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: combined, present

Number of ECTS credits: 2

Recommended semester/trimester of the course:

Course level: I., II., N

Prerequisities:

Conditions for course completion:
Combined method of teaching (classroom/distance)
Active classroom participation, assignments handed in on time, 2 absences tolerated
1 test (10th week), no retake. (in classroom, in case of distance learning due to worsened epidemiological situation – online)
Presentation on chosen topic (in case of distance learning - online thorugh MS Teams)
Final evaluation- average assessment of test (40%), essay (30%) and presentation (30%).
Grading scale: A 93-100%, B 86-92%, C 79-85%, D 72-78%, E 65-71%, FX 64% and less

Learning outcomes:

Brief outline of the course:

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: 380

A	B	C	D	E	FX
33.68	22.11	15.53	10.0	6.58	12.11

Provides: Mgr. Viktória Mária Slovenská

Date of last modification: 17.09.2020

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚMV/ALGa/10	**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: 7

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 obtain basic knowledge from number theory concerning divisibility and from linear algebra concerning systems of linear equations. To be able to apply it in concrete excercises.

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: 1279

A	B	C	D	E	FX
11.81	11.65	19.0	17.9	28.3	11.34

Provides: prof. RNDr. Danica Studenovská, CSc., RNDr. Igor Fabrici, Dr. rer. nat., RNDr. Lucia Janičková, PhD., RNDr. Simona Rindošová, RNDr. Ivana Varga

Date of last modification: 31.01.2019

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚMV/ ALG2b/10	**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: 7

Recommended semester/trimester of the course: 2.

Course level: I.

Prerequisities: ÚMV/ALGa/10

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

Learning outcomes:
To obtain basic knowledge on matrices, linear spaces, linear transformations and polynomials and their roots over a field; to be able to apply the theory in concrete excercises.

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:
A. Kurosh: Higher Algebra, Mir Publishers, 1975.

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 193

A	B	C	D	E	FX
20.73	18.13	15.54	15.03	26.42	4.15

Provides: prof. RNDr. Danica Studenovská, CSc., doc. RNDr. Matúš Harminc, CSc., RNDr. Lucia Janičková, PhD.

Date of last modification: 31.01.2019

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚMV/ ATC/10	**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: 4

Recommended semester/trimester of the course: 4.

Course level: I.

Prerequisities: ÚMV/ALG2b/10

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:
Groups, subgroups, quotient groups, homomorphism theorems for groups, selected topics of the number theory.

Recommended literature:
G.Birkoff, S.Mac Lane: A Survey of Modern Algebra, New York 1965
I.R. Shafarevich: Basic Notions of Algebra, Springer, 2005

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 176

A	B	C	D	E	FX
14.2	18.75	27.84	22.16	13.64	3.41

Provides: doc. RNDr. Matúš Harminc, CSc.

Date of last modification: 03.05.2015

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: 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: 242

A	B	C	D	E	FX
62.81	31.4	3.31	0.83	0.41	1.24

Provides: Mgr. Katarína Petríková, PhD.	
Date of last modification: 14.06.2021	
Approved:	

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚBEV/BZm/19	**Course name:** Animal Biology
Course type, scope and the method: **Course type:** **Recommended course-load (hours):** **Per week: Per study period:** **Course method:** present	
Number of ECTS credits: 1	
Recommended semester/trimester of the course:	
Course level: I.	
Prerequisities: ÚBEV/CYT1/15,ÚBEV/PMZ/10,ÚBEV/FZ1/10,(ÚBEV/ZO1/03 and leboÚBEV/ZO1/15),(ÚBEV/ZOO1/03 and leboÚBEV/ZOO1/15)	
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
26.32	10.53	15.79	21.05	21.05	5.26

Provides:
Date of last modification: 10.02.2020
Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/FZ1/10	**Course name:** Animal Physiology

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: 7

Recommended semester/trimester of the course: 6.

Course level: I.

Prerequisities: ÚBEV/HIS1/15 and leboÚBEV/HISE1/15

Conditions for course completion:
Writen testing from practicals and oral examination

Learning outcomes:
To provide students with basic knowledge about physiological processes in animals on different levels of phylogenesis and with the principles of their control, aimed to secure the inner integrity of the animal and to its adaptation to the environment.

Brief outline of the course:
The physiology of blood and hemopoietic organs. Physiology of respiration. Heart and circulatory physiology. Physiology of the gastrointestinal tract. The functions of liver. Energetic metabolism and physiology of nutrition. Water and mineral household of the organism. Physiology of the endocrine secretion. Physiology of reproduction. Physiology of excretion.General neurophysiology. Functions of neurons and neuronal networks. Sensory and motoric functions of CNS. Associative functions of CNS. Functions of the vegetative nervous system. Physiology of muscle contraction and active motion. Work physiology. Sensory physiology

Recommended literature:
Varder, A. J., Sherman, J. H., Luciano, D. S.: The mechanisms of body functions, McGraw-Hill, 1990
Schmidt, R. F., Thews, G.: Human Physiology, Springer-Verlag, 1989
R.W.Hill, R.Wyse, M.Anderson : Animal Physiology, Sinauer Assoc., 2008

Course language:

Notes:

Course assessment
Total number of assessed students: 1408

A	B	C	D	E	FX
8.52	16.26	22.09	24.29	23.01	5.82

Provides: doc. RNDr. Monika Kassayová, CSc., prof. RNDr. Beňadik Šmajda, CSc., doc. RNDr. Bianka Bojková, PhD., RNDr. Vlasta Demečková, PhD., RNDr. Terézia Kisková, PhD., RNDr. Natália Pipová, PhD.
Date of last modification: 29.06.2021
Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚMV/APM/19	**Course name:** Applications of mathematics

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:
Presentation on the chosen topic during the seminar.

Learning outcomes:
Students get an overview of applications of mathematics and its tools in various areas of human activity.

Brief outline of the course:
TBA...

Recommended literature:

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 4

A	B	C	D	E	FX
75.0	25.0	0.0	0.0	0.0	0.0

Provides: RNDr. Andrej Gajdoš, PhD., RNDr. Martina Hančová, PhD., Mgr. Jozef Kiseľák, PhD., RNDr. Daniel Klein, PhD., prof. RNDr. Tomáš Madaras, PhD.

Date of last modification: 10.02.2021

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ AFJ1a/15	**Course name:** Automata and formal languages

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:

Course level: I.

Prerequisities:

Conditions for course completion:
Oral examination.

Learning outcomes:
To provide theoretical background for studying computer science in general, by giving the necessary knowledge in theory of automata.

Brief outline of the course:
1: Chomsky hierarchy of grammars: alphabet, symbol (letter, character), transitive closure, word (string), empty word (empty string), length of a string, concatenation, language, grammar, nonterminal symbol, terminal symbol, initial nonterminal (initial symbol), grammar rule, derivation step, language generated by a grammar, Chomsky hierarchy of grammars - phrase-structure, context sensitive, context free, regular
2: Deterministic finite state automata: finite state automaton, state, input symbol, output symbol, initial state, transition function, output function, examples of automata and their graphic representation, generalized transition and output functions and their basic properties
3: Reduction of automata I: equivalent automata, minimal (optimal) automaton, reachable state, properties of reachable states, elimination of unreachable states
4: Reduction of automata II: equivalent states, k-equivalent states, properties of equivalence and k-equivalence, relation between k-equivalence and (k+1)-equivalence, partitioning the state set into equivalence classes, elimination of equivalent states
5: Reduction of automata III: proof of correctness, unambiguity, and optimality of reduced automaton, testing equivalence of two automata
6: Deterministic finite state acceptors: basic definitions, language recognized by a finite state acceptor, common properties of acceptors and automata with an output, minimizing a finite state acceptor
7: Operations with regular languages: complement, intersection, union, difference, symmetric difference, testing of emptiness, inclusion, equality, and disjointness for regular languages
8: Nondeterministic finite state acceptors: definition, transition function, language recognized by a nondeterministic acceptor, elimination of nondeterminism
9: epsilon-acceptors: definition, properties, elimination of epsilon-transitions

10: Regular grammars: regular grammar, extended regular grammar, transformation of acceptor to a regular grammar, transformation of extended regular grammar to an epsilon-acceptor
11: Regular expressions I: basic properties, transformation of regular expression to an epsilon-acceptor
12: Regular expressions II: regular equations, valid algebraic manipulations with regular expressions, solving an equation with a single unknown variable, solving a system of regular equations, transformation of acceptor to a regular expression
13: Another constructions: review of transformations among various representations, an example of a direct transformation of a grammar to a regular expression, closure of the class of regular languages under another language operations – concatenation and Kleene star, mirror image
14: Another operations: homomorphism and inverse homomorphism, a context-free language that is not regular

Recommended literature:

J.E. Hopcroft, R.Motwani, J.D. Ullman: Introduction to automata theory, languages, and computation, Addison-Wesley, 2001.
J. Shallit: A second course in formal languages and automata theory, Cambridge University press, 2009.
M. Sipser: Introduction to the theory of computation, Thomson Course Technology, 2006.

Course language:

Notes:

Course assessment

Total number of assessed students: 850

A	B	C	D	E	FX
25.65	18.24	23.88	17.76	9.65	4.82

Provides: Mgr. Alexander Szabari, PhD., prof. RNDr. Viliam Geffert, DrSc., RNDr. Zuzana Bednárová, PhD.

Date of last modification: 17.08.2021

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚBEV/ BKP/14	**Course name:** Bachelor Project
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: 5.	
Course level: I.	
Prerequisities:	
Conditions for course completion: Submission of the bachelor project, the defense of the project and acceptance of its content by the supervisor.	
Learning outcomes:	
Brief outline of the course:	
Recommended literature: 1. Scientific papers related to the topic of the bachelor project. 2. Directive No. 1/2011 of the rector UPJS in Košice.	
Course language:	
Notes:	
Course assessment Total number of assessed students: 120	

abs	n
100.0	0.0

Provides:
Date of last modification: 03.05.2015
Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ 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: 270

A	B	C	D	E	FX
50.0	28.15	15.93	3.7	1.85	0.37

Provides:

Date of last modification: 02.12.2015

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚMV/ BKP2/14	**Course name:** Bachelor project

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: 2

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 or English

Notes:

Course assessment
Total number of assessed students: 135

abs	n
100.0	0.0

Provides: doc. RNDr. Dušan Šveda, CSc.

Date of last modification: 03.05.2015

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚMV/ 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:
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:
Presentation of results of the bachelor thesis, answering the questions of the thesis supervisor and answering the questions of members of evaluation commitee.

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 81

A	B	C	D	E	FX
67.9	20.99	6.17	3.7	1.23	0.0

Provides:

Date of last modification: 03.05.2015

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ ZAC2/10	**Course name:** Basic Chemistry

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:
inorganic part: one test in 6th week; 50 points.
organic part: one test in 12th week; 50 points.
At least 50% of points required from both.
Terminal examination by written form, 100 points; 50 points from inorganic part and 50 points from organic parts.

Learning outcomes:
The main goal of this subject is to provide a basic overview of inorganic and organic chemistry for biology students.

Brief outline of the course:
Introduction to general and inorganic chemistry. Periodic systems of elements. Atomic structure. Chemical bonds. Relationship between structure and properties of substances. Solutions. Transition and non transition elements and their compounds. Coordination and biocoordination compounds. Elements essential for living organisms and their function. Biometals. Biominerals.
Introduction to organic chemistry. Saturated and unsaturated hydrocarbons and their derivatives. Heterocyclic compounds. Carbohydrates. Lipids. Aminoacids and proteins. Enzyms and vitamins. Nucleic acids.

Recommended literature:
1. Caret C. R., Denniston K.J., Topping J. J.: Principles and Applications of Inorganic, Organic and Biological Chemistry. WCB, Boston 1997.
2. R.Chang: Chemistry, McGRAW-HILL,Inc., New York 1991.
3. K. C. Timberlake: Organic and Biological Chemistry, Structure of Life. Benjamin Cummings Publishing Company, Inc., San Francisco 2002.

Course language:

Notes:

Course assessment
Total number of assessed students: 1123

A	B	C	D	E	FX
20.39	25.82	26.98	16.56	9.71	0.53

Provides: doc. RNDr. Zuzana Vargová, Ph.D., RNDr. Mária Vilková, PhD., doc. RNDr. Miroslav Almáši, PhD.

Date of last modification: 08.07.2021

Approved:

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:
The aim of the subject is to gain the particular level of knowledge about human body and its development. It is neccessary for the understanding of specific biological characteristics of children and adolescents linked to development.

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: 1551

A	B	C	D	E	FX
32.82	23.08	17.15	17.15	9.28	0.52

Provides: doc. RNDr. Monika Kassayová, CSc.

Date of last modification: 03.05.2015

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ BS1/03	**Course name:** Biostatistics

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., 5.

Course level: I.

Prerequisities:

Conditions for course completion:
Written test after the 7th week.
Final test (solution of examples + theoretical knowledge)

Learning outcomes:
To provide the students with knowledge on basic principles of statistic methods used in biology and their scope of application in statistical evaluation of experimental results, and with the principles of the design of experiments, as well.

Brief outline of the course:
Sources and theoretical background of biostatistics. Basic principles of the probability theory. Descriptive statistics: variables, measures of mean value and variability of data. Theoretical and empirical distributions. Experimental sampling from normal distributions. Testing of hypotheses. One-way and multiple analysis of variance. Tests for multiple comparisons. Regression analysis. Correlations. Non-parametrical methods. Time series. Analysis of quantitative data.

Recommended literature:
Hassard, T. H.: Understanding biostatistics. Mosby Year Book, 1991
Snedecor,G.W., Cochran,W.G.: Statistical methods. The Iowa state university, Ames, 1972.
R.Forthofer, E.S.Lee, M.Hernandez: Biostatistics. A guide to design, analysis and dicovery. Elsevier, Amsterdam, 2007

Course language:

Notes:

Course assessment
Total number of assessed students: 212

A	B	C	D	E	FX
4.25	8.49	16.98	25.0	33.02	12.26

Provides: prof. RNDr. Beňadik Šmajda, CSc.

Date of last modification: 01.07.2021

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ BO1/03	**Course name:** Botany 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:

Learning outcomes:
Introduction to biology of lower plants.

Brief outline of the course:
Morphology, cytology, ecology, evolution and taxonomy of all main groups of lower plants. Cyanobacteria and algae (Cyanophyta, Prochlorophyta,Glaucophyta, Rhodophyta, Heterocontophyta, Haptophyta, Cryptophyta, Dinophyta, Euglenophyta, Chlorarachniophyta, Chlorophyta). Slime moulds(Plasmodiophoromycota, Dictyosteliomycota, Acrasiomycota, Labyrinthulomycota). Fungi (Oomycota, Hyphochytriomycota, Chytridiomycota, Zygomycota, Ascomycota, Basidiomycota). Lichens. Bryophytes.
Literature:
Deacon, J.W. (1998) Modern Mycology. Blackwell Science Ltd.

Recommended literature:
Bačkor, M.: Základy systému nižších rastlín I. (sinice, riasy a slizovky). UPJŠ, Košice 2002;
Deacon, J.W. (1998) Modern Mycology. Blackwell Science Ltd.
Van den Hoek, C. a kol. 1995: Algae, an introduction to phycology,
Záhorovská E. a kol.: Systém a evolúcia nižších rastlín. UK Bratislava 1998

Course language:

Notes:

Course assessment
Total number of assessed students: 1761

A	B	C	D	E	FX
13.91	19.48	25.44	20.05	18.63	2.5

Provides: prof. RNDr. Martin Bačkor, DrSc., RNDr. Michal Goga, PhD.

Date of last modification: 03.05.2015

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ BO1/15	**Course name:** Botany 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: 3.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:
Introduction to biology of lower plants.

Brief outline of the course:
Morphology, cytology, ecology, evolution and taxonomy of all main groups of lower plants. Cyanobacteria and algae (Cyanophyta, Prochlorophyta,Glaucophyta, Rhodophyta, Heterocontophyta, Haptophyta, Cryptophyta, Dinophyta, Euglenophyta, Chlorarachniophyta, Chlorophyta). Slime moulds(Plasmodiophoromycota, Dictyosteliomycota, Acrasiomycota, Labyrinthulomycota). Fungi (Oomycota, Hyphochytriomycota, Chytridiomycota, Zygomycota, Ascomycota, Basidiomycota). Lichens. Bryophytes.
Literature:
Deacon, J.W. (1998) Modern Mycology. Blackwell Science Ltd.

Recommended literature:
Bačkor, M.: Základy systému nižších rastlín I. (sinice, riasy a slizovky). UPJŠ, Košice 2002;
Deacon, J.W. (1998) Modern Mycology. Blackwell Science Ltd.
Van den Hoek, C. a kol. 1995: Algae, an introduction to phycology,
Záhorovská E. a kol.: Systém a evolúcia nižších rastlín. UK Bratislava 1998

Course language:

Notes:

Course assessment
Total number of assessed students: 276

A	B	C	D	E	FX
24.28	17.39	23.19	20.29	12.68	2.17

Provides: prof. RNDr. Martin Bačkor, DrSc., RNDr. Michal Goga, PhD.

Date of last modification: 03.05.2015

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ BOT1/15	**Course name:** Botany 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: 2.

Course level: I.

Prerequisities: ÚBEV/TCB1/03

Conditions for course completion:
Practical and theoretical exam.

Learning outcomes:
To obtain of survey in knowledge and methods in systematics of tracheophytes.

Brief outline of the course:
History and present time of plant systematics. Approaches to plant classification. Principles of cladistics and molecular taxonomy. Tracheophytes, clades of lycophytes, ferns and allies. Seed plants. Gymnosperms and their evolution: cycads, ginkgos, conifers, gnetophytes. Angiosperms. Evolution and general description. Basal clades and Magnoliid clade. Monocots. "Basal tricolpates" and Caryophyllid clade. Rosid and asterid clades of tricolpates.
Practices are devoted to study of the most important families of tracheophytes. Fossil evidence of ferns and allies from Palaeozoic age. Tropical a subtropical flora. Ferns. Practical study of conifers. Selected families of angiosperms. (Magnoliaceae, Araceae, Liliaceae, Amaryllidaceae, Cyperaceae, Poaceae, Ranunculaceae, Papaveraceae, Caryophyllaceae, Euphorbiaceae, Violaceae, Fabaceae, Rosaceae, Betulaceae, Brassicaceae, Boraginaceae, Plantaginaceae, Lamiaceae, Apiaceae, Asteraceae). Study of other seed plants, plant identification according to key.

Recommended literature:
Mártonfi P.: Systematika cievnatých rastlín, 2. vydanie. - ES UPJŠ, Košice, 2006.
Mártonfi P.: Systematika cievnatých rastlín. - ES UPJŠ, Košice, 2003.
Judd W. S., Campbell Ch. S., Kellogg E. A. & Stevens P. F., Donoghue M. J.: Plant Systematics. A phylogenetic Approach, 2nd ed. - Sinauer Associates, Sunderland, 2002.
Dostál J., Červenka M.: Veľký kľúč na určovanie rastlín I. a II. - SPN, Bratislava, 1991 a 1992.

Course language:

Notes:

Course assessment
Total number of assessed students: 326

A	B	C	D	E	FX
15.34	16.87	27.91	19.94	12.88	7.06

Provides: prof. RNDr. Pavol Mártonfi, PhD., Mgr. Vladislav Kolarčik, PhD.

Date of last modification: 03.05.2015

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ BOT1/03	**Course name:** Botany 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: 5

Recommended semester/trimester of the course: 2.

Course level: I.

Prerequisities:

Conditions for course completion:
Practical and theoretical exam.

Learning outcomes:
To obtain of survey in knowledge and methods in systematics of tracheophytes.

Brief outline of the course:
History and present time of plant systematics. Approaches to plant classification. Principles of cladistics and molecular taxonomy. Tracheophytes, clades of lycophytes, ferns and allies. Seed plants. Gymnosperms and their evolution: cycads, ginkgos, conifers, gnetophytes. Angiosperms. Evolution and general description. Basal clades and Magnoliid clade. Monocots. "Basal tricolpates" and Caryophyllid clade. Rosid and asterid clades of tricolpates.
Practices are devoted to study of the most important families of tracheophytes. Fossil evidence of ferns and allies from Palaeozoic age. Tropical a subtropical flora. Ferns. Practical study of conifers. Selected families of angiosperms. (Magnoliaceae, Araceae, Liliaceae, Amaryllidaceae, Cyperaceae, Poaceae, Ranunculaceae, Papaveraceae, Caryophyllaceae, Euphorbiaceae, Violaceae, Fabaceae, Rosaceae, Betulaceae, Brassicaceae, Boraginaceae, Plantaginaceae, Lamiaceae, Apiaceae, Asteraceae). Study of other seed plants, plant identification according to key.

Recommended literature:
Mártonfi P.: Systematika cievnatých rastlín, 2. vydanie. - ES UPJŠ, Košice, 2006.
Mártonfi P.: Systematika cievnatých rastlín. - ES UPJŠ, Košice, 2003.
Judd W. S., Campbell Ch. S., Kellogg E. A. & Stevens P. F., Donoghue M. J.: Plant Systematics. A phylogenetic Approach, 2nd ed. - Sinauer Associates, Sunderland, 2002.
Dostál J., Červenka M.: Veľký kľúč na určovanie rastlín I. a II. - SPN, Bratislava, 1991 a 1992.

Course language:

Notes:

Course assessment
Total number of assessed students: 1547

A	B	C	D	E	FX
11.18	12.73	17.52	19.84	24.05	14.67

Provides: prof. RNDr. Pavol Mártonfi, PhD., Mgr. Vladislav Kolarčik, PhD.

Date of last modification: 03.05.2015

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚMV/ 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: 25

abs	n
96.0	4.0

Provides: doc. RNDr. Miroslav Ploščica, CSc., prof. RNDr. Mirko Horňák, CSc.
Date of last modification: 03.05.2015
Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: KOP/ OPaPDV/14	**Course name:** Civil Law and Intellectual Property Rights
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: 4	
Recommended semester/trimester of the course: 3., 5.	
Course level: I., II., N	
Prerequisities:	
Conditions for course completion:	
Learning outcomes:	
Brief outline of the course:	
Recommended literature:	
Course language:	
Notes:	
Course assessment Total number of assessed students: 103	

abs	n
94.17	5.83

Provides: doc. JUDr. Renáta Bačárová, PhD., LL.M., prof. JUDr. Peter Vojčík, CSc.
Date of last modification: 16.12.2020
Approved:

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: combined, present

Number of ECTS credits: 2

Recommended semester/trimester of the course:

Course level: I., II., N

Prerequisities:

Conditions for course completion:
Active participation in class and completed homework assignments. Students are allowed to miss two classes at the most.
Online teaching (MS Teams), in case of an improved epidemiological situation = on-site teaching.
2 credit tests (presumably in weeks 6/7 and 12/13) and a short oral presentation in English.
The tests will be taken online (MS Teams) during online teaching and in class in case of on-site classes.
The presentation will be sent to the course instructor as a video recording.
Final evaluation consists of the scores obtained for the 2 tests (70%) and the presentation (30%).
Final grade will be calculated as follows: A 93-100 %, B 86-92%, C 79-85%, D 72-78%, E 65-71%, FX 64 % and less.

Learning outcomes:
Uplatnenie a aktívne používanie svojich teoretických vedomostí v praktických komunikačných situáciách. Zdokonalenie jazykových vedomostí a zručností študenta, rečovej, pragmatickej a vecnej kompetencie, predovšetkým zlepšujú komunikáciu, schopnosťprijímať a formulovať výpovede, efektívne vyjadrovať svoje myšlienky ako aj orientovať sa v obsahovom pláne výpovede. Precvičovanie rečových intencií kontaktných (napr. pozdravy, oslovenia, pozvanie, oslovenie), informatívnych (napr. získavanie a podávanie informácií, vyjadrenie priestorových a časových vzťahov), regulačných (napr. prosba, poďakovanie, zákaz, pochvala, súhlas, nesúhlas) a hodnotiacich (napr. vyjadrenie vlastného názoru, stanoviska, želania, emócií). Výsledkom budovania praktickej jazykovej kompetencie majú byť vedomosti a zručnosti zodpovedajúce požiadavkám a kritériám dokumentu Spoločný európsky referenčný rámec pre vyučovanie jazykov.

Brief outline of the course:
Rodina, jej formy a problémy
Vyjadrovanie pocitov a dojmov
Dom, bývanie a budúcnosť
Formy a dialekty v anglickom jazyku
Život v meste a na vidieku
Kolokácie a idiomy, zaužívané slovné spojenia
Prázdniny a sviatky vo svete

Životné prostredie a ekológia
Výnimky zo slovosledu
Frázové slovesá a ich použitie
Charakteristiky neformálneho diškurzu

Recommended literature:

www.bbclearningenglish.com
McCarthy M., O'Dell F.: English Vocabulary in Use, Upper-Intermediate. CUP, 1994.
Misztal M.: Thematic Vocabulary. SPN, 1998.
Fictumova J., Ceccarelli J., Long T.: Angličtina, konverzace pro pokročilé. Barrister and Principal, 2008.
Peters S., Gráf T.: Time to practise. Polyglot, 2007.
Jones L.: Communicative Grammar Practice. CUP, 1985.
Alexander L.G.: Longman English Grammar. Longman, 1988.

Course language:
English language, B2 level according to CEFR

Notes:

Course assessment
Total number of assessed students: 260

A	B	C	D	E	FX
40.38	22.31	18.85	8.85	6.54	3.08

Provides: Mgr. Barbara Mitríková, Mgr. Zuzana Naďová

Date of last modification: 11.02.2021

Approved:

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: combined, present

Number of ECTS credits: 2

Recommended semester/trimester of the course:

Course level: I., II., N

Prerequisities:

Conditions for course completion:
Active classroom participation (max. 2x90 min. absences tolerated). 2 test (5th/6th and 12/13th week), no retake. Final evaluation- average assessment of tests. Grading scale: A 93-100%, B 86-92%, C 79-85%, D 72-78%, E 65-71%, FX 64% and less.

Learning outcomes:

Brief outline of the course:

Recommended literature:
Vince M.: Macmillan Grammar in Context, Macmillan, 2008
McCarthy, O'Dell: English Vocabulary in Use, CUP, 1994
C. Oxengen, C. Latham-Koenig: New English File Advanced, Oxford 2010
Misztal M.: Thematic Vocabulary, Fragment, 1998
www.bbclearningenglish.com
ted.com/talks

Course language:

Notes:

Course assessment
Total number of assessed students: 406

A	B	C	D	E	FX
39.66	18.97	16.75	8.62	5.91	10.1

Provides: Mgr. Lenka Klimčáková

Date of last modification: 14.09.2019

Approved:

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., 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: 54

A	B	C	D	E	FX
59.26	11.11	9.26	3.7	9.26	7.41

Provides: Mgr. Blanka Jenčíková

Date of last modification: 03.05.2015

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ PMZ/10	**Course name:** Comparative Animal Morphology

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: 1.

Course level: I.

Prerequisities:

Conditions for course completion:
Lectures and practical exercises, original drawing of some parts of animal body or it derivates, examination.

Learning outcomes:

Brief outline of the course:

Recommended literature:
Kardong, K. V., 2002: Vertebrates. Comparative anatomy, function, evolution. 3rd ed., Mc-Graw-Hill, New York.
Pough, F. H., Janis, Ch. M., Heiser, J. B., 2008: Vertebrate Life. Prentice Hall, Inc., 752 pp. 8th edition.
Ruppert, E. E., Fox, R. S., & Barnes, R. D., 2004: Invertebrate zoology: a functional evolutionary approach. Belmont, CA: Thomas-Brooks/Cole.

Course language:

Notes:

Course assessment
Total number of assessed students: 1970

A	B	C	D	E	FX
17.36	18.88	24.77	21.78	12.28	4.92

Provides: doc. RNDr. Andrej Mock, PhD., RNDr. Andrea Parimuchová, PhD.

Date of last modification: 03.05.2015

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ CYT1/15	**Course name:** Cytology

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: 6

Recommended semester/trimester of the course: 1.

Course level: I.

Prerequisities:

Conditions for course completion:
Practicals graduation (without absence); Two written tests graduation (min. 70 % fruitfulness of each); Oral examination

Learning outcomes:
To provide the students with knowledge of basic principles of cell microscopic and submicroscopic structure and function.

Brief outline of the course:
Lectures:
1.) Cell theory. Cell. 2.) Organization of living systems. 3.) Biological membranes. 4.) Transfer of substances across membranes. 5.) Cell wall of plant cells. 6.) Surface structures of cells. Extracellular matrix. Cell movement. 7.) Intercellular connections. 8.) Cytoskeleton. 9.) Cell nucleus. 10.) Mitochondria and cellular metabolism. 11.) Plastids and vacuoles. 12.) Ribosomes. Endoplasmic reticulum. Golgi apparatus. Lysosomes. 13.) Differentiation, aging and cell death. 14.) Pathological changes in cells.
Exercises:
1.) Safety at work in a cytomorphological laboratory. Conditions for successful completion of exercises. 2.) Basics of optics. Origin and construction of the image with a magnifying glass and a microscope. 3.) Microscopic technique. 4.) Shape and size of cells. 5.) Principle of fluorescence and confocal microscopy. 6.) Control test. Vacuole. 7.) Cytoplasm movement. 8.) Nucleus and nucleolus. 9.) Cytoplasmic membrane. 10.) Osmotic processes. 11.) Cell inclusions. 12.) Cell walls of plant cells. 13.) Cell counting. 14.) Control test. Final evaluation.

Recommended literature:
Alberts, B.: Molecular Biology of the Cell. Garland Science, 2014

Course language:

Notes:

Course assessment
Total number of assessed students: 754

A	B	C	D	E	FX
11.54	19.89	32.63	20.03	15.25	0.66

Provides: doc. RNDr. Rastislav Jendželovský, PhD., RNDr. Zuzana Jendželovská, PhD., RNDr. Jana Vargová, PhD.

Date of last modification: 16.07.2021

Approved:

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.

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 300

A	B	C	D	E	FX
15.67	17.67	21.0	24.67	17.67	3.33

Provides: doc. RNDr. Roman Soták, PhD., RNDr. Mária Maceková, PhD.
Date of last modification: 20.09.2020
Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚMV/ DSMb/10	**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: 5

Recommended semester/trimester of the course: 4.

Course level: I.

Prerequisities: ÚMV/DSMa/10 and leboÚMV/DSM3a/10

Conditions for course completion:
Two tests during the semester
It is made on the base of results of two tests during the semester (50%)and a final written exam and an oral exam (50%)

Learning outcomes:
Mastered funamental methods of graph theory. To be familiar with some possibilities of applications of graph theory

Brief outline of the course:
Introduction to graphs.
Connectivity and distance in graphs.
Trees, spanning subgraphs
Independence and coverings.
Introduction to the Ramsey theory.
Introduction to the extremal graph theory.
Matchings: Theorem of Hall, theorem of Berge, optimal assignment problems.
Vertex colorings: Theorem of Brooks, Theorem of Erdos and Szekeres.
Chromatic polynomials.
Edge colourings, Theorem of Koenig.
Introduction to directed graphs: Basic notions, connectivities, tounaments, acyclic graphs, base and kernel of a graph.
Introduction to applications of graphs.

Recommended literature:
1. A. Bondy and U.S.R. Murty: Graph theory, Springer-Verlag 2008
2. G. Chartrand, L. Lesniak, and P. Zhang, Graphs and digraphs, CRC Press, Boca Raton 2011
3. R. Diestel: Graph Theory, Springer-Verlag, New York, Inc. 1997
4.M.N.S. Swamy and K. Thulasiraman: Graphs, Networks and Algorithms.
Willey Interscience Publ., New York 1981

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 179

A	B	C	D	E	FX
14.53	10.61	24.58	25.7	18.44	6.15

Provides: RNDr. Igor Fabrici, Dr. rer. nat., RNDr. Mária Maceková, PhD.

Date of last modification: 03.05.2015

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚMV/ DSMc/10	**Course name:** Discrete mathematics 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:

Course level: I.

Prerequisities: ÚMV/DSMb/10

Conditions for course completion:
Two tests during the semester
It is made on the base of results of two tests during the semester (50%)and a final written exam and an oral exam (50%)

Learning outcomes:
Mastered fundamental methods of graph theory. Abilities of applications of graph theory.

Brief outline of the course:
Eulerian and Hamiltonian graphs.
Connectivity: Theorem of Menger.
Matching: Theorem of Tutte.
Planar graphs: Theorem of Kuratowski.
Plane graphs: Euler polyhedral formula and its consequences,
Introduction to the theory of light graphs in plane graphs.
Colourings of plane graphs.
Crossing numbers of graphs.
Introduction to the topological graph theory.
Edge colourings: Theorem of Vizing.
Application of Graph theory: The shortest path problem, the critical path method.

Recommended literature:
1. A. Bondy and U.S.R. Murty: Graph theory, Springer-Verlag 2008
2. G. Chartrand, L. Lesniak, and P. Zhang, Graphs and digraphs, CRC Press, Boca Raton 2011
3. R. Diestel: Graph Theory, Springer-Verlag, New York, Inc. 1997
4.M.N.S. Swamy and K. Thulasiraman: Graphs, Networks and Algorithms.
Willey Interscience Publ., New York 1981

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 77

A	B	C	D	E	FX
15.58	31.17	15.58	24.68	12.99	0.0

Provides: prof. RNDr. Tomáš Madaras, PhD., RNDr. Mária Maceková, PhD.

Date of last modification: 03.05.2015

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: 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: 407

A	B	C	D	E	FX
69.29	22.6	5.65	2.21	0.25	0.0

Provides: prof. PhDr. Oľga Orosová, CSc., Mgr. Marta Dobrowolska Kulanová, PhD., Mgr. Lucia Barbierik, PhD., Mgr. Lenka Abrinková, Mgr. Frederika Lučanská, Mgr. Viera Čurová, Mgr. Marcela Štefaňáková, PhD.

Date of last modification: 25.06.2021

Approved:

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 (with custom graphics).
2. Creation of a multimedia educational presentation (with pictures, animations and sounds).
3. Creation of an interactive educational quiz (with various types of quiz items).
4. Creation of an instructional educational video.
Conditions for the final evaluation:
1. 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 images into teaching aids (word clouds, QR codes, diagrams, concept maps).
3. Creating raster animations. Creating and processing sounds.
4. Creation of instructional educational video.
5. Electronic voting (Polleverywhere, Plickers, Kahoot!) and questionnaire creation (Google Forms).
6. Creation of didactic tests (Google Forms, HotPotatoes).
7. Collaborative web applications (mind42, miro, whiteboard, padlet).
8. Online communication tools (BBB).

9. Complex online learning environments (Moodle).
10. Online educational projects and competitions (eTweening, WebQuest, PALMA junior).
11. Simulations and modelling (WolframAlpha, PhET, Geogebra). Subject-focused educational programmes.
12. Creation of educational software in Scratch environment.

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: 52

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

Provides: doc. RNDr. Ľubomír Šnajder, PhD.

Date of last modification: 01.08.2021

Approved:

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:
Distant form of study (Online through MS teams) - based on the sylabus
Active participation in class and completed homework assignments. Students are allowed to miss 2 classes at the most (in case of online form - not attending online class/ assignments not handed in)
Continuous assessment: 2 credit tests taken thorugh MS Teams online(presumably in weeks 6 and 13) and academic presentation in English given through MS Teams online.
In order to be admitted to the final exam, a student has to score at least 65 % as a sum of both credit tests.
The exam test results represent 50% of the final grade for the course, continuous assessment results represent the other 50% of the final grade.
The final grade for the course will be calculated as follows:
A 93-100, B 86-92, C 79-85, D 72-78, E 65-71, FX 64 and less.

Learning outcomes:
Enhancement of students' language skills (speaking, writing, reading and listening comprehension) in English for specific purposes and development of students' language competence (familiarization with selected phonological, lexical and syntactic phenomena), improvement of students' pragmatic competence (familiarization with selected language functions) and improvement of presentation skills at B2 level (CEFR) with focus on terminology of English for natural science.

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:

study materials provided by the course instructor
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.
Murphy, R.: English Grammar in Use. Cambridge University Press, 1994.
P. Fitzgerald : English for ICT studies. Garnet Publishing, 2011.
https://worldservice/learningenglish, https://spectator.sme.sk
www.isllibrary.com

Course language:

Notes:

Course assessment

Total number of assessed students: 2744

A	B	C	D	E	FX
38.16	25.4	16.65	9.73	7.87	2.19

Provides: Mgr. Lenka Klimčáková, Mgr. Viktória Mária Slovenská, Mgr. Zuzana Naďová

Date of last modification: 14.02.2021

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/TCZ/03	**Course name:** Fieldwork from zoology

Course type, scope and the method:
Course type: Practice
Recommended course-load (hours):
Per week: Per study period: 5d
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:
Practical observation of morphology of vertebrates.

Brief outline of the course:
Systematic and phylogenetic relationships of vertebrate. Review of important groups of fishes, amphibians, reptiles, bidrs and mammals - observation, and laboratory work.

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 961

abs	n
99.38	0.62

Provides: RNDr. Peter Ľuptáčik, PhD., doc. RNDr. Andrej Mock, PhD., doc. RNDr. Marcel Uhrin, PhD.

Date of last modification: 03.05.2015

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ TCB1/03	**Course name:** Fieldworks from Botany

Course type, scope and the method:
Course type: Practice
Recommended course-load (hours):
Per week: Per study period: 5d
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:
Study of methods for identification and determination of common central-europaean plants.

Brief outline of the course:
Plant identification in different habitats. Plant determination. Floristic records.

Recommended literature:
Dostál J., Červenka M.: Veľký kľúč na určovanie rastlín I. a II. - Veda, Bratislava 1991 a 1992.
Kubát K. (ed.): Klíč ke květeně České republiky. - Academia, Praha, 2002.
Marhold K. a Hindák F. (eds.): Zoznam nižších a vyšších rastlín Slovenska. Checklist of non-vascular and vascular plants of Slovakia. - Veda, Bratislava 1998.
Krejča J. (ilustr.): Veľká kniha rastlín. - Bratislava (various editions).

Course language:

Notes:

Course assessment
Total number of assessed students: 1252

abs	n
99.92	0.08

Provides: prof. RNDr. Pavol Mártonfi, PhD., prof. RNDr. Martin Bačkor, DrSc., Mgr. Vladislav Kolarčik, PhD.

Date of last modification: 03.05.2015

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚMV/ 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:
Written exam.

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.
2. Real functions - basic notions, operation, graphs, continuity.
3. Differential calculus of functions of one real variable - differentiability, using the derivative.
4. Integral calculus of functions of one real variable - Newton integral.

Recommended literature:
1. Brannan, D.: A First Course in Mathematical Analysis, Cambridge University Press, Cambridge 2006.
2. Bruckner, A. M., Bruckner J. B., Thomson, B. S.: Real Analysis, Second Edition, ClassicalRealAnalysis.com, 2008.
3. Zorich, V. A.: Mathematical Analysis I, Springer-Verlag 2002.

Course language:

Notes:

Course assessment
Total number of assessed students: 621

A	B	C	D	E	FX
7.89	9.02	15.46	22.38	35.59	9.66

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

Date of last modification: 26.03.2019

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/VB1/01	**Course name:** General botany

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: 6

Recommended semester/trimester of the course: 2.

Course level: I.

Prerequisities: ÚBEV/CYT1/15

Conditions for course completion:

Learning outcomes:
This subject enables to understand the structure and function of plant cells, tissues and organs and to enhance student's ability to describe the biological role of plants for life on earth.

Brief outline of the course:
The structure and function of plant cells and tissues. Plant organs, their structure, function, shape and organization. Plant reproduction and grounding in embryology. Basic information and terms that are necessary for understanding of relationship between internal structure and functions of organs and functions plant organism en bloc.

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 1038

A	B	C	D	E	FX
17.53	27.26	28.9	15.61	8.0	2.7

Provides: prof. RNDr. Pavol Mártonfi, PhD., Mgr. Vladislav Kolarčik, PhD., PaedDr. Andrea Lešková, PhD.

Date of last modification: 03.05.2015

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/GE1/10	**Course name:** Genetics

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: 7

Recommended semester/trimester of the course: 5.

Course level: I.

Prerequisities: ÚBEV/MB1/01 and leboÚBEV/MOB1/03 and leboÚBEV/MOB1/15

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 1434

A	B	C	D	E	FX
18.97	16.11	16.04	13.74	19.53	15.62

Provides: prof. RNDr. Eva Čellárová, DrSc., RNDr. Katarína Bruňáková, PhD., RNDr. Miroslava Bálintová, PhD., RNDr. Linda Petijová, PhD.

Date of last modification: 03.05.2015

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚMV/ GEO2a/15	**Course name:** Geometry I

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: 6.

Course level: I.

Prerequisities:

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 40% max. number of points

Learning outcomes:
To acquaint students with the analytical geometry of linear and quadratic figures in Afinne and Euclidean space.

Brief outline of the course:
Affine n-dimensional space - definition.
Linear coordinate system.
Subspaces, the parametric and non-parametric representation.
The relative position of the two subspaces.
Bundles of lines.
The arrangement of points on the line.
Convex sets.
Changing the system of linear coordinates.
Euclidean space - definition of (scalar and outer product).
Euclidean distances and deviations subspaces.
The rate of the size of convex sets.
Triangle and trigonometric theorems.
Conic and line.

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

4. M.Trenkler: Materiály uvedené na Internete.

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 152

A	B	C	D	E	FX
18.42	17.11	22.37	19.08	15.13	7.89

Provides: doc. RNDr. Dušan Šveda, CSc., RNDr. Veronika Hubeňáková, PhD.

Date of last modification: 03.05.2015

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/HISE1/15	**Course name:** Histology

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: 6

Recommended semester/trimester of the course: 2.

Course level: I.

Prerequisities: ÚBEV/CYT1/15

Conditions for course completion:
Oral examination

Learning outcomes:
To provide the students with knowledge of basic morphology of tissues of animals.

Brief outline of the course:
Epithelium and glands. Connective tissue. Cartilage. Bone. Muscle. Nervous Tissue.Blood and hemopoiesis. Circulatory system. Lymphoid system. Endocrine system.Integument. Respiratory system. Digestive system. Urinary system. Female reproductive system. Male reproductive system. Nervous system. Special senses.

Recommended literature:
Gartner, L.P., Hiatt, J.L.: Color Texbook of Histology. W.B. Saunders Company, Philadelphia, 1997
Juanqueira, L.C., Carneiro, J., Kelley, R.O.: Basic Histology. Prentice Hall International Inc., Apleton & Lange, 1992
Michel H. Ross, Wojciech Pawlina: Histology, Lippincott Wiliams & Wilkins, 2011

Course language:

Notes:

Course assessment
Total number of assessed students: 457

A	B	C	D	E	FX
13.79	14.0	16.19	20.79	23.63	11.6

Provides: doc. RNDr. Zuzana Daxnerová, CSc., doc. RNDr. Juraj Ševc, PhD., RNDr. Anna Alexovič Matiašová, PhD.

Date of last modification: 28.06.2021

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: KF/ DF2p/03	**Course name:** History of Philosophy 2 (General Introduction)

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., 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: 742

A	B	C	D	E	FX
60.78	13.88	12.67	8.63	3.37	0.67

Provides: Doc. PhDr. Peter Nezník, CSc., PhDr. Katarína Mayerová, PhD., doc. Mgr. Róbert Stojka, PhD.

Date of last modification: 25.03.2020

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ ACL/03	**Course name:** Human Anatomy

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:
Written examination

Learning outcomes:
Anatomic systems of man.

Brief outline of the course:
Anatomic terminology, skeleton and muscles, gastrointestinal system, respiratory system, circulatory and lymphatic system, urogenital system,sensory organs, nervous system, ontogenesis of man.

Recommended literature:
Kahle, W., Leonhardt, H., Platzer, W. : Color Atlas and Textbook of Human Anatomy in 3 Volumes : Volume 1 : Locomotor System, Volume 2: Internal Organs and Volume 3: Nervous System and Sensory Organs
Thieme Medical Publishers, Inc. New York, 1993
Anne M. R. Agur : Grant´s atlas of anatomy. Williams et Wilkins, USA, 1991

Course language:

Notes:

Course assessment
Total number of assessed students: 1819

A	B	C	D	E	FX
5.06	16.55	27.65	25.62	22.1	3.02

Provides: doc. RNDr. Juraj Ševc, PhD., RNDr. Anna Alexovič Matiašová, PhD.

Date of last modification: 03.05.2015

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: 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: 42

A	B	C	D	E	FX
83.33	16.67	0.0	0.0	0.0	0.0

Provides: PaedDr. Janka Ferencová, PhD.

Date of last modification: 08.06.2021

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚMV/ IPU/10	**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:
Elaborating test by using a computer. Solving problems of worksheet and elaboration of seminar work.

Learning outcomes:
To develop the students' knowledge and skills in the basics of working with standard ICT, which provide opportunities for their use in mathematics education. To teach students to use the basic commands of Logo language for writing and generalization algorithms for constructing geometric shapes and basic principles of creation of constructions in the environment of dynamic geometry. To develop creative and evaluative students' ability to allow meaningful integration of modern technologies in mathematics education.

Brief outline of the course:
Basics of development of algorithms in Logo. Basics of working in the dynamic geometry environment. Educational applications and Internet in mathematics education. Use of numerical and graphical representations of data and modelling in the spreadsheet environment.

Recommended literature:
B. Brdička: The Role of Internetu in Education, 2003, http://it.pedf.cuni.cz/~bobr/role/econt.htm.
S. Lukáč a kol.: IKT vo vyučovaní matematiky, Asociácia projektu Infovek 2002.
M. Černochová a kol.: Využití počítače při vyučování. Portál, 1998.
Z. Šťastný: Matematické a statistické výpočty v Microsoft Excelu, Computer Press 2001.

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 106

A	B	C	D	E	FX
50.0	26.42	16.04	5.66	1.89	0.0

Provides: doc. RNDr. Stanislav Lukáč, PhD.

Date of last modification: 03.05.2015
Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/VEK1/03	**Course name:** Introduction to Ecology

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: 3

Recommended semester/trimester of the course:

Course level: I., II.

Prerequisities:

Conditions for course completion:

Learning outcomes:
Fundamental parameters and relations in ecological science.

Brief outline of the course:
Ecological factors and relations in environment (air, water, soil); influence of ecological factors on individuals (morphological adaptations, behavioral reactions); populations and communities; ecosystems (impact assessment); conservation and biodiversity.

Recommended literature:
Begon, M., Harper, J. L., Townsend, C. L.: Ecology: individuals, populations, and communities. Blackwell Sci. Publ., 1990

Course language:

Notes:

Course assessment
Total number of assessed students: 1655

A	B	C	D	E	FX
20.54	16.74	24.65	17.7	12.15	8.22

Provides: RNDr. Natália Raschmanová, PhD.

Date of last modification: 07.02.2019

Approved:

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: 1734	

abs	n
86.51	13.49

Provides: doc. RNDr. Marián Kireš, PhD.
Date of last modification: 25.09.2019
Approved:

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: 3.

Course level: I.

Prerequisities:

Conditions for course completion:
Test and individual project work.
Oral presentation of the individual project work.

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, relationships in data – introduction to regression and correlation)
4. Statistical inference (elementary view into estimation and testing hypothesis)

Recommended literature:
1. Anděl, J.: Statistické metody, Matfyzpress, Praha, 1998 (in Czech)
2. Rossman, A.J. et al.: Workshop Statistics: Discovery with Data and Fathom, 3rd ed. Wiley, 2009
3. Utts, J.M.: Seeing Through Statistics, 4th ed., Thomson Brooks/Cole, Belmont, 2014
4. Utts, J.M., Heckard R.F.: Mind on Statistics, 5th ed. Thomson Brooks/Cole, Belmont, 2014
5. Zvára, K., Štěpán, J.: Pravděpodobnost a matematická statistika, Matfyzpress, Praha, 2001 (in Czech)

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 328

A	B	C	D	E	FX
33.54	25.3	28.96	11.28	0.61	0.3

Provides: RNDr. Martina Hančová, PhD.

Date of last modification: 18.09.2020

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚMV/ UDM/10	**Course name:** Introduction to mathematics
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: 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.	
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: 471

A	B	C	D	E	FX
22.51	19.75	17.41	16.99	11.68	11.68

Provides: doc. RNDr. Matúš Harminc, CSc., RNDr. Zuzana Gönciová, Mgr. Monika Krišáková

Date of last modification: 03.05.2015

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚMV/ 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:

Course level: I.

Prerequisities: ÚMV/ALGa/10

Conditions for course completion:
Two tests, using software CASSIM, oral exam

Learning outcomes:
To learn the solving methods of linear programming

Brief outline of the course:
Formulation of linear and integer programs. Graphic solution. Simplex method, its variants and finiteness. Duality and its economic interpretation. Sensitivity analysis and parametric programming. Algorithms for integer programming.

Recommended literature:
Ch. Papadimitriou – K. Steiglitz: Combinatorial Optimization: Algorithms and Complexity, 1984
R.J. Vanderbei, Linear Programming:Foundations and Extentions (Kluwer 2001), electronic version: http://www.princeton.edu/~rvdb/LPbook/

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 128

A	B	C	D	E	FX
21.88	16.41	20.31	22.66	18.75	0.0

Provides: prof. RNDr. Katarína Cechlárová, DrSc., RNDr. Andrej Gajdoš, PhD.

Date of last modification: 03.05.2015

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚMV/ LTM/10	**Course name:** Logic and set theory

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: 6

Recommended semester/trimester of the course: 5.

Course level: I., II.

Prerequisities: ÚMV/MANb/19 and leboÚMV/FRPb/19

Conditions for course completion:
Exam

Learning outcomes:
To obtain a basic knowledge on the mathematical notion of an infinity. Analysis of the notion of a proof.

Brief outline of the course:
Set as a mathematical formularization of an infinity. Properties of the set of reals. Mathematical induction. Relations and mappings.
Finite and countable sets. Cardinality of continuum. Elementary cardinal arithmetics.
Sentential calculus, an axiomatization. Completness Theorem. Methods of proofs. Language of predicate calculus, examples. Axiomatizations of predicate calculus and the notion of a proof. Methods of proofs in predicate calculus.

Recommended literature:
E. Mendelson, Introduction to Mathematical Logic, van Nostrand 1964.

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 226

A	B	C	D	E	FX
10.62	18.14	20.35	15.93	32.74	2.21

Provides: doc. RNDr. Jaroslav Ivančo, CSc., Mgr. Adam Marton

Date of last modification: 03.05.2015

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚMV/ 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:
Final mark is given based on the results of the tests written during the semester and oral exam, that evaluates the verbal argument about the studied models.

Learning outcomes:

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, 2010
2. N.GREGORY MANKIW, MACROECONOMICS, 7th Edition, Harvard University,Worth Publishers 2009

Course language:
Slovak and English

Notes:

Course assessment
Total number of assessed students: 80

A	B	C	D	E	FX
25.0	13.75	21.25	21.25	12.5	6.25

Provides: prof. RNDr. Katarína Cechlárová, DrSc.

Date of last modification: 31.01.2019

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚMV/ PMA/18	**Course name:** Math proseminar
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: 0	
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: 0	

abs	n
0.0	0.0

Provides: RNDr. Igor Fabrici, Dr. rer. nat., RNDr. Lenka Halčinová, PhD.
Date of last modification:
Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚMV/ MAN2c/10	**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/MANb/19	
Conditions for course completion: Two written test 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 provide introductory knowledge in Riemann integral calculus of real functions of one real variable and series of real functions. To develop computational skills in the field and extend the student ability to use this theory in applications. To teach the basic knowledge of the subject mater in the sylabus and develop the ability to use this theory.	
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. O. Hutník: Určitý integrál, UPJŠ, Košice, 2012 (in Slovak). 2. Brannan, D.: A First Course in Mathematical Analysis, Cambridge University Press, Cambridge 2006. 3. Bruckner, A. M. - Bruckner J. B. - Thomson, B. S.: Real Analysis, Second Edition, ClassicalRealAnalysis.com, 2008. 4. Zorich, V. A.: Mathematical Analysis I, Springer-Verlag 2002.	
Course language: Slovak	
Notes:	

Course assessment
Total number of assessed students: 187

A	B	C	D	E	FX
12.3	13.37	14.44	17.11	35.29	7.49

Provides: doc. RNDr. Ondrej Hutník, PhD., RNDr. Zuzana Ontkovičová

Date of last modification: 03.05.2015

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚMV/ MAN1d/10	**Course name:** Mathematical analysis IV

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:

Course level: I.

Prerequisities: ÚMV/MAN1c/10 and leboÚMV/MAN2c/10

Conditions for course completion:
exam

Learning outcomes:
Understanding of the basic rigorous ideas of Mathematical Analysis.

Brief outline of the course:
Metric spaces. Complete, compact and connected sets. Rings sigma-rings. Measure. Outer measure. Lebesgue measure. Measurable sets. Measurable functions. Legesgue integral. Lebesgue integral versus Riemann integral. Calculations of Lebesgue integrals. Applications.

Recommended literature:
B. S. Thomson, J. B. Bruckner, A. M. Bruckner: Elementary Real Analysis, Prentice Hall, 2001.
A. M. Bruckner, J. B. Bruckner, B. S. Thomson: Real Analysis, Prentice Hall, 1997.
T. Neubrunn, B. Riečan: Miera a integrál, Veda, Bratislava, 1981.
B. Riečan, T. Neubrunn: Teória miery, Veda, Bratislava, 1992.
G. S. Nelson, A User-Friendly Introduction to Lebesgue Measure and Integration, American Mathematical Society, 2015

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 99

A	B	C	D	E	FX
3.03	7.07	15.15	16.16	56.57	2.02

Provides: prof. RNDr. Jozef Doboš, CSc.

Date of last modification: 04.03.2019

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚMV/ MAN2d/10	**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: 5

Recommended semester/trimester of the course: 4.

Course level: I.

Prerequisities: ÚMV/MANb/19

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

Learning outcomes:
To teach the basic knowledge of the subject matter in the syllabus and develop the ability to use this theory. The students also learn mathematical culture, notation and mathematical way of thinking and expression.

Brief outline of the course:
1. Metric space - Euclidean space, topological properties of points and sets in metric space.
2. Function of several real variables - basic concepts, limits and continuity.
3. Differential calculus of functions of several real variables - partial derivative, differentiability and total differential (also higher order), Taylor polynomials, directional derivative, local and global extrema, constrained local extrema.
4. Double (two dimensional) integral - definition, calculation methods, applications.

Recommended literature:
1. L. Kluvánek, I. Mišík, M. Švec: Matematika I, II, SVTL, Bratislava, 1959 (in Slovak).
2. Z. Došlá, O. Došlý: Diferenciální počet funkcí více proměnných, vysokoškolský učebný text, Masarykova univerzita v Brne, Brno, 2003 (in Czech).
3. R. E. Williamson, H. F. Trotter: Multivariable mathematics, Prentice Hall (Pearson), Upper Saddle River, 2004.
4. B. S. Thomson, J. B. Bruckner, A. M. Bruckner: Elementary real analysis, Prentice Hall (Pearson), Lexington, 2008.
5. J. Stewart: Calculus: Early transcendentals, Brooks Cole (Thomson), Toronto, 2008.
6. P. Pták: Calculus II (A course for engineers), ČVUT v Prahe, Praha, 1997.
7. J. Eliaš, J. Horváth, J. Kajan: Zbierka úloh z vyššej matematiky 3, 4, SVTL, Bratislava, 1966 (in Slovak).

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 50

A	B	C	D	E	FX
28.0	20.0	22.0	12.0	16.0	2.0

Provides: RNDr. Lenka Halčinová, PhD.

Date of last modification: 03.05.2015

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚMV/MANb/19	**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: 8

Recommended semester/trimester of the course: 2.

Course level: I.

Prerequisities: ÚMV/FRPa/19

Conditions for course completion:
Two written test 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 study properties and behavior of functions.

Recommended literature:
1. Brannan, D.: A First Course in Mathematical Analysis, Cambridge University Press, Cambridge 2006.
2. Bruckner, A. M., Bruckner J. B., Thomson, B. S.: Real Analysis, Second Edition, ClassicalRealAnalysis.com, 2008.
3. Zorich, V. A.: Mathematical Analysis I, Springer-Verlag 2002.

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 290

A	B	C	D	E	FX
10.34	11.03	16.55	22.76	34.48	4.83

Provides: doc. RNDr. Ondrej Hutník, PhD., RNDr. Lenka Halčinová, PhD.

Date of last modification: 17.02.2021

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚMV/MRUa/15	**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:
Evaluation will be awarded on the basis of continuous assessment and final test.

Learning outcomes:
To acquaint students with problems and strategies for the solutions of the problems at the primary and secondary school, and with the specific problems of teaching mathematics at primary and secondary school.

Brief outline of the course:
Basic knowledge of school mathematics, different strategy of problem solution, problems from mathematical competitions concerning Equations and inequalities and their systems, Functions, Financial Mathematics.

Recommended literature:
[1] Hejný, M. a kol., Teória vyučovania matematiky 2. SPN, Bratislava 1989 (in Slovak)
[2] Kopka, J., Hrozny problémů ve školské matematice, Univerzita J. E. Purkyně, Ústí nad Labem 1999 (in Czech)
[3] Učebnice a zbierky úloh z matematiky ZŠ a SŠ (in Slovak)

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 188

A	B	C	D	E	FX
31.38	20.74	23.94	11.7	11.17	1.06

Provides: doc. RNDr. Stanislav Lukáč, PhD.

Date of last modification: 03.05.2015

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚMV/MRUb/15	**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: 5.

Course level: I.

Prerequisities: ÚMV/MRUa/15

Conditions for course completion:
The award is based on the results of written checks carried out during the semester.
The resulting trial is granted on the basis of continuous assessment and seminar work.

Learning outcomes:
To acquaint students with problems and strategies for the solutions of the problems at the primary and secondary school, and with the specific problems of teaching mathematics at primary and secondary school.

Brief outline of the course:
Basic knowledge of school mathematics, various methods for the task, the role of mathematical competitions for thematic units Planimetry, stereometry, goniometery.

Recommended literature:
[1] Hejný, M. a kol., Teória vyučovania matematiky 2. SPN, Bratislava 1989 (in Slovak)
[2] Kopka, J., Hrozny problémů ve školské matematice, Univerzita J. E. Purkyně, Ústí nad Labem 1999 (in Czech)
[3] Jonson-Wilder.S., Mason.J.: Developing thinking in Geometry, Sage, 2009
[4] Učebnice a zbierky úloh z matematiky ZŠ a SŠ

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 152

A	B	C	D	E	FX
31.58	30.26	24.34	9.21	4.61	0.0

Provides: doc. RNDr. Dušan Šveda, CSc.

Date of last modification: 03.05.2015

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚMV/ MRUc/15	**Course name:** Mathematical problem solving strategies 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: 6.

Course level: I.

Prerequisities: ÚMV/MRUb/15

Conditions for course completion:
During the semester will be 3 written exams.
Evaluation A - at least 90% of the points, evaluation B - at least 80%, evaluation C at least 70%, evaluation D at least 60%, evaluation E rating of at least 50% of the points. Credits shall not be granted to a student who receives less than 50% of the points.

Learning outcomes:
Students become familiar with the tasks, methods of problem solving, solving strategies and with specific problems of teaching mathematics at primary and secondary schools to topics combinatorics, probability and statistics.

Brief outline of the course:
Basic knowledge of school mathematics, from the topics: combinatorics, probability and statistics.

Recommended literature:
Hecht, T., Sklenáriková, Z., Metódy riešenia matematických úloh, Bratislava, SPN, 1992. (in slovak)
Hecht, T. a kol., Matematika pre 1.-4. ročník gymnázií a SOŠ, OrbisPictusIstropolitana, Bratislava 1999-2002. (in slovak)
Krantz, S.G., Techniques of Problem Solving, AMS, 1997.
Larson, L.C., Metódy riešenia matematických problémov, Bratislava, Alfa, 1990. (in slovak)

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 156

A	B	C	D	E	FX
30.77	30.77	22.44	10.26	5.77	0.0

Provides: doc. RNDr. Ingrid Semanišinová, PhD.

Date of last modification: 03.05.2015

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚMV/ 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:

Course level: I., II.

Prerequisities:

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:
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:
Random vectors, their distributions and characteristics. Joint and marginal distributions. Correlation and regression, properties of correlation coefficient. Random sample, sampling distributions and characteristics. Some important statistics and their distributions. Point estimators and their properties. Maximum likelihood method. Interval estimates, confidence interval construction.Testing of statistical hypothesis, critical region, level of significance. Methods for searching optimal critical regions. Some important parametric and nonparametric tests.

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., Duxbury Press, 2002
4. DeGroot, M. H., Schervish, M. J.: Probability and Statistics, 4th ed., Pearson, Boston, 2012
5. Utts, J.M., Heckard, R.F.: Mind od Statistics, 5th ed., Thomson Brooks/Cole, 2014
6. Anděl J.: Základy matematické statistiky, MatfyzPress, Praha, 2011 (in Czech)

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 125

A	B	C	D	E	FX
20.8	21.6	15.2	21.6	13.6	7.2

Provides: RNDr. Martina Hančová, PhD.
Date of last modification: 18.03.2019
Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚMV/ MTM/14	**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: 1

Recommended semester/trimester of the course:

Course level: I.

Prerequisities: ÚMV/MAN2c/10,ÚMV/ALG2b/10,ÚMV/ATC/10

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: 73

A	B	C	D	E	FX
31.51	19.18	23.29	16.44	9.59	0.0

Provides:

Date of last modification: 21.05.2016

Approved:

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:
The minimum necessary number of points from tests written during semester is 50%, plus the ability of verbal argumentation in the final oral exam.

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. http://umv.science.upjs.sk/cechlarova/MIE/MIE.htm - podklady k prednáška, testy na cvičenia, materiály z dennej tlače
2. H.L. Varian, Intermediate Mikroekonomics, WW Norton, 1993
3. J.M. Perloff, Microeconomics, 6th Edtion, Addison Wesley, 2012
4. J. Sloman, Economics, 6th Edition, Prentice Hall, 2006

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 79

A	B	C	D	E	FX
22.78	24.05	17.72	18.99	13.92	2.53

Provides: prof. RNDr. Katarína Cechlárová, DrSc., RNDr. Veronika Jurková, PhD.

Date of last modification: 03.05.2015

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/MKV/15	**Course name:** Mikrobiológia a základy virológie

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:

Course level: I.

Prerequisities: ÚBEV/CYT1/15

Conditions for course completion:
Attendance of practicals (at least 90%), 2 written examinations during semester, final oral examination

Learning outcomes:
Students will obtain a basic informations on viruses, prokaryotic and eukaryotic microorganisms, their cytology, physiology, genetics, ecology, classification, and importance . Information on basic methods for studying microorganisms will be provided.

Brief outline of the course:
Viruses, prokaryotic and eukaryotic microorganisms, their cytology, physiology, genetics, ecology, classification. The importance of microorganisms for humans and environment.

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 1406

A	B	C	D	E	FX
22.4	13.58	18.28	19.63	21.76	4.34

Provides: doc. RNDr. Peter Pristaš, CSc., RNDr. Mária Piknová, PhD., RNDr. Mariana Kolesárová, PhD., RNDr. Lenka Maliničová, PhD.

Date of last modification: 02.02.2021

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ MB1/01	**Course name:** Molecular Biology

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

Number of ECTS credits: 4

Recommended semester/trimester of the course: 4.

Course level: I.

Prerequisities:

Conditions for course completion:
Oral examination.

Learning outcomes:
To provide the students with knowledge of molecular basis of inheritance and control of gene expression and development.

Brief outline of the course:
Structure and properties of information macromolecules. Molecular mechanisms of DNA replication and repair, transcription and translation. Prokaryotic and eukaryotic genome. Control of gene expression in prokaryotes and eukaryotes. Control of cell cycle.

Recommended literature:
Lodish, H., Baltimore, D., Berk, A. et al.: Molecular Cell Biology. Sci. Amer. Books Inc., W.H. Freeman and Company, New York, 1995
Myers, R.A.: Molecular Biology and Biotechnology. VCH Publishers Inc., New York, 1995

Course language:

Notes:

Course assessment
Total number of assessed students: 1037

A	B	C	D	E	FX
7.33	11.48	18.42	19.09	31.44	12.25

Provides: doc. RNDr. Peter Pristaš, CSc.

Date of last modification: 03.05.2015

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/MBGm/19	**Course name:** Molecular Biology and Genetics

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

Number of ECTS credits: 1

Recommended semester/trimester of the course:

Course level: I.

Prerequisities: ÚBEV/CYT1/15,ÚBEV/MB1/01,ÚBEV/GE1/10

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
30.56	16.67	27.78	8.33	16.67	0.0

Provides:

Date of last modification: 10.02.2020

Approved:

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: 119

A	B	C	D	E	FX
43.7	37.82	16.81	0.84	0.84	0.0

Provides: PaedDr. Michal Novocký, PhD.

Date of last modification: 08.06.2021

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚMV/ TCS/10	**Course name:** Number theory

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: 3

Recommended semester/trimester of the course: 5.

Course level: I.

Prerequisities: ÚMV/ATC/10

Conditions for course completion:
According to tests and exam.

Learning outcomes:
To obtain knowledge on quadratic congruences.

Brief outline of the course:
Chinese remainder theorem, Euler function, quadratic congruences, Pythagorean equation.

Recommended literature:
M. B. Nathanson: Elementary Methods in Number Theory. Springer, 2000.
H. E. Rose: A Course in Number Theory. Clarendon Press, Oxford, 1994.

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 104

A	B	C	D	E	FX
34.62	26.92	22.12	14.42	1.92	0.0

Provides: doc. RNDr. Matúš Harminc, CSc.

Date of last modification: 03.05.2015

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: 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., 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: 639

A	B	C	D	E	FX
20.03	27.07	25.98	15.65	10.49	0.78

Provides: PaedDr. Michal Novocký, PhD.

Date of last modification: 08.06.2021

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ FG1/03	**Course name:** Phytogeography

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:

Course level: I., II.

Prerequisities:

Conditions for course completion:
Written work.
Exam.

Learning outcomes:
To obtain theoretical and practical knowledge from phytogeography.

Brief outline of the course:
History of phytogeography. Plants and environment. Chorology, area, area disjunctions, relics, endemites, vicariancy, floral elements. Main course of florogenesis since paleozoic to quaternary ages. Postglacial evolution of Slovak vegetation. Regional phytogeography of Earth. Vegetation geography: from tropical rainforests to tundras. Changes of earth vegetation and their study. Geographical origin of cultivated plants.
Practices: Fieldworks. Preparing of maps. Phytogeographical division of Slovakia. Students seminar works on phytogeography.

Recommended literature:
Hendrych R.: Fytogeografie. - SPN, Praha 1984.
Brown J. H., Lomolino M. V.: Biogeography. - Sinauer Associates, Sunderland, 1998.

Course language:

Notes:

Course assessment
Total number of assessed students: 374

A	B	C	D	E	FX
39.04	22.46	21.12	8.29	8.29	0.8

Provides: prof. RNDr. Pavol Mártonfi, PhD., Mgr. Vladislav Kolarčik, PhD.

Date of last modification: 03.05.2015

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/BRm/19	**Course name:** Plant Biology

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

Number of ECTS credits: 1

Recommended semester/trimester of the course:

Course level: I.

Prerequisities: ÚBEV/CYT1/15,ÚBEV/VB1/01,ÚBEV/FR1/10,(ÚBEV/BO1/03 and leboÚBEV/BO1/15),(ÚBEV/BOT1/03 and leboÚBEV/BOT1/15)

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 38

A	B	C	D	E	FX
18.42	13.16	21.05	18.42	26.32	2.63

Provides:

Date of last modification: 10.02.2020

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/FR1/10	**Course name:** Plant Physiology

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: 4.

Course level: I.

Prerequisities: ÚBEV/VB1/01

Conditions for course completion:
Active participation on practicals. Oral examen

Learning outcomes:
Overview of all important physiological processes in plant organisms.

Brief outline of the course:
Water in plan, mineral nutrition, photosynthesis, pholem transport, respiration, lipid biosynthesis, heterotrophy, metabolism of macronutrients, secondary metabolism, growth and development, plant hormones, photoreceptors, dormancy, germination, flowering, plant movements, stress physiology Lab practicals: Measurements of water potential, Quantitative analyses of nutrients in dust. Separation of assimilation pigments by TLC. Quantitative analyses of chlorophyll a and b. Biotest of cytokinins. Qualitative and quantitative analyses of sugars. HPLC separation of glucose and fructose. Measurements of respiration by selective electrode. Measurement of total nitrogen by Kjeldahl method. Qualitative analyses of proteins. Activity of some enzymes in potato and pea. Colour of anthocyanins at different pH. Measurement of silica level by distillation method. Germination of seeds.

Recommended literature:
Hopkins W.G. Huner N.P.A., Introduction to plant physiology. 3rd ed., Wiley, New York 2004

Course language:

Notes:

Course assessment
Total number of assessed students: 1813

A	B	C	D	E	FX
15.66	13.51	16.05	14.01	22.84	17.93

Provides: doc. RNDr. Peter Paľove-Balang, PhD.

Date of last modification: 26.03.2020

Approved:

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 is based on interim evaluation. The subject will be taught in both present and distance format. Up-to-date information concerning the subject for the given academic year can be found on the electronic board of the subject in the Academic information system of the UPJŠ.

Learning outcomes:
The aim of the course is to leanrn about the the basic theory and current research, as well as the possibility of application of Positive Psychology as a new and rapidly developing field of psychology. The aim of the subject is mainly to develop and apply critical thinking to the challenges and issues that Positive Psychology brings and raises in the context of the individual in contemporary society. Emphasis is placed on the ability to independently and critically process current topics of positive psychology.

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, Hwestone, M: Emotion and Motivation, Blackwell, 2004
Deci, E., Ryan R. M., Handbook of Self – Determination Reasearch, Rochester, 2002
Křivohlavý, J.: Pozitivní psychologie. Praha, Portál, 2003
Křivohlavý, J.: Psychologie vděčnosti a nevděčnosti. Praha, Grada, 2007
Křivohlavý, J.: Psychologie moudrosti a dobrého života, Praha, Grada, 2012

Křivohlavý, J.: Psychologie pocitu štěstí, Grada, 2013
McAdams, D. P., The Person, New York, 2002
Seligman, M. E. P., & Csikszentmihalyi, M. (Eds.). (2000). Positive psychology [Special issue] American Psychologist, 55(1).
Říčan, P.: Psychologie náboženství a spirituality, Praha, Portál, 2007
Slezáčková, A.:Pruvodce pozitivní psychologií, Praha, Grada, 2012

Course language:

Notes:

Course assessment
Total number of assessed students: 280

A	B	C	D	E	FX
98.21	1.07	0.36	0.0	0.36	0.0

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

Date of last modification: 25.06.2021

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚMV/ TPP/19	**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: 5

Recommended semester/trimester of the course: 4.

Course level: I.

Prerequisities: ÚMV/MAN1c/10 and leboÚMV/MAN2c/10 and leboÚMV/FRPa/19

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, chí-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)

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 306

A	B	C	D	E	FX
12.42	14.05	19.28	23.2	22.55	8.5

Provides: RNDr. Daniel Klein, PhD.
Date of last modification: 11.03.2019
Approved:

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: 1., 3., 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: 517

A	B	C	D	E	FX
22.82	16.05	21.66	18.57	17.99	2.9

Provides: PhDr. Anna Janovská, PhD., Mgr. Ondrej Kalina, PhD.

Date of last modification: 28.06.2021

Approved:

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.

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: 164

A	B	C	D	E	FX
51.22	14.02	25.61	6.71	1.83	0.61

Provides: Mgr. Ondrej Kalina, PhD.

Date of last modification: 24.06.2021

Approved:

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: 234

A	B	C	D	E	FX
44.44	26.92	17.09	7.69	2.99	0.85

Provides: doc. PaedDr. Renáta Orosová, PhD., PaedDr. Janka Ferencová, PhD.

Date of last modification: 08.06.2021

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚTVŠ/ ÚTVŠ/CM/13	**Course name:** Seaside Aerobic Exercise

Course type, scope and the method:
Course type: Practice
Recommended course-load (hours):
Per week: Per study period: 36s
Course method: combined, present

Number of ECTS credits: 2

Recommended semester/trimester of the course:

Course level: I., II.

Prerequisities:

Conditions for course completion:
Conditions for course completion:
Attendance

Learning outcomes:
Learning outcomes:
Students will be provided an overview of possibilities how to spend leisure time in seaside conditions actively and their skills in work and communication with clients will be improved. Students will acquire practical experience in organising the cultural and art-oriented events, with the aim to improve the stay and to create positive experiences for visitors.

Brief outline of the course:
Brief outline of the course:
1. Basics of seaside aerobics
2. Morning exercises
3. Pilates and its application in seaside conditions
4. Exercises for the spine
5. Yoga basics
6. Sport as a part of leisure time
7. Application of projects of productive spending of leisure time for different age and social groups (children, young people, elderly)
8. Application of seaside cultural and art-oriented activities in leisure time

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 41

abs	n
12.2	87.8

Provides: Mgr. Agata Horbacz, PhD.
Date of last modification: 15.03.2019
Approved:

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:** **Recommended course-load (hours):** **Per week: Per study period:** **Course method:** present	
Number of ECTS credits: 2	
Recommended semester/trimester of the course: 3., 5.	
Course level: I.	
Prerequisities: KF/DF1/05	
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: doc. PhDr. Pavol Tholt, PhD., mim. prof.	
Date of last modification:	
Approved:	

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚMV/VKA/10	**Course name:** Selected topics in algebra

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:
According to tests and to the exam.

Learning outcomes:
To obtain basic knowledge on universal algebra; to be able to apply the theory in concrete situations.

Brief outline of the course:
Relations, operations, algebraic structures. Substructures. Congruences, homomorphism theorems. Automorphism groups and endomorphism monoids. Terms, term operations, identities, varieties.

Recommended literature:
B. Jónsson: Topics in Universal Algebra, Springer-Verlag 1972
M. Kolibiar a kol.: Algebra a príbuzné disciplíny, Bratislava 1992

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 59

A	B	C	D	E	FX
15.25	22.03	25.42	20.34	15.25	1.69

Provides: prof. RNDr. Danica Studenovská, CSc.

Date of last modification: 03.05.2015

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚMV/ VEM/10	**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: 3

Recommended semester/trimester of the course: 5.

Course level: I.

Prerequisities: ÚMV/MAN2c/10

Conditions for course completion:
exam

Learning outcomes:
Obtain knowledge about the structure of elementary mathematics with respect to advanced mathematics; the development of mathematical skills of prospective teachers.

Brief outline of the course:
Language of Mathematics; syntax and semantics; sets, relations, rational and irrational numbers, equations and inequations in reals; elementary functions

Recommended literature:
W.W. Esty: The Language of Mathematics, Montana State University, 2007.
F. Klein: Elementary mathematics from an advanced standpoint, Dower Publications, 1945.

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 42

A	B	C	D	E	FX
4.76	26.19	14.29	28.57	26.19	0.0

Provides: prof. RNDr. Jozef Doboš, CSc.

Date of last modification: 03.05.2015

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚMV/ SHM/10	**Course name:** Seminar on history of mathematics

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:
Homework, presentation on the chosen topic during the seminar.
More than 91 points - evaluation of A.
81-90 points - evaluation of B.
71-80 points - rating C.
61-70 points - evaluation of D.
51-60 points - evaluation of E.
Less than 50 points - FX evaluation.

Learning outcomes:
Students get an overview of the history of the development of certain mathematical disciplines and selected terms and about parallel between phylogenesis and ontogenesis of mathematical thinking.

Brief outline of the course:
Mathematics in Early Civilizations. Greek Mathematics. Mathematics in the Near and Far East (Arabia, China, India). Medieval European Mathematics. The Renaissance of Mathematics. The Beginning of Modern Mathematics.

Recommended literature:
Burton, D. M.: The History of Mathematics: An Introduction. McGraw−Hill, 2007.
Devlin, K.: Jazyk matematiky. Dokořán, 2002 (in czech)
Kolman, A.: Dejiny matematiky ve starověku. Academia, Praha, 1968 (in slovak)
Juškevič, A. P.: Dejiny matematiky ve středověku. Academia, Praha 1977 (in slovak)
Znám,Š. a kol.: Pohľad do dejín matematiky. Alfa, Bratislava, 1986 (in slovak)
Konforovič, A.G.: Významné matematické úlohy, SPN Praha, 1989 (in slovak)

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 112

A	B	C	D	E	FX
74.11	9.82	8.93	3.57	3.57	0.0

Provides: doc. RNDr. Ingrid Semanišinová, PhD.

Date of last modification: 03.05.2015

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚMV/ 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:
Individual problem solving during seminars and homework.
More than 91 points - evaluation of A.
81-90 points - evaluation of B.
71-80 points - rating C.
61-70 points - evaluation of D.
51-60 points - evaluation of E.
Less than 50 points - FX evaluation.

Learning outcomes:
Students become familiar with solving problems from mathematical olympiads and mathematical competitions. They acquire theoretical basics necessary to lead mathematical group of talented children.

Brief outline of the course:
Number theory.
Equations, inequations, inequalities.
Word problems.
Planimetry.
Stereometry.
Combinatorics. Pigeonhole principle. Combinatorial geometry. Probability.
Math games. Interesting problems.

Recommended literature:
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: 94

A	B	C	D	E	FX
57.45	13.83	14.89	10.64	3.19	0.0

Provides: doc. RNDr. Ingrid Semanišinová, PhD.

Date of last modification: 17.03.2017

Approved:

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:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 57

A	B	C	D	E	FX
31.58	36.84	19.3	10.53	1.75	0.0

Provides: Mgr. Ján Ruman, PhD.

Date of last modification: 13.05.2021

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: KGER/OJPV1/07	**Course name:** Specialised German Language - Natural Sciences 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: 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: 144

A	B	C	D	E	FX
23.61	22.92	24.31	20.83	7.64	0.69

Provides: Mgr. Blanka Jenčíková

Date of last modification: 03.05.2015

Approved:

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:** combined, present	
Number of ECTS credits: 2	
Recommended semester/trimester of the course: 1.	
Course level: I., I.II., 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: Within the optional subject, the Institute of Physical Education and Sports of Pavol Jozef Šafárik University provides for students the following sports activities: aerobics, aikido, basketball, badminton, body form, bouldering, floorball, yoga, power yoga, pilates, swimming, body-building, indoor football, S-M systems, step aerobics, table tennis, tennis, volleyball and chess. In the first two semesters of the first level of education students will master basic characteristics and particularities of individual sports, motor skills, game activities, they will improve level of their physical condition, coordination abilities, physical performance, and motor performance fitness. Last but not least, the important role of sports activities is to eliminate swimming illiteracy and by means of a special program of medical physical education to influence and mitigate unfitness. In addition to these sports, the Institute offers for those who are interested winter and summer physical education trainings with an attractive program and organises various competitions, either at the premises of the faculty or University or competitions with national or international participation.	
Recommended literature:	
Course language:	
Notes:	

Course assessment
Total number of assessed students: 12859

abs	abs-A	abs-B	abs-C	abs-D	abs-E	n	neabs
87.01	0.08	0.0	0.0	0.0	0.04	8.1	4.77

Provides: Mgr. Agata Horbacz, PhD., Mgr. Dávid Kaško, PhD., Mgr. Zuzana Küchelová, PhD., doc. PaedDr. Ivan Uher, PhD., prof. RNDr. Stanislav Vokál, DrSc., Mgr. Marcel Čurgali, Mgr. Patrik Berta, Mgr. Ladislav Kručanica, PhD., Bc. Richard Melichar, Mgr. Petra Tomková, PhD.

Date of last modification: 13.05.2021

Approved:

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: combined, present

Number of ECTS credits: 2

Recommended semester/trimester of the course: 2.

Course level: I., I.II., II.

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:
Within the optional subject, the Institute of Physical Education and Sports of Pavol Jozef Šafárik University provides for students the following sports activities: aerobics, aikido, basketball, badminton, body form, bouldering, floorball, yoga, power yoga, pilates, swimming, body-building, indoor football, S-M systems, step aerobics, table tennis, tennis, volleyball and chess.
In the first two semesters of the first level of education students will master basic characteristics and particularities of individual sports, motor skills, game activities, they will improve level of their physical condition, coordination abilities, physical performance, and motor performance fitness. Last but not least, the important role of sports activities is to eliminate swimming illiteracy and by means of a special program of medical physical education to influence and mitigate unfitness.
In addition to these sports, the Institute offers for those who are interested winter and summer physical education trainings with an attractive program and organises various competitions, either at the premises of the faculty or University or competitions with national or international participation.

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 11675

abs	abs-A	abs-B	abs-C	abs-D	abs-E	n	neabs
84.52	0.56	0.02	0.0	0.0	0.05	10.63	4.22

Provides: Mgr. Agata Horbacz, PhD., Mgr. Dávid Kaško, PhD., Mgr. Zuzana Küchelová, PhD., doc. PaedDr. Ivan Uher, PhD., prof. RNDr. Stanislav Vokál, DrSc., Mgr. Marcel Čurgali, Mgr. Patrik Berta, Mgr. Ladislav Kručanica, PhD., Bc. Richard Melichar, Mgr. Petra Tomková, PhD.
Date of last modification: 13.05.2021
Approved:

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: combined, present

Number of ECTS credits: 2

Recommended semester/trimester of the course: 3.

Course level: I., I.II., 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:
Within the optional subject, the Institute of Physical Education and Sports of Pavol Jozef Šafárik University provides for students the following sports activities: aerobics, aikido, basketball, badminton, body form, bouldering, floorball, yoga, power yoga, pilates, swimming, body-building, indoor football, S-M systems, step aerobics, table tennis, tennis, volleyball and chess.
In the first two semesters of the first level of education students will master basic characteristics and particularities of individual sports, motor skills, game activities, they will improve level of their physical condition, coordination abilities, physical performance, and motor performance fitness. Last but not least, the important role of sports activities is to eliminate swimming illiteracy and by means of a special program of medical physical education to influence and mitigate unfitness.
In addition to these sports, the Institute offers for those who are interested winter and summer physical education trainings with an attractive program and organises various competitions, either at the premises of the faculty or University or competitions with national or international participation.

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 7873

abs	abs-A	abs-B	abs-C	abs-D	abs-E	n	neabs
88.8	0.05	0.01	0.0	0.0	0.03	4.08	7.04

Provides: Mgr. Marcel Čurgali, Mgr. Agata Horbacz, PhD., Mgr. Dávid Kaško, PhD., Mgr. Zuzana Küchelová, PhD., doc. PaedDr. Ivan Uher, PhD., prof. RNDr. Stanislav Vokál, DrSc., Mgr. Patrik Berta, Mgr. Ladislav Kručanica, PhD., Bc. Richard Melichar, Mgr. Petra Tomková, PhD.
Date of last modification: 13.05.2021
Approved:

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: combined, present

Number of ECTS credits: 2

Recommended semester/trimester of the course: 4.

Course level: I., I.II., 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:
Within the optional subject, the Institute of Physical Education and Sports of Pavol Jozef Šafárik University provides for students the following sports activities: aerobics, aikido, basketball, badminton, body form, bouldering, floorball, yoga, power yoga, pilates, swimming, body-building, indoor football, S-M systems, step aerobics, table tennis, tennis, volleyball and chess.
In the first two semesters of the first level of education students will master basic characteristics and particularities of individual sports, motor skills, game activities, they will improve level of their physical condition, coordination abilities, physical performance, and motor performance fitness. Last but not least, the important role of sports activities is to eliminate swimming illiteracy and by means of a special program of medical physical education to influence and mitigate unfitness.
In addition to these sports, the Institute offers for those who are interested winter and summer physical education trainings with an attractive program and organises various competitions, either at the premises of the faculty or University or competitions with national or international participation.

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 5125

abs	abs-A	abs-B	abs-C	abs-D	abs-E	n	neabs
83.14	0.31	0.04	0.0	0.0	0.0	7.75	8.76

Provides: Mgr. Marcel Čurgali, Mgr. Agata Horbacz, PhD., Mgr. Dávid Kaško, PhD., Mgr. Zuzana Küchelová, PhD., doc. PaedDr. Ivan Uher, PhD., prof. RNDr. Stanislav Vokál, DrSc., Mgr. Patrik Berta, Mgr. Ladislav Kručanica, PhD., Bc. Richard Melichar, Mgr. Petra Tomková, PhD.
Date of last modification: 13.05.2021
Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/SVK/01	**Course name:** Student 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: 4., 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: 289

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

Provides:

Date of last modification: 03.05.2015

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚMV/ 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: 03.05.2015

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚMV/ DGS/15	**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:
continuous assessment and final project

Learning outcomes:
To acquire an overview of the current possibilities of digital technology to develop skills and competencies with emphasis on the area of communication, social interaction and personal. To acquire basic digital skills for working with advanced technologies (mobile phone, tablet, laptop, social media, online webtechnologies). To understand the value of existing advanced technologies for better and more effective learning, work and active life in higher education, lifelong learning and further career prospects.

Brief outline of the course:
Introduction to the problems of current, commonly available digital technology. Tools for access to online information source (mobile applications for access to information systems, databases, data books). Tools for collecting, generating direct information and data and its subsequent analysis and visualization. Tools for providing and sharing of electronic content (cloud technology - Google Drive, Youtube, Google+, Skydrive, Dropbox). Tools for communication, discussion and collaborative activities. Legal work with digital technologies and resources, plagiarism, critical evaluation of digital resources. Security, privacy, digital ethics and etiquette, digital citizenship.

Recommended literature:
1. Bruff, D. (2009). Teaching with classroom response systems: Creating active learning environments. San Francisco: Jossey-Bass.
2. Byrne, R. (2012). Google Drive and Docs for Teachers. Free Tech for Teachers.
3. Kawasaki, G. (2012). What the Plus! Google+ for the Rest of Us. Amazon igital Services.
4. Kolb, L. (2011). Cell Phones in the Classroom: A Practical Guide for Educators. International Society for Technology in Education.

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 250

abs	n
96.0	4.0

Provides: doc. RNDr. Stanislav Lukáč, PhD., doc. RNDr. Jozef Hanč, PhD., doc. RNDr. Ľubomír Šnajder, PhD.

Date of last modification: 03.05.2015

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: 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: Per study period:** 36s **Course method:** present	
Number of ECTS credits: 2	
Recommended semester/trimester of the course:	
Course level: I., II.	
Prerequisities:	
Conditions for course completion: Conditions for course completion: Attendance Final assessment: Raft control on the waterway (attended/not attended)	
Learning outcomes: Learning outcomes: Students have knowledge of rafts (canoe) and their control on waterway.	
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:	
Course language:	
Notes:	

Course assessment Total number of assessed students: 153	
abs	n
45.75	54.25
Provides: Mgr. Dávid Kaško, PhD.	
Date of last modification: 18.03.2019	
Approved:	

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

Course assessment Total number of assessed students: 393	
abs	n
44.53	55.47
Provides: MUDr. Peter Dombrovský, Mgr. Ladislav Kručanica, PhD.	
Date of last modification: 15.03.2019	
Approved:	

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: 501

A	B	C	D	E	FX
36.93	32.93	20.36	5.99	1.6	2.2

Provides: Mgr. Katarína Petríková, PhD.

Date of last modification: 08.06.2021

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚBEV/ ZOG1/03	**Course name:** Zoogeography
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:	
Course level: I., II.	
Prerequisities:	
Conditions for course completion: Active participation in seminars. Preparation of oral presentation to selected topic. Semestral written test. Oral examination.	
Learning outcomes: The main goal of the subject is to get knowledge on the basic reasons of recent distribution of the animals on the Earth, zoogeographic regionalization of the Earth´s surface and human influence on the faunal distribution in the history.	
Brief outline of the course: This course will review our current understanding of the patterns of animal distribution and the processes that influence distributions of species and their attributes. Zoogeography will integrate information on the historical and current ecology, genetics, and physiology of animals and their interaction with environmental processes (continental drift, climate) in regulating geographic distributions. The course will emphasize descriptive and analytical approaches useful in hypothesis testing in zoogeography and will illustrate applied aspects of zoogeography (e.g. refuge design in conservation).	
Recommended literature: Buchar, J., 1983: Zoogeografie. SPN Praha Darlington, P.J., 1998: Zoogeography: The geographical distribution of animals. Krieger, USA Lomolino M.V., Brown J.H., Riddle B. R., 2005: Biogeography. Sinauer Associates, 1-845 Plesník, P., Zatkalík, F., 1996: Biogeografia. Vysokoškolské skriptá, PríFUK Bratislava	
Course language:	
Notes:	

Course assessment
Total number of assessed students: 948

A	B	C	D	E	FX
23.95	23.31	24.26	18.78	7.91	1.79

Provides: prof. RNDr. Ľubomír Kováč, CSc.

Date of last modification: 05.10.2017

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ZO1/15	**Course name:** Zoology 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: 3.

Course level: I.

Prerequisities: ÚBEV/PMZ/10

Conditions for course completion:

Learning outcomes:
Basis of Invertebrata taxonomy including taxonomy of Monocytozoa. Importance and function of chosen individual taxons. Phylogenetic relations.

Brief outline of the course:
Anatomy, morphology and development of separate groups of Invertebrates – especially Porifera, Cnidaria, Plathelminthes, Nemathelminthes, Mollusca, Anelida, Arthropoda, Echinodermata. Characteristic species.

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 260

A	B	C	D	E	FX
8.46	20.0	22.31	26.15	16.92	6.15

Provides: doc. RNDr. Ľubomír Panigaj, CSc., RNDr. Peter Ľuptáčik, PhD., RNDr. Andrea Parimuchová, PhD.

Date of last modification: 03.05.2015

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ZO1/03	**Course name:** Zoology 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: ÚBEV/PMZ/10

Conditions for course completion:

Learning outcomes:
Basis of Invertebrata taxonomy- Importance and function of chosen individual taxons. Phylogenetic relations.

Brief outline of the course:
Anatomy, morphology and development of separate groups of Invertebrates – especially Porifera, Cnidaria, Plathelminthes, Nemathelminthes, Mollusca, Anelida, Arthropoda, Echinodermata. Characteristic species.

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 1170

A	B	C	D	E	FX
8.03	15.38	22.14	21.88	23.85	8.72

Provides: doc. RNDr. Ľubomír Panigaj, CSc., RNDr. Peter Ľuptáčik, PhD., RNDr. Andrea Parimuchová, PhD.

Date of last modification: 14.11.2016

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ZOO1/15	**Course name:** Zoology 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.

Course level: I.

Prerequisities: ÚBEV/PMZ/10

Conditions for course completion:

Learning outcomes:
Fundamental information on taxonomy and morphology of vertebrates

Brief outline of the course:
Systematic and phylogenetic relationships of vertebrate. Review of important groups of fishes, amphibians, reptiles, bidrs and mammals.

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 195

A	B	C	D	E	FX
0.51	21.03	30.26	16.92	20.0	11.28

Provides: doc. RNDr. Marcel Uhrin, PhD., RNDr. Peter Ľuptáčik, PhD., RNDr. Monika Balogová, PhD.

Date of last modification: 03.05.2015

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ZOO1/03	**Course name:** Zoology 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: 5

Recommended semester/trimester of the course: 4.

Course level: I.

Prerequisities: ÚBEV/PMZ/10

Conditions for course completion:

Learning outcomes:
Fundamental information on taxonomy and morphology of vertebrates

Brief outline of the course:
Systematic and phylogenetic relationships of vertebrate. Review of important groups of fishes, amphibians, reptiles, bidrs and mammals.

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 1036

A	B	C	D	E	FX
22.68	28.76	18.92	15.44	9.75	4.44

Provides: doc. RNDr. Marcel Uhrin, PhD., RNDr. Peter Ľuptáčik, PhD., RNDr. Monika Balogová, PhD.

Date of last modification: 03.05.2015

Approved: