3					
<b>Recommended semester/trimester of the course:</b> 2.					
<b>Course level:</b> I.					
<b>Prerequisites:</b>					
<b>Conditions for course completion:</b>					
<b>Learning outcomes:</b>					
<b>Brief outline of the course:</b>					
<b>Recommended literature:</b>					
<b>Course language:</b>					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 159					
A	B	C	D	E	FX
23.9	17.61	21.38	19.5	17.61	0.0
<b>Provides:</b> RNDr. Janetta Nestorová-Dická, PhD., prof. Mgr. Jaroslav Hofierka, PhD., Mgr. Jozef Šupinský					
<b>Date of last modification:</b> 29.03.2020					
<b>Approved:</b> doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> KPE/ OLŠ/15		<b>Course name:</b> School Administration and Legislation			
<b>Course type, scope and the method:</b> <b>Course type:</b> Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 2 <b>Per study period:</b> 28 <b>Course method:</b> present					
<b>Number of ECTS credits:</b> 2					
<b>Recommended semester/trimester of the course:</b> 3., 5.					
<b>Course level:</b> I.					
<b>Prerequisites:</b>					
<b>Conditions for course completion:</b>					
<b>Learning outcomes:</b>					
<b>Brief outline of the course:</b>					
<b>Recommended literature:</b>					
<b>Course language:</b>					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 234					
A	B	C	D	E	FX
44.44	26.92	17.09	7.69	2.99	0.85
<b>Provides:</b> PaedDr. Renáta Orosová, PhD.					
<b>Date of last modification:</b> 12.02.2021					
<b>Approved:</b> doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice	
<b>Faculty:</b> Faculty of Science	
<b>Course ID:</b> ÚTVŠ/ ÚTVŠ/CM/13	<b>Course name:</b> Seaside Aerobic Exercise
<b>Course type, scope and the method:</b> <b>Course type:</b> Practice <b>Recommended course-load (hours):</b> <b>Per week: Per study period:</b> 36s <b>Course method:</b> combined, present	
<b>Number of ECTS credits:</b> 2	
<b>Recommended semester/trimester of the course:</b>	
<b>Course level:</b> I., II.	
<b>Prerequisites:</b>	
<b>Conditions for course completion:</b> Conditions for course completion: Attendance	
<b>Learning outcomes:</b> Learning outcomes: Students will be provided an overview of possibilities how to spend leisure time in seaside conditions actively and their skills in work and communication with clients will be improved. Students will acquire practical experience in organising the cultural and art-oriented events, with the aim to improve the stay and to create positive experiences for visitors.	
<b>Brief outline of the course:</b> Brief outline of the course: 1. Basics of seaside aerobics 2. Morning exercises 3. Pilates and its application in seaside conditions 4. Exercises for the spine 5. Yoga basics 6. Sport as a part of leisure time 7. Application of projects of productive spending of leisure time for different age and social groups (children, young people, elderly) 8. Application of seaside cultural and art-oriented activities in leisure time	
<b>Recommended literature:</b>	
<b>Course language:</b>	
<b>Notes:</b>	
<b>Course assessment</b>	
Total number of assessed students: 41	
abs	n
12.2	87.8

<b>Provides:</b> Mgr. Agata Horbacz, PhD.
<b>Date of last modification:</b> 15.03.2019
<b>Approved:</b> doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> KF/ VKFV/07		<b>Course name:</b> Selected Topics in Philosophy of Education (General Introduction)			
<b>Course type, scope and the method:</b> <b>Course type:</b> <b>Recommended course-load (hours):</b> <b>Per week: Per study period:</b> <b>Course method:</b> present					
<b>Number of ECTS credits:</b> 2					
<b>Recommended semester/trimester of the course:</b> 3., 5.					
<b>Course level:</b> I.					
<b>Prerequisites:</b> KF/DF1/05					
<b>Conditions for course completion:</b>					
<b>Learning outcomes:</b>					
<b>Brief outline of the course:</b>					
<b>Recommended literature:</b>					
<b>Course language:</b>					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 0					
A	B	C	D	E	FX
0.0	0.0	0.0	0.0	0.0	0.0
<b>Provides:</b> doc. PhDr. Pavol Tholt, PhD., mim. prof.					
<b>Date of last modification:</b>					
<b>Approved:</b> doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> ÚMV/ VKA/10		<b>Course name:</b> Selected topics in algebra			
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture / Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 2 / 1 <b>Per study period:</b> 28 / 14 <b>Course method:</b> present					
<b>Number of ECTS credits:</b> 4					
<b>Recommended semester/trimester of the course:</b> 6.					
<b>Course level:</b> I.					
<b>Prerequisites:</b>					
<b>Conditions for course completion:</b> According to tests and to the exam.					
<b>Learning outcomes:</b> To obtain basic knowledge on universal algebra; to be able to apply the theory in concrete situations.					
<b>Brief outline of the course:</b> Relations, operations, algebraic structures. Substructures. Congruences, homomorphism theorems. Automorphism groups and endomorphism monoids. Terms, term operations, identities, varieties.					
<b>Recommended literature:</b> B. Jónsson: Topics in Universal Algebra, Springer-Verlag 1972 M. Kolibiar a kol.: Algebra a príbuzné disciplíny, Bratislava 1992					
<b>Course language:</b> Slovak					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 55					
A	B	C	D	E	FX
12.73	23.64	25.45	21.82	14.55	1.82
<b>Provides:</b> prof. RNDr. Danica Studenovská, CSc.					
<b>Date of last modification:</b> 03.05.2015					
<b>Approved:</b> doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.					



## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> ÚMV/ VEM/10		<b>Course name:</b> Selected topics in elementary mathematics			
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture / Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 1 / 1 <b>Per study period:</b> 14 / 14 <b>Course method:</b> present					
<b>Number of ECTS credits:</b> 3					
<b>Recommended semester/trimester of the course:</b> 5.					
<b>Course level:</b> I.					
<b>Prerequisites:</b> ÚMV/MAN2c/10					
<b>Conditions for course completion:</b> exam					
<b>Learning outcomes:</b> Obtain knowledge about the structure of elementary mathematics with respect to advanced mathematics; the development of mathematical skills of prospective teachers.					
<b>Brief outline of the course:</b> Language of Mathematics; syntax and semantics; sets, relations, rational and irrational numbers, equations and inequations in reals; elementary functions					
<b>Recommended literature:</b> W.W. Esty: The Language of Mathematics, Montana State University, 2007. F. Klein: Elementary mathematics from an advanced standpoint, Dower Publications, 1945.					
<b>Course language:</b> Slovak					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 42					
A	B	C	D	E	FX
4.76	26.19	14.29	28.57	26.19	0.0
<b>Provides:</b> prof. RNDr. Jozef Doboš, CSc.					
<b>Date of last modification:</b> 03.05.2015					
<b>Approved:</b> doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice	
<b>Faculty:</b> Faculty of Science	
<b>Course ID:</b> ÚGE/ SBP1/13	<b>Course name:</b> Seminar for Bachelor Thesis I.
<b>Course type, scope and the method:</b> <b>Course type:</b> Practice <b>Recommended course-load (hours):</b> <b>Per week: 2 Per study period: 28</b> <b>Course method:</b> present	
<b>Number of ECTS credits:</b> 2	
<b>Recommended semester/trimester of the course:</b> 5.	
<b>Course level:</b> I.	
<b>Prerequisites:</b>	
<b>Conditions for course completion:</b> Verification of acquired basic methodologic and formal procedures of the final thesis creation by presentation (70% of rating) and written examination (30%). To obtain A grade, weighted average of the both parts of examination must reach at least 90%, To obtain B it is 80%, for C it is 70%, for D 60% and for E 50%. Credits shall not be granted to a student who obtain less than 50% from any of both parts of examination.	
<b>Learning outcomes:</b> Mastering basic theoretical, methodological and formal scientific procedures of bachelor thesis creation.	
<b>Brief outline of the course:</b> The content and form of selected parts of thesis writing (abstract, introduction, conclusion, etc.) Ethics and culture of writing diploma thesis, citations and references, types of sources (printed, electronic, etc.). Formal aspects of the thesis. Linguistic adjustment (terminology, stylistics, syntax, grammar, typography). Rules of presentation of the thesis. Presentation of current results and state of diploma thesis.	
<b>Recommended literature:</b> ÚTVAR REKTORA UPJŠ 2019: Základné usmernenia a dokumenty k záverečným prácam na UPJŠ v Košiciach. Dostupné na: < <a href="https://www.upjs.sk/pracoviska/univerzitna-kniznica/zaverecne-prace/">https://www.upjs.sk/pracoviska/univerzitna-kniznica/zaverecne-prace/</a> >.           ÚSTAV GEOGRAFIE PF UPJŠ 2019: Pokyny na tvorbu záverečných prác na Ústave geografie Prírodovedeckej fakulty UPJŠ v Košiciach. Dostupné na: < <a href="https://geografia.science.upjs.sk/images/studium/Pokyny_ZP_UGE_2019.pdf">https://geografia.science.upjs.sk/images/studium/Pokyny_ZP_UGE_2019.pdf</a> >.           HOVORKA, D., KOMÁREK, K., CHRAPAN, J. 2011: Ako písať a komunikovať. Martin (Vydavateľstvo Osveta).           KATUŠČÁK, D. 2008: Ako písať záverečné a kvalifikačné práce. Nitra (Enigma).	
<b>Course language:</b> Slovak	
<b>Notes:</b>	

<b>Course assessment</b>					
Total number of assessed students: 411					
A	B	C	D	E	FX
94.4	4.14	0.73	0.0	0.73	0.0
<b>Provides:</b> prof. Mgr. Jaroslav Hofierka, PhD., Mgr. Ladislav Novotný, PhD.					
<b>Date of last modification:</b> 22.09.2020					
<b>Approved:</b> doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> ÚGE/ SBP2/13		<b>Course name:</b> Seminar for Bachelor Thesis II.			
<b>Course type, scope and the method:</b> <b>Course type:</b> Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 2 <b>Per study period:</b> 28 <b>Course method:</b> present					
<b>Number of ECTS credits:</b> 2					
<b>Recommended semester/trimester of the course:</b> 6.					
<b>Course level:</b> I.					
<b>Prerequisites:</b>					
<b>Conditions for course completion:</b> Verification of acquired methodological and formal procedures of the creation of bachelor thesis by the presentation of current thesis creation by presentation of own bachelor thesis (100% of rating). To obtain A grade, the rating os student's presentation must reach at least 90%, To obtain B it is 80%, for C it is 70%, for D 60% and for E 50%. Credits shall not be granted to a student who obtain rating less than 50%.					
<b>Learning outcomes:</b> Acquired skills to apply theoretical, methodological and formal scientific procedures of diploma thesis creation.					
<b>Brief outline of the course:</b> The seminary is focused to the topics of individual bachelor thesis. Students present current state of their thesis, its content and its particular parts. Each bachelor thesis is discussed at scientific level.					
<b>Recommended literature:</b> HOVORKA, D., KOMÁREK, K., CHRAPAN, J. 2011: Ako písať a komunikovať. Martin (Vydavateľstvo Osveta), 247 s. KATUŠČÁK, D. 2008: Ako písať záverečné a kvalifikačné práce. Nitra (Enigma), 162 s. ÚTVAR REKTORA UPJŠ (2011): Smernica č. 1/2011, Dostupné na internete: < <a href="http://www.upjs.sk/public/media/2438/smernica-1-2011.pdf">http://www.upjs.sk/public/media/2438/smernica-1-2011.pdf</a> >, 25 s.					
<b>Course language:</b> Slovak					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 352					
A	B	C	D	E	FX
69.89	21.02	7.67	0.57	0.28	0.57
<b>Provides:</b> prof. Mgr. Jaroslav Hofierka, PhD., Mgr. Ladislav Novotný, PhD.					
<b>Date of last modification:</b> 03.05.2015					

**Approved:** doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice	
<b>Faculty:</b> Faculty of Science	
<b>Course ID:</b> ÚMV/ SHM/10	<b>Course name:</b> Seminar on history of mathematics
<b>Course type, scope and the method:</b> <b>Course type:</b> Practice <b>Recommended course-load (hours):</b> <b>Per week: 2 Per study period: 28</b> <b>Course method:</b> present	
<b>Number of ECTS credits:</b> 2	
<b>Recommended semester/trimester of the course:</b> 6.	
<b>Course level:</b> I., II.	
<b>Prerequisites:</b>	
<b>Conditions for course completion:</b> Homework, presentation on the chosen topic during the seminar. More than 91 points - evaluation of A. 81-90 points - evaluation of B. 71-80 points - rating C. 61-70 points - evaluation of D. 51-60 points - evaluation of E. Less than 50 points - FX evaluation.	
<b>Learning outcomes:</b> Students get an overview of the history of the development of certain mathematical disciplines and selected terms and about parallel between phylogenesis and ontogenesis of mathematical thinking.	
<b>Brief outline of the course:</b> Mathematics in Early Civilizations. Greek Mathematics. Mathematics in the Near and Far East (Arabia, China, India). Medieval European Mathematics. The Renaissance of Mathematics. The Beginning of Modern Mathematics.	
<b>Recommended literature:</b> Burton, D. M.: The History of Mathematics: An Introduction. McGraw–Hill, 2007. Devlin, K.: Jazyk matematiky. Dokořán, 2002 (in czech) Kolman, A.: Dejiny matematiky ve starověku. Academia, Praha, 1968 (in slovak) Juškevič, A. P.: Dejiny matematiky ve středověku. Academia, Praha 1977 (in slovak) Znáň, Š. a kol.: Pohľad do dejín matematiky. Alfa, Bratislava, 1986 (in slovak) Konforovič, A.G.: Významné matematické úlohy, SPN Praha, 1989 (in slovak)	
<b>Course language:</b> Slovak	
<b>Notes:</b>	

<b>Course assessment</b>					
Total number of assessed students: 105					
A	B	C	D	E	FX
72.38	10.48	9.52	3.81	3.81	0.0
<b>Provides:</b> RNDr. Ingrid Semanišínová, PhD.					
<b>Date of last modification:</b> 03.05.2015					
<b>Approved:</b> doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice	
<b>Faculty:</b> Faculty of Science	
<b>Course ID:</b> ÚMV/ SMK/17	<b>Course name:</b> Seminar to mathematical clubs
<b>Course type, scope and the method:</b> <b>Course type:</b> Practice <b>Recommended course-load (hours):</b> <b>Per week: 2 Per study period: 28</b> <b>Course method:</b> present	
<b>Number of ECTS credits:</b> 2	
<b>Recommended semester/trimester of the course:</b> 6.	
<b>Course level:</b> I.	
<b>Prerequisites:</b>	
<b>Conditions for course completion:</b> Individual problem solving during seminars and homework. More than 91 points - evaluation of A. 81-90 points - evaluation of B. 71-80 points - rating C. 61-70 points - evaluation of D. 51-60 points - evaluation of E. Less than 50 points - FX evaluation.	
<b>Learning outcomes:</b> Students become familiar with solving problems from mathematical olympiads and mathematical competitions. They acquire theoretical basics necessary to lead mathematical group of talented children.	
<b>Brief outline of the course:</b> Number theory. Equations, inequations, inequalities. Word problems. Planimetry. Stereometry. Combinatorics. Pigeonhole principle. Combinatorial geometry. Probability. Math games. Interesting problems.	
<b>Recommended literature:</b> Brožúry z edície Škola mladých matematikov. (in slovak) Sériá brožúr: XY. ročník matematickej olympiády. (in slovak) Ziegler, G.M.: Matematika Vám to spočítá, Universum, Praha, 2011. (in czech) Zhouf, J. a kol.: Matematické příběhy z korespondenčních seminářů, Prometheus, Praha, 2006. (in czech)	
<b>Course language:</b> Slovak	
<b>Notes:</b>	



<b>Course assessment</b>					
Total number of assessed students: 94					
A	B	C	D	E	FX
57.45	13.83	14.89	10.64	3.19	0.0
<b>Provides:</b> RNDr. Ingrid Semanišínová, PhD.					
<b>Date of last modification:</b> 17.03.2017					
<b>Approved:</b> doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> KPO/ SPKVV/15		<b>Course name:</b> Social and Political Context of Education			
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture <b>Recommended course-load (hours):</b> <b>Per week:</b> 2 <b>Per study period:</b> 28 <b>Course method:</b> present					
<b>Number of ECTS credits:</b> 2					
<b>Recommended semester/trimester of the course:</b> 4., 6.					
<b>Course level:</b> I.					
<b>Prerequisites:</b>					
<b>Conditions for course completion:</b>					
<b>Learning outcomes:</b>					
<b>Brief outline of the course:</b>					
<b>Recommended literature:</b>					
<b>Course language:</b>					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 19					
A	B	C	D	E	FX
42.11	0.0	26.32	26.32	5.26	0.0
<b>Provides:</b> Mgr. Ján Ruman, PhD.					
<b>Date of last modification:</b> 15.02.2021					
<b>Approved:</b> doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> KGER/OJPV1/07		<b>Course name:</b> Specialised German Language - Natural Sciences 1			
<b>Course type, scope and the method:</b> <b>Course type:</b> Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 2 <b>Per study period:</b> 28 <b>Course method:</b> present					
<b>Number of ECTS credits:</b> 2					
<b>Recommended semester/trimester of the course:</b> 4.					
<b>Course level:</b> I.					
<b>Prerequisites:</b>					
<b>Conditions for course completion:</b>					
<b>Learning outcomes:</b>					
<b>Brief outline of the course:</b>					
<b>Recommended literature:</b>					
<b>Course language:</b>					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 139					
A	B	C	D	E	FX
22.3	23.02	24.46	21.58	7.91	0.72
<b>Provides:</b> Mgr. Blanka Jenčíková					
<b>Date of last modification:</b> 03.05.2015					
<b>Approved:</b> doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice	
<b>Faculty:</b> Faculty of Science	
<b>Course ID:</b> ÚTVŠ/ TVa/11	<b>Course name:</b> Sports Activities I.
<b>Course type, scope and the method:</b> <b>Course type:</b> Practice <b>Recommended course-load (hours):</b> <b>Per week: 2 Per study period: 28</b> <b>Course method:</b> combined, present	
<b>Number of ECTS credits:</b> 2	
<b>Recommended semester/trimester of the course:</b> 1.	
<b>Course level:</b> I., I.II., II.	
<b>Prerequisites:</b>	
<b>Conditions for course completion:</b> Conditions for course completion: Min. 80% of active participation in classes.	
<b>Learning outcomes:</b> Learning outcomes: Increasing physical condition and performance within individual sports. Strengthening the relationship of students to the selected sports activity and its continual improvement.	
<b>Brief outline of the course:</b> Brief outline of the course: Within the optional subject, the Institute of Physical Education and Sports of Pavol Jozef Šafárik University provides for students the following sports activities: aerobics, basketball, badminton, floorball, yoga, pilates, swimming, body-building, indoor football, self-defence and karate, table tennis, sports for unfit persons, streetball, tennis, and volleyball. In the first two semesters of the first level of education students will master basic characteristics and particularities of individual sports, motor skills, game activities, they will improve level of their physical condition, coordination abilities, physical performance, and motor performance fitness. Last but not least, the important role of sports activities is to eliminate swimming illiteracy and by means of a special program of medical physical education to influence and mitigate unfitnes. In addition to these sports, the Institute offers for those who are interested winter and summer physical education trainings with an attractive program and organises various competitions, either at the premises of the faculty or University or competitions with national or international participation.	
<b>Recommended literature:</b>	
<b>Course language:</b>	
<b>Notes:</b>	

<b>Course assessment</b>							
Total number of assessed students: 14050							
abs	abs-A	abs-B	abs-C	abs-D	abs-E	n	neabs
88.48	0.07	0.0	0.0	0.0	0.04	7.51	3.9
<b>Provides:</b> Mgr. Dana Dračková, PhD., Mgr. Agata Horbacz, PhD., Mgr. Dávid Kaško, PhD., Mgr. Zuzana Küchelová, PhD., doc. PaedDr. Ivan Uher, PhD., Mgr. Marek Valanský, prof. RNDr. Stanislav Vokál, DrSc., Mgr. Marcel Čurgali, Mgr. Patrik Berta, Mgr. Ladislav Kručanica, PhD.							
<b>Date of last modification:</b> 18.03.2019							
<b>Approved:</b> doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.							

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice	
<b>Faculty:</b> Faculty of Science	
<b>Course ID:</b> ÚTVŠ/ TVb/11	<b>Course name:</b> Sports Activities II.
<b>Course type, scope and the method:</b> <b>Course type:</b> Practice <b>Recommended course-load (hours):</b> <b>Per week: 2 Per study period: 28</b> <b>Course method:</b> combined, present	
<b>Number of ECTS credits:</b> 2	
<b>Recommended semester/trimester of the course:</b> 2.	
<b>Course level:</b> I., I.II., II.	
<b>Prerequisites:</b>	
<b>Conditions for course completion:</b> Conditions for course completion: Final assessment and active participation in classes - min. 75%.	
<b>Learning outcomes:</b> Learning outcomes: Increasing physical condition and performance within individual sports. Strengthening the relationship of students to the selected sports activity and its continual improvement.	
<b>Brief outline of the course:</b> Brief outline of the course: Within the optional subject, the Institute of Physical Education and Sports of Pavol Jozef Šafárik University provides for students the following sports activities: aerobics, basketball, badminton, floorball, yoga, pilates, swimming, body-building, indoor football, self-defence and karate, table tennis, sports for unfit persons, streetball, tennis, and volleyball. In the first two semesters of the first level of education students will master basic characteristics and particularities of individual sports, motor skills, game activities, they will improve level of their physical condition, coordination abilities, physical performance, and motor performance fitness. Last but not least, the important role of sports activities is to eliminate swimming illiteracy and by means of a special program of medical physical education to influence and mitigate unfitnes. In addition to these sports, the Institute offers for those who are interested winter and summer physical education trainings with an attractive program and organises various competitions, either at the premises of the faculty or University or competitions with national or international participation.	
<b>Recommended literature:</b>	
<b>Course language:</b>	
<b>Notes:</b>	

<b>Course assessment</b>							
Total number of assessed students: 11330							
abs	abs-A	abs-B	abs-C	abs-D	abs-E	n	neabs
85.75	0.56	0.02	0.0	0.0	0.05	9.87	3.75
<b>Provides:</b> Mgr. Dana Dračková, PhD., Mgr. Agata Horbacz, PhD., Mgr. Dávid Kaško, PhD., Mgr. Zuzana Küchelová, PhD., doc. PaedDr. Ivan Uher, PhD., Mgr. Marek Valanský, prof. RNDr. Stanislav Vokál, DrSc., Mgr. Marcel Čurgali, Mgr. Patrik Berta, Mgr. Ladislav Kručanica, PhD.							
<b>Date of last modification:</b> 18.03.2019							
<b>Approved:</b> doc. Mgr. Michal Gally, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.							

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice							
<b>Faculty:</b> Faculty of Science							
<b>Course ID:</b> ÚTVŠ/ TVc/11		<b>Course name:</b> Sports Activities III.					
<b>Course type, scope and the method:</b> <b>Course type:</b> Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 2 <b>Per study period:</b> 28 <b>Course method:</b> combined, present							
<b>Number of ECTS credits:</b> 2							
<b>Recommended semester/trimester of the course:</b> 3.							
<b>Course level:</b> I., I.II., II.							
<b>Prerequisites:</b>							
<b>Conditions for course completion:</b>							
<b>Learning outcomes:</b>							
<b>Brief outline of the course:</b>							
<b>Recommended literature:</b>							
<b>Course language:</b>							
<b>Notes:</b>							
<b>Course assessment</b> Total number of assessed students: 8383							
abs	abs-A	abs-B	abs-C	abs-D	abs-E	n	neabs
90.11	0.05	0.01	0.0	0.0	0.02	4.04	5.76
<b>Provides:</b> Mgr. Marcel Čurgali, Mgr. Dana Dračková, PhD., Mgr. Agata Horbacz, PhD., Mgr. Dávid Kaško, PhD., Mgr. Zuzana Küchelová, PhD., doc. PaedDr. Ivan Uher, PhD., Mgr. Marek Valanský, prof. RNDr. Stanislav Vokál, DrSc., Mgr. Patrik Berta, Mgr. Ladislav Kručanica, PhD.							
<b>Date of last modification:</b> 03.05.2015							
<b>Approved:</b> doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.							



## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice							
<b>Faculty:</b> Faculty of Science							
<b>Course ID:</b> ÚTVŠ/ TVd/11		<b>Course name:</b> Sports Activities IV.					
<b>Course type, scope and the method:</b> <b>Course type:</b> Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 2 <b>Per study period:</b> 28 <b>Course method:</b> combined, present							
<b>Number of ECTS credits:</b> 2							
<b>Recommended semester/trimester of the course:</b> 4.							
<b>Course level:</b> I., I.II., II.							
<b>Prerequisites:</b>							
<b>Conditions for course completion:</b>							
<b>Learning outcomes:</b>							
<b>Brief outline of the course:</b>							
<b>Recommended literature:</b>							
<b>Course language:</b>							
<b>Notes:</b>							
<b>Course assessment</b> Total number of assessed students: 5101							
abs	abs-A	abs-B	abs-C	abs-D	abs-E	n	neabs
85.2	0.29	0.04	0.0	0.0	0.0	6.76	7.7
<b>Provides:</b> Mgr. Marcel Čurgali, Mgr. Dana Dračková, PhD., Mgr. Agata Horbacz, PhD., Mgr. Dávid Kaško, PhD., Mgr. Zuzana Küchelová, PhD., doc. PaedDr. Ivan Uher, PhD., Mgr. Marek Valanský, prof. RNDr. Stanislav Vokál, DrSc., Mgr. Patrik Berta, Mgr. Ladislav Kručanica, PhD.							
<b>Date of last modification:</b> 03.05.2015							
<b>Approved:</b> doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.							

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> ÚGE/ SVG/04		<b>Course name:</b> Student Scientific Conference in Geography			
<b>Course type, scope and the method:</b> <b>Course type:</b> <b>Recommended course-load (hours):</b> <b>Per week: Per study period:</b> <b>Course method:</b> present					
<b>Number of ECTS credits:</b> 4					
<b>Recommended semester/trimester of the course:</b> 6.					
<b>Course level:</b> I., II.					
<b>Prerequisites:</b>					
<b>Conditions for course completion:</b>					
<b>Learning outcomes:</b>					
<b>Brief outline of the course:</b> After choosing a topic suggested by supervisors implying a geographical problem, the students will work on the topic, write a thesis and defense it before the committee.					
<b>Recommended literature:</b>					
<b>Course language:</b>					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 170					
A	B	C	D	E	FX
99.41	0.0	0.0	0.0	0.0	0.59
<b>Provides:</b> doc. RNDr. Zdenko Hochmuth, CSc., prof. RNDr. Peter Spišiak, CSc., RNDr. Dušan Barabas, CSc., RNDr. Alena Gessert, PhD., RNDr. Janetta Nestorová-Dická, PhD., Mgr. Marián Kulla, PhD., doc. Ing. Katarína Bónová, PhD., RNDr. Stela Csachová, PhD.					
<b>Date of last modification:</b> 31.03.2020					
<b>Approved:</b> doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> ÚMV/ SVK/10		<b>Course name:</b> Students scientific conference			
<b>Course type, scope and the method:</b> <b>Course type:</b> <b>Recommended course-load (hours):</b> <b>Per week: Per study period:</b> <b>Course method:</b> present					
<b>Number of ECTS credits:</b> 4					
<b>Recommended semester/trimester of the course:</b>					
<b>Course level:</b> I., II.					
<b>Prerequisites:</b>					
<b>Conditions for course completion:</b>					
<b>Learning outcomes:</b> Individual scientific work of students. Publishing of obtained results in a written form and as a public presentation.					
<b>Brief outline of the course:</b>					
<b>Recommended literature:</b> With respect to the research problematics (article in journals, books).					
<b>Course language:</b> Slovak or English					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 94					
A	B	C	D	E	FX
98.94	1.06	0.0	0.0	0.0	0.0
<b>Provides:</b>					
<b>Date of last modification:</b> 03.05.2015					
<b>Approved:</b> doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice	
<b>Faculty:</b> Faculty of Science	
<b>Course ID:</b> ÚMV/ DGS/15	<b>Course name:</b> Students` Digital Literacy
<b>Course type, scope and the method:</b> <b>Course type:</b> Practice <b>Recommended course-load (hours):</b> <b>Per week: 2 Per study period: 28</b> <b>Course method:</b> present	
<b>Number of ECTS credits:</b> 2	
<b>Recommended semester/trimester of the course:</b> 1.	
<b>Course level:</b> I.	
<b>Prerequisites:</b>	
<b>Conditions for course completion:</b> continuous assessment and final project	
<b>Learning outcomes:</b> To acquire an overview of the current possibilities of digital technology to develop skills and competencies with emphasis on the area of communication, social interaction and personal. To acquire basic digital skills for working with advanced technologies (mobile phone, tablet, laptop, social media, online webtechnologies). To understand the value of existing advanced technologies for better and more effective learning, work and active life in higher education, lifelong learning and further career prospects.	
<b>Brief outline of the course:</b> Introduction to the problems of current, commonly available digital technology. Tools for access to online information source (mobile applications for access to information systems, databases, data books). Tools for collecting, generating direct information and data and its subsequent analysis and visualization. Tools for providing and sharing of electronic content (cloud technology - Google Drive, Youtube, Google+, Skydrive, Dropbox). Tools for communication, discussion and collaborative activities. Legal work with digital technologies and resources, plagiarism, critical evaluation of digital resources. Security, privacy, digital ethics and etiquette, digital citizenship.	
<b>Recommended literature:</b> 1. Bruff, D. (2009). Teaching with classroom response systems: Creating active learning environments. San Francisco: Jossey-Bass. 2. Byrne, R. (2012). Google Drive and Docs for Teachers. Free Tech for Teachers. 3. Kawasaki, G. (2012). What the Plus! Google+ for the Rest of Us. Amazon igital Services. 4. Kolb, L. (2011). Cell Phones in the Classroom: A Practical Guide for Educators. International Society for Technology in Education.	
<b>Course language:</b> Slovak	
<b>Notes:</b>	

<b>Course assessment</b>	
Total number of assessed students: 248	
abs	n
95.97	4.03
<b>Provides:</b> doc. RNDr. Stanislav Lukáč, PhD., doc. RNDr. Jozef Hanč, PhD., doc. RNDr. Ľubomír Šnajder, PhD.	
<b>Date of last modification:</b> 03.05.2015	
<b>Approved:</b> doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.	

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice	
<b>Faculty:</b> Faculty of Science	
<b>Course ID:</b> ÚTVŠ/ LKSp/13	<b>Course name:</b> Summer Course-Rafting of TISA River
<b>Course type, scope and the method:</b> <b>Course type:</b> Practice <b>Recommended course-load (hours):</b> <b>Per week: Per study period:</b> 36s <b>Course method:</b> combined, present	
<b>Number of ECTS credits:</b> 2	
<b>Recommended semester/trimester of the course:</b>	
<b>Course level:</b> I., II.	
<b>Prerequisites:</b>	
<b>Conditions for course completion:</b> Conditions for course completion: Attendance Final assessment: Raft control on the waterway (attended/not attended)	
<b>Learning outcomes:</b> Learning outcomes: Students have knowledge of rafts (canoe) and their control on waterway.	
<b>Brief outline of the course:</b> Brief outline of the course: 1. Assessment of difficulty of waterways 2. Safety rules for rafting 3. Setting up a crew 4. Practical skills training using an empty canoe 5. Canoe lifting and carrying 6. Putting the canoe in the water without a shore contact 7. Getting in the canoe 8. Exiting the canoe 9. Taking the canoe out of the water 10. Steering a) The pry stroke (on fast waterways) b) The draw stroke 11. Capsizing 12. Commands	
<b>Recommended literature:</b>	
<b>Course language:</b>	
<b>Notes:</b>	

<b>Course assessment</b>	
Total number of assessed students: 153	
abs	n
45.75	54.25
<b>Provides:</b> Mgr. Dávid Kaško, PhD.	
<b>Date of last modification:</b> 18.03.2019	
<b>Approved:</b> doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.	

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice	
<b>Faculty:</b> Faculty of Science	
<b>Course ID:</b> ÚTVŠ/ KP/12	<b>Course name:</b> Survival Course
<b>Course type, scope and the method:</b> <b>Course type:</b> Practice <b>Recommended course-load (hours):</b> <b>Per week: Per study period:</b> 36s <b>Course method:</b> combined, present	
<b>Number of ECTS credits:</b> 2	
<b>Recommended semester/trimester of the course:</b>	
<b>Course level:</b> I., II.	
<b>Prerequisites:</b>	
<b>Conditions for course completion:</b> Conditions for course completion: Attendance Final assessment: continuous fulfilment of all tasks within the course	
<b>Learning outcomes:</b> Learning outcomes: Students will be familiarized with principles of safe stay and movement in extreme natural conditions as they will obtain theoretical knowledge and practical skills to solve the extraordinary and demanding situations connected with survival and minimization of damage to health. The course develops team work and students will learn how to manage and face the situations that require overcoming of obstacles.	
<b>Brief outline of the course:</b> Brief outline of the course: Lectures: 1. Principles of behaviour and safety for movement and stay in unknown mountains 2. Preparation and leadership of tour 3. Objective and subjective danger in mountains 4. Principles of hygiene and prevention of damage to health in extreme conditions Exercises: 1. Movement in terrain, orientation and navigation in terrain (compasses, GPS) 2. Preparation of improvised overnight stay 3. Water treatment and food preparation.	
<b>Recommended literature:</b>	
<b>Course language:</b>	
<b>Notes:</b>	



<b>Course assessment</b>	
Total number of assessed students: 393	
abs	n
44.53	55.47
<b>Provides:</b> MUDr. Peter Dombrovský, Mgr. Marek Valanský	
<b>Date of last modification:</b> 15.03.2019	
<b>Approved:</b> doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.	

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> KPE/ TVE/08		<b>Course name:</b> Theory of Education			
<b>Course type, scope and the method:</b> <b>Course type:</b> Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 2 <b>Per study period:</b> 28 <b>Course method:</b> present					
<b>Number of ECTS credits:</b> 2					
<b>Recommended semester/trimester of the course:</b> 4., 6.					
<b>Course level:</b> I.					
<b>Prerequisites:</b>					
<b>Conditions for course completion:</b>					
<b>Learning outcomes:</b>					
<b>Brief outline of the course:</b>					
<b>Recommended literature:</b>					
<b>Course language:</b>					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 431					
A	B	C	D	E	FX
31.09	35.5	22.51	6.73	1.62	2.55
<b>Provides:</b> Mgr. Katarína Petříková, PhD.					
<b>Date of last modification:</b> 12.02.2021					
<b>Approved:</b> doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ondrej Hutník, PhD., doc. RNDr. Zdenko Hochmuth, CSc.					