CONTENT

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: CJP/ PFAJAKA/07	**Course name:** Academic English
Course type, scope and the method: **Course type:** Practice **Recommended course-load (hours):** **Per week:** 2 **Per study period:** 28 **Course method:** present	
Number of ECTS credits: 2	
Recommended semester/trimester of the course:	
Course level: I.	
Prerequisities:	
Conditions for course completion: Active classroom participation, assignments handed in on time, 2 absences tolerated 1 test (13th week), no retake. Presentation on chosen topic Final evaluation- average assessment of test (50%), and presentation (50%). Grading scale: A 93-100%, B 86-92%, C 79-85%, D 72-78%, E 65-71%, FX 64% and less	
Learning outcomes: The development of students´ language skills - reading, writing, listening, speaking, improvement of their linguistic competence - students acquire knowledge of selected phonological, lexical and syntactic aspects, development of pragmatic competence - students can efectively use the language for a given purpose, with focus on Academic English, level B2.	
Brief outline of the course: Formal and informal English Academic English and its specific features Key academic verbs and nouns Linking words in academic writing, writing a paragraph, word-order, topic sentences Word-formation - affixation abstract Selected aspects of English pronunciation, academic vocabulary Selected functional grammar structures - defining, classifying, epressing opinion, cause-effect, paraphrasing	
Recommended literature: 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 www.bbclearningenglish.com Cambridge Academic Content Dictionary, CUP, 2009	

Course language:
English language, level B2 according to CEFR.

Notes:

Course assessment
Total number of assessed students: 435

A	B	C	D	E	FX
36.09	22.3	14.94	9.89	5.75	11.03

Provides: Mgr. Viktória Mária Slovenská

Date of last modification: 11.09.2024

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚMV/ ALG2a/22	**Course name:** Algebra I

Course type, scope and the method:
Course type: Lecture / Practice
Recommended course-load (hours):
Per week: 3 / 3 **Per study period:** 42 / 42
Course method: present

Number of ECTS credits: 6

Recommended semester/trimester of the course: 1.

Course level: I.

Prerequisities:

Conditions for course completion:
According to the results from the semester and in view of the results of the written and oral final exam..

Learning outcomes:
To acquire the methods of mathematical thinking and cognition. Gain basic knowledge of number theory related to divisibility, master the basic concepts of linear algebra and be able to apply them to specific problems and mathematical problems.

Brief outline of the course:
Divisibility in Z. Fields. Systems of linear equations, Gauss elimination. Maps, permutations. Computing with matrices. Determinants, Cramer rule.

Recommended literature:
T.S Blyth, E.F. Robertson: Basic linear algebra, Springer Verlag, 2001.
K. Jänich: Linear algebra, Springer Verlag, 1991.

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 956

A	B	C	D	E	FX
10.98	12.97	19.25	18.31	28.03	10.46

Provides: RNDr. Lucia Kőszegyová, PhD., Mgr. Martin Vodička, Dr. rer. nat., Mgr. Radka Schwartzová

Date of last modification: 17.02.2022

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚMV/ ALG2b/22	**Course name:** Algebra II

Course type, scope and the method:
Course type: Lecture / Practice
Recommended course-load (hours):
Per week: 4 / 2 **Per study period:** 56 / 28
Course method: present

Number of ECTS credits: 6

Recommended semester/trimester of the course: 2.

Course level: I.

Prerequisities: ÚMV/ALG2a/22

Conditions for course completion:
According to tests and to the exam.

Learning outcomes:
To acquire the methods of mathematical thinking and cognition. To deepen and expand students' knowledge of systems of linear equations, to acquire basic knowledge about vector spaces, linear representations, polynomials and polynomial equations.

Brief outline of the course:
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.

Recommended literature:
T. Katriňák a kol.: Algebra a teoretická aritmetika 1, Alfa Bratislava, 1985.
A. Kurosh: Higher Algebra, Mir Publishers, 1975.

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 272

A	B	C	D	E	FX
21.32	16.18	16.18	16.18	26.47	3.68

Provides: doc. RNDr. Miroslav Ploščica, CSc., RNDr. Lucia Kőszegyová, PhD.

Date of last modification: 16.04.2022

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚMV/ ALG1c/24	**Course name:** Algebra III

Course type, scope and the method:
Course type: Lecture / Practice
Recommended course-load (hours):
Per week: 4 / 2 **Per study period:** 56 / 28
Course method: present

Number of ECTS credits: 7

Recommended semester/trimester of the course: 5.

Course level: I.

Prerequisities: ÚMV/ALG1b/24 or ÚMV/ALG2b/22

Conditions for course completion:
Awarded according to continual evaluation, written and oral examination.

Learning outcomes:
The students learn basic concepts, theorems and methods of linear algebra, at the level necessary for applications in geometry and other parts of mathematics. They obtain knowledge about the fundamentals of group theory and ring theory, and about properties of the polynomial integral domains.

Brief outline of the course:
- Affine spaces, subspaces and their positions.
- Convex sets, convex polyhedrons.
- Algebraic planes.
- Eigenvalues ans eigenvectors.
- Similarity of matrices, rational and Jordan canonical form.
. Bilinear and quadratic forms, Sylvester law.
- Groups, subgroups, cyclic groups.
- Normal subgroups, factorization, isomorphism theorems.

Recommended literature:
G. Birkhoff, S. MacLane: Prehľad modernej algebry, Alfa Bratislava, 1979
M. Hejný a kol.: Geometria 1, SNP, Bratislava 1985
M. Sekanina a kol.: Geometrie 1, SNP Praha 1986
T. Katriňák a kol.: Algebra a teoretická aritmetika 1, Alfa Bratislava, 1985
D.A.R. Wallace: Groups,rings and fields, Springer, 1998

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 5

A	B	C	D	E	FX
40.0	40.0	0.0	0.0	20.0	0.0

Provides: doc. RNDr. Miroslav Ploščica, CSc.

Date of last modification: 04.03.2024

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚMV/ ATC/22	**Course name:** Algebra and number theory

Course type, scope and the method:
Course type: Lecture / Practice
Recommended course-load (hours):
Per week: 2 / 1 **Per study period:** 28 / 14
Course method: present

Number of ECTS credits: 3

Recommended semester/trimester of the course: 4.

Course level: I.

Prerequisities: ÚMV/ALG2b/22

Conditions for course completion:
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.

Learning outcomes:
Obtain basic knowledge about groups and from the elementary number theory.

Brief outline of the course:
1. Congruences in the ring of integers
2. The field of complex numbers
3. Algebraic and transcendent numbers, minimal polynomial
4. Simple extensions of the field of rationals
5. The field of algebraic numbers
6. The concept of group
7. Symmetry groups
8. Orders of elements, Lagrange theorem
9. Normal subgroups, factorization
10. Homomorphism theorems

Recommended literature:
G.Birkoff, S. MacLane: A Survey of Modern Algebra, New York 1965
M. Harminc: Elementárna teória čísel (1.časť), PF UPJŠ Košice 2012
T. Katriňák a kol.: Algebra a teoretická aritmetika 1, Alfa Bratislava 1985
A. Legéň: Grupy, okruhy a zväzy, Alfa Bratislava 1980
I.R. Shafarevich: Basic Notions of Algebra, Springer, 2005

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 368

A	B	C	D	E	FX
12.5	18.75	24.18	22.01	20.38	2.17

Provides: doc. RNDr. Miroslav Ploščica, CSc.

Date of last modification: 23.08.2022

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚMV/ ATA/24	**Course name:** Algebra and theoretical arithmetic

Course type, scope and the method:
Course type: Lecture / Practice
Recommended course-load (hours):
Per week: 2 / 2 **Per study period:** 28 / 28
Course method: present

Number of ECTS credits: 4

Recommended semester/trimester of the course: 5.

Course level: I.

Prerequisities:

Conditions for course completion:
During the term, each student receives marks for two written exams. Final marking is assigned based on the overall points for the work throughout the term, for homework and their presentation. Marking classification: A:91%-100%, B:81%-90%, C:71%-80%, D:61%-70%, E:51%-60%, FX:0%-50%

Learning outcomes:
Obtain knowledge about sets N, Z, Q and R, about their axiomatic building-up, the operations and the orderigs on them. The student will
1. familiarise themselves with mathematical culture, ways of thinking, self-expression and putting forward arguments,
2. gain a deeper understanding of the base terminology of real analysis, their properties and interconnections,
3. be able to define and interpret key terms, prove their basic properties and relationships,
4. know how to solve tasks focused on utilising the aforementioned concepts and interpret the obtained results.

Brief outline of the course:
Ordered Domains, Axioms for Rings, Construction for Rings,
Definition and Properties of the Integers,
Number-Theoretic Properties of the Integers,
The Rational Numbers, The Arithmetic of the Rational Numbers,
Integral Domains and Quotient Fields, The Arithmetic of Sequences,
Cantor Sequences, Null Sequences, The Real Numbers,
Ordered Fields, Relations between Ordered Fields and the Field of Rational Numbers,
the Completeness of the Real Numbers, more Theorems on Ordered and Complete, Ordered Fields,
the Isomorphism of Complete, Ordered Fields,
the Complex Numbers

Recommended literature:
T. Katriňák, M. Gavalec, E. Gedeonová, J. Smítal: Algebra a teoretická aritmetika (1), Alfa, Bratislava, 1985.

T. Šalát, A. Haviar, T. Hecht, T. Katriňák: Algebra a teoretická aritmetika (2), Alfa, Bratislava, 1986.
G. Birkhoff, S. Mac Lane: Prehľad modernej algebry, Alfa, Bratislava, 1979.
N. T. Hamilton, J. Landin: Set Theory. The Structure of Arithmetic, Dover Publications, Inc., 2018.

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 69

A	B	C	D	E	FX
44.93	26.09	14.49	13.04	1.45	0.0

Provides: prof. RNDr. Jozef Doboš, CSc.

Date of last modification: 26.03.2024

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: KPE/ ALP/06	**Course name:** Alternative Education

Course type, scope and the method:
Course type: Practice
Recommended course-load (hours):
Per week: 2 **Per study period:** 28
Course method: present

Number of ECTS credits: 2

Recommended semester/trimester of the course: 4.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 362

A	B	C	D	E	FX
67.68	25.14	4.14	0.55	0.28	2.21

Provides: Mgr. Zuzana Vagaská, PhD.

Date of last modification: 12.03.2024

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚGE/ SPB1/21	**Course name:** Bachelor Thesis Project Seminar 1

Course type, scope and the method:
Course type: Practice
Recommended course-load (hours):
Per week: 2 **Per study period:** 28
Course method: present

Number of ECTS credits: 3

Recommended semester/trimester of the course: 5.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 51

A	B	C	D	E	FX
88.24	7.84	3.92	0.0	0.0	0.0

Provides: prof. Mgr. Jaroslav Hofierka, PhD., doc. Mgr. Ladislav Novotný, PhD.

Date of last modification: 27.06.2022

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚGE/ SPB2/21	**Course name:** Bachelor Thesis Project Seminar 2

Course type, scope and the method:
Course type: Practice
Recommended course-load (hours):
Per week: 2 **Per study period:** 28
Course method: present

Number of ECTS credits: 3

Recommended semester/trimester of the course: 6.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 32

A	B	C	D	E	FX
68.75	25.0	6.25	0.0	0.0	0.0

Provides: prof. Mgr. Jaroslav Hofierka, PhD., Mgr. Katarína Onačillová, PhD.

Date of last modification: 27.06.2022

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚGE/ BPO/14	**Course name:** Bachelor Thesis and its Defence

Course type, scope and the method:
Course type:
Recommended course-load (hours):
Per week: Per study period:
Course method: present

Number of ECTS credits: 4

Recommended semester/trimester of the course:

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 209

A	B	C	D	E	FX
38.76	26.79	16.75	8.61	7.66	1.44

Provides:

Date of last modification: 07.12.2021

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚMV/ BKPa/22	**Course name:** Bachelor project I

Course type, scope and the method:
Course type: Practice
Recommended course-load (hours):
Per week: 1 **Per study period:** 14
Course method: present

Number of ECTS credits: 1

Recommended semester/trimester of the course: 5.

Course level: I.

Prerequisities:

Conditions for course completion:
To prepare and present a contribution related to thesis and its topic.

Learning outcomes:
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.

Brief outline of the course:
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.

Recommended literature:
electronic information sources

Course language:
Slovak and English

Notes:

Course assessment
Total number of assessed students: 134

abs	n
100.0	0.0

Provides: prof. RNDr. Ondrej Hutník, PhD.

Date of last modification: 24.08.2022

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚMV/ BKPb/22	**Course name:** Bachelor project II
Course type, scope and the method: **Course type:** **Recommended course-load (hours):** **Per week: Per study period:** **Course method:** present	
Number of ECTS credits: 2	
Recommended semester/trimester of the course: 6.	
Course level: I.	
Prerequisities:	
Conditions for course completion:	
Learning outcomes:	
Brief outline of the course:	
Recommended literature:	
Course language:	
Notes:	
Course assessment Total number of assessed students: 112	
abs	n
100.0	0.0
Provides:	
Date of last modification: 24.08.2022	
Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.	

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚMV/ BPO/14	**Course name:** Bachelor thesis and its defence
Course type, scope and the method: **Course type:** **Recommended course-load (hours):** **Per week: Per study period:** **Course method:** present	
Number of ECTS credits: 4	
Recommended semester/trimester of the course:	
Course level: I.	
Prerequisities:	
Conditions for course completion: The bachelor thesis is the result of the student's own work. It must not show elements of academic fraud and must meet the criteria of good research practice defined in the Rector's Decision no. 21/2021, which lays down the rules for assessing plagiarism at Pavol Jozef Šafárik University in Košice and its components. Fulfillment of the criteria is verified mainly in the supervision process and in the process of thesis defense. Failure to do so is reason for disciplinary action.	
Learning outcomes: Evaluation of student‘s competences with respect to the profile of the graduate.The bachelor's thesis demonstrates mastery of the basics of theory and professional terminology of the field of study, acquisition of knowledge, skills and competencies in accordance with the declared profile of the graduate of the study program, as well as the ability to apply them creatively in solving selected field problems. The bachelor thesis may have elements of compilation. The student demonstrates the ability of independent professional work in terms of content, formal and ethical. Further details on the bachelor thesis are determined by Directive no. 1/2011 on the basic requirements of final theses and the Study Regulations of UPJŠ in Košice.	
Brief outline of the course: 1. Elaboration of the bachelor thesis in accordance with the instructions of the supervisor. 2. Presentation of the results of the bachelor's thesis before the examination commission. 3. Answering questions related to the topic of the bachelor thesis within the discussion.	
Recommended literature: The recommended literature is determined individually in accordance with the topic of the bachelor's thesis.	
Course language: Slovak	
Notes:	

Course assessment
Total number of assessed students: 202

A	B	C	D	E	FX
66.83	18.81	8.42	3.47	1.98	0.5

Provides:

Date of last modification: 19.04.2022

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚGE/ZKAR/21	**Course name:** Basics of Karstology and Speleology

Course type, scope and the method:
Course type: Lecture / Practice
Recommended course-load (hours):
Per week: 1 / 1 **Per study period:** 14 / 14
Course method: present

Number of ECTS credits: 3

Recommended semester/trimester of the course: 4.

Course level: I., II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 18

A	B	C	D	E	FX
66.67	11.11	11.11	11.11	0.0	0.0

Provides: RNDr. Alena Gessert, PhD., univerzitná docentka, doc. Ing. Katarína Bónová, PhD.

Date of last modification: 07.02.2025

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ BDD/05	**Course name:** Biology of Children and Adolescents

Course type, scope and the method:
Course type: Lecture / Practice
Recommended course-load (hours):
Per week: 2 / 0 **Per study period:** 28 / 0
Course method: present

Number of ECTS credits: 2

Recommended semester/trimester of the course: 4., 6.

Course level: I.

Prerequisities:

Conditions for course completion:
Written test

Learning outcomes:
Acquisition of basic morphological and physiological knowledge about individual organs and systems of the human body with a focus on the specifics of childhood and adolescence. Familiarity with developmental and growth characteristics and with the most common diseases in these stages of ontogenesis.

Brief outline of the course:
Human ontogenesis. Postnatal development. Age specific features of skeletal and muscalar, 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.

Recommended literature:
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

Course language:

Notes:

Course assessment
Total number of assessed students: 1795

A	B	C	D	E	FX
31.36	23.96	18.27	16.66	9.14	0.61

Provides: doc. RNDr. Monika Kassayová, CSc.

Date of last modification: 20.04.2022

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚMV/ ZBR/14	**Course name:** Bridge fundamentals

Course type, scope and the method:
Course type: Practice
Recommended course-load (hours):
Per week: 2 **Per study period:** 28
Course method: present

Number of ECTS credits: 2

Recommended semester/trimester of the course: 5.

Course level: I.

Prerequisities:

Conditions for course completion:
Active participation on exercises.

Learning outcomes:
A student gets acquainted with fundamentals of the contract bridge, develops his/her logical thinking and consolidates his/her habits of positive social behaviour.

Brief outline of the course:
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.

Recommended literature:
T. Menyhért: Kurz bridžu 2013, http://new.bridgekosice.sk/kurz-bridzu-2013/
R. Pavlicek: Learn To Play Bridge!, http://www.rpbridge.net/1a00.htm
ACBL SAYC System Booklet, http://ebookbrowsee.net/acbl-sayc-pdf-d201415187

Course language:
Slovak or English

Notes:
Minimum number of participants is 4.

Course assessment
Total number of assessed students: 41

abs	n
97.56	2.44

Provides: doc. RNDr. Miroslav Ploščica, CSc., Mgr. Martin Vodička, Dr. rer. nat.
Date of last modification: 08.02.2022
Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚGE/ KRT1/21	**Course name:** Cartography and Geoinformatics 1

Course type, scope and the method:
Course type: Lecture / Practice
Recommended course-load (hours):
Per week: 2 / 2 **Per study period:** 28 / 28
Course method: present

Number of ECTS credits: 5

Recommended semester/trimester of the course: 1.

Course level: I.

Prerequisities:

Conditions for course completion:
During the semester, it is necessary to submit the results of the exercises. The acquired knowledge at the exercises will be verified by continuous examinations. The number of work outputs and written examinations will be announced at the beginning of the semester. It is possible to obtain 30% for meeting the evaluation criteria at the exercise (work outputs and written tests). The final evaluation of the exercises is determined by the instructor of the subject on the basis of completing the tasks in the exercises during the semester. The final evaluation of the course is based on a combination of meeting the evaluation conditions from the exercises and the final exam. A student who has met the conditions for passing the course at the seminars can apply for the final exam. The final evaluation is a weighted average of the evaluation from the exercises (30%) and the final exam (70%). Credits will be awarded only to a student who achieves the final grade at least at the level of grade E. Credits will not be awarded to a student who does not meet the requirements of the exercises and the final exam is evaluated by FX. Rating scale: A (100-91%), B (81-90%,) C (71-80%), D (61-70%), E (51-60%).

Learning outcomes:
Knowledge: The student will gain theoretical knowledge in the field of cartography and geoinformatics. The student is able to understand cartographic and geoinformatics terminology, appropriately applies cartographic methods for displaying spatial information using a geographic information system, acquires a theoretical basis for the application of cartographic representations and coordinate systems and defines the composition of maps in GIS. The student acquires knowledge of the mathematical principles of mapping the Earth on a map and understands cartographic distortions, classification of cartographic representations, simple and false representations. The student acquires knowledge from the Slovak state map work (civil, military) and also acquires knowledge in cartographic expression methods (cartogram, cartodiagram) and the basics of cartometry.
Skills: The student will learn to acquire and work with the basics of the QGIS program, its control, purpose and structure. The student acquires basic orientations and work in the QGIS program, and work in the basic tools, setting layer properties and is capable of exporting data in different formats. The student understands cartographic representations in QGIS. The student acquires skills in working with paper maps, scale and measurements on maps, can orient in the field using a map, compass and can determine the azimuth. The student has skills in creating a point layer, has skills in

the principles of expressing point phenomena, the creation of a line layer as well as in the principles of expressing line phenomena, isolines. Student also has skills in creating a surface layer, in the principles of expressing surface phenomena. Controls the creation of map output, page settings, map export and output parameters settings. The student has skills in the composition of the map - setting the compositional elements of the map and in creating the map output.
Competences: The student is able to work with a high degree of independence with geodata, to visualize them and create new layers, has all the prerequisites for independent creation of digital map output with available software support within GIS. The student is fully competent in the composition of the map - setting its compositional elements. When creating a map output, the student is able to independently or in cooperation in the relevant work team to communicate and collaborate with other experts, formulate opinions and recommendations in the creation and use of GIS in cartography.

Brief outline of the course:
Lectures: Cartography, basic concepts and position in the geosciences system. History and development of cartography. Geoinformatization cartography, digital cartography. Cartography and geoinformatics and their correlation. Geoinformatics, basic terms and definitions of GIS; online maps. Digital representation of objects and phenomena in GIS, vector and raster format. Principles of methodologies of cartographic modeling of geographical information in GIS. Design, use and evaluation of cartographic imaging properties in geoinformatics applications. Map - definition, map criteria, basic properties and elements of the map, categorization of maps, map scale. Principles of mapping the Earth, geoid, reference and display areas, global and local coordinate systems, the Earth and geographical lines and their importance for cartography and geoinformatics. Cartographic distortions, classification of cartographic representations, simple (azimuthal, conical, cylindrical) and false representations. Cartographic representations used in the Slovak state map work. Slovak state map work (civil, military), ZB-GIS, samples. Workflow for creating topographic maps, mapping, overview of 3D data collection in the field and used instrumentation. Map creation - basics of map language, cartographic characters, map markers - point, line and area phenomena. Cartographic expression methods - cartogram, cartodiagram, classification and types of cartograms and cartodiagrams. Map composition, map content, map colors, map description, geographical nomenclature, map design. Basics of cartometry - positioning, measuring and determining distances, measuring and determining the size of surfaces, measuring oriented directions and angles, determining altitudes, determining the slope, profile construction, hypsometric curve. Classification of field formations. Thematic maps of various scales, applications, interpretation of maps. Maps on the Internet, map servers, Google Maps / Earth, Openstreetmaps. Office of Geodesy, Cartography and Cathars of the Slovak Republic - Geoportal.
Exercises: Basic introduction to ArcGIS, its purpose and control, program structure, data formats (* .mxd, * .shp), basic terminology - project, data layer - point, line, area, "features" and "graphics". Basic orientation in ArcMap, introduction of basic tools of the "Standard" and "Tools" packages, window "Table of contents", arrangement and properties of layers, tool "Select features" and "Data - Export Data". Defining a coordinate system, cartographic representations in ArcGIS. Introducing the options of the "Layer Properties" dialog box, working with the attribute table, working with files. Basic table editing, preparation and connection of databases (excel / shapefile) using the "Join" function. Working with paper maps, scale and measurement on maps. Orientation in the field using a map, compass, azimuth determination. Georeferencing. Point layer formation; principles of expressing point phenomena in ArcGIS. Linear layer formation; principles of expressing linear phenomena in ArcGIS, isolines. Merge lines, Split lines. Formation; principles of expressing surface phenomena in ArcGIS, Polygon, Auto Complete Polygon, Cut Polygon Tools, Merge polygons. Cartogram, cartodiagram. Map output creation - Layout view, page settings, Map export and output

parameters settings. Map composition - setting the map composition elements and creating map output.

Recommended literature:

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. KUSENDOVÁ, 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:

Notes:

Course assessment

Total number of assessed students: 169

A	B	C	D	E	FX
13.02	14.79	28.99	27.81	14.79	0.59

Provides: Mgr. Michaela Nováková, PhD., prof. Mgr. Jaroslav Hofierka, PhD., Mgr. Loránt Pregi, PhD., Mgr. Jozef Šupinský, PhD.

Date of last modification: 19.09.2023

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚGE/KRT2/21	**Course name:** Cartography and Geoinformatics 2

Course type, scope and the method:
Course type: Practice
Recommended course-load (hours):
Per week: 2 **Per study period:** 28
Course method: present

Number of ECTS credits: 2

Recommended semester/trimester of the course: 2.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 67

A	B	C	D	E	FX
56.72	22.39	11.94	5.97	0.0	2.99

Provides: Mgr. Ján Šašak, PhD., Mgr. Petra Dávidová

Date of last modification: 27.06.2022

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: KPPaPZ/KOM/25	**Course name:** Communication

Course type, scope and the method:
Course type: Practice
Recommended course-load (hours):
Per week: 2 **Per study period:** 28
Course method: present

Number of ECTS credits: 4

Recommended semester/trimester of the course: 3., 5.

Course level: I., P

Prerequisities:

Conditions for course completion:
1. Active participation in teaching (absence allowed max. 90 min.),
2. Implementation of assignments and presentation of assignments focused on the application of knowledge, skills and competence in the field of communication with a particular focus on teacher communication in the school environment.
Detailed information in the electronic bulletin board of the subject in AIS2.

Learning outcomes:
The student will acquire knowledge and information about the basics of verbal and non-verbal communication, communication errors, assertive and non-violent communication. The content of the subject will be enriched with knowledge, skills and competencies necessary for the work of a teacher.
The student is able to apply the acquired communication skills in practice, is able to apply effective principles and principles of communication with others, is able to anticipate and thus prevent possible misunderstandings, which will contribute to the development of his social and professional skills.
The student will acquire the competencies to communicate effectively in work and personal life, especially in the school environment.

Brief outline of the course:
Basics of communication (Transmitter-receiver principle, "What is said is not equal to what is heard", "Internal dialogue", The concept of communication)
Active listening (The most important criteria for active listening)
Misunderstandings (How Misunderstandings Arise, How to Avoid Misunderstandings)
Body language (What is body language, Active / passive body language, Dress psychology)
Signs of Physical Expression, Disadvantages of Fake Physical Expression, Difference Between Active and Passive Body Expression
Personality development (Voices in us, "child in me" - identification of one's own personality)
Basics of assertive and non-violent communication. Specifics of communication in the school environment.

Recommended literature:
ROSENBERG, M. B. 2023. Nenásilná komunikácia. Aktuell. 234 s.

VÝROST, Jozef - SLAMĚNÍK, Ivan. Sociální psychologie. 2., přepr. a rozš. vyd. Praha : GRADA, 2008. 408 s.
VÝROST, Jozef - SLAMĚNÍK, Ivan. Aplikovaná sociální psychologie I : Člověk a sociální instituce. 1. vyd. Praha : Portál, 1998. 384 s. ISBN 80-7178-269-6.
KOMÁRKOVÁ, Růžena - SLAMĚNÍK, Ivan - VÝROST, Jozef. Aplikovaná sociální psychologie III : Sociálněpsychologický výcvik. 1. vyd. Praha : Grada Publishing, 2001. 224 s.
VÝROST, Jozef - SLAMĚNÍK, Ivan. Aplikovaná sociální psychologie II. 1. vyd. Praha : Grada Publishing, 2001. 260 s.

Course language:
slovak

Notes:
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Course assessment
Total number of assessed students: 0

A	B	C	D	E	FX
0.0	0.0	0.0	0.0	0.0	0.0

Provides: PhDr. Anna Janovská, PhD., PhDr. Mojmír Trebuňák

Date of last modification: 04.02.2025

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: CJP/ PFAJKKA/07	**Course name:** Communicative Competence in English

Course type, scope and the method:
Course type: Practice
Recommended course-load (hours):
Per week: 2 **Per study period:** 28
Course method: present

Number of ECTS credits: 2

Recommended semester/trimester of the course:

Course level: I.

Prerequisities:

Conditions for course completion:
Active participation in class and completed homework assignments. Students are allowed to miss two classes at the most.
2 credit tests (presumably in weeks 6/7 and 12/13) and an oral presentation in English.
Final evaluation consists of the scores obtained for the 2 tests (50%).
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.

Learning outcomes:

Brief outline of the course:

Recommended literature:
www.bbclearningenglish.com
Štěpánek, Libor a kol. Academic English-Akademická angličtina. Praha: Grada Publishing, a.s., 2011.
McCarthy M., O'Dell F.: English Vocabulary in Use, Upper-Intermediate. CUP, 1994.
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.
Additional study materials.

Course language:
English language, B2-C1 level according to CEFR

Notes:

Course assessment
Total number of assessed students: 303

A	B	C	D	E	FX
45.21	21.12	17.49	7.59	5.94	2.64

Provides: Mgr. Barbara Mitríková, Mgr. Viktória Mária Slovenská

Date of last modification: 06.02.2025
Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: CJP/ PFAJGA/07	**Course name:** Communicative Grammar in English

Course type, scope and the method:
Course type: Practice
Recommended course-load (hours):
Per week: 2 **Per study period:** 28
Course method: present

Number of ECTS credits: 2

Recommended semester/trimester of the course:

Course level: I.

Prerequisities:

Conditions for course completion:
Active classroom participation (maximum 2 absences tolerated), homework assignments completed by given deadlines.
Presentation of a topic related to the study field.
Final Test - end of semester, no retake
Final assessment = average of test and presentation.
Grading scale: A 93-100%, B 86-92%, C 79-85%, D 72-78%, E 65-71%, FX 64% and less

Learning outcomes:
The development of students´ language skills - reading, writing, listening, speaking, improvement of their communicative linguistic competence. Students acquire knowledge of selected phonological, lexical and syntactic aspects, development of pragmatic competence. Students can efectively use the language for a given purpose, with focus on Academic English and English on level B2.

Brief outline of the course:
Selected aspects of English grammar and pronunciation
Word formation
Contrast of tenses in English
The passive voice
Types of Conditionals
Phrasal verbs and English idioms
Words order and collocations, prepositional phrases

Recommended literature:
Vince M.: Macmillan Grammar in Context, Macmillan, 2008
McCarthy, O'Dell: English Vocabulary in Use, CUP, 1994
www.linguahouse.com
esllibrary.com
bbclearningenglish.com
ted.com/talks

Course language:

English language, level B2 according to CEFR.

Notes:

Course assessment
Total number of assessed students: 446

A	B	C	D	E	FX
41.48	19.51	15.7	7.85	5.61	9.87

Provides: Mgr. Viktória Mária Slovenská, Mgr. Lýdia Markovičová, PhD.

Date of last modification: 08.02.2025

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: KGER/ NJKG/07	**Course name:** Communicative Grammar in German Language

Course type, scope and the method:
Course type: Practice
Recommended course-load (hours):
Per week: 2 **Per study period:** 28
Course method: present

Number of ECTS credits: 2

Recommended semester/trimester of the course:

Course level: I.

Prerequisities:

Conditions for course completion:
Active participation in class and completed homework assignments. Students are allowed to miss 2 classes at the most (2x90 min.). 2 control tests during the semester. 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.

Learning outcomes:
The aim of the course is to identify and eliminate the most frequent grammatical errors in oral and written communication, learning language skills of listening comprehension, speaking, reading and writing, increasing students 'language competence (acquisition of selected phonological, lexical and syntactic knowledge), development of students' pragmatic competence (acquisition of the ability to express selected language functions), development of presentation skills, etc.

Brief outline of the course:
The course is aimed at practicing and consolidating knowledge of morphology and syntax of German in order to show the context in grammar as a whole. The course is intended for students who often make grammatical errors in oral as well as written communication. Through the analysis of texts, audio recordings, tests, grammar exercises, monologic and dialogical expressions of students focused on specific grammatical structures, problematic cases are solved individually and in groups. Emphasis is placed on the balanced development of grammatical thinking in the communication process, which ultimately contributes to the development of all four language skills.

Recommended literature:
Dreyer, H. – Schmitt, R.: Lehr- und Übungsbuch der deutschen Grammatik. Hueber Verlag GmbH & Co. Ismaning, 2009.
Krüger, M.: Motive Kursbuch, Lektion 1 – 30. Huebert Verlag GmbH & Co. Ismaning, 2020.
Brill, L.M. – Techmer, M.: Deutsch. Großes Übungsbuch. Wortschatz. Huebert Verlag GmbH & Co. Ismaning, 2011.
Földeak, Hans: Sag's besser!. Grammatik. Arbeitsbuch für Fortgeschrittene. Huebert Verlag GmbH & Co. Ismaning, 2001.
Geiger, S. – Dinsel, S.: Deutsch Übungsbuch Grammatik A2-B2. Huebert Verlag GmbH & Co. Ismaning, 2018.
Dittelová, E. – Zavatčanová, M.: Einführung in das Studium der deutschen Fachsprache. Košice: ES UPJŠ, 2000.

Course language:
German, Slovak language

Notes:

Course assessment
Total number of assessed students: 58

A	B	C	D	E	FX
62.07	10.34	8.62	3.45	8.62	6.9

Provides: Mgr. Ulrika Strömplová, PhD.

Date of last modification: 13.08.2024

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: KPPaPZ/ MANAG/25	**Course name:** Conflict Management

Course type, scope and the method:
Course type: Practice
Recommended course-load (hours):
Per week: 2 **Per study period:** 28
Course method: present

Number of ECTS credits: 4

Recommended semester/trimester of the course: 3., 5.

Course level: I., P

Prerequisities:

Conditions for course completion:
The conditions for passing the course are as follows:
1. Active participation in exercises. Max. the missed range is 90 min.
2. Submission of the reflection on the selected topic within the specified time. Reflection topic: My strengths and weaknesses in conflict management. In a short presentation of their reflection, in the form of deconstruction, students will describe their strengths and weaknesses in the management of conflict situations with a focus on the application of knowledge, skills and competences needed in conflict situations in the work environment and the school environment.
The evaluation of the course and its subsequent completion will be based on clearly and objectively set requirements, which will be set in advance and will not change. The aim of the assessment is to ensure an objective and fair mapping of the student's knowledge while adhering to all ethical and moral standards. There is no tolerance for students' fraudulent behavior, whether in the teaching process or in the assessment process.

Learning outcomes:
Successful mastery and demonstration of knowledge in the field of conflict management and control of basic rules.
The method of teaching the subject will be oriented to the student. Lecturers will be interested in students' needs, expectations and opinions so as to encourage them to think critically by expressing respect and feedback on their opinions and needs.
The content of the curriculum will be based on primary and high-quality sources that will reflect the topicality of the topics so as to ensure the connection of the curriculum with other subjects and also the connection of the curriculum with practice. Students will be expected to take an active approach in lectures and seminars with an emphasis on their independence and responsibility.
The student is able to demonstrate an understanding of an individual's behavior in various conflict situations. The student is able to describe, explain and evaluate their own internal resources, competencies as well as limitations and weaknesses that are directly related to conflict management. The student is able to apply theoretical knowledge and principles of conflict resolution to everyday situations.
After completing the course, students will be able to: a) express and summarize basic knowledge related to conflict management; b) understand the basic rules and dynamics of the origin, course

and termination of the conflict; c) apply knowledge in practice, e.g. in the school environment; d) apply key competencies that increase the possibilities of their application in all areas of practice with a special focus on the work of a teacher. They will acquire knowledge from the theory of conflict management as well as capabilities and competences for solving them, e.g. in the context of school teams.

Brief outline of the course:
Disputes and their causes (Types of disputes, External influences, Be able to reveal the causes of disputes), Dispute origin (Levels of disputes, Escalation warning signals, Escalation removal strategies, Know how to explain escalation stages; How do I approach a dispute?) Dispute Resolution, Dispute Resolution Strategies, Dispute Discussion, Dispute Settlement Initiatives, Knowing how to handle a dispute and how to effectively resolve it), Dispute Resolution (Options, Public Struggle, Covert Struggle, Indefinite Postponement, Agreement, “Fair play ”, compromise, cooperation, capitulation, escape or separation), Prevention (Structures that produce disputes, The meaning and purpose of disputes, Stages and steps of dispute resolution, What does a positive corporate culture mean? Dispute is an incentive for change)

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 0

A	B	C	D	E	FX
0.0	0.0	0.0	0.0	0.0	0.0

Provides: Mgr. Ondrej Kalina, PhD., Mgr. Veronika Borgoňová, PhD.

Date of last modification: 04.02.2025

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚGE/ KULG/21	**Course name:** Cultural Geography

Course type, scope and the method:
Course type: Lecture / Practice
Recommended course-load (hours):
Per week: 2 / 1 **Per study period:** 28 / 14
Course method: present

Number of ECTS credits: 4

Recommended semester/trimester of the course: 5.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 52

A	B	C	D	E	FX
57.69	19.23	21.15	1.92	0.0	0.0

Provides: Mgr. Marián Kulla, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

Date of last modification: 27.06.2022

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚGE/ DTG/21	**Course name:** Digital technologies in geography

Course type, scope and the method:
Course type: Practice
Recommended course-load (hours):
Per week: 2 **Per study period:** 28
Course method: present

Number of ECTS credits: 2

Recommended semester/trimester of the course: 1.

Course level: I.

Prerequisities:

Conditions for course completion:
Assessment is based on a combination of midterm (30%) and final assessment (70%) at the end of the semester. The overall evaluation is calculated as a weighted average of the final and midterm evaluation. The evaluation scheme applies to the overall evaluation: A (100-90 points), B (80-89 points), C (70-79 points), D (60-69 points), E (50-59 points), FX (0 -49 points).

Learning outcomes:
Knowledge: The student will gain knowledge in the field of information and communication technologies specific to the study of geography and geoinformatics. The student will learn to search for and sort different types of information. The acquired knowledge will be used in working with professional literature published in scientific databases and selected geospatial databases.
Skills: The student will learn to work with selected WebGIS portals publishing geodata and use databases of scientific journals and citation manager. They will learn the basic methods of modifying different types of data in order to prepare them for integration into GIS. They will get acquainted with the license conditions of the used software within the department. Gain advanced knowledge of using Office.
Competences: The student will acquire basic competencies in the field of ICT needed for the study of geography. The result is the student's ability to manage the study fluently and smoothly in terms of ICT literacy. The student is able to independently use ICT tools.

Brief outline of the course:
Important and useful information regarding the study, standards and services provided by the university for students (WiFi, information retrieval, websites, citation manager - CitacePro) operating systems, data types, file types, software used. Work with statistical data, DataCube, SO SR, Soil portal, ŠGÚDŠ, Geoenviroportal, Geoportal and similar web applications. Explanation of the essence of vector and raster graphics, graphic formats and their use. Work with spreadsheet and databases (formulas, contingency tables and graphs), advanced work and formatting in MS Word. Using MS PowerPoint to create presentations and posters.

Recommended literature:
KAŇUK, J., 2015. Priestorové analýzy a modelovanie. Vysokoškolské učebné texty. Prírodovedecká fakulta Univerzity Pavla Jozefa Šafárika v Košiciach. 114 s.

ŽITNIAK, J., 2017. Microsoft Office 2016. Podrobná uživatelská příručka. Computer Press. 464 s.
KLATKOVSKÝ, K., 2016. Word 2016 nejen pro školy. Computer Media. 124 s.
KLATKOVSKÝ, K., 2016. Powerpoint 2016 nejen pro školy. Computer Media. 80 s.
LAURENČÍK, M., 2019. Excel 2016 a 2019 - pokročilé nástroje, Grada, 256 s.

Course language:

Notes:

Course assessment
Total number of assessed students: 172

A	B	C	D	E	FX
58.14	23.84	11.63	3.49	1.16	1.74

Provides: Mgr. Petra Dávidová

Date of last modification: 27.06.2022

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚMV/ DSMa/10	**Course name:** Discrete mathematics I
Course type, scope and the method: **Course type:** Lecture / Practice **Recommended course-load (hours):** **Per week:** 2 / 2 **Per study period:** 28 / 28 **Course method:** present	
Number of ECTS credits: 5	
Recommended semester/trimester of the course: 3.	
Course level: I.	
Prerequisities:	
Conditions for course completion: Examination.	
Learning outcomes: To be familiar with some factual knowledge of combinatorics and graph theory. To understand an appreciate mathematical notions, definitions, and proofs, to solve problems requiring more than just standard recipes, and to express mathematical thoughts precisely and more rigorously.	
Brief outline of the course: 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	
Recommended literature: 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. 3. S. Jendroľ, P. Mihók: Diskrétna matematika I, UPJŠ Košice 1992.	
Course language: Slovak	
Notes:	

Course assessment
Total number of assessed students: 792

A	B	C	D	E	FX
13.26	13.13	16.54	19.95	30.3	6.82

Provides: doc. RNDr. Roman Soták, PhD., RNDr. Alfréd Onderko, PhD.

Date of last modification: 16.04.2022

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚMV/ DSM2b/22	**Course name:** Discrete mathematics II

Course type, scope and the method:
Course type: Lecture / Practice
Recommended course-load (hours):
Per week: 2 / 2 **Per study period:** 28 / 28
Course method: present

Number of ECTS credits: 4

Recommended semester/trimester of the course: 4., 6.

Course level: I.

Prerequisities: ÚMV/DSMa/10 or ÚMV/DSM3a/10

Conditions for course completion:
In the covered areas of graph theory, the ability to formulate definitions and statements, to present proofs of statements, to explain individual steps in proofs and to solve selected problems related to given topics is required.
During the semester (continuous assessment) two tests take place, from which 50% of points can be obtained, and from the oral exam alike 50% can be obtained. Evaluation: A ... at least 90%, B ... at least 80%, C ... at least 70%, D ... at least 60%, E ... at least 50%, FX ... less than 50% .

Learning outcomes:
Acquired knowledge of basic areas of graph theory, overview of used objects and properties, understanding of important statements and methods, knowledge of possible applications and the ability to formulate and solve problems in this area.

Brief outline of the course:
- (week 1) Introduction to graphs (graph relations, graph operations, special graph classes)
- (week 2-3) Connectivity and distance in graphs (connectedness of vertices, eccentricity, incidence matrix)
- (week 4) (Spanning) Trees (trees isomorphism)
- (week 5-6) Connectivity in graphs (vertex and edge k-connectedness)
- (week (7-8) Independence and coverings (independent set, matching, vertex and edge covering)
- (week 9-10) Extremal graph theory (Ramsey numbers, Turán graphs)
- (week 11-13) Graph colorings (vertex coloring, chromatic polynomial, edge coloring)
- (week 14) Directed graphs (strong/weak connectedness, tounaments, acyclic graphs)

Recommended literature:
1. A. Bondy, U.S.R. Murty, Graph theory, Springer, 2008
2. G. Chartrand, L. Lesniak, P. Zhang, Graphs and digraphs, CRC Press, 2011
3. R. Diestel, Graph Theory, Springer, 2017
4. D. West, Introduction to Graph Theory, Pearson, 2001

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 247

A	B	C	D	E	FX
14.57	11.74	25.1	24.7	18.62	5.26

Provides: RNDr. Igor Fabrici, Dr. rer. nat., RNDr. Alfréd Onderko, PhD.

Date of last modification: 16.04.2022

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: KPPaPZ/PUDB/15	**Course name:** Drug Addiction Prevention in University Students

Course type, scope and the method:
Course type: Practice
Recommended course-load (hours):
Per week: 2 **Per study period:** 28
Course method: present

Number of ECTS credits: 2

Recommended semester/trimester of the course: 3., 5.

Course level: I.

Prerequisities:

Conditions for course completion:
1st of the evaluation: active participation in the training part (30p). 2nd part of the evaluation: active participation in workshops (20p). In total, students can get 50p and the final evaluation is as follows: 50 - 45: A; 44 - 40: B; 39-35: C; 34-30: D; 29 - 25: E 24 and less: FX. Detailed information in the electronic bulletin board of the course in AIS2. The teaching of the subject will be realized by a combined method.

Learning outcomes:
The student understands the principals of research data based prevention of risk behavior, can describe and explain the determinants of risk behavior as well as protective and risk factors for substance use. Student understands and adequately interprets the theory explaining the background of substance and non-substance addictions.
The student is also able to state and classify the types and forms of prevention, strategies and approaches in prevention, can distinguish effective strategies from ineffective ones.
The student is able to adequately interpret their experience with preventive activities in the group and assume their positive effect as well as limitations and threats.

Brief outline of the course:

Recommended literature:
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.
National and international scientific journals.

Course language:
slovak

Notes:

Course assessment
Total number of assessed students: 663

A	B	C	D	E	FX
79.34	14.93	3.92	1.36	0.15	0.3

Provides: prof. PhDr. Oľga Orosová, CSc., Mgr. Janka Liptáková, PhDr. Anna Janovská, PhD., Mgr. Zuzana Michalove

Date of last modification: 24.06.2022

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚGE/ EKG/21	**Course name:** Economic geography

Course type, scope and the method:
Course type: Lecture / Practice
Recommended course-load (hours):
Per week: 3 / 1 **Per study period:** 42 / 14
Course method: present

Number of ECTS credits: 6

Recommended semester/trimester of the course: 3.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 110

A	B	C	D	E	FX
12.73	12.73	21.82	23.64	25.45	3.64

Provides: Mgr. Marián Kulla, PhD., doc. Mgr. Ladislav Novotný, PhD., Mgr. Nikola Svetozarov

Date of last modification: 27.06.2022

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚINF/ EDS/15	**Course name:** Educational software
Course type, scope and the method: **Course type:** Practice **Recommended course-load (hours):** **Per week:** 2 **Per study period:** 28 **Course method:** present	
Number of ECTS credits: 2	
Recommended semester/trimester of the course: 5.	
Course level: I.	
Prerequisities:	
Conditions for course completion: Conditions for ongoing evaluation: 1. Creation of a worksheet for student. 2. Creation of a multimedia educational game. 3. Creation of an interactive educational quiz. 4. Creation of an instructional educational video. Conditions for the final evaluation: Creation and presentation of final project on the use of educational software in education. Conditions for successful completion of the course: Obtaining at least 50% of points for ongoing and final assignments.	
Learning outcomes: Students will receive, resp. deepen their basic skills in working with: a) presentation software, programs for creating and editing images, animations, diagrams, sounds, conceptual maps, b) programs for the creation of didactic tests, questionnaires, surveys, c) simulation and modeling software, d) selected subject-oriented educational programs, Students present and discuss their idea of the use of educational software and educational Internet resources and tools in the selected school subject.	
Brief outline of the course: 1. Overview of educational software and educational web resources and tools. 2. Creating and processing of materials for teaching aid . 3. Creation and use of electronic and interactive educational documents (worksheets, presentations, textbooks and workbooks). 4. Creation of instructional educational video. 5. Electronic voting and questionnaire creation. 6. Creation of didactic tests and educational games. Gamification elements, tools and environments. 7. Collaborative web applications. 8. Online communication tools. 9. Complex online learning environments.	

10. Online educational platforms, repositories, projects and competitions.
11. Simulations and modelling. Subject-focused educational programmes.
12. Use digital tools to plan, monitor, differentiate and personalise learning. Accessibility of digital tools and learning resources.

Recommended literature:

SOLOMON, Gwen and Lynne SCHRUM, 2014. Web 2.0 How-to for Educators. Second. International Society for Technology in Education, 314 p. ISBN 978-1564843517.
STOBAUGH, Rebecca, 2019. Fifty Strategies to Boost Cognitive Engagement: Creating a Thinking Culture in the Classroom (50 Teaching Strategies to Support Cognitive Development). Solution Tree Press, 176 p. ISBN 978-1947604773.
LEMOV, Doug, 2015. Teach Like a Champion 2. 0: 62 Techniques That Put Students on the Path to College [online]. 2nd edition. John Wiley & Sons, Incorporated, 509 p. [cited 2021-7-10]. ISBN 9781118898628. Available from: https://ebookcentral.proquest.com/lib/upjs-ebooks/detail.action?docID=1895720
European Schoolnet: Transforming education in Europe [online]. [cited 2021-7-10]. Available from: http://www.eun.org/home
Science On Stage Europe [online]. Science on Stage Europe e.V. [cited 2021-7-10]. Available from: https://www.science-on-stage.eu/

Course language:
Slovak and partly English due to selected programs and information sources

Notes:
By default, teaching is carried out face to face. If this is not possible (eg due to a pandemic), teaching is provided at a distance through video conferencing programs and LMS.

Course assessment
Total number of assessed students: 106

A	B	C	D	E	FX
76.42	11.32	7.55	0.0	4.72	0.0

Provides: Ing. Zuzana Tkáčová, Ing.Paed.IGIP.

Date of last modification: 16.03.2024

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: CJP/ PFAJ4/07	**Course name:** English Language of Natural Science

Course type, scope and the method:
Course type: Practice
Recommended course-load (hours):
Per week: 2 **Per study period:** 28
Course method: present

Number of ECTS credits: 2

Recommended semester/trimester of the course: 4.

Course level: I.

Prerequisities:

Conditions for course completion:
Active participation in class and completed homework assignments. Students are allowed to miss 2 classes at the most
Continuous assessment:
1 credit test taken presumably in weeks 6/7
1 project (quiz on the topic of the student´s field of study) 25% of the continuous assessment
5 LMS quizzes (25% of the continuous assessment)
In order to be admitted to the final exam, a student has to score at least 65 % from the continuous assessment
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.

Learning outcomes:
Enhancement of students' language skills (speaking, writing, reading and listening comprehension) in English for specific and academic purposes and development of students' linguistic competence. Students obtain knowledge of selected phonological, lexical and syntactic aspects of professional English, improve their pragmatic competence - students can effectively use the language for a given purpose, and acquire presentation skills at B2 level (CEFR) with focus on terminology of natural sciences.

Brief outline of the course:
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:

lms.upjs.sk - e-kurz Odborný anglický jazyk pre prírodné vedy.
Redman, S.: English Vocabulary in Use, Pre-intermetdiate, Intermediate. Cambridge University Press, 2003.
Armer, T.: Cambridge English for Scientists. CUP, 2011.
Wharton J.: Academic Encounters. The Natural World. CUP, 2009.
P. Fitzgerald : English for ICT studies. Garnet Publishing, 2011.
https://worldservice/learningenglish, https://spectator.sme.sk
www.isllibrary.com
linguahouse.com

Course language:

English, level B2 (CEFR)

Notes:

Course assessment

Total number of assessed students: 3246

A	B	C	D	E	FX
38.63	26.31	16.3	9.52	7.18	2.06

Provides: Mgr. Viktória Mária Slovenská

Date of last modification: 06.02.2024

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚGE/ENG1/21	**Course name:** Environmental Geology

Course type, scope and the method:
Course type: Lecture / Practice
Recommended course-load (hours):
Per week: 1 / 1 **Per study period:** 14 / 14
Course method: present

Number of ECTS credits: 3

Recommended semester/trimester of the course: 3.

Course level: I., II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 12

A	B	C	D	E	FX
8.33	41.67	41.67	8.33	0.0	0.0

Provides: doc. Ing. Katarína Bónová, PhD., Mgr. Imrich Sládek, PhD.

Date of last modification: 08.02.2025

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚGE/ HYP/15	**Course name:** Fieldwork in Hydrology

Course type, scope and the method:
Course type: Practice
Recommended course-load (hours):
Per week: 2 **Per study period:** 28
Course method: present

Number of ECTS credits: 3

Recommended semester/trimester of the course: 4.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 80

A	B	C	D	E	FX
93.75	5.0	0.0	1.25	0.0	0.0

Provides: RNDr. Alena Gessert, PhD., univerzitná docentka, Mgr. Jozef Šupinský, PhD.

Date of last modification: 13.02.2025

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚMV/ FRPa/19	**Course name:** Function of real variable

Course type, scope and the method:
Course type: Lecture / Practice
Recommended course-load (hours):
Per week: 2 / 4 **Per study period:** 28 / 56
Course method: present

Number of ECTS credits: 7

Recommended semester/trimester of the course: 1.

Course level: I.

Prerequisities:

Conditions for course completion:
Continuous assessment of student's work during the semester (submission of compulsory homework, writing three tests). Final test and oral discussion on the topics of the subject.

Learning outcomes:
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.

Brief outline of the course:
1. Basics of mathematical logic and notations (1 week)
2. Real functions - basic notions, operation, graphs and their transformations (2 weeks)
3. Continuity of a real-valued function (1 week)
4. Derivative of a function using the geometric concepts, rules of differentiation (2 weeks)
5. Basic of differential calculus - relations with monotonicity and convexity, extremas, using in optimisation, geometric and physics tasks (2 weeks)
6. Primitive function, methods of their finding (3 weeks)
7. Newton definite integral - methods of its computation, using in geometric and physics tasks (2 weeks)

Recommended literature:
1. Kulcsár, Š. - Kulcsárová, O.: Zbierka úloh z matematickej analýzy I., UPJŠ, 2002.
2. Kulcsár, Š. - Kulcsárová, O.: Zbierka úloh z matematickej analýzy II., UPJŠ, 2003.
3. Hutník, O. - Kulcsár, Š. - Kulcsárová, O. - Mojsej, I.: Zbierka úloh z matematickej analýzy III., UPJŠ, 2011.
4. Demidovič, B. P.: Sbírka úloh a cvičení z matematické analýzy, Fragment, Praha, 2003.
5. Brannan, D.: A First Course in Mathematical Analysis, Cambridge University Press, Cambridge 2006.
6. Bruckner, A. M., Bruckner J. B., Thomson, B. S.: Real Analysis, Second Edition, ClassicalRealAnalysis.com, 2008.
7. Zorich, V. A.: Mathematical Analysis I, Springer-Verlag 2002.

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 946

A	B	C	D	E	FX
8.25	8.14	17.12	20.3	29.7	16.49

Provides: prof. RNDr. Ondrej Hutník, PhD., RNDr. Lenka Halčinová, PhD., RNDr. Jana Borzová, PhD., RNDr. Miriam Kleinová, PhD., RNDr. Kristína Hurajová

Date of last modification: 16.04.2022

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚGE/ GEP2/18	**Course name:** Fundamentals of Geology for Geographers

Course type, scope and the method:
Course type: Lecture / Practice
Recommended course-load (hours):
Per week: 2 / 2 **Per study period:** 28 / 28
Course method: present

Number of ECTS credits: 6

Recommended semester/trimester of the course: 1.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:
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 overcame metamorphosis, basics of the regional geology of Slovakia, basics of the historical geology and paleontology.

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 1246

A	B	C	D	E	FX
7.62	18.3	32.42	25.92	9.79	5.94

Provides: doc. Ing. Katarína Bónová, PhD., Mgr. Anton Uhrin

Date of last modification: 30.09.2021

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚGE/ GIS/15	**Course name:** Geographic Information Systems

Course type, scope and the method:
Course type: Lecture / Practice
Recommended course-load (hours):
Per week: 2 / 2 **Per study period:** 28 / 28
Course method: present

Number of ECTS credits: 6

Recommended semester/trimester of the course: 3.

Course level: I.

Prerequisities:

Conditions for course completion:
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 2 written tests in the mid-term and end of the semester and a project report generated according to the assignment and practical skills acquired during the practicals. The student can proceed to the final exam in case he or she acquired at least 50 points of 100 in all elements of the the continual assessment. The final assessment mark is based on the average number points received in the mid-term test, project report, practicals assessment, and final exam. The final exam is a written test comprising 3-4 questions. 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).

Learning outcomes:
The students gain knowledge on the intermediate levele in the theory of geoinformation science, GIS, and Remote Sensing, GIS data models, methods of data processing and spatial analysis.
They gain practical skills in processing of geographic data, management, analysis, and visualisation of the geographic data in a GIS project.
Students acquire competence in defining a GIS project, suitabla data models, methods of data acquisition, data processing, analysis and visualisation, presentation skills and skills in team work.

Brief outline of the course:
The course is focused on the following topics: geoinformatics as a scientific discipline, components of geographic information system, digital landscape representation and data models, GIS standards for coordinate systems and transformations, collection of geographic data for GIS (GNSS, photogrammetry, multispectral satellite imagery, lidar, radar) , data management in GIS, attribute and spatial demands, layer overlap, map algebra, spatial prediction, quality and uncertainty of geographic data, GIS web solutions, legislative aspects in GIS, GIS applications in practice.
Exercises are focused on working in ArcGIS Pro: basic and advanced vectorization, data organization in the geodatabase, import / export of various data formats to GIS, creation of color compositions from satellite images, mapping, 3D visualization and animation of geographic data, geoprocessing, map algebra, spatial and attribute demands, spatial prediction, analysis of digital

elevation models (DEM). Students learn the topics of the semester project in the middle of the semester and solve the assigned task in the team using the skills and knowledge acquired during the semester.

Recommended literature:

Course language:
Slovak or Czech or English

Notes:

Course assessment
Total number of assessed students: 414

A	B	C	D	E	FX
27.54	27.05	27.29	12.8	5.31	0.0

Provides: doc. Mgr. Michal Gallay, PhD., Mgr. Michaela Nováková, PhD.

Date of last modification: 27.06.2022

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚGE/ GEOM1/21	**Course name:** Geography

Course type, scope and the method:
Course type:
Recommended course-load (hours):
Per week: Per study period:
Course method: present

Number of ECTS credits: 2

Recommended semester/trimester of the course:

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 36

A	B	C	D	E	FX
19.44	11.11	11.11	25.0	30.56	2.78

Provides:

Date of last modification: 26.02.2025

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚGE/ GNB/21	**Course name:** Geography of Religion

Course type, scope and the method:
Course type: Lecture / Practice
Recommended course-load (hours):
Per week: 1 / 1 **Per study period:** 14 / 14
Course method: present

Number of ECTS credits: 3

Recommended semester/trimester of the course: 3.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 28

A	B	C	D	E	FX
17.86	14.29	32.14	25.0	10.71	0.0

Provides: doc. Mgr. Ladislav Novotný, PhD.

Date of last modification: 27.06.2022

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚGE/GPOL/21	**Course name:** Geography of agriculture and industry

Course type, scope and the method:
Course type: Lecture / Practice
Recommended course-load (hours):
Per week: 1 / 1 **Per study period:** 14 / 14
Course method: present

Number of ECTS credits: 3

Recommended semester/trimester of the course: 4.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 19

A	B	C	D	E	FX
31.58	15.79	26.32	10.53	15.79	0.0

Provides: Mgr. Marián Kulla, PhD., doc. Mgr. Ladislav Novotný, PhD.

Date of last modification: 14.02.2023

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚGE/ MOG/24	**Course name:** Geography of mining

Course type, scope and the method:
Course type: Lecture / Practice
Recommended course-load (hours):
Per week: 1 / 1 **Per study period:** 14 / 14
Course method: present

Number of ECTS credits: 2

Recommended semester/trimester of the course: 2.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 1

A	B	C	D	E	FX
100.0	0.0	0.0	0.0	0.0	0.0

Provides: doc. Ing. Katarína Bónová, PhD., Mgr. Imrich Sládek, PhD.

Date of last modification: 05.02.2025

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚGE/ GST/21	**Course name:** Geography of services and tourism

Course type, scope and the method:
Course type: Lecture / Practice
Recommended course-load (hours):
Per week: 1 / 1 **Per study period:** 14 / 14
Course method: present

Number of ECTS credits: 3

Recommended semester/trimester of the course: 5.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 20

A	B	C	D	E	FX
20.0	25.0	30.0	20.0	5.0	0.0

Provides: Mgr. Marián Kulla, PhD., doc. Mgr. Ladislav Novotný, PhD., doc. Mgr. Michal Gallay, PhD.

Date of last modification: 27.06.2022

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚGE/ GCR1/21	**Course name:** Geography of the Czech Republic

Course type, scope and the method:
Course type: Lecture / Practice
Recommended course-load (hours):
Per week: 2 / 1 **Per study period:** 28 / 14
Course method: present

Number of ECTS credits: 4

Recommended semester/trimester of the course: 5.

Course level: I., II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 16

A	B	C	D	E	FX
25.0	12.5	43.75	12.5	6.25	0.0

Provides: Mgr. Marián Kulla, PhD., doc. Mgr. Ladislav Novotný, PhD., Mgr. Imrich Sládek, PhD.

Date of last modification: 27.06.2022

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚGE/ GAH/21	**Course name:** Geography of the atmosphere and hydrosphere

Course type, scope and the method:
Course type: Lecture / Practice
Recommended course-load (hours):
Per week: 3 / 1 **Per study period:** 42 / 14
Course method: present

Number of ECTS credits: 6

Recommended semester/trimester of the course: 3.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 107

A	B	C	D	E	FX
8.41	21.5	33.64	30.84	5.61	0.0

Provides: RNDr. Alena Gessert, PhD., univerzitná docentka, prof. Mgr. Jaroslav Hofierka, PhD., Mgr. Tomáš Fedor, Mgr. Jozef Šupinský, PhD.

Date of last modification: 27.06.2022

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚGE/ GPED/21	**Course name:** Geography of the pedosphere and biosphere

Course type, scope and the method:
Course type: Lecture / Practice
Recommended course-load (hours):
Per week: 3 / 1 **Per study period:** 42 / 14
Course method: present

Number of ECTS credits: 6

Recommended semester/trimester of the course: 4.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 75

A	B	C	D	E	FX
0.0	5.33	14.67	33.33	28.0	18.67

Provides: doc. Mgr. Michal Gallay, PhD., RNDr. Alena Gessert, PhD., univerzitná docentka, Mgr. Anton Uhrin, Mgr. Jozef Šupinský, PhD.

Date of last modification: 07.02.2025

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚGE/ SGI2/21	**Course name:** Geoinformatics seminar
Course type, scope and the method: **Course type:** Practice **Recommended course-load (hours):** **Per week:** 2 **Per study period:** 28 **Course method:** present	
Number of ECTS credits: 3	
Recommended semester/trimester of the course: 6.	
Course level: I.	
Prerequisities:	
Conditions for course completion:	
Learning outcomes:	
Brief outline of the course:	
Recommended literature:	
Course language:	
Notes:	

Course assessment
Total number of assessed students: 13

abs	n
100.0	0.0

Provides: doc. Mgr. Michal Gallay, PhD., Mgr. Katarína Onačillová, PhD.
Date of last modification: 27.06.2022
Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚGE/ GEX2/21	**Course name:** Geological excursion
Course type, scope and the method: **Course type:** Practice **Recommended course-load (hours):** **Per week: Per study period:** 3d **Course method:** present	
Number of ECTS credits: 2	
Recommended semester/trimester of the course: 2.	
Course level: I.	
Prerequisities:	
Conditions for course completion:	
Learning outcomes:	
Brief outline of the course:	
Recommended literature:	
Course language:	
Notes:	

Course assessment
Total number of assessed students: 94

abs	n
100.0	0.0

Provides: doc. Ing. Katarína Bónová, PhD.
Date of last modification: 27.06.2022
Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚMV/ GEO2a/24	**Course name:** Geometry I

Course type, scope and the method:
Course type: Lecture / Practice
Recommended course-load (hours):
Per week: 2 / 2 **Per study period:** 28 / 28
Course method: present

Number of ECTS credits: 4

Recommended semester/trimester of the course: 2.

Course level: I.

Prerequisities:

Conditions for course completion:
In the covered areas of geometry, the ability to formulate definitions and statements, to present proofs of statements, to explain individual steps in proofs and to solve selected problems related to given topics is required. During the semester (continuous assessment) a test take place, from which 50% of points can be obtained, and from the oral exam the remaining 50% can be obtained. Evaluation: A ... at least 90%, B ... at least 80%, C ... at least 70%, D ... at least 60%, E ... at least 50%, FX ... less than 50%

Learning outcomes:
Acquired knowledge about the axiom system of Euclidean geometry, about the validity of the basic tools of planimetry, about sets of points of a given property, about congruence transformations and homothety in the plane, about important points, lines and circles in triangles and about quadrilaterals and their properties. The ability to use the above knowledges and tools to solve problems on this area. A new look at classical geometric results.

Brief outline of the course:
- (week 1-3) Hilbert's axiom system (axioms, triangle congruence theorems, pairs of congruent or "complementary" angles, basic proportionality theorem, triangle similarity theorems)
- (week 4-5) Basic tools of planimetry (Euclid's theorem, Pythagorean theorem, Thales' theorem, law of cosines, extended law of sines, central and inscribed angle theorem, area of a triangle)
- (week 6) Point sets of the given property (bisectors, equidistants, Apollonius circle)
- (week 7) Transformations (congruence transformations of the plane, homothety in the plane)
- (week 8-11) Points and lines connected with a triangle (Menelaus's theorem, Ceva's theorem, points of interest, the incircle and excircles, pedal triangles, Euler line, nine-point circle, Simson lines)
- (week 12-13) Quadrangles (Varignon's parallelogram, cyclic quadrangles, Ptolemy's theorem, Brahmagupta's formula)

Recommended literature:
1. D. Hilbert, Grundlagen der Geometrie, Teubner, 1968.
2. H.G. Forder, Foundations of Euclidean geometry, Dover Publ., 1958.
3. H.S.M. Coxeter, S.L. Greitzer, Geometry revisited, MAA, 1967.
4. R.A. Johnson, Advanced Euclidean geometry, Dover Publ., 2007.

5. D.A. Brannan, M.F. Esplen, J.J. Gray, Geometry, Cambridge Univ. Press, 2007.

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 104

A	B	C	D	E	FX
12.5	9.62	27.88	18.27	23.08	8.65

Provides: RNDr. Igor Fabrici, Dr. rer. nat.

Date of last modification: 29.02.2024

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚMV/ GEO2b/22	**Course name:** Geometry II

Course type, scope and the method:
Course type: Lecture / Practice
Recommended course-load (hours):
Per week: 1 / 1 **Per study period:** 14 / 14
Course method: present

Number of ECTS credits: 2

Recommended semester/trimester of the course: 3.

Course level: I.

Prerequisities: ÚMV/GEO2a/24

Conditions for course completion:
Mastering the terminology of stereometry, basic properties of geometric solids, understanding concepts, basic stereometric definitions and theorems.
Understanding and using basic transformation methods for projection of solids,
effective use of suitable methods in the construction of planar cutting bodies, in the construction of the intersection of a line with a solid and in solving metric problems.
The conditions of the continuous assessment are active participation in the exercises, elaboration of home assignments and elaboration of two tests. Evaluation: A ... at least 90%, B ... at least 80%, C ... at least 70%, D ... at least 60%, E ... at least 50%, FX ... less than 50%

Learning outcomes:
An important result of education is the deepening and developing of knowledge of school stereometry and the development of the ability to apply a synthetic approach in deriving and proving relationships in stereometry and in their use in solving problems. The construction of solid images and problem solving will develop analytical thinking and spatial imagination of students.

Brief outline of the course:
- basic properties of geometric solids in space,
- images of solids in parallel projection,
- basic stereometric theorems (relative positions of straight lines, parallelism of a line and a plane, parallelism of two planes, relative position of three planes, perpendicularity of a line and a plane, perpendicularity of two planes),
- positional and metric properties of spatial solids (cuttings of polyhedrons, distances and angles of points, straight lines, planes, intersection of a straight line with a solid, intersection of planes),
- properties of polyhedrons, Euler's theorem, regular polyhedrons (Platonic solids, their number and properties)
- volume and surface area of solids and their parts, Cavalieri's principle
- projection methods (principle of parallel and central projection, axial affinity, use of axial affinity in the construction of cuts of prisms and cylinders, basics of Monge's Projection).

Recommended literature:
1. Pomykalová, E.: Matematika pro gymnázia - Stereometrie. Prometheus, 2009.

2. Šedivý, O., Pavlovičová, G., Rumanová, L., Vallo, D.: Stereometria. Umenie vidieť a predstavovať si priestor. Nitra, 2007.
3. Kuřina, F.: Deset pohledů na geometrii. Praha: MÚ AV ČR, 1996.

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 45

A	B	C	D	E	FX
8.89	13.33	26.67	15.56	33.33	2.22

Provides: doc. RNDr. Stanislav Lukáč, PhD.

Date of last modification: 20.04.2022

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚMV/ GEO2c/22	**Course name:** Geometry III

Course type, scope and the method:
Course type: Lecture / Practice
Recommended course-load (hours):
Per week: 2 / 2 **Per study period:** 28 / 28
Course method: present

Number of ECTS credits: 4

Recommended semester/trimester of the course: 4.

Course level: I.

Prerequisities: ÚMV/ALG2b/22

Conditions for course completion:
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 50% max. number of points

Learning outcomes:
Mastering the basics of the theory of linear and quadratic formations in the Affine and Euclidean space, mastering the methods of solving problems in analytical geometry in relation to the secondary school curriculum.

Brief outline of the course:
1. Affine n-dimensional space - definition, linear coordinate system.
2. Subspace and its parametric expression, general equation of superplane, subspace as intersection of superstructures, general equations of subspace
3. Mutual position of subspaces, orientation of affine space, change of coordinate system
4. Arrangement of points on a line, half-spaces
5. Scalar product, external product, vector product of vectors and their basic properties
6. Euclidean space and its subspaces, Cartesian coordinate system
7. Perpendicularity of subspaces, distance of point from subspace, distance of point from superstructure, distance of subspaces,
8. Deviation of two lines, two superstructures, line and superplane, deviation of line and subspace
9. Axis of two extraterrestrial subspaces, Gram determinant, examples in E2 and E3

Recommended literature:
1. M.Sekanina, L.Boček, M.Kočandrle, 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

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 227

A	B	C	D	E	FX
19.38	23.35	22.03	17.62	10.13	7.49

Provides: doc. RNDr. Roman Soták, PhD., RNDr. Daniela Šabaková, Mgr. Diana Švecová

Date of last modification: 17.04.2022

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚMV/ GEO2d/22	**Course name:** Geometry IV

Course type, scope and the method:
Course type: Lecture / Practice
Recommended course-load (hours):
Per week: 3 / 2 **Per study period:** 42 / 28
Course method: present

Number of ECTS credits: 5

Recommended semester/trimester of the course: 5.

Course level: I., II.

Prerequisities:

Conditions for course completion:
In the covered areas of geometry, the ability to formulate definitions and statements, to present proofs of statements, to explain individual steps in proofs and to solve selected problems related to given topics is required. During the semester (continuous assessment) two tests take place, from which 50% of points can be obtained, and from the oral exam alike 50% can be obtained. Evaluation: A ... at least 90%, B ... at least 80%, C ... at least 70%, D ... at least 60%, E ... at least 50%, FX ... less than 50%

Learning outcomes:
Acquired knowledge of the properties of affine, isometric and similarity transformations, understanding of important statements and methods, knowledge of the use of isometric and similarity transformations in construction and optimization problems and the ability to solve other problems in this area.

Brief outline of the course:
- (week 1-2) Quadric surfaces (circular and general quadric surfaces)
- (week 3-7) Affine transformations (associated transformation, matrix representation, affinities, fixed points and lines, pseudo-reflections)
- (week 8-10) Isometric transformations (matrix representation, isometries, classification in the plane, composiion of reflections)
- (week 11-12) Similarity transformations (matrix representation, similarities, homothety, composition of homotheties)
- (week 13-14) Geometry of circles (the power of a point with respect to a circle, radical axis of two circles, pencils of circles)

Recommended literature:
1. M. Sekanina et al, Geometry 2, SPN, 1988 (in slovak).
2. O. Šedivý et al, Geometry 2, SPN, 1987 (in slovak).
3. H.S.M. Coxeter, Introduction to geometry, Wiley, 1989.
4. J.T. Smith, Methods of geometry, Wiley, 2000.

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 216

A	B	C	D	E	FX
15.74	15.28	23.61	20.83	18.52	6.02

Provides: RNDr. Igor Fabrici, Dr. rer. nat., RNDr. Daniela Šabaková

Date of last modification: 14.04.2022

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚGE/GMP/21	**Course name:** Geomorphological mapping

Course type, scope and the method:
Course type: Practice
Recommended course-load (hours):
Per week: 2 **Per study period:** 28
Course method: present

Number of ECTS credits: 3

Recommended semester/trimester of the course: 4.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 12

A	B	C	D	E	FX
0.0	0.0	91.67	0.0	8.33	0.0

Provides: RNDr. Alena Gessert, PhD., univerzitná docentka, Mgr. Jozef Šupinský, PhD.

Date of last modification: 07.02.2025

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚGE/ GEM2/18	**Course name:** Geomorphology

Course type, scope and the method:
Course type: Lecture / Practice
Recommended course-load (hours):
Per week: 2 / 2 **Per study period:** 28 / 28
Course method: present

Number of ECTS credits: 6

Recommended semester/trimester of the course: 2.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 1374

A	B	C	D	E	FX
10.48	20.74	21.25	17.25	19.51	10.77

Provides: RNDr. Alena Gessert, PhD., univerzitná docentka, Mgr. Imrich Sládek, PhD., doc. Ing. Katarína Bónová, PhD.

Date of last modification: 07.02.2025

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: KPE/ POŽ/21	**Course name:** Getting to know the Student in Education

Course type, scope and the method:
Course type: Practice
Recommended course-load (hours):
Per week: 2 **Per study period:** 28
Course method: present

Number of ECTS credits: 2

Recommended semester/trimester of the course: 4.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 113

A	B	C	D	E	FX
65.49	19.47	7.96	2.65	0.0	4.42

Provides: PaedDr. Michal Novocký, PhD., Mgr. Beáta Sakalová, PhD.

Date of last modification: 12.03.2024

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚGE/EXH/25	**Course name:** Human Geography Excursion

Course type, scope and the method:
Course type: Practice
Recommended course-load (hours):
Per week: Per study period: 6d
Course method: present

Number of ECTS credits: 3

Recommended semester/trimester of the course: 5.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 0

A	B	C	D	E	FX
0.0	0.0	0.0	0.0	0.0	0.0

Provides: Mgr. Marián Kulla, PhD., doc. Mgr. Ladislav Novotný, PhD.

Date of last modification: 26.02.2025

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚGE/ HGS1/21	**Course name:** Human Geography of Slovakia

Course type, scope and the method:
Course type: Lecture / Practice
Recommended course-load (hours):
Per week: 2 / 1 **Per study period:** 28 / 14
Course method: present

Number of ECTS credits: 5

Recommended semester/trimester of the course: 5.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 71

A	B	C	D	E	FX
2.82	15.49	22.54	26.76	29.58	2.82

Provides: RNDr. Janetta Nestorová-Dická, PhD., univerzitná docentka, Mgr. Marián Kulla, PhD., doc. Mgr. Ladislav Novotný, PhD., Mgr. Daniela Buchalová

Date of last modification: 27.06.2022

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: KPE/ INP/17	**Course name:** Inclusive Pedagogy
Course type, scope and the method: **Course type:** Practice **Recommended course-load (hours):** **Per week:** 2 **Per study period:** 28 **Course method:** present	
Number of ECTS credits: 2	
Recommended semester/trimester of the course: 5.	
Course level: I.	
Prerequisities:	
Conditions for course completion:	
Learning outcomes:	
Brief outline of the course:	
Recommended literature:	
Course language:	
Notes:	

Course assessment

Total number of assessed students: 138

A	B	C	D	E	FX
71.74	21.74	2.9	1.45	2.17	0.0

Provides: PaedDr. Michal Novocký, PhD.
Date of last modification: 14.09.2024
Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚMV/ IPU/22	**Course name:** Informatics course for teachers of mathematics

Course type, scope and the method:
Course type: Lecture / Practice
Recommended course-load (hours):
Per week: 1 / 1 **Per study period:** 14 / 14
Course method: present

Number of ECTS credits: 2

Recommended semester/trimester of the course: 6.

Course level: I.

Prerequisities:

Conditions for course completion:
To master the use of basic algorithmic structures, to gain the ability to write algorithms for the construction of geometric shapes in the environment of turtle geometry. To be able to assess the possibilities of using interactive applications available on the Internet and to design procedures for the application of selected applications in the teaching of mathematics. To learn to use numerical and graphical means of a spreadsheet in data analysis, creating models to solve various mathematical problems.
Evaluation:
Algorithm creation paper - 6 b
Elaboration of dynamic constructions for solving geometric problems - 3 b
Seminar work on the use of interactive applications - 7 b + 3 b
Poll - 1 b
Tasks for creating numerical and graphical models in a spreadsheet - 4 b
Classification scale:
A: 91 % - 100 %,
B: 81 % - 90 %,
C: 71 % - 80 %,
D: 61 % - 70 %,
E: 51 % - 60 %,
FX: 0 % - 50 %.

Learning outcomes:
Knowledge and skills from the basics of working with standard information and communication technologies, which provide a variety of opportunities to support mathematics education. Skills to use basic commands of turtle geometry for generalization and writing algorithms for construction of geometric shapes. To master the basic principles of creating structures in the environment of dynamic geometry. Acquire creative and evaluative skills to plan and prepare a meaningful integration of modern technologies into mathematics education.

Brief outline of the course:
1-5: Use of basic algorithmic constructions in turtle geometry for the construction of geometric shapes,

6th - 7th: Basics of work in the environment of dynamic geometry, creation of dynamic constructions,
8th - 9th: Interactive teaching applications available on the Internet, selected possibilities of using digital technologies in mathematics education.
10. - 12 .: Use of numerical and graphical representations of data and modeling in a spreadsheet environment in solving mathematical problems.

Recommended literature:

Brdička, B.: Role internetu ve vzdělávaní, 2003, http://it.pedf.cuni.cz/~bobr/role/econt.htm.
Lukáč, S. a kol.: IKT vo vyučovaní matematiky, Asociácia projektu Infovek 2002.
Vaníček, J.: Počítačové kognitivní technologie ve výuce geometrie. Pedagogická fakulta Univerzity Karlovy, 2009.
Šťastný, Z.: Matematické a statistické výpočty v Microsoft Excelu, Computer Press 2001.

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 136

A	B	C	D	E	FX
52.21	25.0	16.18	5.15	1.47	0.0

Provides: doc. RNDr. Stanislav Lukáč, PhD.

Date of last modification: 17.02.2022

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: KPE/ IIŠP/21	**Course name:** Integration and Inclusion in School Practice

Course type, scope and the method:
Course type: Practice
Recommended course-load (hours):
Per week: 2 **Per study period:** 28
Course method: present

Number of ECTS credits: 2

Recommended semester/trimester of the course: 3.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 114

A	B	C	D	E	FX
50.0	35.09	8.77	4.39	0.88	0.88

Provides: PaedDr. Michal Novocký, PhD., Mgr. Zuzana Vagaská, PhD.

Date of last modification: 14.09.2024

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚGE/ZEX1/21	**Course name:** International Excursion 1
Course type, scope and the method: **Course type:** Practice **Recommended course-load (hours):** **Per week: Per study period:** 10d **Course method:** present	
Number of ECTS credits: 4	
Recommended semester/trimester of the course: 4.	
Course level: I.	
Prerequisities:	
Conditions for course completion:	
Learning outcomes:	
Brief outline of the course:	
Recommended literature:	
Course language:	
Notes:	

Course assessment
Total number of assessed students: 33

abs	n
96.97	3.03

Provides: doc. Mgr. Ladislav Novotný, PhD., Mgr. Marián Kulla, PhD.
Date of last modification: 27.06.2022
Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: Dek. PF UPJŠ/USPV/13	**Course name:** Introduction to Study of Sciences
Course type, scope and the method: **Course type:** Lecture / Practice **Recommended course-load (hours):** **Per week: Per study period:** 12s / 3d **Course method:** present	
Number of ECTS credits: 2	
Recommended semester/trimester of the course: 1.	
Course level: I.	
Prerequisities:	
Conditions for course completion:	
Learning outcomes:	
Brief outline of the course:	
Recommended literature:	
Course language:	
Notes:	
Course assessment Total number of assessed students: 2369	

abs	n
90.12	9.88

Provides: doc. RNDr. Marián Kireš, PhD.	
Date of last modification: 30.08.2022	
Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.	

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚMV/ UAD/10	**Course name:** Introduction to data analysis

Course type, scope and the method:
Course type: Lecture / Practice
Recommended course-load (hours):
Per week: 1 / 1 **Per study period:** 14 / 14
Course method: present

Number of ECTS credits: 2

Recommended semester/trimester of the course: 5.

Course level: I.

Prerequisities:

Conditions for course completion:
Test (40p) and individual project work (20p).
Oral presentation of the individual project work (5p).
At least 50% must be obtained from each part.
Final evaluation: ≥90% A; ≥80% B; ≥70% C; ≥60% D; ≥50% E; <50% FX.

Learning outcomes:
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.

Brief outline of the course:
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, empirical rule) - 5 weeks
4. Relationships in data (introduction to regression and correlation) - 4 weeks
5. Statistical inference (elementary view into estimation and testing hypothesis) - 2 weeks

Recommended literature:
1. Rossman, A.J. et al.: Workshop Statistics: Discovery with Data, 4th ed. Wiley, 2011
2. Utts, J.M.: Seeing Through Statistics, 5th ed., Cengage Learning, 2024
3. Utts, J.M., Heckard R.F.: Mind on Statistics, 6th ed.. Cengage Learning, 2021
4. Anděl, J.: Statistické metody, Matfyzpress, 5. vydanie, Praha, 2019 (in Czech)

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 520

A	B	C	D	E	FX
38.08	23.08	23.46	10.96	0.96	3.46

Provides: doc. RNDr. Martina Hančová, PhD., RNDr. Andrej Gajdoš, PhD., Mgr. Patrik Štein

Date of last modification: 21.11.2024

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚMV/ UDM/22	**Course name:** Introduction to mathematics

Course type, scope and the method:
Course type: Practice
Recommended course-load (hours):
Per week: 4 **Per study period:** 56
Course method: present

Number of ECTS credits: 3

Recommended semester/trimester of the course: 1.

Course level: I.

Prerequisities:

Conditions for course completion:
Two tests during the semester.

Learning outcomes:
Repetition of problematic sections of the secondary mathematics by interesting tasks. Explanation of basic terms, properties and proof methods used in various areas of mathematics.

Brief outline of the course:
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. Exponencial and logarithmic function; equations and inequalities. Goniometric functions; equations and inequalities. Complex numbers.

Recommended literature:
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

Course language:
Slovak

Notes:

Course assessment Total number of assessed students: 636					
A	B	C	D	E	FX
24.06	19.97	17.77	15.88	9.59	12.74
Provides: RNDr. Igor Fabrici, Dr. rer. nat., Mgr. Daniela Kovalčíková, Mgr. Enikő Schnürerová					
Date of last modification: 29.01.2022					
Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.					

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚGE/ UDID/21	**Course name:** Introduction to the didactics of geography

Course type, scope and the method:
Course type: Lecture / Practice
Recommended course-load (hours):
Per week: 1 / 1 **Per study period:** 14 / 14
Course method: present

Number of ECTS credits: 2

Recommended semester/trimester of the course: 6.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 9

A	B	C	D	E	FX
44.44	55.56	0.0	0.0	0.0	0.0

Provides: RNDr. Stela Csachová, PhD.

Date of last modification: 27.06.2022

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚMV/LCO/10	**Course name:** Linear and integer programming

Course type, scope and the method:
Course type: Lecture / Practice
Recommended course-load (hours):
Per week: 2 / 2 **Per study period:** 28 / 28
Course method: present

Number of ECTS credits: 5

Recommended semester/trimester of the course: 5.

Course level: I.

Prerequisities: ÚMV/ALGa/10

Conditions for course completion:
Continuous evaluation: a small test during each tutorial, two large tests, a project with real data and commercial software. Bonus points awarded for homeworks (formulation of proofs). A necessary condition for final exam is at least 50% of points from th semester. Final exam: demonstrate the understanding of the theory and ability of argumentation.

Learning outcomes:
Ability to formulate practical tasks in a form of a linear program. Proficiency in solving linear programs by several methods, also using software. Understanding of the underlying theory and ability of exact argumentation.

Brief outline of the course:
Formulation of linear and integer programs. Geometric solution. Simplex method, its correctness an finiteness. Duality and its economic interpretation. Dual and revised simplex method. Sensitivity analysis and parametric programming. Algorithms for integer programming: branch and bound, Gomory cuts. Computational complexity of LP and ILP. Solution of practical problems.

Recommended literature:
lms.upjs.sk - podklady k prednáškam a zadania úloh na cvičenia.
Plesník, Dupačová, Vlach: Lineárne programovanie, Alfa, Bratislava 1990
Ch. Papadimitriou – K. Steiglitz: Combinatorial Optimization: Algorithms and Complexity, 1984
R.J. Vanderbei, Linear Programming:Foundations and Extentions, Springer 2020, electronic version: http://www.princeton.edu/~rvdb/LPbook/

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 177

A	B	C	D	E	FX
21.47	18.08	19.21	20.34	18.08	2.82

Provides: prof. RNDr. Katarína Cechlárová, DrSc., Mgr. Juraj Hirjak
Date of last modification: 17.04.2022
Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚGE/ LOS/18	**Course name:** Linux and open source GIS

Course type, scope and the method:
Course type: Practice
Recommended course-load (hours):
Per week: 2 **Per study period:** 28
Course method: present

Number of ECTS credits: 3

Recommended semester/trimester of the course: 3.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 82

A	B	C	D	E	FX
62.2	34.15	3.66	0.0	0.0	0.0

Provides: Mgr. Michaela Nováková, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

Date of last modification: 30.09.2021

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚMV/ MAE/10	**Course name:** Macroeconomics

Course type, scope and the method:
Course type: Lecture / Practice
Recommended course-load (hours):
Per week: 2 / 1 **Per study period:** 28 / 14
Course method: present

Number of ECTS credits: 4

Recommended semester/trimester of the course: 5.

Course level: I.

Prerequisities:

Conditions for course completion:
The final mark is given based on the results of the tests written during the semester ("small" written exams every week, two written exams checking the ability of computations). The final oral exam evaluates the ability of argumentation about the studied models. The student has to obtain at least 50% of points in the written exams to have the right to take part in the oral exam.

Learning outcomes:
The student understands the basic macroeconomic models and is able to use them to explain the real economic phenomena.

Brief outline of the course:
Basic macroekonomic notions: Gross domestic product, inflation, unemployment.. Analysis of godds 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.

Recommended literature:
1. Olivier Blanchard, Alessia Amighini, Francesco Giavazzi, Macroeconomics, a European perspective, Pearson Education, 2021
2. N. Gregory Mankiw, Macroeconomics, 7th Edition, Harvard University, Worth Publishers 2009

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 93

A	B	C	D	E	FX
29.03	12.9	20.43	18.28	13.98	5.38

Provides: prof. RNDr. Katarína Cechlárová, DrSc.

Date of last modification: 24.11.2024

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚMV/ MAN2c/22	**Course name:** Mathematical analysis III

Course type, scope and the method:
Course type: Lecture / Practice
Recommended course-load (hours):
Per week: 2 / 2 **Per study period:** 28 / 28
Course method: present

Number of ECTS credits: 5

Recommended semester/trimester of the course: 3.

Course level: I.

Prerequisities: ÚMV/MAN2b/22

Conditions for course completion:
During the term, each student receives marks for two written exams each worth 25 points. Final marking is assigned based on the overall points for the work throughout the term followed by a written and oral examination where the student can obtain further 30+20 points.
Marking classification: A:91%-100%, B:81%-90%, C:71%-80%, D:61%-70%, E:51%-60%, FX:0%-50%

Learning outcomes:
Deepening the knowledge of real analysis of function with a single variable. The student will
1. familiarise themselves with mathematical culture, ways of thinking, self-expression and putting forward arguments,
2. gain a deeper understanding of the base terminology of real analysis, their properties and interconnections,
3. be able to define and interpret key terms, prove their basic properties and relationships,
4. know how to solve tasks focused on utilising the aforementioned concepts and interpret the obtained results.

Brief outline of the course:
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.

Recommended literature:
1. Mihalíková, B. - Ohriska, J.: Matematická analýza II (skriptum), UPJŠ Košice, 2007.
2. Hutník, O.: Určitý integrál (elektronický učebný text), UPJŠ, Košice, 2012.
3. Kluvánek, I. - Mišík, L. - Švec, M.: Matematika I, ALFA, Bratislava, 1971.
4. Demidovič, B. P.: Sbírka úloh a cvičení z matematické analýzy, Fragment, Praha, 2003.
5. Eliaš, J. - Horváth, J. - Kajan, J.: Zbierka úloh z vyššej matematiky 2, 3, 4, Alfa, Bratislava, 1971.
6. Brannan, D.: A First Course in Mathematical Analysis, Cambridge University Press, Cambridge 2006.

7. Bruckner, A. M. - Bruckner J. B. - Thomson, B. S.: Real Analysis, Second Edition, ClassicalRealAnalysis.com, 2008.
8. Zorich, V. A.: Mathematical Analysis I, Springer-Verlag 2002.

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 274

A	B	C	D	E	FX
10.22	15.69	13.87	20.44	33.58	6.2

Provides: prof. RNDr. Ondrej Hutník, PhD., Mgr. Miloslav Cisko

Date of last modification: 25.04.2022

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚMV/ MAN2d/22	**Course name:** Mathematical analysis IV

Course type, scope and the method:
Course type: Lecture / Practice
Recommended course-load (hours):
Per week: 2 / 2 **Per study period:** 28 / 28
Course method: present

Number of ECTS credits: 4

Recommended semester/trimester of the course: 4., 6.

Course level: I.

Prerequisities: ÚMV/MAN2b/22

Conditions for course completion:
Continuous assessment is taken the form of two main tests during the semester. Final evaluation is given by continuous assessment (60%), written and oral part of the exam (40%).

Learning outcomes:
The student understands the basic concepts and their properties, which are defined in the content of the course. He has developed skills to use this theory in solving theoretical and practical problems. The student is able to do connections in solving problem tasks.

Brief outline of the course:
1. Function of several real variables - basic notions, limits and continuity. (3 weeks)
2. Differential calculus of functions of several real variables - partial derivative, differentiability, directional derivative, local and global extrema, constrained local extrema. (5 weeks)
3. Multivariable Riemann integral - definition, calculation methods, applications. (2 weeks)
4. Metric space - Euclidean space, topological properties of points and sets in metric space, completeness (3 weeks)

Recommended literature:
1. J. Kuben a kol: Diferenciální počet funkcí více proměnných, Brno a Ostrava, 2012.
2. L. Kluvánek, I. Mišík, M. Švec: Matematika I, II, SVTL, Bratislava, 1959.
3. P. Vodstrčil, J. Bouchala: Integrální počet funkcí více proměnných, Ostrava a Plzeň, 2012.
4. Z. Došlá, O. Došlý: Metrické prostory, Teorie a príklady. 3.vydání, 2006.
5. J. Eliaš, J. Horváth, J. Kajan: Zbierka úloh z vyššej matematiky 3, 4, SVTL, Bratislava, 1966.
6. D. Hughes-Hallett et al.: Calculus, Wiley, 1998.
7. B. S. Thomson, J. B. Bruckner, A. M. Bruckner: Elementary real analysis, Prentice Hall (Pearson), Lexington, 2008.

Course language:
Slovak

Notes:

Course assessment Total number of assessed students: 79					
A	B	C	D	E	FX
25.32	18.99	22.78	13.92	16.46	2.53
Provides: RNDr. Lenka Halčinová, PhD.					
Date of last modification: 17.04.2022					
Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.					

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚMV/ MAN2b/22	**Course name:** Mathematical analysis of function of real variable

Course type, scope and the method:
Course type: Lecture / Practice
Recommended course-load (hours):
Per week: 4 / 3 **Per study period:** 56 / 42
Course method: present

Number of ECTS credits: 7

Recommended semester/trimester of the course: 2.

Course level: I.

Prerequisities: ÚMV/FRPa/19

Conditions for course completion:
Two written tests during semeter and activity student to practice. Final evaluation is given by continuous assessment, written and oral part of the exam.

Learning outcomes:
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.

Brief outline of the course:
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 investigate properties and behavior of functions.

Recommended literature:
1. Mihalíková, B. - Ohriska, J.: Matematická analýza I (elektronický učebný text), UPJŠ Košice, 2012.
2. Mihalíková, B. - Ohriska, J.: Matematická analýza II (skriptum), ES UPJŠ Košice, 2007.
3. Kluvánek, I. - Mišík, L. - Švec, M.: Matematika I, ALFA, Bratislava, 1971.
4. Demidovič, B. P.: Sbírka úloh a cvičení z matematické analýzy, Fragment, Praha, 2003.
5. Brannan, D.: A First Course in Mathematical Analysis, Cambridge University Press, Cambridge 2006.
6. Bruckner, A. M., Bruckner J. B., Thomson, B. S.: Real Analysis, Second Edition, ClassicalRealAnalysis.com, 2008.
7. Zorich, V. A.: Mathematical Analysis I, Springer-Verlag 2002.

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 139

A	B	C	D	E	FX
13.67	15.83	17.27	20.14	24.46	8.63

Provides: prof. RNDr. Ondrej Hutník, PhD., RNDr. Lenka Halčinová, PhD., RNDr. Jana Borzová, PhD.

Date of last modification: 17.04.2022

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚMV/ MMD/22	**Course name:** Mathematical modeling

Course type, scope and the method:
Course type: Practice
Recommended course-load (hours):
Per week: 3 **Per study period:** 42
Course method: present

Number of ECTS credits: 3

Recommended semester/trimester of the course: 5.

Course level: I.

Prerequisities:

Conditions for course completion:
Submitting a project from the specified list of projects and, possibly, a related short presentation.

Learning outcomes:
Using concrete examples of problems from real life, students will become familiar with several approaches and strategies for creating a mathematical model of specified problem as well as with defining the conditions related a real problem and transforming them into created mathematical model.

Brief outline of the course:
One specified real-life problem will be discussed, explored and modeled each week.

Recommended literature:
1. E. Lindner, A. Micheletti, C. Nunes (eds.), Mathematical Modelling in Real Life Problems, Springer, 2020.
2. K.K. Tung, Topics in Mathematical Modeling, Princeton University Press, 2007.
3. H. P. Williams, Model Building in Mathematical Programming, Wiley, 2013.

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 41

A	B	C	D	E	FX
78.05	17.07	4.88	0.0	0.0	0.0

Provides: RNDr. Jana Borzová, PhD., prof. RNDr. Katarína Cechlárová, DrSc., RNDr. Igor Fabrici, Dr. rer. nat., RNDr. Andrej Gajdoš, PhD., RNDr. Lenka Halčinová, PhD., RNDr. Jaroslav Šupina, PhD., doc. RNDr. Martina Hančová, PhD., Mgr. Martin Vodička, Dr. rer. nat., prof. RNDr. Ondrej Hutník, PhD., prof. RNDr. Ivan Žežula, CSc., RNDr. Lucia Kőszegyová, PhD., doc. Mgr. Jozef Kiseľák, PhD., doc. RNDr. Daniel Klein, PhD., prof. RNDr. Tomáš Madaras, PhD.

Date of last modification: 25.08.2022

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚMV/ MRUa/22	**Course name:** Mathematical problem solving strategies I

Course type, scope and the method:
Course type: Practice
Recommended course-load (hours):
Per week: 2 **Per study period:** 28
Course method: present

Number of ECTS credits: 2

Recommended semester/trimester of the course: 4.

Course level: I.

Prerequisities:

Conditions for course completion:
Assessment is given on the basis of the results of written examinations carried out during the semester and active participation in exercises.
Classification scale:
A: 91 % - 100 %, B: 81 % - 90 %, C: 71 % - 80 %, D: 61 % - 70 %, E: 51 % - 60 %, FX: 0 % - 50 %.

Learning outcomes:
The student is able to explain the basic concepts and methods of solving mathematical problems selected from various areas of school mathematics. The student is able to apply the acquired knowledge in finding and using various strategies for solving problems. The student will get acquainted with typical and more demanding tasks in school mathematics and with specific problems and misconceptions that occur in their solution in the teaching of mathematics in primary and secondary school.

Brief outline of the course:
1. - 7. Solving equations, inequalities and systems of equations (equations and inequalities with absolute values, equations with parameters, irrational equations and inequalities, exponential and logarithmic equations and inequalities, trigonometric equations and inequalities).
8. - 13. Concept of function, properties of elementary functions, graphs of functions.

Recommended literature:
Kubáček, Z., Černek, P., Žabka J. a kol.: Matematika a svet okolo nás, zbierka úloh. FMFI UK Bratislava, 2008
Kopka, J., Hrozny problémů ve školské matematice, Univerzita J. E. Purkyně, Ústí nad Labem,1999.
Učebnice a zbierky úloh z matematiky ZŠ a SŠ.

Course language:
Slovak

Notes:

Course assessment Total number of assessed students: 254					
A	B	C	D	E	FX
27.95	21.65	22.05	12.2	14.17	1.97
Provides: prof. RNDr. Jozef Doboš, CSc.					
Date of last modification: 25.04.2022					
Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.					

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚMV/ MRUb/22	**Course name:** Mathematical problem solving strategies II
Course type, scope and the method: **Course type:** Practice **Recommended course-load (hours):** **Per week:** 2 **Per study period:** 28 **Course method:** present	
Number of ECTS credits: 2	
Recommended semester/trimester of the course: 6.	
Course level: I.	
Prerequisities:	
Conditions for course completion: Conditions for continuous evaluation: 1. Participation in teaching in accordance with the study rules and instructions of the teacher. 2. Activity. 3. Homework and written test. 4. Conditions for successful completion of the course: 1. Participation in teaching in accordance with the study regulations and according to the instructions of the teacher; 2. Credits will be awarded to a student who scores at least 50% on homework assignments and at least 50% on written test. A grade of A requires at least 90%, a grade of B requires at least 80%, a grade of C requires at least 70%, a grade of D requires at least 60%, and a grade of E requires at least 50%.	
Learning outcomes: Students demonstrate a shift in different methods of problem-solving from combinatorics, probability and statistics. They will be aware of the connections between different methods of solution, and also the connections of these methods of solution with other topics of school mathematics. While solving problems on written tests, the students will show that they have a conceptual understanding of the concepts of school combinatorics, probability and statistics. They are ready to use several methods of solving problems from these topics, they are able to consider whether a non-standard student's solution is correct or not, and they can explain this solution.	
Brief outline of the course: The content is focuses on different methods of problem-solving in combinatorics, probability and statistics. We are dealing with developing combinatorial, probabilistic and statistical thinking through different methods of problem-solving. The content of the course is based on current research results in this area. In solving combinatorial problems, students are introduced to the components of the model of combinatorial thinking - the listing of possibilities, the counting process, and combinatorial formulas and methods, and the connections between these components. When solving probability problems, we emphasize the different approaches to probability -	

statistical, classical, geometric, and subjective and their connections. In part aimed at statistics, we focus on descriptive statistics and on the connection between probability and statistics.

Recommended literature:

Hecht, T., Sklenáriková, Z., Metódy riešenia matematických úloh, Bratislava, SPN, 1992. (in slovak)
Krantz, S.G., Techniques of Problem Solving, AMS, 1997.
Larson, L.C., Metódy riešenia matematických problémov, Bratislava, Alfa, 1990. (in slovak)
Textbooks for secondary and middle schools.

Course language:

Slovak

Notes:

Course assessment

Total number of assessed students: 139

A	B	C	D	E	FX
35.25	16.55	24.46	12.23	10.07	1.44

Provides: doc. RNDr. Ingrid Semanišinová, PhD.

Date of last modification: 17.04.2022

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚMV/ MST/19	**Course name:** Mathematical statistics

Course type, scope and the method:
Course type: Lecture / Practice
Recommended course-load (hours):
Per week: 2 / 2 **Per study period:** 28 / 28
Course method: present

Number of ECTS credits: 5

Recommended semester/trimester of the course: 5.

Course level: I.

Prerequisities:

Conditions for course completion:
Total evaluation based on two written tests during the semester (2x40p) and the result of the written (30p) and oral part of the exam (30p).
At least 50% must be obtained from each part.
Final evaluation: ≥90% A; ≥80% B; ≥70% C; ≥60% D; ≥50% E; <50% FX.

Learning outcomes:
Student should obtain the knowledge about basic statistical methods and the ability to apply theoretical knowledge in practical problems solving.

Brief outline of the course:
1. Random vectors (definition, distributions, characteristics, joint and marginal distributions).
2. Covariance, correlation and regression.
3. Random sample, sampling distributions and characteristics.
4. Some important statistics and their distributions.
5. Point estimators and their properties.
6. Maximum likelihood method.
7. Interval estimates, confidence interval construction (2 weeks).
8. Testing of statistical hypothesis (critical region, level of significance and power of test, methods for searching optimal critical regions).
9. Some important parametric tests (2 weeks).
10. Some important nonparametric tests (2 weeks).

Recommended literature:
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., Chapman and Hall/CRC, 2024
4. DeGroot, M. H., Schervish, M. J.: Probability and Statistics, 4th ed., Pearson, Boston, 2012
5. Anděl J.: Základy matematické statistiky, MatfyzPress, Praha, 2011 (in Czech)

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 200

A	B	C	D	E	FX
25.5	21.0	16.5	18.5	10.5	8.0

Provides: doc. RNDr. Martina Hančová, PhD.

Date of last modification: 21.11.2024

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚMV/ BMM/25	**Course name:** Mathematics

Course type, scope and the method:
Course type:
Recommended course-load (hours):
Per week: Per study period:
Course method: present

Number of ECTS credits: 2

Recommended semester/trimester of the course:

Course level: I.

Prerequisities: ÚMV/MAN2c/22 and ÚMV/ATC/22 and ÚMV/GEO2d/22

Conditions for course completion:
Acquiring the required number of credits in the structure defined by the study plan.

Learning outcomes:
Evaluation of student‘s competences with respect to the profile of the graduate.

Brief outline of the course:

Recommended literature:

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 0

A	B	C	D	E	FX
0.0	0.0	0.0	0.0	0.0	0.0

Provides:

Date of last modification: 21.11.2024

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: KPE/ MKŠP/21	**Course name:** Mentoring and Coaching in School Practice

Course type, scope and the method:
Course type: Practice
Recommended course-load (hours):
Per week: 2 **Per study period:** 28
Course method: present

Number of ECTS credits: 2

Recommended semester/trimester of the course: 5.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 85

A	B	C	D	E	FX
88.24	9.41	2.35	0.0	0.0	0.0

Provides: Mgr. Zuzana Vagaská, PhD., Mgr. Beáta Sakalová, PhD.

Date of last modification: 18.09.2024

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚGE/MPG/21	**Course name:** Metageography and planetary geography

Course type, scope and the method:
Course type: Lecture / Practice
Recommended course-load (hours):
Per week: 1 / 1 **Per study period:** 14 / 14
Course method: present

Number of ECTS credits: 2

Recommended semester/trimester of the course: 1.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 171

A	B	C	D	E	FX
46.78	42.69	8.19	0.58	0.0	1.75

Provides: prof. Mgr. Jaroslav Hofierka, PhD., Mgr. Katarína Onačillová, PhD.

Date of last modification: 27.06.2022

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚGE/HGV/21	**Course name:** Methods of human geographical research

Course type, scope and the method:
Course type: Practice
Recommended course-load (hours):
Per week: 3 **Per study period:** 42
Course method: present

Number of ECTS credits: 3

Recommended semester/trimester of the course: 6.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 15

A	B	C	D	E	FX
100.0	0.0	0.0	0.0	0.0	0.0

Provides: Mgr. Marián Kulla, PhD., RNDr. Janetta Nestorová-Dická, PhD., univerzitná docentka, doc. Mgr. Ladislav Novotný, PhD., Mgr. Loránt Pregi, PhD.

Date of last modification: 27.06.2022

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚGE/FGV/21	**Course name:** Methods of physical geographical research

Course type, scope and the method:
Course type: Practice
Recommended course-load (hours):
Per week: 3 **Per study period:** 42
Course method: present

Number of ECTS credits: 3

Recommended semester/trimester of the course: 5.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 25

A	B	C	D	E	FX
68.0	16.0	16.0	0.0	0.0	0.0

Provides: RNDr. Alena Gessert, PhD., univerzitná docentka, doc. Ing. Katarína Bónová, PhD., Mgr. Imrich Sládek, PhD.

Date of last modification: 27.06.2022

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚGE/ MTK/21	**Course name:** Methods of thematic cartography

Course type, scope and the method:
Course type: Practice
Recommended course-load (hours):
Per week: 2 **Per study period:** 28
Course method: present

Number of ECTS credits: 3

Recommended semester/trimester of the course: 2.

Course level: I.

Prerequisities:

Conditions for course completion:
The evaluation is based on the submitted assignments from the exercises.
Exercises are realized in the form of regular teaching, the introduction of the exercise is devoted to the theoretical basis, followed by the practical part of the exercise, which aims to work with spatial data in order to create a thematic map. During the semester, students will receive assignments aimed at creating a thematic map using selected methods of thematic cartography. Students submit assignments on an ongoing basis. Each assignment is evaluated separately. In order for the assignment to be accepted, it is necessary to obtain a minimum grade E from each assignment. The final evaluation is the average of the evaluation of individual assignments. Credits will be awarded only to a student who achieves a grade of at least E in the overall evaluation. Rating scale: A (100-91%), B (81-90%,) C (71-80%), D (61-70 %), E (51-60%).

Learning outcomes:
Knowledge: The student will gain knowledge and skills from thematic cartography. They will get acquainted with the theoretical aspects of the content and principles of creating thematic maps. He will gain theoretical foundations and an overview of various aspects of thematic cartography, such as color theory in cartography, types of scales and division of the statistical file into intervals. They will get acquainted with the means of expression cartographic and methods of thematic cartography and gain an overview of the use of dynamic elements of cartographic visualization. Skills: The student will learn to create thematic maps using GIS professionally and cartographically correctly. Can evaluate the suitability of the cartographic method for the representation of various geographical phenomena and determine the optimal procedure for creating thematic maps. Competences: The student is able to evaluate the thematic maps and the suitability of the methods of thematic cartography with a high degree of independence. He will get acquainted with professional terminology in the field of thematic cartography of geodesy, which will enable him to communicate and collaborate with other experts in the field of geodesy, geoinformatics and cartography.

Brief outline of the course:
Exercises: Introduction to thematic cartography (content and types of thematic maps, phases and principles of creating thematic maps, compiling the content of the thematic map); Means of expression; Colors in maps; Scales (data evaluation, division of scales, creation of interval and

functional scales, methods for plotting extremes in a statistical file); Legend of thematic maps; Point character method; Line character method; Area character method; Comma method; Isolinia method; Cartographs and cartograms method; Cartographic anamorphosis and cartotypogram method; methods for expressing the dynamics of spatial phenomena; Description in maps; composition of thematic maps; Geospatial data topology control and map generalization. Evaluation of maps and atlases; Animations, interactive maps and virtual reality in cartography.

Recommended literature:

VOŽENÍLEK, V. (2005). Cartography for GIS: geovisualization and map communication. Olomouc, Vydavatelství UP.
KRAAK, M.J., ORMELING, F. (2003). Cartography. Visualization of Geospatial Data. Harlow. Prentice Hall, Pearson Education.
PETERSON, M. P. ET AL. (1995). Interactive and Animated Cartography. Upper Saddle River Prentice Hall.
VOŽENÍLEK, V., KAŇOK, J. A KOL. (2012). Metody tematické kartografie: vizualizace prostorových informací. Olomouc, Univerzita Palackého v Olomouci.
SLOCUM, T.A. ET AL. (2002). Thematic Cartography and Visualization. Upper Saddle River, Pearson/Prentice Hall.

Course language:

Notes:

Course assessment

Total number of assessed students: 28

A	B	C	D	E	FX
42.86	42.86	10.71	0.0	0.0	3.57

Provides: Mgr. Jozef Šupinský, PhD., Mgr. Loránt Pregi, PhD.

Date of last modification: 27.06.2022

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚMV/ MIE/13	**Course name:** Microeconomics

Course type, scope and the method:
Course type: Lecture / Practice
Recommended course-load (hours):
Per week: 2 / 1 **Per study period:** 28 / 14
Course method: present

Number of ECTS credits: 4

Recommended semester/trimester of the course: 5.

Course level: I.

Prerequisities:

Conditions for course completion:
Continuous assessment: feedback in MOODLE, small tests during tutorial (notions), two written exams (solving problems). Final oral exam: ability of verbal argumentation and graphical explanation of studied models.

Learning outcomes:
Understanding of basic principles of microeconomics and ability to apply them in practical situations.

Brief outline of the course:
Economics and economy. Supply and demand. Consumer Theory. Theory of firm. Perfect competition. Monopoly. Labour market. Market failure. Externalities and Public goods.

Recommended literature:
1. lms.upjs.sk: lectures, tutorials and other material
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

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 90

A	B	C	D	E	FX
24.44	22.22	18.89	18.89	13.33	2.22

Provides: prof. RNDr. Katarína Cechlárová, DrSc.

Date of last modification: 24.11.2024

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚGE/MKR/21	**Course name:** Microgeography

Course type, scope and the method:
Course type: Practice
Recommended course-load (hours):
Per week: 2 **Per study period:** 28
Course method: present

Number of ECTS credits: 3

Recommended semester/trimester of the course: 6.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 25

A	B	C	D	E	FX
60.0	40.0	0.0	0.0	0.0	0.0

Provides: Mgr. Imrich Sládek, PhD., doc. Mgr. Ladislav Novotný, PhD.

Date of last modification: 05.09.2024

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚGE/ NSGE/15	**Course name:** Mineral Resources - geological and environmental relations

Course type, scope and the method:
Course type: Lecture / Practice
Recommended course-load (hours):
Per week: 2 / 1 **Per study period:** 28 / 14
Course method: present

Number of ECTS credits: 4

Recommended semester/trimester of the course: 6.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 158

A	B	C	D	E	FX
40.51	24.68	22.15	9.49	0.63	2.53

Provides: doc. Ing. Katarína Bónová, PhD.

Date of last modification: 30.09.2021

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: KPE/ MMKV/17	**Course name:** Multiculturalism and Multicultural Education

Course type, scope and the method:
Course type: Practice
Recommended course-load (hours):
Per week: 2 **Per study period:** 28
Course method: present

Number of ECTS credits: 2

Recommended semester/trimester of the course: 4.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 251

A	B	C	D	E	FX
40.64	41.43	16.33	0.8	0.4	0.4

Provides: PaedDr. Michal Novocký, PhD.

Date of last modification: 12.03.2024

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚMV/ NUM/19	**Course name:** Numerical methods

Course type, scope and the method:
Course type: Lecture / Practice
Recommended course-load (hours):
Per week: 2 / 3 **Per study period:** 28 / 42
Course method: present

Number of ECTS credits: 6

Recommended semester/trimester of the course: 6.

Course level: I.

Prerequisities: (ÚMV/MANb/19 or ÚMV/MAN2b/22 or ÚMV/FRPb/19) and (ÚMV/ALG1b/24 or ÚMV/ALG2b/22 or ÚMV/ALG3b/22 or ÚMV/ALG4b/22)

Conditions for course completion:
Form: Lectures and practices using computers. Solving problems and programming algorithms using the computational platform SageMath (including Python, NumPy, SciPy, SymPy, R, Maxima, matplotlib, GAP, FLINT, and many other packages).
Interim assessment (50% of the total assessment): Solving assigned tasks e.g. in the form of implementation of algorithms or their parts, modification of existing codes or use of available packages in solving real problems.
Final examination (50% of the total assessment): It consists of verifying the understanding of the theory taken over and demonstrating the practical skills acquired.

Learning outcomes:
After completing the course, the student will acquire theoretical knowledge and practical skills regarding the principles and implementation of basic numerical algorithms with emphasis on algorithms used in the field of data analysis.
The student should be able to understand and implement numerical algorithms in programming language independently, to be able to modify components of existing algorithms
and also be able to solve (real) problems by selecting an appropriate numerical method with the available effective computational packages.

Brief outline of the course:
1. Basic principles and techniques of numerical analysis - computer implementation and representation of real numbers, numerical vs. symbolic (analytical) calculations, method vs. algorithm, error measurement of numerical solution, conditionality of numerical problems, stability and convergence of numerical algorithms.
2. Solution of nonlinear equations - methods of bisection and simple iteration, the false position method and Newton method, Newton-Raphson method.
3. Numerical differentiation and integration - trapezoidal method, Simpson method, Newton-Cotes formulas.
4. Approximation of functions and smoothing of data, using polynomials, interpolation, splines, kernel methods.

5. Linear systems - Gaussian elimination with and without pivoting, forward and backward substitution, scaled partial pivoting, singularity and perturbation, matrix conditionality, Thomas method, iterative methods - Jacobi, Gauss-Seidel, SOR method, gradient methods - gradient descent, conjugate directions.
6. Eigenvalues and eigenvectors of matrices - estimation of eigenvalues, partial eigenvalue problem (power method and Rayleigh method, Hessenberg shape), complete eigenvalue problem (calculation of dominant eigenvalue, LU, QU, QR - decomposition, Jacobi method), SVD - Singular Matrix Decomposition.
7. Optimization - MLS, Cauchy method of the highest gradient, Newton method, conjugated gradient method of Fletcher-Reeves, Quasi-Newton methods, Regularization of ill-conditioned problems.

Recommended literature:

1. Ackleh, A. S., Allen, E. J., Kearfott, R. B., & Seshaiyer, P. (2009). Classical and Modern Numerical Analysis: Theory, Methods and Practice (1 edition). Boca Raton: Chapman and Hall/ CRC.
2. Anastassiou, G. A., & Mezei, R. (2015). Numerical Analysis Using Sage. Springer International Publishing.
3. Cheney, E. W., & Kincaid, D. R. (2012). Numerical Mathematics and Computing (7 edition). Boston, MA: Cengage Learning.
4. O'Leary, D. P. (2008). Scientific Computing with Case Studies. Philadelphia: Society for Industrial and Applied Mathematics.
5. Sauer, T. (2017). Numerical Analysis. (3 edition). Hoboken, NJ? Pearson.
6. Segethová, J. (2002). Základy numerické matematiky. Karolinum.
7. M. Vicher (2003). Numerická matematika.

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 142

A	B	C	D	E	FX
13.38	16.9	8.45	14.79	34.51	11.97

Provides: doc. Mgr. Jozef Kiseľák, PhD., RNDr. Andrej Gajdoš, PhD.

Date of last modification: 18.04.2022

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: KPE/ Pg/15	**Course name:** Pedagogy

Course type, scope and the method:
Course type: Lecture
Recommended course-load (hours):
Per week: 2 **Per study period:** 28
Course method: present

Number of ECTS credits: 2

Recommended semester/trimester of the course: 3.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 1331

A	B	C	D	E	FX
21.79	30.65	23.44	13.45	8.41	2.25

Provides: PaedDr. Michal Novocký, PhD., doc. PaedDr. Renáta Orosová, PhD.

Date of last modification: 14.09.2024

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚGE/ EXF/21	**Course name:** Physical Geography Excursion
Course type, scope and the method: **Course type:** Practice **Recommended course-load (hours):** **Per week: Per study period:** 6d **Course method:** present	
Number of ECTS credits: 3	
Recommended semester/trimester of the course: 4.	
Course level: I.	
Prerequisities:	
Conditions for course completion:	
Learning outcomes:	
Brief outline of the course:	
Recommended literature:	
Course language:	
Notes:	

Course assessment
Total number of assessed students: 43

abs	n
100.0	0.0

Provides: RNDr. Alena Gessert, PhD., univerzitná docentka, Mgr. Imrich Sládek, PhD.
Date of last modification: 27.06.2022
Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚGE/ FGS1/21	**Course name:** Physical Geography of Slovakia

Course type, scope and the method:
Course type: Lecture / Practice
Recommended course-load (hours):
Per week: 2 / 1 **Per study period:** 28 / 14
Course method: present

Number of ECTS credits: 5

Recommended semester/trimester of the course: 4.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 76

A	B	C	D	E	FX
13.16	26.32	28.95	11.84	7.89	11.84

Provides: RNDr. Alena Gessert, PhD., univerzitná docentka, doc. Ing. Katarína Bónová, PhD., Mgr. Imrich Sládek, PhD., Mgr. Jozef Šupinský, PhD.

Date of last modification: 14.02.2023

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚGE/ POL2/21	**Course name:** Political geography

Course type, scope and the method:
Course type: Lecture / Practice
Recommended course-load (hours):
Per week: 1 / 2 **Per study period:** 14 / 28
Course method: present

Number of ECTS credits: 5

Recommended semester/trimester of the course: 6.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 16

A	B	C	D	E	FX
18.75	37.5	37.5	6.25	0.0	0.0

Provides: RNDr. Stela Csachová, PhD., doc. Mgr. Ladislav Novotný, PhD.

Date of last modification: 27.06.2022

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚGE/GOBY/21	**Course name:** Population Geography

Course type, scope and the method:
Course type: Lecture / Practice
Recommended course-load (hours):
Per week: 2 / 2 **Per study period:** 28 / 28
Course method: present

Number of ECTS credits: 5

Recommended semester/trimester of the course: 2.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 123

A	B	C	D	E	FX
7.32	4.88	25.2	34.96	21.95	5.69

Provides: doc. Mgr. Ladislav Novotný, PhD., RNDr. Janetta Nestorová-Dická, PhD., univerzitná docentka

Date of last modification: 19.02.2024

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: KPPaPZ/PP/15	**Course name:** Positive Psychology

Course type, scope and the method:
Course type: Practice
Recommended course-load (hours):
Per week: 2 **Per study period:** 28
Course method: present

Number of ECTS credits: 2

Recommended semester/trimester of the course: 4., 6.

Course level: I.

Prerequisities:

Conditions for course completion:
Assessment of Study Results:
The evaluation of study results for the course is conducted through continuous assessment. Active participation in seminars (a maximum of 2 absences is allowed) accounts for 20%; a presentation during the exercises on a pre-assigned date accounts for 30%; and the preparation and submission of a group year-long methodological guide on Positive Psychology accounts for 50%.
Final Grading Scale:
A: 100 – 90%
B: 89 – 80%
C: 79 – 70%
D: 69 – 60%
E: 59 – 50%
FX: 49% or less – failed and must revise the assignment where a low score was obtained.cademic information system of the UPJŠ.

Learning outcomes:
Knowledge: Students will gain basic knowledge about the origins, foundations, and applications of Positive Psychology as a new and dynamically developing field of psychology. They will become familiar with research in this area and various perspectives on personal well-being, happiness, and life meaning. They will acquire an overview of the main theoretical approaches in Positive Psychology and their application in the context of individuals and society, with an emphasis on their use in educational settings.
Skills: Students will develop the ability to independently and critically address current topics in Positive Psychology, such as positive emotions, interpersonal relationships, hope, optimism, gratitude, and wisdom. They will learn to apply Positive Psychology principles in designing programs aimed at promoting personal well-being and developing positive traits, which can be utilized in working with children and youth in school environments.
Competencies: After completing the course, students will be able to effectively apply the principles of Positive Psychology in educational contexts, such as fostering positive interpersonal relationships and developing optimism and gratitude in students. They will be prepared to

participate in the creation and implementation of programs focused on personal development and mental well-being, contributing to the creation of a positive and supportive school environment.

Brief outline of the course:

1. Different perspectives on well-being nad happiness in psychology
2. Main theoretical approaches to positive psychology
3. Positive emotions and positivity
4. Meaningfulness
5. Positive interpersonal relations
6. Post-traumatic growth
7. Hope and optimism
8. Gratitude
9. Spirituality as a personality dimension
10. Wisdom
11. Positive institutions
12. New themes and topics in PP

Recommended literature:

Brewer, M. B., & Hewstone, M. (2004). Emotion and motivation. Blackwell.
Deci, E., & Ryan, R. M. (2002). Handbook of self-determination research. Rochester.
Křivohlavý, J. (2003). Pozitivní psychologie. Praha: Portál.
Křivohlavý, J. (2007). Psychologie vděčnosti a nevděčnosti. Praha: Grada.
Křivohlavý, J. (2012). Psychologie moudrosti a dobrého života. Praha: Grada.
Křivohlavý, J. (2013). Psychologie pocitu štěstí. Praha: Grada.
McAdams, D. P. (2002). The person. New York.
Seligman, M. E. P., & Csikszentmihalyi, M. (Eds.). (2000). Positive psychology [Special issue]. American Psychologist, 55(1).
Říčan, P. (2007). Psychologie náboženství a spirituality. Praha: Portál.
Slezáčková, A. (2012). Průvodce pozitivní psychologií. Praha: Grada.
Carr, A. (2022). Positive psychology: The science of wellbeing and human strengths (3rd ed.). Routledge.

Course language:

Notes:

Course assessment

Total number of assessed students: 462

A	B	C	D	E	FX
98.27	1.3	0.22	0.0	0.22	0.0

Provides: doc. Mgr. Gabriel Baník, PhD.

Date of last modification: 04.02.2025

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚMV/ TPP2/22	**Course name:** Probability theory

Course type, scope and the method:
Course type: Lecture / Practice
Recommended course-load (hours):
Per week: 2 / 2 **Per study period:** 28 / 28
Course method: present

Number of ECTS credits: 4

Recommended semester/trimester of the course: 6.

Course level: I.

Prerequisities: ÚMV/MAN2c/22

Conditions for course completion:
To obtain at least 50% in two written tests during the semester.
Total evaluation based on written tests and oral exam.

Learning outcomes:
To obtain knowledge of the axiomatic theory of probability, random variables and their characteristics, special types of distributions and their applications.

Brief outline of the course:
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, chi-square, Student, Fisher).
Central limit theorem.

Recommended literature:
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)
5. Potocký a kol.: Zbierka úloh z pravdepodobnosti a matematickej štatistiky, Alfa, Bratislava, 1991

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 138

A	B	C	D	E	FX
26.81	15.22	11.59	10.87	35.51	0.0

Provides: doc. RNDr. Daniel Klein, PhD., RNDr. Andrej Gajdoš, PhD.

Date of last modification: 17.02.2022

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ PAZ1a/15	**Course name:** Programming, algorithms, and complexity

Course type, scope and the method:
Course type: Lecture / Practice
Recommended course-load (hours):
Per week: 3 / 4 **Per study period:** 42 / 56
Course method: present

Number of ECTS credits: 8

Recommended semester/trimester of the course: 3., 5.

Course level: I.

Prerequisities:

Conditions for course completion:
Graded activities during semester: assignments, small exams, midterm, final project.
Final examination: practical finalterm focused on a complex task.
Rules to pass the subject: Pass the minimal limit of points for category of homeworks (assignments, final project) and tests (small exams, midterm). Get at least 42% from the finalterm and pass the defined limit of total points for all graded activities.

Learning outcomes:
Get an ability to implement basic Java programs and obtain essential knowledge related to object-oriented programming.

Brief outline of the course:
1. Introduction to Java and JPAZ2 framework, first Eclipse project, interactive communication with objects using turtle graphics, repeating code in loops, notion of class, object, and method.
2. For-loops, local variables, variable types, arithmetic expressions, random numbers, random walk, conditions.
3. While-loop, returning a value from a method, reference and reference variables, debugging.
4. Primitive and reference types, chars, String objects (including basic algorithms), mouse events, instance variables.
5. Array of primitive values and array of references, simple array algorithms.
6. Advanced array algorithms, two-dimensional array.
7. Exceptions and exception handling, files and directories, writing to text files.
8. Reading from text files.
9. Creating classes, encapsulation, getters and setters, constructors and their hierarchy, method overloading.
10. Inheritance and polymorphism.
11. Java Collections Framework, ArrayList class, wrapper classes for primitive types and autoboxing, interfaces List, Set, Map and their implementations, methods equals and hashCode.
12. Access modifiers, abstract classes and methods, creating and implementing interfaces, sorting, static methods and variables.
13. Creating and throwing exceptions, checked and runtime exceptions, JavaDoc, Maven.

Recommended literature:

1. ECKEL, Bruce. Thinking in Java. Fourth edition. Upper Saddle River, NJ: Prentice Hall, c[2006]. ISBN 978-01-318-7248-6.
2. PECINOVSKÝ, Rudolf. OOP: naučte se myslet a programovat objektově. Brno: Computer Press, 2010. ISBN 978-80-251-2126-9.
3. SIERRA, Kathy a Bert BATES. Head first Java. Vyd. 2. Sebastopol: O´Reilly, 2005. ISBN 978-05-960-0920-5.

Course language:
Slovak language, english language is required only to read Java API documentation.

Notes:

Course assessment
Total number of assessed students: 961

A	B	C	D	E	FX
16.86	8.64	12.28	18.73	13.94	29.55

Provides: RNDr. Juraj Šebej, PhD., RNDr. Miroslav Opiela, PhD., RNDr. Viktor Pristaš, RNDr. Richard Staňa, Mgr. Viktor Olejár, Mgr. Dominika Kotlárová, doc. RNDr. Ľubomír Šnajder, PhD.

Date of last modification: 04.01.2022

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: KPPaPZ/Ps/15	**Course name:** Psychology

Course type, scope and the method:
Course type: Lecture
Recommended course-load (hours):
Per week: 2 **Per study period:** 28
Course method: present

Number of ECTS credits: 2

Recommended semester/trimester of the course: 3.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 978

A	B	C	D	E	FX
40.49	22.39	14.52	11.04	10.02	1.53

Provides: doc. Mgr. Mária Bačíková, PhD., Mgr. Ondrej Kalina, PhD.

Date of last modification: 04.02.2025

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: KPPaPZ/PKŽ/15	**Course name:** Psychology of Everyday Life

Course type, scope and the method:
Course type: Practice
Recommended course-load (hours):
Per week: 2 **Per study period:** 28
Course method: present

Number of ECTS credits: 2

Recommended semester/trimester of the course: 3., 5.

Course level: I.

Prerequisities:

Conditions for course completion:
The evaluation of the course and its subsequent completion will be based on clearly and objectively set requirements, which will be set in advance and will not change. The aim of the assessment is to ensure an objective and fair mapping of the student's knowledge while adhering to all ethical and moral standards. There is no tolerance for students' fraudulent behavior, whether in the teaching process or in the assessment process.
1. Active participation in seminars
2. Elaboration and presentation of PPT presentation on the assigned topic. Maximum number of points 20; minimum number of points 11.
3. Elaboration of an essay in the range of 4xA4 (standard pages). Maximum number of points 20; minimum number of points 11.
The final evaluation (grade) is the sum of points for the presentation and the essay.
A 40b - 37b
B 36b - 33b
C 32b - 29b
D 28b - 25b
E 24b - 21b
FX 20b - 0b

Learning outcomes:
The student is able to demonstrate an understanding of the individual's behavior in selected everyday situations such as conflict, group influence, empathy, helping, aggression, etc.
The student is able to describe, explain and evaluate the psychological mechanisms that occur in everyday situations.
The student is able to apply basic psychological knowledge to himself (self-regulation) but also in interaction with others (cooperation).
The method of teaching the subject will be oriented to the student. Speakers will be interested in the needs, expectations and opinions of students so as to encourage them to think critically by expressing respect and feedback on their opinions and needs.
The content of the curriculum will be based on primary and high-quality sources that will reflect the topicality of the topics so as to ensure the connection of the curriculum with other subjects and also

the connection of the curriculum with practice. Students will be expected to take an active approach in lectures and seminars with an emphasis on their independence and responsibility.

Brief outline of the course:
How to understand human behavior (overview of basic approaches in psychology); Basic overview of cognitive processes; Learning processes and their use in practice; Social influences, prosocial and antisocial behavior; How human emotions and motivations work; Deciding - why and when we take risks; Childhood experiences and their relationship to adulthood; Abnormal behavior, mental disorders and therapeutic approaches

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 253

A	B	C	D	E	FX
46.25	23.32	24.51	4.35	1.19	0.4

Provides: Mgr. Ondrej Kalina, PhD.

Date of last modification: 10.02.2025

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚGE/ RGE2/21	**Course name:** Regional Geography of Europe

Course type, scope and the method:
Course type: Lecture / Practice
Recommended course-load (hours):
Per week: 3 / 1 **Per study period:** 42 / 14
Course method: present

Number of ECTS credits: 5

Recommended semester/trimester of the course: 6.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 43

A	B	C	D	E	FX
6.98	18.6	32.56	37.21	0.0	4.65

Provides: RNDr. Stela Csachová, PhD., RNDr. Alena Gessert, PhD., univerzitná docentka, doc. Mgr. Ladislav Novotný, PhD., Mgr. Marián Kulla, PhD., Mgr. Imrich Sládek, PhD.

Date of last modification: 07.02.2025

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚGE/ ADPZ/22	**Course name:** Remote sensing applications

Course type, scope and the method:
Course type: Lecture / Practice
Recommended course-load (hours):
Per week: 1 / 2 **Per study period:** 14 / 28
Course method: present

Number of ECTS credits: 3

Recommended semester/trimester of the course: 5.

Course level: I., II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 16

A	B	C	D	E	FX
100.0	0.0	0.0	0.0	0.0	0.0

Provides: prof. Mgr. Jaroslav Hofierka, PhD., Mgr. Katarína Onačillová, PhD., Mgr. Ján Šašak, PhD.

Date of last modification: 20.06.2022

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: KPE/ OLŠ/15	**Course name:** School Administration and Legislation

Course type, scope and the method:
Course type: Practice
Recommended course-load (hours):
Per week: 2 **Per study period:** 28
Course method: present

Number of ECTS credits: 2

Recommended semester/trimester of the course: 3., 5.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 355

A	B	C	D	E	FX
45.92	31.27	13.24	5.92	3.1	0.56

Provides: PaedDr. Michal Novocký, PhD., Mgr. Beáta Sakalová, PhD.

Date of last modification: 14.09.2024

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: KF/ VKFV/07	**Course name:** Selected Topics in Philosophy of Education (General Introduction)

Course type, scope and the method:
Course type: Practice
Recommended course-load (hours):
Per week: 2 **Per study period:** 28
Course method: present

Number of ECTS credits: 2

Recommended semester/trimester of the course: 3., 5.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 52

A	B	C	D	E	FX
63.46	17.31	17.31	1.92	0.0	0.0

Provides: PhDr. Dušan Hruška, PhD.

Date of last modification: 13.04.2022

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚMV/ VEM/22	**Course name:** Selected topics in elementary mathematics

Course type, scope and the method:
Course type: Lecture / Practice
Recommended course-load (hours):
Per week: 1 / 1 **Per study period:** 14 / 14
Course method: present

Number of ECTS credits: 2

Recommended semester/trimester of the course: 5.

Course level: I.

Prerequisities: ÚMV/MAN2c/22

Conditions for course completion:
During the term, each student receives marks for two written exams. Final marking is assigned based on the overall points for the work throughout the term, for homework and their presentation. Marking classification: A:91%-100%, B:81%-90%, C:71%-80%, D:61%-70%, E:51%-60%, FX:0%-50%

Learning outcomes:
Obtain knowledge about the structure of elementary mathematics with respect to advanced mathematics; the development of mathematical skills of prospective teachers. The student will
1. familiarise themselves with mathematical culture, ways of thinking, self-expression and putting forward arguments,
2. gain a deeper understanding of the base terminology of real analysis, their properties and interconnections,
3. be able to define and interpret key terms, prove their basic properties and relationships,
4. know how to solve tasks focused on utilising the aforementioned concepts and interpret the obtained results.

Brief outline of the course:
Theory of Equations and Inequalities, Solving Higher Order Polynomials, The Role of CAS systems in Solving Equations and Inequalities,
Building the Real Number System, Rational and Irrational Numbers, Farey Sequences, Review of Geometric Series: Preparation for Decimal Representation, Decimal Expansion, Decimal Periodicity, Building the Complex Numbers, Operating on the Complex Numbers, Picturing Complex Numbers and Connections to Transformation Geometry, The Polar Form of Complex Numbers and De Moivre's Theorem, Some Connections to Roots of Polynomials, Euler's Identity and the Irrationality of e,
Functions and Modeling, Ways of Representing Functions, Solutions of Cubic Equations Using Trigonometry

Recommended literature:
J. Doboš: Rovnice a nerovnice, Bolchazy-Carducci Publ., 2003.
W.W. Esty: The language of mathematics, Montana State University, 2007.
F. Klein: Elementary Mathematics from an Advanced Standpoint, Dower Publications, 1945.

F. Kuřina, Z. Půlpán: Podivuhodný svět elementární matematiky, Academia, Praha, 2006.
P. Vrábel: Heuristika a metodológia matematiky, Nitra, 2005.

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 58

A	B	C	D	E	FX
6.9	27.59	13.79	24.14	27.59	0.0

Provides: prof. RNDr. Jozef Doboš, CSc.

Date of last modification: 25.04.2022

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: KPPaPZ/SELFM/25	**Course name:** Self-Marketing

Course type, scope and the method:
Course type: Practice
Recommended course-load (hours):
Per week: 2 **Per study period:** 28
Course method: present

Number of ECTS credits: 4

Recommended semester/trimester of the course: 4., 6.

Course level: I., P

Prerequisities:

Conditions for course completion:
The conditions for passing the subject are as follows: 1. Active participation in exercises. Max. the missed range is 90 min. 2. Submission of the reflection on the selected topic within the specified time. Reflection topic: will be given in the exercise.
The evaluation of the subject and its subsequent completion will be based on clearly and objectively determined requirements, which will be determined in advance and will not change. The aim of the evaluation is to ensure an objective and fair mapping of the student's knowledge while observing all ethical and moral standards. There is no tolerance for fraudulent student behavior in either the teaching or assessment process.

Learning outcomes:
The student is able to understand and explain the basic assumptions of good self-marketing, knows the possibilities for the correct presentation of his own person and understands the related knowledge and principles of personal and communication area. He / she can understand his / her competencies, his / her goals, how to make his / her strengths visible and he / she can apply this knowledge and social and professional skills in the personal and professional sphere of his / her life, which will also improve his / her employment opportunities.

Brief outline of the course:
What is marketing? (Marketing - Mix)
Basics of self-marketing (Personal opinion is crucial, Goal setting, Proper use of opportunity)
Me and my influence (What can I offer? What does he / she have unlike me? How do others see me? Ability to defend one's own opinion, Think positively!, I know how to explore myself - what options do I have?),
Competence (Have your own opinion, How to withstand criticism, Be a team player, Competence at work),
Draw attention to yourself (Voice and word selection, Active in meetings, Present yourself successfully).

Recommended literature:
VÝROST, Jozef - SLAMĚNÍK, Ivan. Sociální psychologie. 2., přepr. a rozš. vyd. Praha : GRADA, 2008. 408 s.

VÝROST, Jozef - SLAMĚNÍK, Ivan. Aplikovaná sociální psychologie I : Člověk a sociální instituce. 1. vyd. Praha : Portál, 1998. 384 s. ISBN 80-7178-269-6.
KOMÁRKOVÁ, Růžena - SLAMĚNÍK, Ivan - VÝROST, Jozef. Aplikovaná sociální psychologie III : Sociálněpsychologický výcvik. 1. vyd. Praha : Grada Publishing, 2001. 224 s.
VÝROST, Jozef - SLAMĚNÍK, Ivan. Aplikovaná sociální psychologie II. 1. vyd. Praha : Grada Publishing, 2001. 260 s.

Course language:
slovak

Notes:
After passing the certification exams from all 4 modules (Teamwork, Selfmarketing, Conflict Management, Communication) the student will receive an ECo-C card and an ECo-C certificate.

Course assessment
Total number of assessed students: 0

A	B	C	D	E	FX
0.0	0.0	0.0	0.0	0.0	0.0

Provides: Mgr. Ondrej Kalina, PhD., Mgr. Lenka Hudáková, PhD.

Date of last modification: 04.02.2025

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚGE/SHG/21	**Course name:** Seminar of human geography
Course type, scope and the method: **Course type:** Practice **Recommended course-load (hours):** **Per week:** 2 **Per study period:** 28 **Course method:** present	
Number of ECTS credits: 3	
Recommended semester/trimester of the course: 6.	
Course level: I.	
Prerequisities:	
Conditions for course completion:	
Learning outcomes:	
Brief outline of the course:	
Recommended literature:	
Course language:	
Notes:	

Course assessment
Total number of assessed students: 10

abs	n
90.0	10.0

Provides: Mgr. Marián Kulla, PhD., RNDr. Janetta Nestorová-Dická, PhD., univerzitná docentka, doc. Mgr. Ladislav Novotný, PhD., Mgr. Loránt Pregi, PhD.
Date of last modification: 27.06.2022
Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚGE/ SFG/21	**Course name:** Seminar of physical geography
Course type, scope and the method: **Course type:** Practice **Recommended course-load (hours):** **Per week:** 2 **Per study period:** 28 **Course method:** present	
Number of ECTS credits: 3	
Recommended semester/trimester of the course: 6.	
Course level: I.	
Prerequisities:	
Conditions for course completion:	
Learning outcomes:	
Brief outline of the course:	
Recommended literature:	
Course language:	
Notes:	

Course assessment
Total number of assessed students: 5

abs	n
100.0	0.0

Provides: doc. Ing. Katarína Bónová, PhD., RNDr. Alena Gessert, PhD., univerzitná docentka, Mgr. Imrich Sládek, PhD., Mgr. Jozef Šupinský, PhD.
Date of last modification: 27.06.2022
Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚMV/ SMK/17	**Course name:** Seminar to mathematical clubs

Course type, scope and the method:
Course type: Practice
Recommended course-load (hours):
Per week: 2 **Per study period:** 28
Course method: present

Number of ECTS credits: 2

Recommended semester/trimester of the course: 6.

Course level: I.

Prerequisities:

Conditions for course completion:
Conditions for continuous evaluation:
1. Participation in teaching in accordance with the study rules and instructions of the teacher.
2. Activity.
3. Homework and written tests.
4. Seminar work and its presentation at the seminar - plan the selected topic for one math circle
Conditions for successful completion of the course:
1. Participation in teaching in accordance with the study regulations and according to the instructions of the teacher;
2. Credits will be awarded to a student who scores at least 50% on homework assignments, at least 50% on written tests, and at least 50% on a seminar work. A grade of A requires at least 90%, a grade of B requires at least 80%, a grade of C requires at least 70%, a grade of D requires at least 60%, and a grade of E requires at least 50%.

Learning outcomes:
While solving homework, the student will become familiar with different types of problems from mathematical competitions and demonstrate the ability to solve them with the mathematical apparatus of the student for whom the problem is intended.
While solving problems in written tests, the student will gain proficiency in solving problems from mathematical competitions such as Pythagorean and Mathematical Kangaroo.
The student will demonstrate in the seminar work that he/she can prepare the content of a mathematics circle that are motivating for his/her students.

Brief outline of the course:
The content is focuses on solving problems from mathematical competitions, and on familiarization with activities that will be motivating and fun for pupils and will develop their mathematical thinking
Students will also learn about the structure of mathematical competitions for middle and high school students and will be theoretically prepared for guiding mathematics circle.
The seminars focus on the following topics:
Number theory.
Equations, inequalities, inequalities.

Word problems.
Planimetry.
Stereometry.
Combinatorics. Dirichlet principle. Combinatorial geometry. Probability.
Mathematical games.

Recommended literature:

Acheson, D.: 1089 a další parádní čísla, Dokořán, 2006. (in czech)
Brožúry z edície Škola mladých matematikov. (in slovak)
Séria 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 seminářu, Prometheus, Praha, 2006. (in czech)

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 149

A	B	C	D	E	FX
57.05	21.48	11.41	6.71	3.36	0.0

Provides: doc. RNDr. Ingrid Semanišinová, PhD.

Date of last modification: 18.04.2022

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: KPO/ SPKVV/15	**Course name:** Social and Political Context of Education

Course type, scope and the method:
Course type: Lecture
Recommended course-load (hours):
Per week: 2 **Per study period:** 28
Course method: present

Number of ECTS credits: 2

Recommended semester/trimester of the course: 4., 6.

Course level: I.

Prerequisities:

Conditions for course completion:
Evaluation of the developed assignment.
A ... 100,00% - 91,00%
B ... 90,99% - 81,00%
C ... 80,99% - 71,00%
D ... 70,99% - 61,00%
E ... 60,99% - 51,00%
FX ... 50,99% and less

Learning outcomes:
The aim and purpose of teaching the subject is to impart knowledge and promote reflection on the issues of education and training in the context of social and political change.
Development of knowledge: the student will be able to know the current theoretical background related to the process of education and training in a modern democratic society.
The student will be able to navigate the social and political space - politically, legally, socially and culturally. He/she will be able to look for alternatives and solutions to dysfunctions, while at the same time exploiting opportunities and ways to implement them.

Brief outline of the course:
The status, role and functions of education in human life and society. The political, social and economic objectives of education. Education, learning and social change in the context of globalisation. Macrosocial determinants of education. Current roles of education and training in modern performance and democratic society.

Recommended literature:
Domestic and foreign journal literature
Kudláčová, B.(2007) Človek a výchova v dejinách európskeho myslenia. Trnava: PdF TU
Zeus Leonardo (2010) Handbook of Cultural Politics and Education. Rotterdam, The Netherlands.

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 201

A	B	C	D	E	FX
60.7	20.9	10.95	4.48	1.49	1.49

Provides: Mgr. Ján Ruman, PhD.

Date of last modification: 13.04.2022

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚTVŠ/ TVa/11	**Course name:** Sports Activities I.

Course type, scope and the method:
Course type: Practice
Recommended course-load (hours):
Per week: 2 **Per study period:** 28
Course method: present

Number of ECTS credits: 2

Recommended semester/trimester of the course: 1.

Course level: I., II., P

Prerequisities:

Conditions for course completion:
Min. 80% of active participation in classes.

Learning outcomes:
Sports activities in all their forms prepare university students for their professional and personal life. They have a great impact on physical fitness and performance. Specialization in sports activities enables students to strengthen their relationship towards the selected sport in which they also improve.

Brief outline of the course:
Brief outline of the course:
The Institute of physical education and sport at the Pavol Jozef Šafárik University offers 20 sports activities aerobics; aikido, basketball, badminton, body-balance, body form, bouldering, floorball, yoga, power yoga, pilates, swimming, fitness, indoor football, SM system, step aerobics, table tennis, chess, volleyball, tabata, cycling.
Additionally, the Institute of physical education and sport at the Pavol Jozef Šafárik University offers winter courses (ski course, survival) and summer courses (aerobics by the sea, rafting on the Tisza River) with an attractive programme, sports competitions with national and international participation.

Recommended literature:
BENCE, M. et al. 2005. Plávanie. Banská Bystrica: FHV UMB. 198s. ISBN 80-8083-140-8. [online] Dostupné na: https://www.ff.umb.sk/app/cmsFile.php?disposition=a&ID=571
BUZKOVÁ, K. 2006. Fitness jóga, harmonické cvičení těla I duše. Praha: Grada. ISBN 8024715252.
JARKOVSKÁ, H, JARKOVSKÁ, M. 2005. Posilování s vlastním tělem 417 krát jinak. Praha: Grada. ISBN 9788024757308.
KAČÁNI, L. 2002. Futbal:Tréning hrou. Bratislava: Peter Mačura – PEEM. 278s. ISBN 8089197027.
KRESTA, J. 2009. Futsal.Praha: Grada Publishing, a.s. 112s. ISBN 9788024725345.
LAWRENCE, G. 2019. Power jóga nejen pro sportovce. Brno: CPress. ISBN 9788026427902.
SNER, Wolfgang. 2004. Posilování ve fitness. České Budějovice: Kopp. ISBN 8072322141.

STACKEOVÁ, D. 2014. Fitness programy z pohledu kinantropologie. Praha: Galén. ISBN 9788074921155.
VOMÁČKO, S. BOŠTÍKOVÁ, S. 2003. Lezení na umělých stěnách. Praha: Grada. 129s. ISBN 8024721743.

Course language:
Slovak language

Notes:

Course assessment
Total number of assessed students: 15781

abs	abs-A	abs-B	abs-C	abs-D	abs-E	n	neabs
85.74	0.06	0.0	0.0	0.0	0.04	9.0	5.15

Provides: Mgr. Patrik Berta, Mgr. Agata Dorota Horbacz, PhD., Mgr. Dávid Kaško, PhD., Mgr. Ladislav Kručanica, PhD., Mgr. Richard Melichar, Mgr. Petra Tomková, PhD., Mgr. Marcel Čurgali, Mgr. Alena Buková, PhD., univerzitná docentka, doc. PaedDr. Ivan Uher, MPH, PhD., prof. RNDr. Stanislav Vokál, DrSc., Mgr. Zuzana Küchelová, PhD., Mgr. Ferdinand Salonna, PhD.

Date of last modification: 07.02.2024

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚTVŠ/ TVb/11	**Course name:** Sports Activities II.

Course type, scope and the method:
Course type: Practice
Recommended course-load (hours):
Per week: 2 **Per study period:** 28
Course method: present

Number of ECTS credits: 2

Recommended semester/trimester of the course: 2.

Course level: I., II., P

Prerequisities:

Conditions for course completion:
active participation in classes - min. 80%.

Learning outcomes:
Sports activities in all their forms prepare university students for their professional and personal life. They have a great impact on physical fitness and performance. Specialization in sports activities enables students to strengthen their relationship towards the selected sport in which they also improve.

Brief outline of the course:
Brief outline of the course:
The Institute of physical education and sport at the Pavol Jozef Šafárik University offers 20 sports activities aerobics; aikido, basketball, badminton, body-balance, body form, bouldering, floorball, yoga, power yoga, pilates, swimming, fitness, indoor football, SM system, step aerobics, table tennis, chess, volleyball, tabata, cycling.
Additionally, the Institute of physical education and sport at the Pavol Jozef Šafárik University offers winter courses (ski course, survival) and summer courses (aerobics by the sea, rafting on the Tisza River) with an attractive programme, sports competitions with national and international participation.

Recommended literature:
BENCE, M. et al. 2005. Plávanie. Banská Bystrica: FHV UMB. 198s. ISBN 80-8083-140-8. [online] Dostupné na: https://www.ff.umb.sk/app/cmsFile.php?disposition=a&ID=571
BUZKOVÁ, K. 2006. Fitness jóga, harmonické cvičení těla I duše. Praha: Grada. ISBN 8024715252.
JARKOVSKÁ, H, JARKOVSKÁ, M. 2005. Posilování s vlastním tělem 417 krát jinak. Praha: Grada. ISBN 9788024757308.
KAČÁNI, L. 2002. Futbal:Tréning hrou. Bratislava: Peter Mačura – PEEM. 278s. ISBN 8089197027.
KRESTA, J. 2009. Futsal.Praha: Grada Publishing, a.s. 112s. ISBN 9788024725345.
LAWRENCE, G. 2019. Power jóga nejen pro sportovce. Brno: CPress. ISBN 9788026427902.
SNER, Wolfgang. 2004. Posilování ve fitness. České Budějovice: Kopp. ISBN 8072322141.

STACKEOVÁ, D. 2014. Fitness programy z pohledu kinantropologie. Praha: Galén. ISBN 9788074921155.
VOMÁČKO, S. BOŠTÍKOVÁ, S. 2003. Lezení na umělých stěnách. Praha: Grada. 129s. ISBN 8024721743.

Course language:
Slovak language

Notes:

Course assessment
Total number of assessed students: 13802

abs	abs-A	abs-B	abs-C	abs-D	abs-E	n	neabs
83.85	0.49	0.01	0.0	0.0	0.04	11.17	4.43

Provides: Mgr. Agata Dorota Horbacz, PhD., Mgr. Dávid Kaško, PhD., Mgr. Marcel Čurgali, Mgr. Patrik Berta, Mgr. Ladislav Kručanica, PhD., Mgr. Richard Melichar, Mgr. Petra Tomková, PhD., Mgr. Alena Buková, PhD., univerzitná docentka, doc. PaedDr. Ivan Uher, MPH, PhD., prof. RNDr. Stanislav Vokál, DrSc., Mgr. Zuzana Küchelová, PhD., Mgr. Ferdinand Salonna, PhD.

Date of last modification: 07.02.2024

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚTVŠ/ TVc/11	**Course name:** Sports Activities III.

Course type, scope and the method:
Course type: Practice
Recommended course-load (hours):
Per week: 2 **Per study period:** 28
Course method: present

Number of ECTS credits: 2

Recommended semester/trimester of the course: 3.

Course level: I., II.

Prerequisities:

Conditions for course completion:
min. 80% of active participation in classes

Learning outcomes:
Sports activities in all their forms prepare university students for their professional and personal life. They have a great impact on physical fitness and performance. Specialization in sports activities enables students to strengthen their relationship towards the selected sport in which they also improve.

Brief outline of the course:
Brief outline of the course:
The Institute of physical education and sport at the Pavol Jozef Šafárik University offers 20 sports activities aerobics; aikido, basketball, badminton, body-balance, body form, bouldering, floorball, yoga, power yoga, pilates, swimming, fitness, indoor football, SM system, step aerobics, table tennis, chess, volleyball, tabata, cycling.
Additionally, the Institute of physical education and sport at the Pavol Jozef Šafárik University offers winter courses (ski course, survival) and summer courses (aerobics by the sea, rafting on the Tisza River) with an attractive programme, sports competitions with national and international participation.

Recommended literature:
BENCE, M. et al. 2005. Plávanie. Banská Bystrica: FHV UMB. 198s. ISBN 80-8083-140-8. [online] Dostupné na: https://www.ff.umb.sk/app/cmsFile.php?disposition=a&ID=571
BUZKOVÁ, K. 2006. Fitness jóga, harmonické cvičení těla I duše. Praha: Grada. ISBN 8024715252.
JARKOVSKÁ, H, JARKOVSKÁ, M. 2005. Posilování s vlastním tělem 417 krát jinak. Praha: Grada. ISBN 9788024757308.
KAČÁNI, L. 2002. Futbal:Tréning hrou. Bratislava: Peter Mačura – PEEM. 278s. ISBN 8089197027.
KRESTA, J. 2009. Futsal.Praha: Grada Publishing, a.s. 112s. ISBN 9788024725345.
LAWRENCE, G. 2019. Power jóga nejen pro sportovce. Brno: CPress. ISBN 9788026427902.
SNER, Wolfgang. 2004. Posilování ve fitness. České Budějovice: Kopp. ISBN 8072322141.

STACKEOVÁ, D. 2014. Fitness programy z pohledu kinantropologie. Praha: Galén. ISBN 9788074921155.
VOMÁČKO, S. BOŠTÍKOVÁ, S. 2003. Lezení na umělých stěnách. Praha: Grada. 129s. ISBN 8024721743.

Course language:
Slovak language

Notes:

Course assessment
Total number of assessed students: 9334

abs	abs-A	abs-B	abs-C	abs-D	abs-E	n	neabs
87.96	0.06	0.01	0.0	0.0	0.02	4.92	7.03

Provides: Mgr. Marcel Čurgali, Mgr. Agata Dorota Horbacz, PhD., Mgr. Dávid Kaško, PhD., Mgr. Patrik Berta, Mgr. Ladislav Kručanica, PhD., Mgr. Richard Melichar, Mgr. Petra Tomková, PhD., Mgr. Alena Buková, PhD., univerzitná docentka, doc. PaedDr. Ivan Uher, MPH, PhD., prof. RNDr. Stanislav Vokál, DrSc., Mgr. Zuzana Küchelová, PhD., Mgr. Ferdinand Salonna, PhD.

Date of last modification: 07.02.2024

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚTVŠ/ TVd/11	**Course name:** Sports Activities IV.

Course type, scope and the method:
Course type: Practice
Recommended course-load (hours):
Per week: 2 **Per study period:** 28
Course method: present

Number of ECTS credits: 2

Recommended semester/trimester of the course: 4.

Course level: I., II.

Prerequisities:

Conditions for course completion:
min. 80% of active participation in classes

Learning outcomes:
Sports activities in all their forms prepare university students for their professional and personal life. They have a great impact on physical fitness and performance. Specialization in sports activities enables students to strengthen their relationship towards the selected sport in which they also improve.

Brief outline of the course:
Brief outline of the course:
The Institute of physical education and sport at the Pavol Jozef Šafárik University offers 20 sports activities aerobics; aikido, basketball, badminton, body-balance, body form, bouldering, floorball, yoga, power yoga, pilates, swimming, fitness, indoor football, SM system, step aerobics, table tennis, chess, volleyball, tabata, cycling.
Additionally, the Institute of physical education and sport at the Pavol Jozef Šafárik University offers winter courses (ski course, survival) and summer courses (aerobics by the sea, rafting on the Tisza River) with an attractive programme, sports competitions with national and international participation.

Recommended literature:
BENCE, M. et al. 2005. Plávanie. Banská Bystrica: FHV UMB. 198s. ISBN 80-8083-140-8. [online] Dostupné na: https://www.ff.umb.sk/app/cmsFile.php?disposition=a&ID=571
BUZKOVÁ, K. 2006. Fitness jóga, harmonické cvičení těla I duše. Praha: Grada. ISBN 8024715252.
JARKOVSKÁ, H, JARKOVSKÁ, M. 2005. Posilování s vlastním tělem 417 krát jinak. Praha: Grada. ISBN 9788024757308.
KAČÁNI, L. 2002. Futbal:Tréning hrou. Bratislava: Peter Mačura – PEEM. 278s. ISBN 8089197027.
KRESTA, J. 2009. Futsal.Praha: Grada Publishing, a.s. 112s. ISBN 9788024725345.
LAWRENCE, G. 2019. Power jóga nejen pro sportovce. Brno: CPress. ISBN 9788026427902.
SNER, Wolfgang. 2004. Posilování ve fitness. České Budějovice: Kopp. ISBN 8072322141.

STACKEOVÁ, D. 2014. Fitness programy z pohledu kinantropologie. Praha: Galén. ISBN 9788074921155.
VOMÁČKO, S. BOŠTÍKOVÁ, S. 2003. Lezení na umělých stěnách. Praha: Grada. 129s. ISBN 8024721743.

Course language:
Slovak language

Notes:

Course assessment
Total number of assessed students: 5846

abs	abs-A	abs-B	abs-C	abs-D	abs-E	n	neabs
82.54	0.27	0.03	0.0	0.0	0.0	8.24	8.91

Provides: Mgr. Marcel Čurgali, Mgr. Agata Dorota Horbacz, PhD., Mgr. Dávid Kaško, PhD., Mgr. Patrik Berta, Mgr. Ladislav Kručanica, PhD., Mgr. Richard Melichar, Mgr. Petra Tomková, PhD., Mgr. Alena Buková, PhD., univerzitná docentka, doc. PaedDr. Ivan Uher, MPH, PhD., prof. RNDr. Stanislav Vokál, DrSc., Mgr. Zuzana Küchelová, PhD., Mgr. Ferdinand Salonna, PhD.

Date of last modification: 07.02.2024

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚGE/ STMG/21	**Course name:** Statistical Methods in Geography

Course type, scope and the method:
Course type: Lecture / Practice
Recommended course-load (hours):
Per week: 1 / 2 **Per study period:** 14 / 28
Course method: present

Number of ECTS credits: 3

Recommended semester/trimester of the course: 2.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 118

A	B	C	D	E	FX
27.97	20.34	16.95	15.25	19.49	0.0

Provides: prof. Mgr. Jaroslav Hofierka, PhD., RNDr. Janetta Nestorová-Dická, PhD., univerzitná docentka

Date of last modification: 12.02.2023

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚGE/ SVG/04	**Course name:** Student Scientific Conference in Geography
Course type, scope and the method: **Course type:** **Recommended course-load (hours):** **Per week: Per study period:** **Course method:** present	
Number of ECTS credits: 4	
Recommended semester/trimester of the course:	
Course level: I., II.	
Prerequisities:	
Conditions for course completion:	
Learning outcomes:	
Brief outline of the course: 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.	
Recommended literature:	
Course language:	
Notes:	
Course assessment Total number of assessed students: 12	
abs	n
100.0	0.0
Provides: RNDr. Alena Gessert, PhD., univerzitná docentka, RNDr. Janetta Nestorová-Dická, PhD., univerzitná docentka, Mgr. Marián Kulla, PhD., doc. Ing. Katarína Bónová, PhD., RNDr. Stela Csachová, PhD.	
Date of last modification: 01.12.2021	
Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.	

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚMV/ SVK/10	**Course name:** Students scientific conference

Course type, scope and the method:
Course type:
Recommended course-load (hours):
Per week: Per study period:
Course method: present

Number of ECTS credits: 4

Recommended semester/trimester of the course:

Course level: I., II.

Prerequisities:

Conditions for course completion:

Learning outcomes:
Individual scientific work of students. Publishing of obtained results in a written form and as a public presentation.

Brief outline of the course:

Recommended literature:
With respect to the research problematics (article in journals, books).

Course language:
Slovak or English

Notes:

Course assessment
Total number of assessed students: 101

A	B	C	D	E	FX
99.01	0.99	0.0	0.0	0.0	0.0

Provides:

Date of last modification: 01.12.2021

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚFV/ DGS/21	**Course name:** Students` Digital Literacy

Course type, scope and the method:
Course type: Practice
Recommended course-load (hours):
Per week: 2 **Per study period:** 28
Course method: present

Number of ECTS credits: 2

Recommended semester/trimester of the course: 1.

Course level: I.

Prerequisities:

Conditions for course completion:
Summary evaluation based on ongoing assessment:
1. Practical ongoing assignments and their defense (at least 50% needed)
3. Active participation during face-to-face contact learning in classical or virtual classroom (3 absences allowed) and during online learning (no absence, uploading all individual ongoing assignments)

Learning outcomes:
The student should obtain and know to apply basic knowledge and skills in working with current digital technologies (mobile phone, tablet, laptop, web technologies):
1. according to the current European framework for the Digital competence DigComp and ECDL
2. for better and more effective learning, work and active life in higher education, later lifelong learning and further career prospects.

Brief outline of the course:
01.-02. Basic digital skills, DigComp framework, ECDL
- modern web browser and its personalization
- security, privacy, responsible use of DT
03.-05. Search, collection and evaluation of digital content
- scanning, audio recording and speech resolution, optical resolution (OCR)
- digital notebooks (Google keep, Evernote, Onenote)
- evaluation of digital resources (Google forms and sections)
06.-08. Editing and creating digital content
- cloud and interactive documents
(text and spreadsheet editors - Google, Microsoft, Jupyter)
- work with pdf documents, e-books and videos
(Kami, Google books, Screencasting)
09. - 10. Organization, protection and sharing of digital content
- modern LMS and cloud storage
(Google Classroom, Microsoft team, Google Drive, Dropbox)
- time management (Google Calendar)
11.-13. Digital communication and cooperation

- collaborative interactive whiteboards (Jamboard, Whiteboard)
- online presentations and online meetings
(Google presentations, Powerpoint, Google meet, Microsoft teams)

Recommended literature:

1. Carretero Gomez, S., Vuorikari, R. and Punie, Y., DigComp 2.1: The Digital Competence Framework for Citizens with eight proficiency levels and examples of use, Luxembourg, 2017, ISBN 978-92-79-68006-9, https://www.ecdl.sk/
2. Bruff, D. (2019). Intentional Tech: Principles to Guide the Use of Educational Technology in College Teaching (1st edition). Morgantown: West Virginia University Press.
3. Baker, Y. (2020). Microsoft Teams for Education. Amazon Digital Services.
4. Miller, H. (2021). Google Classroom + Google Apps: 2021 Edition. Brentford: Orion Edition Limited.

Course language:
slovak

Notes:

Course assessment
Total number of assessed students: 245

A	B	C	D	E	FX
76.33	5.31	2.86	0.0	14.69	0.82

Provides: doc. RNDr. Jozef Hanč, PhD.

Date of last modification: 26.01.2022

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚTVŠ/ LKSp/13	**Course name:** Summer Course-Rafting of TISA River

Course type, scope and the method:
Course type: Practice
Recommended course-load (hours):
Per week: 2 **Per study period:** 28
Course method: present

Number of ECTS credits: 2

Recommended semester/trimester of the course:

Course level: I., II., P

Prerequisities:

Conditions for course completion:
Completion: passed
Condition for successful course completion:
- active participation in line with the study rule of procedure and course guidelines
- effective performance of all tasks: carrying a canoe, entering and exiting a canoe, righting a canoe, paddling

Learning outcomes:
Content standard:
The student demonstrates relevant knowledge and skills in the field, which content is defined in the course syllabus and recommended literature.
Performance standard:
Upon completion of the course students are able to meet the performance standard and:
- implement the acquired knowledge in different situations and practice,
- implement basic skills to manipulate a canoe on a waterway,
- determine the right spot for camping,
- prepare a suitable material and equipment for camping.

Brief outline of the course:
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

Recommended literature:
1. JUNGER, J. et al. Turistika a športy v prírode. Prešov: FHPV PU v Prešove. 2002. ISBN 8080680973.
Internetové zdroje:
1. STEJSKAL, T. Vodná turistika. Prešov: PU v Prešove. 1999.
Dostupné na: https://ulozto.sk/tamhle/UkyxQ2lYF8qh/name/Nahrane-7-5-2021-v-14-46-39#!ZGDjBGR2AQtkAzVkAzLkLJWuLwWxZ2ukBRLjnGqSomICMmOyZN==

Course language:
Slovak language

Notes:

Course assessment
Total number of assessed students: 232

abs	n
36.64	63.36

Provides: Mgr. Dávid Kaško, PhD.

Date of last modification: 29.03.2022

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚTVŠ/ KP/12	**Course name:** Survival Course

Course type, scope and the method:
Course type: Practice
Recommended course-load (hours):
Per week: 2 **Per study period:** 28
Course method: present

Number of ECTS credits: 2

Recommended semester/trimester of the course:

Course level: I., II., P

Prerequisities:

Conditions for course completion:
Completion: passed
Condition for successful course completion:
- active participation in line with the study rule of procedure and course guidelines,
- effective performance of all the tasks defined in the course syllabus

Learning outcomes:
Content standard:
The student demonstrates relevant knowledge and skills in the field, which content is defined in the course syllabus and recommended literature.
Performance standard:
Upon completion of the course students are able to meet the performance standard and should:
- acquire knowledge about safe stay and movement in natural environment,
- obtain theoretical knowledge and practical skills to solve extraordinary and demanding situations connected with survival and minimization of damage to health,
- be able to resist and face situations related to overcoming barriers and obstacles in natural environment,
- be able implement the acquired knowledge as an instructor during summer sport camps for children and youth within recreational sport.

Brief outline of the course:
Brief outline of the course:
1. Principles of conduct and safety in the movement in unfamiliar natural environment
2. Preparation and guidance of a hike tour
3. Objective and subjective danger in the mountains
4. Principles of hygiene and prevention of damage to health in extreme conditions
5. Fire building
6. Movement in the unfamiliar terrain, orientation and navigation
7. Shelters
8. Food preparation and water filtering
9. Rappelling, Tyrolian traverse
10. Transport of an injured person, first aid

Recommended literature:

1. JUNGER, J. et al. Turistika a športy v prírode. Prešov: Fakulta humanitných a prírodných vied PU v Prešove. 2002. 267s. ISBN 80-8068-097-3.
2. PAVLÍČEK, J. Člověk v drsné přírodě. 3. vyd. Praha: Práh. 2002. ISBN 8072520598.
3. WISEMAN, J. SAS: příručka jak přežít. Praha: Svojtka & Co. 2004. 566s. ISBN 8072372807.

Course language:
Slovak language

Notes:

Course assessment
Total number of assessed students: 461

abs	n
46.2	53.8

Provides: Mgr. Ladislav Kručanica, PhD.

Date of last modification: 16.05.2023

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: KPE/ SSU/15	**Course name:** Teachers´ Support Groups

Course type, scope and the method:
Course type: Practice
Recommended course-load (hours):
Per week: 2 **Per study period:** 28
Course method: present

Number of ECTS credits: 2

Recommended semester/trimester of the course: 6.

Course level: I., II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 65

A	B	C	D	E	FX
83.08	9.23	6.15	0.0	0.0	1.54

Provides: doc. PaedDr. Renáta Orosová, PhD.

Date of last modification: 12.03.2024

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: KPPaPZ/TIMPR/25	**Course name:** Team Work

Course type, scope and the method:
Course type: Practice
Recommended course-load (hours):
Per week: 2 **Per study period:** 28
Course method: present

Number of ECTS credits: 4

Recommended semester/trimester of the course: 4., 6.

Course level: I., P

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 0

A	B	C	D	E	FX
0.0	0.0	0.0	0.0	0.0	0.0

Provides: PhDr. Anna Janovská, PhD.

Date of last modification: 04.02.2025

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: KPE/ TVE/08	**Course name:** Theory of Education

Course type, scope and the method:
Course type: Practice
Recommended course-load (hours):
Per week: 2 **Per study period:** 28
Course method: present

Number of ECTS credits: 2

Recommended semester/trimester of the course: 4., 6.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 692

A	B	C	D	E	FX
44.94	29.91	16.33	5.06	1.88	1.88

Provides: Mgr. Beáta Sakalová, PhD., Mgr. Zuzana Vagaská, PhD.

Date of last modification: 12.03.2024

Approved: prof. RNDr. Ondrej Hutník, PhD., prof. Mgr. Jaroslav Hofierka, PhD.