CONTENT

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: CJP/ PFAJAKA/07	**Course name:** Academic English
Course type, scope and the method: **Course type:** Practice **Recommended course-load (hours):** **Per week:** 2 **Per study period:** 28 **Course method:** present	
Number of ECTS credits: 2	
Recommended semester/trimester of the course:	
Course level: I.	
Prerequisities:	
Conditions for course completion: Active classroom participation, assignments handed in on time, 2 absences tolerated 1 test (13th week), no retake. Presentation on chosen topic Final evaluation- average assessment of test (50%), and presentation (50%). Grading scale: A 93-100%, B 86-92%, C 79-85%, D 72-78%, E 65-71%, FX 64% and less	
Learning outcomes: The development of students´ language skills - reading, writing, listening, speaking, improvement of their linguistic competence - students acquire knowledge of selected phonological, lexical and syntactic aspects, development of pragmatic competence - students can efectively use the language for a given purpose, with focus on Academic English, level B2.	
Brief outline of the course: Formal and informal English Academic English and its specific features Key academic verbs and nouns Linking words in academic writing, writing a paragraph, word-order, topic sentences Word-formation - affixation abstract Selected aspects of English pronunciation, academic vocabulary Selected functional grammar structures - defining, classifying, epressing opinion, cause-effect, paraphrasing	
Recommended literature: Seal B.: Academic Encounters, CUP, 2002 T. Armer :Cambridge English for Scientists, CUP 2011 M. McCarthy M., O´Dell F. - Academic Vocabulary in Use, CUP 2008 Zemach, D.E, Rumisek, L.A: Academic Writing, Macmillan 2005 Olsen, A. : Active Vocabulary, Pearson, 2013 www.bbclearningenglish.com Cambridge Academic Content Dictionary, CUP, 2009	

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

Notes:

Course assessment
Total number of assessed students: 416

A	B	C	D	E	FX
36.54	21.63	15.14	9.38	6.01	11.3

Provides: Mgr. Viktória Mária Slovenská

Date of last modification: 11.09.2024

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

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: 356

A	B	C	D	E	FX
67.42	25.28	4.21	0.56	0.28	2.25

Provides: Mgr. Katarína Petríková, PhD., Mgr. Zuzana Vagaská, PhD.

Date of last modification: 12.03.2024

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ANCHU/21	**Course name:** Analytical Chemistry

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

Number of ECTS credits: 5

Recommended semester/trimester of the course: 3.

Course level: I.

Prerequisities:

Conditions for course completion:
1. 3x test of analytical calculations (each 33%, minim. 50%).
2. Examination is composed of 3 questions (each for 33%, it is necessary to reach at least 50%).

Learning outcomes:
Survey of basic principles and tasks of analytical chemistry and applications of analytical methods in research and practice.

Brief outline of the course:
Subject and role of analytical chemistry. General principles and procedures - sampling, sample pre-treatment. Preparation of solutions. Evaluation of the results.
Classification of analytical reactions. Qualitative analysis of cations and anions. Basic principles of organic analysis.
Methods of quantitative analysis. General principles of gravimetry. Volumetric analysis.
Instrumental methods of analytical chemistry (basic principles, instrumentaion and applications) - electroanalytical, optical and separation methods.

Recommended literature:
D.Harvey, Modern Analytical Chemistry. McGraw Hill, Boston, 2000
Skoog D.A., Principles of Instrumental Analysis. Saunders Col. Publishing, New York 1985

Course language:

Notes:

Course assessment
Total number of assessed students: 75

A	B	C	D	E	FX
30.67	17.33	20.0	18.67	9.33	4.0

Provides: doc. RNDr. Taťána Gondová, CSc.

Date of last modification: 12.11.2021

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of ECTS credits: 3

Recommended semester/trimester of the course: 5.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 36

A	B	C	D	E	FX
86.11	8.33	5.56	0.0	0.0	0.0

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

Date of last modification: 27.06.2022

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of ECTS credits: 3

Recommended semester/trimester of the course: 6.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 32

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

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

Date of last modification: 27.06.2022

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of ECTS credits: 4

Recommended semester/trimester of the course:

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 209

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

Provides:

Date of last modification: 07.12.2021

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/BPO/21	**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:
Oral presentation of the thesis results. Answering questions of the thesis oponent or members of the state examination board.

Recommended literature:

Course language:
slovak

Notes:

Course assessment
Total number of assessed students: 27

A	B	C	D	E	FX
88.89	11.11	0.0	0.0	0.0	0.0

Provides:

Date of last modification: 07.12.2021

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚCHV/ BKPa/22	**Course name:** Bakalársky projekt I
Course type, scope and the method: **Course type:** **Recommended course-load (hours):** **Per week: Per study period:** **Course method:** present	
Number of ECTS credits: 3	
Recommended semester/trimester of the course: 5.	
Course level: I.	
Prerequisities:	
Conditions for course completion:	
Learning outcomes:	
Brief outline of the course:	
Recommended literature:	
Course language:	
Notes:	

Course assessment
Total number of assessed students: 27

abs	n
100.0	0.0

Provides:
Date of last modification: 07.02.2022
Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚCHV/ BKPb/22	**Course name:** Bakalársky projekt II
Course type, scope and the method: **Course type:** **Recommended course-load (hours):** **Per week: Per study period:** **Course method:** present	
Number of ECTS credits: 3	
Recommended semester/trimester of the course: 6.	
Course level: I.	
Prerequisities:	
Conditions for course completion:	
Learning outcomes:	
Brief outline of the course:	
Recommended literature:	
Course language:	
Notes:	
Course assessment Total number of assessed students: 25	

abs	n
100.0	0.0

Provides:
Date of last modification: 07.02.2022
Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of ECTS credits: 3

Recommended semester/trimester of the course: 4.

Course level: I., II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 18

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

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

Date of last modification: 20.02.2023

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚCHV/ MIN1/14	**Course name:** Basis of Mineralogy

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

Number of ECTS credits: 5

Recommended semester/trimester of the course: 4.

Course level: I.

Prerequisities: ÚCHV/VCH/10 or ÚCHV/VCH/21 or ÚCHV/VCHU/10 or ÚCHV/ZAC2/10 or ÚCHV/VACH/10 or ÚCHV/CHG/09 or ÚCHV/ZCF/03 or ÚCHV/VCHU/15

Conditions for course completion:
Verification of theoretical knowledge and recognizing minerals.
A semester project about selected minerals (40 %), a practical test from recognizing of minerals (30 %), a written examination (30 %). The student must obtain totally at least 51%.
In a case of online education the practical test is canceled and the written examination contains more questions (60 %).

Learning outcomes:
To recognize the beauty of nature and to obtain basic knowledge from mineralogy. After completing the course, students will be familiar with the properties of commonly available minerals and will be able to recognize these minerals.

Brief outline of the course:
Basic terms and definitions, origin of minerals in nature. Basis of morphological and structural crystallography: characteristic properties of crystals, crystallographic laws, crystal structure, unit cells and their parameters, crystallographic systems with examples of minerals. Crystallochemistry: types of bonds and structures and their effect on the properties of minerals. Physical properties of minerals and their utilize in minerals classification. Basis of genetic and systematic mineralogy. Structure of silicates.

Recommended literature:
M. Košuth: Mineralógia. Elfa, s.r.o. Košice, 2001
V. Radzo: Mineralógia, Alfa Bratislava, 1987.

Course language:
Slovak

Notes:
Teaching is carried out in person or, if necessary, online using the MS Teams tool. The form of teaching is specified by the teacher at the beginning of the semester, updated continuously.

Course assessment
Total number of assessed students: 149

A	B	C	D	E	FX
81.88	16.11	0.67	0.67	0.0	0.67

Provides: doc. RNDr. Ivan Potočňák, PhD.

Date of last modification: 21.07.2022

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚCHV/ BCHU/21	**Course name:** Biochemistry
Course type, scope and the method: **Course type:** Lecture / Practice **Recommended course-load (hours):** **Per week:** 3 / 1 **Per study period:** 42 / 14 **Course method:** present	
Number of ECTS credits: 5	
Recommended semester/trimester of the course: 5.	
Course level: I.	
Prerequisities: ÚCHV/VCHU/10 or ÚCHV/VCHU/15 or ÚCHV/VACH/10 or ÚCHV/VCHU/14	
Conditions for course completion: Successful completion of the exam, which consists of two parts: (i) written and (ii) oral part. The student passes the exam if he / she obtains at least 60% of the points in the written part and at the same time adequately answers the asked questions in the oral part.	
Learning outcomes: Gain knowledge of: (i) the basic building blocks of biomacromolecules (proteins, DNA, RNA, fats and sugars) and their properties, (ii) the basic biochemical processes that take place in living organisms, (iii) the way energy is produced and used in cells.	
Brief outline of the course: 1. Protein Structure and Function, Exploring proteins. 2. DNA and RNA and the Flow of Genetic Information, Exploring genes. 3. Enzymes: Basic Concepts and Kinetics, Catalytic Strategies and Regulatory Strategies. 4. Carbohydrates (Monosaccharides, Disaccharides, Polysaccharides – Functions and Properties). 5. Lipids and Cells Membranes, Membrane Channels and Pumps. 6. Metabolis: Basic Concepts and Design, Signal-Transduction Pathways. 7. Glycolysis and Gluconeogenesis, Glycogen Metabolism. 8. The Citric Acid Cycle and Glyoxylate Cycle. 9. Oxidative Phosphorylation, The Light Reactions of Photosyntesis. 10. The Calvine Cycle and the Pentose Phosphate Pathway. 11. Fatty Acids Metabolism, Urea Cycle. 12. DNA Replication, Transcription (RNA Synthesis). 13. Protein Synthesis & Degradation, the Integration of Metabolism.	
Recommended literature:	
Course language:	
Notes:	

Course assessment
Total number of assessed students: 85

A	B	C	D	E	FX
28.24	12.94	14.12	22.35	20.0	2.35

Provides: prof. RNDr. Erik Sedlák, DrSc., RNDr. Nataša Tomášková, PhD., prof. RNDr. Mária Kožurková, CSc., Mgr. Mária Tomková, PhD.

Date of last modification: 14.11.2021

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ BCH1b/10	**Course name:** Biochemistry II

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

Number of ECTS credits: 5

Recommended semester/trimester of the course: 6.

Course level: I.

Prerequisities: ÚCHV/BCH1a/03 or ÚCHV/BCHU/21 or ÚCHV/BCH1a/21

Conditions for course completion:
Test and oral examination.

Learning outcomes:
The aim of biochemistry teaching is to acquire knowledge in the field of living organisms on the basis of their molecular structure information on cell metabolism.

Brief outline of the course:
Basic principle of metabolism, basic metabolic pathways and cycles, integration of cell metabolism.

Recommended literature:
Koolman J., Roehm K.H.: Color atlas of biochemistry. Thieme, Stuttgart, Germany, 2005.
Kodíček M., Valentová O., Hynek R.: Biochemie, chemický pohled na biologický svět, Vysoká škola chemicko-technologická v Praze, Praha, 2022.

Course language:

Notes:

Course assessment
Total number of assessed students: 397

A	B	C	D	E	FX
9.82	19.14	31.49	17.63	20.91	1.01

Provides: prof. RNDr. Mária Kožurková, CSc., prof. RNDr. Erik Sedlák, DrSc., doc. RNDr. Rastislav Varhač, PhD., doc. RNDr. Viktor Víglaský, PhD., RNDr. Nataša Tomášková, PhD., RNDr. Danica Sabolová, PhD., univerzitná docentka

Date of last modification: 26.07.2022

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚCHV/ PBCHU/15	**Course name:** Biochemistry Practical

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

Number of ECTS credits: 4

Recommended semester/trimester of the course: 6.

Course level: I.

Prerequisities: ÚCHV/BCHU/03 or ÚCHV/BCHU/21

Conditions for course completion:
Active participation with a maximum of one excused absence without the need for compensation. In case of excused absence from two or more practical exercises (e.g. due to illness), the student agrees with the teacher on alternative dates for practice.
Correctly prepared protocols from all completed tasks.
At least 51% of points from each of the written tests.

Learning outcomes:
To allow students to get practical experience in experimental techniques and methods, currently used in a biochemical research: UV/VIS spectrophotometry, thin layer chromatography (TLC), gel electrophoresis, isolation of macromolecules and substances from biological materials and their quantitative and qualitative determination.

Brief outline of the course:
1. Biochemistry laboratory safety rules. Basic biochemical laboratory procedures.
2. Qualitative tests for amino acids and proteins.
3. Isolation of casein from milk. Determination of protein concentration by Lowry method.
4. Determination of the iodine number by Yasud method . Soap production. Reactions with soap. Oxidation of unsaturated fatty acids.
5. Saponification number of fats and oils. Qualitative test for cholesterol: Salkowsky reaction.
6. Qualitative tests for carbohydrates. Determination of reducing carbohydrates by the Schoorl's method.
7.Determination of reducing and nonreducing carbohydrates in germinant plants.
8. Time-dependent course of enzyme-catalyzed reaction: digestion of gelatin by trypsine.
9. Determination of catalase activity and the first order rate constant. Effect of pH on alpha-amylase activity.
10. Effect of substrate concentration on initial rate of reaction, determination of Km and Vmax for urease-catalyzed hydrolysis of urea.
11. Isolation of DNA from spleen. Isolation of RNA from yeast. Qualitative tests for DNA and RNA components.
12. Determination of vitamin C concentration by 2,4-dinitrofenylhydrazine. Determination of vitamins A, B1, and C.

13. Final evaluation of students.

Recommended literature:
Sedlák, Varhač, Danko, Paulíková, Podhradský: Praktické cvičenia z biochémie, 2020, https://unibook.upjs.sk/sk/chemia/1411-prakticke-cvicenia-z-biochemie

Course language:
Slovak

Notes:
Teaching is carried out in person.

Course assessment
Total number of assessed students: 244

A	B	C	D	E	FX
77.46	18.44	2.87	0.82	0.41	0.0

Provides: prof. RNDr. Mária Kožurková, CSc., RNDr. Nataša Tomášková, PhD., doc. RNDr. Rastislav Varhač, PhD., RNDr. Danica Sabolová, PhD., univerzitná docentka, RNDr. Eva Konkoľová, PhD.

Date of last modification: 19.11.2021

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ BAC1/04	**Course name:** Bioinorganic Chemistry I

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

Number of ECTS credits: 5

Recommended semester/trimester of the course: 5.

Course level: I., II.

Prerequisities:

Conditions for course completion:
Test or seminar works
examination

Learning outcomes:
The basic knowledges about biometal interactions with biomolecules, biomaterials, biominerals, biocatalysis, metals in biology and medicine, metal-based drugs, toxic metals for biosystems and metals in the environment.

Brief outline of the course:
Metalic and non-metalic elements and their roles in biological systems (biometals, bulk biological elements, essential trace elements). Biocoordination compounds, bioligands. Biocatalyzers. Oxygen carriers and oxygen transport proteins. Photochemical process. Catalysis and regulation processes. Calcium biominerals and biomineralization.Toxic metals. Application of knowledge of bioinorganic chemistry in pharmacy, chemotherapy (e.g. platinum complexes in cancer therapy) radiodiagnostics, mineral biotechnology, ecology and in other branches of life.

Recommended literature:
1. Shriver D. F., Atkins P. W., Overton T. L., Rourke J.P., Weller M.T., Amstrong F.A.: Shiver & Atkins. Inorganic Chemistry. Oxford University Press, Oxford 2006.
2. Kaim W., Schwederski B.: Bioinorganic Chemistry: Inorganic Elements in the Chemistry of Life. Wiley, Chichester 1998.
3. Wilkins P. C., Wilkins R. G.: Inorganic Chemistry in Biology. OCP, Oxford 1997.

Course language:

Notes:

Course assessment
Total number of assessed students: 376

A	B	C	D	E	FX
42.02	27.39	19.15	5.85	5.32	0.27

Provides: prof. RNDr. Zuzana Vargová, Ph.D.

Date of last modification: 28.10.2021
Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of ECTS credits: 2

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

Course level: I.

Prerequisities:

Conditions for course completion:
Written test

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

Brief outline of the course:
Human ontogenesis. Postnatal development. Age specific features of skeletal and muscalar, circulatory, respiratory, gastrointestinal and urinary systems. Reproductive system. Endocrine system. Nervous system. Age specifics of selected diseases and drug dependence arise. Human population and environment.

Recommended literature:
Drobný I., Drobná M.: Biológia dieťaťa pre špeciálnych pedagógov I. a II. Bratislava, PdF UK, 2000
Lipková V.: Somatický a fyziologický vývoj dieťaťa. Osveta Bratislava, 1980
Malá H., Klementa J.: Biológia detí a dorastu. Bratislava, SPN, 1989

Course language:

Notes:

Course assessment
Total number of assessed students: 1789

A	B	C	D	E	FX
31.25	24.04	18.28	16.71	9.11	0.61

Provides: doc. RNDr. Monika Kassayová, CSc.

Date of last modification: 20.04.2022

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

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

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

Number of ECTS credits: 5

Recommended semester/trimester of the course: 1.

Course level: I.

Prerequisities:

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

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

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

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

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

Recommended literature:

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

Course language:

Notes:

Course assessment

Total number of assessed students: 136

A	B	C	D	E	FX
12.5	16.18	28.68	24.26	17.65	0.74

Provides: doc. RNDr. Ján Kaňuk, PhD., Mgr. Ondrej Tokarčík, PhD., Mgr. Michaela Nováková, PhD.

Date of last modification: 19.09.2023

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of ECTS credits: 2

Recommended semester/trimester of the course: 2.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 67

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

Provides: Mgr. Ján Šašak, PhD., doc. RNDr. Ján Kaňuk, PhD., Mgr. Daniela Buchalová

Date of last modification: 27.06.2022

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ CHV1/99	**Course name:** Chemical calculations

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:
Successful completion of two written tests in the middle and at the end of the semester. Accomplished test is with minimal 50% of point. The exact dates will be determined after mutual consultation between the teacher and the students.
The rating scale is determined as follows: A (100-91%), B (90-81%), C (80-71%), D (70-61%), E (60-51%), Fx (50- 0%).

Learning outcomes:
To teach students how to calculate material balances in the systems with or without chemical processes and how to calculate examples concerning the chemical equilibrium.

Brief outline of the course:
Expression of the clear matter amount and the system composition. Stoichiometric formula. Material bilances for preparation, dissolving and mixing of solutions, and for separating of mixtures. Material bilances for combined processes. Chemical equations and material bilances in the systems with chemical processes. Acid-Base equilibrium and the pH calculations. The solubility product and solubility.

Recommended literature:
Potočňák I.: Chemické výpočty vo všeobecnej a anorganickej chémii (skriptum), PF UPJŠ, Košice, 2017.
https://unibook.upjs.sk/sk/chemia/843-chemicke-vypocty-vo-vseobecnej-a-anorganickej-chemii
Any chemical laboratory tables.

Course language:
SK - slovak

Notes:
The subject is carried out in person or, if necessary, remotely using the online platform Big Blue Button (BBB). The form of teaching is specified by the teacher at the beginning of the semester and updated continuously.

Course assessment
Total number of assessed students: 1727

A	B	C	D	E	FX
25.94	18.93	22.12	19.8	11.93	1.27

Provides: RNDr. Martin Vavra, PhD., doc. RNDr. Miroslav Almáši, PhD., Mgr. Nikolas Király, PhD.

Date of last modification: 15.11.2021

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/SCHM/21	**Course name:** Chemistry

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

Number of ECTS credits: 2

Recommended semester/trimester of the course:

Course level: I.

Prerequisities: (ÚCHV/OCHU/21 or ÚCHV/OCHU/03) and ÚCHV/ANCHU/21 and ÚCHV/BCHU/21 and (ÚCHV/ACHU/21 or ÚCHV/ACHU/03) and (ÚCHV/FCHU/22 or ÚCHV/FCHU/21 or ÚCHV/FCHU/10)

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 81

A	B	C	D	E	FX
12.35	25.93	23.46	16.05	17.28	4.94

Provides:

Date of last modification: 08.09.2021

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: KPPaPZ/ECo-C4/14	**Course name:** Communication ECo-C4

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

Number of ECTS credits: 4

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

Course level: I.

Prerequisities:

Conditions for course completion:
1. Active participation in lessons (absence is allowed max. 90 min.), 2. Realization of assignments according to the teacher's instructions.
Detailed information in the electronic board of the course in AIS2. The teaching of the subject will be realized by a combined method.

Learning outcomes:
The student understands theoretical information about the basics of verbal and nonverbal communication, rhetoric and methods of visualization and interprets them adequately. Student is able to use the acquired communication skills in practice, can apply effective principles of communication with others, is able to anticipate and thus prevent possible misunderstandings, which will contribute to the development of his social and professional skills.

Brief outline of the course:
Basics of communication (Transmitter-receiver principle, "What is said is not equal to what is heard", "Internal dialogue", The concept of communication)
Active listening (The most important criteria for active listening)
Misunderstandings (How Misunderstandings Arise, How to Avoid Misunderstandings)
Body language (What is body language, Active / passive body language, Dress psychology)
Signs of Physical Expression, Disadvantages of Fake Physical Expression, Difference Between Active and Passive Body Expression
Personality development (Voices in us, "child in me" - identification of one's own personality)
Rhetoric (History of rhetoric, What is rhetoric, Vigor, alertness - assumptions, techniques, prompt reactions)
Visualization - optical display (Classic media - whiteboard, magnetic whiteboard, bulletin board, flipchart, Based on computer technology - PC + Beamer)

Recommended literature:
ROSENBERG, M. B. 2023. Nenásilná komunikácia. Aktuell. 234 s.
VÝROST, Jozef - SLAMĚNÍK, Ivan. Sociální psychologie. 2., přepr. a rozš. vyd. Praha : GRADA, 2008. 408 s.
VÝROST, Jozef - SLAMĚNÍK, Ivan. Aplikovaná sociální psychologie I : Člověk a sociální instituce. 1. vyd. Praha : Portál, 1998. 384 s. ISBN 80-7178-269-6.

KOMÁRKOVÁ, Růžena - SLAMĚNÍK, Ivan - VÝROST, Jozef. Aplikovaná sociální psychologie III : Sociálněpsychologický výcvik. 1. vyd. Praha : Grada Publishing, 2001. 224 s.
VÝROST, Jozef - SLAMĚNÍK, Ivan. Aplikovaná sociální psychologie II. 1. vyd. Praha : Grada Publishing, 2001. 260 s.

Course language:
slovak

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

Course assessment
Total number of assessed students: 169

abs	n
88.76	11.24

Provides: PhDr. Anna Janovská, PhD.

Date of last modification: 14.09.2024

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of ECTS credits: 2

Recommended semester/trimester of the course:

Course level: I.

Prerequisities:

Conditions for course completion:
Active participation in class and completed homework assignments. Students are allowed to miss two classes at the most.
2 credit tests (presumably in weeks 6/7 and 12/13) and an oral presentation in English.
Final evaluation consists of the scores obtained for the 2 tests (50%) and the presentation (50%).
Final grade will be calculated as follows: A 93-100 %, B 86-92%, C 79-85%, D 72-78%, E 65-71%, FX 64 % and less.

Learning outcomes:

Brief outline of the course:

Recommended literature:
www.bbclearningenglish.com
Štěpánek, Libor a kol. Academic English-Akademická angličtina. Praha: Grada Publishing, a.s., 2011.
McCarthy M., O'Dell F.: English Vocabulary in Use, Upper-Intermediate. CUP, 1994.
Fictumova J., Ceccarelli J., Long T.: Angličtina, konverzace pro pokročilé. Barrister and Principal, 2008.
Peters S., Gráf T.: Time to practise. Polyglot, 2007.
Jones L.: Communicative Grammar Practice. CUP, 1985.
Additional study materials.

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

Notes:

Course assessment
Total number of assessed students: 301

A	B	C	D	E	FX
45.18	20.93	17.61	7.64	5.98	2.66

Provides: Mgr. Barbara Mitríková

Date of last modification: 11.02.2024
Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of ECTS credits: 2

Recommended semester/trimester of the course:

Course level: I.

Prerequisities:

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

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

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

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

Course language:

English language, level B2 according to CEFR.

Notes:

Course assessment
Total number of assessed students: 446

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

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

Date of last modification: 20.09.2023

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: KGER/ NJKG/07	**Course name:** Communicative Grammar in German Language

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

Number of ECTS credits: 2

Recommended semester/trimester of the course:

Course level: I.

Prerequisities:

Conditions for course completion:
Active participation in class and completed homework assignments. Students are allowed to miss 2 classes at the most (2x90 min.). 2 control tests during the semester. Final grade will be calculated as follows: A 93-100 %, B 86-92%, C 79-85%, D 72-78%, E 65-71%, FX 64 % and less.

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

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

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

Course language:
German, Slovak language

Notes:

Course assessment
Total number of assessed students: 57

A	B	C	D	E	FX
61.4	10.53	8.77	3.51	8.77	7.02

Provides: Mgr. Ulrika Strömplová, PhD.

Date of last modification: 13.08.2024

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: KPPaPZ/ECo-C3/14	**Course name:** Conflict Management ECo-C3

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

Number of ECTS credits: 4

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

Course level: I.

Prerequisities:

Conditions for course completion:
2. Submission of the reflection on the selected topic within the specified time. Reflection topic: My strengths and weaknesses in conflict management. In a short presentation of their reflection, students will describe their strengths and weaknesses in the management of conflict situations in the form of deconstruction.
Attendance at seminars is mandatory - the student may have two absences during the semester.
The evaluation of the course and its subsequent completion will be based on clearly and objectively set requirements, which will be set in advance and will not change. The aim of the assessment is to ensure an objective and fair mapping of the student's knowledge while adhering to all ethical and moral standards. There is no tolerance for students' fraudulent behavior, whether in the teaching process or in the assessment process.

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

Brief outline of the course:
Disputes and their causes (Types of disputes, External influences, Be able to reveal the causes of disputes), Dispute origin (Levels of disputes, Escalation warning signals, Escalation removal strategies, Know how to explain escalation stages; How do I approach a dispute?) Dispute

Resolution, Dispute Resolution Strategies, Dispute Discussion, Dispute Settlement Initiatives, Knowing how to handle a dispute and how to effectively resolve it), Dispute Resolution (Options, Public Struggle, Covert Struggle, Indefinite Postponement, Agreement, “Fair play ”, compromise, cooperation, capitulation, escape or separation), Prevention (Structures that produce disputes, The meaning and purpose of disputes, Stages and steps of dispute resolution, What does a positive corporate culture mean? Dispute is an incentive for change)

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 147

abs	n
94.56	5.44

Provides: Mgr. Ondrej Kalina, PhD.

Date of last modification: 12.09.2024

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/KCHU/03	**Course name:** Coordination Chemistry

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: ÚCHV/ACHU/21

Conditions for course completion:
Final written exam

Learning outcomes:
The student acquires basic knowledge on the coordination compounds, preparation, isomerism and properties of coordination compounds as well as about the chemical bonding in coordination compounds.

Brief outline of the course:
1. Definition and nomenclature of coordination compounds.
2. Central atom and ligands
3. Coordination numbers, coordination polyhedra.
4. Isomerism of coordination compounds
5. Preparation of coordination compounds
6. Stability of coordination compounds
7. Chemical bonding in coordination compounds.

Recommended literature:
J. Ribas: Coordination Chemistry, Wiley-VCH, Weinheim, 2008.
J. C. Huheey, E. A. Keiter, R. L. Keiter: Inorganic Chemistry, Haper Collins, New York, 1993.
G. A. Lawrance: Introduction to Coordination Chemistry, Wiley, 2010.

Course language:

Notes:

Course assessment
Total number of assessed students: 98

A	B	C	D	E	FX
40.82	25.51	13.27	7.14	11.22	2.04

Provides: prof. RNDr. Juraj Černák, DrSc., doc. RNDr. Juraj Kuchár, PhD.

Date of last modification: 10.09.2021

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of ECTS credits: 4

Recommended semester/trimester of the course: 5.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 31

A	B	C	D	E	FX
64.52	12.9	19.35	3.23	0.0	0.0

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

Date of last modification: 27.06.2022

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

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

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

Number of ECTS credits: 2

Recommended semester/trimester of the course: 1.

Course level: I.

Prerequisities:

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

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

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

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

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

Course language:

Notes:

Course assessment
Total number of assessed students: 138

A	B	C	D	E	FX
50.72	27.54	13.77	4.35	1.45	2.17

Provides: doc. RNDr. Ján Kaňuk, PhD., Mgr. Daniela Buchalová

Date of last modification: 27.06.2022

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

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: 620

A	B	C	D	E	FX
78.55	15.81	3.71	1.45	0.16	0.32

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

Date of last modification: 24.06.2022

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of ECTS credits: 6

Recommended semester/trimester of the course: 3.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 77

A	B	C	D	E	FX
9.09	11.69	20.78	25.97	29.87	2.6

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

Date of last modification: 27.06.2022

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

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

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

Recommended literature:

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

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

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

Course assessment
Total number of assessed students: 92

A	B	C	D	E	FX
73.91	13.04	7.61	0.0	5.43	0.0

Provides: Ing. Zuzana Tkáčová, Ing.Paed.IGIP., doc. RNDr. Ľubomír Šnajder, PhD.

Date of last modification: 16.03.2024

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of ECTS credits: 2

Recommended semester/trimester of the course: 4.

Course level: I.

Prerequisities:

Conditions for course completion:
Active participation in class and completed homework assignments. Students are allowed to miss 2 classes at the most
Continuous assessment:
1 credit test taken presumably in weeks 6/7
1 project (quiz on the topic of the student´s field of study) 25% of the continuous assessment
5 LMS quizzes (25% of the continuous assessment)
In order to be admitted to the final exam, a student has to score at least 65 % from the continuous assessment
The exam test results represent 50% of the final grade for the course, continuous assessment results represent the other 50% of the final grade.
The final grade for the course will be calculated as follows:
A 93-100, B 86-92, C 79-85, D 72-78, E 65-71, FX 64 and less.

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

Brief outline of the course:
1. Introduction to studying language
2. Selected aspects of scientific language
3. Talking about academic study
4. Discussing science
5. Defining scientific terminology and concepts
6. Expressing cause and effect
7. Describing structures
8. Explaining processes
9. Comparing objects, structures and concepts

10. Talking about problem and solution
11. Referencing authors
12. Giving examples
13. Visual aids and numbers
14. Referencing time and place
Presentation topics related to students´study fields.

Recommended literature:

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

Course language:
English, level B2 (CEFR)

Notes:

Course assessment
Total number of assessed students: 3239

A	B	C	D	E	FX
38.53	26.37	16.3	9.54	7.19	2.07

Provides: Mgr. Viktória Mária Slovenská, Mgr. Lenka Klimčáková, Mgr. Katarína Szabová, PhD.

Date of last modification: 06.02.2024

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of ECTS credits: 3

Recommended semester/trimester of the course: 3.

Course level: I., II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 8

A	B	C	D	E	FX
0.0	50.0	37.5	12.5	0.0	0.0

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

Date of last modification: 30.09.2024

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of ECTS credits: 3

Recommended semester/trimester of the course: 4.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 80

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

Provides: RNDr. Dušan Barabas, CSc.

Date of last modification: 27.06.2022

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ PCH1/00	**Course name:** Food chemistry

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

Number of ECTS credits: 4

Recommended semester/trimester of the course: 5.

Course level: I., II.

Prerequisities:

Conditions for course completion:
Active work during semester, presentation on certain theme. Two exams, one in the middle and second at the end of semester (min. 51%). A: 91-100b, B: 81-90b, C: 71-80b, D: 61-70b, E: 51-60b, FX: 0-50b.

Learning outcomes:
Students will recieve informations and knowledges about chemical substances in food, their importance and chemical changes in food during processing and storage.

Brief outline of the course:
The main categories of substances in the most important group of food. Aminoacids, proteins, lipids, carbohydrates. Water, minerals, low concentration anorganic compounds, vitamins. Hydrocarbons, colorants, toxic compounds, aditives. Chemical reactions in dairy products.

Recommended literature:

Course language:
english

Notes:
Teaching is carried out in person or, if necessary, online using the MS Teams or BBB (BigBlueButton) tool. The form of teaching is specified by the teacher at the beginning of the semester, updated continuously.

Course assessment
Total number of assessed students: 317

A	B	C	D	E	FX
68.14	27.44	4.1	0.0	0.0	0.32

Provides: RNDr. Ján Elečko, PhD.

Date of last modification: 28.01.2022

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ BACHZ/06	**Course name:** Fundamentals of Bioanalytical Chemistry

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: 3.

Course level: I.

Prerequisities:

Conditions for course completion:
Elaboration and presentation of a semester project with an assigned topic. Completion of block exercises. Oral examination.
Detailed conditions for completing the subject are listed in the electronic bulletin board of the subject and in the repository of digital support materials LMS UPJŠ and are updated annually.

Learning outcomes:
After completing the course, the student has basic knowledge about biological samples, factors affecting biological samples and analytical methods used in clinical chemistry and bioanalysis.

Brief outline of the course:
Introduction to Bioanalytical Chemistry. Biological samples classification. Factors that affect analytes in biological samples. Collection, transport and storage of samples, the main principles of sampling, the suppressing of undesirable phenomena. Selected methods of pretreatment of biological samples. Analyzers, equipment and organization of work in a clinical laboratory. Control and management of quality in clinical laboratory. Quality manual, calibration, control, and reference materials. Validation and Good Laboratory Practice. Buffers in bioanalysis. Enzymes in bioanalysis, introduction, distribution, Mechanism of enzyme catalysis. The kinetics of enzymatic reactions with one substrate, the Michaelis constant, constant specificity, lag phase, kinetics of reactions with two substrates. Moderators of enzyme activity. Selected methods for the analysis of biomolecules.

Recommended literature:
1. Chromý, V. a kol.: Bioanalytika, MU Brno, 2002
2. Kukačka, J. a kol.: Bioanalytická chemie v príkladech a cvičeních, Karolinum, 2010
3. Mikkelsen, S.R, Cortón E.: Bioanalytical Chemistry, Wiley, 2004
4.Wilson I.: Bioanalytical Separations 4, (Handbook of Analytical Separations), Elsevier, 2003
5.Lee, D.C., Webb, M.: Pharmaceutical Analysis, Blackwell, 2003

Course language:

Notes:

If necessary, the teaching also takes place in a distance form with the use of various tools of LMS UPJŠ, MS teams, etc. The form of teaching is specified by the teacher at the beginning of the semester, it is continuously updated.

Course assessment

Total number of assessed students: 108

A	B	C	D	E	FX
33.33	30.56	30.56	4.63	0.0	0.93

Provides: doc. RNDr. Katarína Reiffová, PhD.

Date of last modification: 22.07.2022

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of ECTS credits: 6

Recommended semester/trimester of the course: 1.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:
Courses have following objectives: firstly, to introduce the current theories of processes which occur in the Earth (global tectonics, species of magmatism), secondly, to describe the rock-forming minerals, taxology of intrusive rocks, taxology of sedimentary rocks and rocks which had overcame metamorphosis, basics of the regional geology of Slovakia, basics of the historical geology and paleontology.

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 1212

A	B	C	D	E	FX
7.84	17.66	32.59	26.32	10.07	5.53

Provides: doc. Ing. Katarína Bónová, PhD.

Date of last modification: 30.09.2021

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ VCHU/15	**Course name:** General Chemistry

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: 1.

Course level: I.

Prerequisities: ÚCHV/CHV1/99

Conditions for course completion:
Written test in the middle and the end of the semester followed by the oral examination. Active participation on seminars.

Learning outcomes:
To provide students with knowledge of atoms and molecules their electronic structure, theories of chemical bonds, physical and chemical properties of elements and compounds as well as their periodicity.

Brief outline of the course:
Main terms used in chemistry. Atoms – models of atoms, electron configuration, chemical periodicity and its effect on the properties of elements, radioactivity. Chemical bonds and intermolecular interactions. Chemical structure and physical properties of matter. State of matter. Solutions. Chemical equilibrium. Basis of chemical thermodynamics and chemical kinetics. Classification of chemical reactions. Electrochemistry.

Recommended literature:
1. Atkins P., Jones L.: Chemical Principles, 2nd ed., Freeman, New York 2002.
2. Russel J.B.: General Chemistry, 2nd ed., McGraw Hill, London 1992.

Course language:

Notes:

Course assessment
Total number of assessed students: 362

A	B	C	D	E	FX
25.69	27.35	27.62	11.05	7.73	0.55

Provides: prof. RNDr. Vladimír Zeleňák, DrSc., doc. RNDr. Ivan Potočňák, PhD.

Date of last modification: 07.02.2022

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚCHV/PACU/03	**Course name:** General Course of Analytical Chemistry - Laboratory

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

Number of ECTS credits: 4

Recommended semester/trimester of the course: 4.

Course level: I.

Prerequisities: ÚCHV/ANCHU/03 or ÚCHV/ANCHU/21

Conditions for course completion:
Active participation in laboratory exercises and seminars; successful completion of the tests.
1. Participation in laboratory exercises is required. Assigned teacher who leads exercises might excuse without substitute the student's absence (incapacity for work, family reasons, etc.) for a maximum of two exercises during the semester with substitute supplying.
2. The assigned teacher, who leads the seminar, assesses the preparation of students and their activity in seminars. For the active participation in the exercises, the student can get a maximum of 10 points.
3. Two written tests are obligatory. The written test will consist of 15 questions with 15 points, together for 2 written testes of 30 points. To successful completion of the exam, it is necessary to achieve at least 8 points from each test.
Overall score: Max. number of points: 50 (elaboration of protocols / assignments - 10 points; active participation in practical exercises - 10 points; written tests - 2 × 15 points). Min. number of points to successful completion of course: 26.
Note: Detailed conditions are updated annually within the repository for digital support materials (LMS UPJŠ).

Learning outcomes:
Application of theoretical knowledge of qualitative and quantitative analytical chemistry into analytical laboratory practise.

Brief outline of the course:
Practical in qualitative and quantitative analysis. Qualitative analysis, separation by selective precipitation. Quantitative methods. Gravimetry, general principles of method. Volumetric methods. Preparation of accurate solutions. Indication of equvivalency point. Titration curves, calculations in volumetric analysis. Acidimetry, alkalimetry. Manganometry. Iodometry. Complexometry. Selected Instrumental analytical methods.

Recommended literature:
1. Y. Bazel a kol.: Praktikum z analytickej chémie, PF UPJŠ, Košice 2019.
2. T. Gondová a kol.: Praktikum z analytickej chémie, PF UPJŠ, Košice 1999.
3. V. Szmereková, P.Meľuch: Praktikum z analytickej chémie, PF UPJŠ, Košice 1988.
4. J. Labuda a kol. Analytická chémia, STU, Bratislava 2014.
5. Z. Holzbecher a kol: Analytická chemie, SNTL, ALFA Praha 1987.

6. L. Koller: Analytická chémia, TU Košice, 2002, skriptum a v digitálnej forme.
7.D. Harvey: Modern Analytical Chemistry. McGraw Hill, Boston, 2000.

Course language:
Slovak

Notes:
The course is implemented by full-time or, if necessary, distance method using the MS Teams or BBB or a combined method. The form of teaching is specified by the teacher at the beginning of the semester and updated continuously.

Course assessment
Total number of assessed students: 425

A	B	C	D	E	FX
60.0	26.82	10.59	1.41	1.18	0.0

Provides: RNDr. Rastislav Serbin, PhD., RNDr. Jana Šandrejová, PhD., univerzitná docentka

Date of last modification: 15.11.2021

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of ECTS credits: 6

Recommended semester/trimester of the course: 3.

Course level: I.

Prerequisities:

Conditions for course completion:
The assessment is a combination of continual control during the practicals and the final exam in the examination period. The continual assessment is performed during the semester and it involves 2 written tests in the mid-term and end of the semester and a project report generated according to the assignment and practical skills acquired during the practicals. The student can proceed to the final exam in case he or she acquired at least 50 points of 100 in all elements of the the continual assessment. The final assessment mark is based on the average number points received in the mid-term test, project report, practicals assessment, and final exam. The final exam is a written test comprising 3-4 questions. The credits are given in case the student had reached at least the E mark in continual assessment and final exam. The following marking scheme is applied in the assessment: A (100-90 points), B (80-89 points), C (70-79 points), D (60-69 points), E (50-59 points), FX (0-49 points).

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

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

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

Recommended literature:

Course language:
Slovak or Czech or English

Notes:

Course assessment
Total number of assessed students: 393

A	B	C	D	E	FX
27.99	26.72	27.23	12.47	5.6	0.0

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

Date of last modification: 27.06.2022

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of ECTS credits: 2

Recommended semester/trimester of the course:

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 36

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

Provides:

Date of last modification: 27.06.2022

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of ECTS credits: 3

Recommended semester/trimester of the course: 3.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 28

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

Provides: doc. Mgr. Ladislav Novotný, PhD.

Date of last modification: 27.06.2022

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of ECTS credits: 3

Recommended semester/trimester of the course: 4.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 19

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

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

Date of last modification: 14.02.2023

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚGE/ MOG/21	**Course name:** Geography of mining

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: 2.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 7

A	B	C	D	E	FX
71.43	14.29	14.29	0.0	0.0	0.0

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

Date of last modification: 16.02.2023

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of ECTS credits: 3

Recommended semester/trimester of the course: 5.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 11

A	B	C	D	E	FX
18.18	36.36	27.27	9.09	9.09	0.0

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

Date of last modification: 27.06.2022

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of ECTS credits: 4

Recommended semester/trimester of the course: 5.

Course level: I., II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 11

A	B	C	D	E	FX
18.18	18.18	45.45	18.18	0.0	0.0

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

Date of last modification: 27.06.2022

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚGE/ GAH/21	**Course name:** Geography of the atmosphere and hydrosphere

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

Number of ECTS credits: 6

Recommended semester/trimester of the course: 3.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 74

A	B	C	D	E	FX
2.7	20.27	35.14	35.14	6.76	0.0

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

Date of last modification: 27.06.2022

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of ECTS credits: 6

Recommended semester/trimester of the course: 4.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 75

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

Provides: RNDr. Dušan Barabas, CSc., doc. Mgr. Michal Gallay, PhD., RNDr. Alena Gessert, PhD., univerzitná docentka

Date of last modification: 13.02.2023

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

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

Course assessment
Total number of assessed students: 13

abs	n
100.0	0.0

Provides: doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ján Kaňuk, PhD., Mgr. Ján Šašak, PhD.
Date of last modification: 27.06.2022
Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

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

Course assessment
Total number of assessed students: 93

abs	n
100.0	0.0

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

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of ECTS credits: 3

Recommended semester/trimester of the course: 4.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 12

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

Provides: RNDr. Alena Gessert, PhD., univerzitná docentka

Date of last modification: 27.06.2022

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of ECTS credits: 6

Recommended semester/trimester of the course: 2.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 1374

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

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

Date of last modification: 13.02.2023

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of ECTS credits: 2

Recommended semester/trimester of the course: 4.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 105

A	B	C	D	E	FX
70.48	15.24	8.57	0.95	0.0	4.76

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

Date of last modification: 12.03.2024

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚGE/EXH/21	**Course name:** Human Geography Excursion

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

Number of ECTS credits: 3

Recommended semester/trimester of the course: 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: 55

A	B	C	D	E	FX
54.55	29.09	16.36	0.0	0.0	0.0

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

Date of last modification: 27.06.2022

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of ECTS credits: 5

Recommended semester/trimester of the course: 5.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 42

A	B	C	D	E	FX
2.38	7.14	26.19	26.19	38.1	0.0

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

Date of last modification: 27.06.2022

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

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: 111

A	B	C	D	E	FX
69.37	22.52	3.6	1.8	2.7	0.0

Provides: PaedDr. Michal Novocký, PhD.

Date of last modification: 14.09.2024

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ ACHU/21	**Course name:** Inorganic Chemistry

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

Number of ECTS credits: 5

Recommended semester/trimester of the course: 2.

Course level: I.

Prerequisities: ÚCHV/VCHU/15

Conditions for course completion:
Written test in the middle and the end of the semester followed by the oral examination. Active participation on seminars.

Learning outcomes:
Gaining knowledge about the properties and reactivity of elements and their compounds, the periodicity of their properties and the periodicity of the properties of their compounds. Knowledge of the basic physical and chemical properties of elements and their compounds, reactivity, their preparation, production and occurrence.

Brief outline of the course:
Electronic configuration, abundance, use, physical and chemical properties, preparation, reactivity of non-metallic elements hydrogen, halogens, oxygen, sulphur, nitrogen, phosphorus, carbon, silicon, boron and rare gases. Binary and other compounds formed by these elements, their properties and reactivity. Metals and transition elements. Abudance, properties, reactivity, important compounds.

Recommended literature:
Greenwood, N. N., Earnshaw, A: Chemistry of the Elements. Pergamon Press, Oxford, 1984
Atkins O., Overton T., Rourke J., Weller M., Armstrong F.: Inorganic Chemistry, University Press, Oxford, 2006.

Course language:

Notes:

Course assessment
Total number of assessed students: 90

A	B	C	D	E	FX
31.11	30.0	24.44	7.78	6.67	0.0

Provides: prof. RNDr. Vladimír Zeleňák, DrSc., prof. RNDr. Juraj Černák, DrSc.

Date of last modification: 07.02.2022

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ ACH2/21	**Course name:** Inorganic Chemistry II

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: 3., 5.

Course level: I.

Prerequisities: ÚCHV/ACH1/10 or ÚCHV/ACHU/21 or ÚCHV/ACHU/03

Conditions for course completion:
1. Students are required to attend seminars, this also applies to the online form of teaching. The relevant teacher who leads the seminar will justify the absence of the student (illnes, family reasons, etc.) in a maximum of two seminars during the semester without the need to replace the teaching hours. In the case of a longer justified absence (for example due to illness), the teacher will assign to the student alternative forms of duties;
2. Activity at seminars. The preparation of students and their activity in seminars is always assessed by the teacher who leads the seminar, within his / her competence.
3. Participation in 10 small written tests within the seminar, for each small test you can get 1 point. In the case of a justified absence of a student from a small test, the teacher may require to elaborate a written job. Successful completion is considered if the student obtains at least 5.5 points from these tests, which is a condition for participation in the exam. The points obtained from the seminar will be included in the total number of points obtained for the subject in the range of 10%.
4. The exam is usually carried out in written form (3 written tests, of which 2 tests during the semester) with the possibility of further oral examination, or, in case of restrictions of contact forms of the teaching, the exam will be performed in a suitable online - electronic form.
5. To successfully complete the course, it is necessary to obtain at least 51% of the maximum number of points in each test and for seminars.

Learning outcomes:
To acquire knowledge about physical and chemical properties of metallic elements and their compounds.

Brief outline of the course:
General characterization of metals, chemistry of elements of the 1st and 2nd group, aluminum and other metals elements of groups 13 to 16. Chemistry of transition elements with emphasis on the 1st transition series.
Coordination compounds, chemistry of lanthanides and actinides. In all chapters are discussed the atomic properties of elements, properties of elements as substances, properties of their compounds. Emphasis is also put on environmental aspects of the properties of elements and their compounds. The lectures are discussed at the seminars in detail.

Recommended literature:

1. Greenwood, N.N., Earnshaw, A.: Chemistry of the elements, Pergamon Press N.Y., 1984.
2. D.F. Shriver, P.W. Atkins: Inorganic Chemistry, Oxford University Press, Oxford, 4th Ed., 2006.

Course language:

Notes:
The subject can be realized in the form of personal attendance or, if necessary, also in online form.

Course assessment
Total number of assessed students: 31

A	B	C	D	E	FX
12.9	25.81	41.94	9.68	6.45	3.23

Provides: prof. RNDr. Juraj Černák, DrSc., prof. RNDr. Vladimír Zeleňák, DrSc., RNDr. Miroslava Matiková Maľarová, PhD.

Date of last modification: 16.11.2021

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚCHV/ ANCH1b/21	**Course name:** Instrumental Analytical 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: 5

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

Course level: I.

Prerequisities:

Conditions for course completion:
Active participation in seminars; successful completion of the final test. Elaboration of 2 written assignments (or subject project), which will be one of the conditions for participation in the exam. The evaluation of the student's study results within the study of the subject is carried out by a combination of continuous control during the teaching part of the semester (50%) with an examination during the examination period (50%).
Note: Detailed conditions are updated annually within the repository for digital support materials (LMS UPJŠ).

Learning outcomes:
The student acquires knowledge of the theoretical foundations and instrumentation in analytical chemistry.

Brief outline of the course:
Classification of instrumental analytical methods. Basic parts of analytical instruments. Comparison of range, accuracy, detection limit, selectivity and economic characteristics of analytical methods. Analytical signal and calibration. Detection limit. Standard addition method. Accuracy and precision. Spectral methods. Electromagnetic radiation. Analytical signal of the optical methods. Classification of spectral and optical analytical methods. Instrumentation of spectral methods. Basic parts of instruments in spectral analysis: optical elements, radiation sources, monochromators, detectors (scheme, principle, basic characteristics, advantages and disadvantages). Molecular spectrometry. Nephelometry and turbidimetry. Luminescence analysis. Infrared spectroscopy. Raman spectroscopy. Refractometry. Chiroptical methods. Mass spectroscopy. Atomic spectral methods. Atomic absorption spectroscopy. Atomic emission spectral analysis. Atomic fluorescence spectrometry. Separation and preconcentration methods. Classification of separation methods. Chromatographic and non-chromatographic separation methods. Basic characteristics of separation methods. Non-chromatographic separation methods. Chromatographic methods of separation. Classification of chromatographic methods. Elution characteristics. Liquid chromatography. Gas chromatography. Supercritical fluid chromatography. Basic parts of instruments in chromatography. Electroanalytical methods. Basic principle of electroanalytical methods and their division. Potentiometry. Polarography. Voltammetry. Electrogravimetry. Coulometry. Conductometry.

Recommended literature:

1. Labuda a kol. Analytická chémia. ISBN: 9788022742429, Vydavateľstvo: STU Bratislava, Rok vydania: 2014, Počet strán: 671
2. Christian G.D. Analytical Chemistry. John Wiley & Sons, Inc. New York – Chichester – Brisbane – Toronto – Singapore 1994.
3. Holtzclaw H.F., Jr., Robinson W.R. College Chemistry with Qualitation Analysis. D.C. Heath and Company 1988.

Course language:
Slovak

Notes:
The course is implemented by full-time or, if necessary, distance method using the MS Teams or BBB or a combined method. The form of teaching is specified by the teacher at the beginning of the semester and updated continuously.
A calculator is required to master the calculation exercises. Not a cell phone!

Course assessment
Total number of assessed students: 22

A	B	C	D	E	FX
18.18	31.82	13.64	9.09	27.27	0.0

Provides: prof. Mgr. Vasiľ Andruch, DSc.

Date of last modification: 15.07.2022

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of ECTS credits: 2

Recommended semester/trimester of the course: 3.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 54

A	B	C	D	E	FX
37.04	38.89	14.81	7.41	1.85	0.0

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

Date of last modification: 14.09.2024

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚGE/ ZEX1/21	**Course name:** International Excursion 1
Course type, scope and the method: **Course type:** Practice **Recommended course-load (hours):** **Per week: Per study period:** 10d **Course method:** present	
Number of ECTS credits: 4	
Recommended semester/trimester of the course: 4.	
Course level: I.	
Prerequisities:	
Conditions for course completion:	
Learning outcomes:	
Brief outline of the course:	
Recommended literature:	
Course language:	
Notes:	
Course assessment Total number of assessed students: 33	

abs	n
96.97	3.03

Provides: doc. Mgr. Ladislav Novotný, PhD., Mgr. Loránt Pregi, PhD., Mgr. Marián Kulla, PhD.
Date of last modification: 27.06.2022
Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ UECH/08	**Course name:** Introduction to Environmental Chemistry

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: 3., 4..

Course level: I.

Prerequisities:

Conditions for course completion:
Continuous test. Active participation in exercises - elaboration of semester work. Passing the final examination in the form of a written test.

Learning outcomes:
Introduction to topics in environmental chemistry and basic procedures applied for environmental protection. Discusses current and future environmental problems and possibilities how to solve them from chemichal point of view.

Brief outline of the course:
Introduction to Environmental Chemistry
Chemical aspects of pollution and environmental problems. Composition and behavior of the atmosphere. Energy balance of the Earth and climate changes. Principles of photochemistry, photoprocesses in the atmosphere. Petroleum, hydrocarbons and coal (characteristics, sources and environmental pollution). Soaps, polymers and synthetic surfactants. Haloorganics and pesticides. Environmental chemistry of some important elements (C, N, S, P, halogens, biologically important metals ...). Environmental chemistry in aqueous media. Aqueous systems, parameters, cycles and their protection. The Earth´s crust (rocks, minerals, soils). Natural and artificial radioactivity, utilization. Energy and energy sources (fossil fuels, nuclear, geothermal, solar energy, wind and water energy). Solid waste disposal and recycling.

Recommended literature:
1. Gary W. van Loon, Stephen J. Duffy : Environmental Chemistry - A Global Perspective, Oxford University Press, Oxford 2003
2. R.A. Bailey, H.M. Clark, J.P. Ferris, S. Krause, R.L. Strong : Chemistry of the Environment, Academic Press, San Diego 2002
3. G. Schwedt: The Essential Guide to Environmental Chemistry, Wiley and Sons, London 2001
4. R.N. Reeve, J.D. Barnes: General Environmental Chemistry, Wiley, London 1994
5. G. Burton, J. Holman, G. Pilling, D. Waddington: Chemical Storylines, Heinemann, Oxford, London 1994
6. www

Course language:

Notes:
Based on the current pandemic situation in Slovakia and in accordance with the conditions of the Faculty of Natural Sciences of UPJŠ in Košice, the education and examination can also be carried out in a distance form. The tutorial will be carried out in the form of online lectures and consultings in the BigBlueButton system. The written form of the exam takes place through the Google Forms app. Students prepare responses to the final written test. Test questions are randomly generated each time. The final oral exam is conducted through a webinar in BigBlueButton https://bbb.science.upjs.sk/b) system with online generation of random question numbers.

Course assessment
Total number of assessed students: 1

abs	n
100.0	0.0

Provides: doc. RNDr. Andrea Straková Fedorková, PhD.

Date of last modification: 18.07.2022

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

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: 2206

abs	n
89.39	10.61

Provides: doc. RNDr. Marián Kireš, PhD.
Date of last modification: 30.08.2022
Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of ECTS credits: 2

Recommended semester/trimester of the course: 6.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 9

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

Provides: RNDr. Stela Csachová, PhD., doc. RNDr. Ján Kaňuk, PhD.

Date of last modification: 27.06.2022

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of ECTS credits: 3

Recommended semester/trimester of the course: 3.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 71

A	B	C	D	E	FX
61.97	33.8	4.23	0.0	0.0	0.0

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

Date of last modification: 30.09.2021

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚMV/ MTCa/22	**Course name:** Mathematics I for chemists

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

Number of ECTS credits: 5

Recommended semester/trimester of the course: 1., 3.

Course level: I.

Prerequisities:

Conditions for course completion:
To complete the course, it is necessary to demonstrate the acquirement of basic mathematical terms and the ability to solve problems from selected thematic units.
The evaluation of the subject is according to the results from the semester and in view of the results of the written final test. During the semester, students write tests at all seminars (together 20 points) and two extensive tests (together 50 points). It is necessary to obtain at least 28 points during the semester. Then students may write the exam. To pass the exam, it is necessary to obtain at least 12 points from the maximum number of 30 points. The scale for student evaluation is as follows: 100-80-A, 79-70-B, 69-60-C, 59-50-D, 49-40-E. If a student does not achieve the required mninimal number of points from the exam test (12 points) and during the semester (together 28 points), he/she is evaluated by FX.

Learning outcomes:
After completing the course, the student can use basic mathematical terms, can solve various equations and inequations, and is acquainted with basic mathematical knowledge from the differential and integral calculus, and is able to apply the theory in concrete excercises.

Brief outline of the course:
Week 1-6: Definition of function. Domain and range of functions. Elementary functions. Inverse functions. Compositions of functions.
Week 7-14: Limit of functions. Continuity of functions. Derivation and its geometric aplications. Indefinite integrals, basic methods of integration. Definite integral and its applications.

Recommended literature:
Huťka, Benko, Ďurikovič: Matematika, Alfa, Bratislava 1991
D. Studenovská, T. Madaras, S. Mockovčiak: Zbierka úloh z matematiky pre nematematické odbory, UPJŠ 2006
D. Studenovská, T. Madaras: Matematika pre nematematické odbory, UPJŠ 2006
S. Lang: A First Course in Calculus, Springer Verlag, 1998

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 640

A	B	C	D	E	FX
11.41	10.94	16.41	21.09	28.28	11.88

Provides: RNDr. Jana Borzová, PhD., RNDr. Miriam Kleinová, PhD., RNDr. Miriama Kmeciková, RNDr. Monika Krišáková

Date of last modification: 18.04.2022

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of ECTS credits: 2

Recommended semester/trimester of the course: 5.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 63

A	B	C	D	E	FX
84.13	12.7	3.17	0.0	0.0	0.0

Provides: Mgr. Zuzana Vagaská, PhD.

Date of last modification: 18.09.2024

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of ECTS credits: 2

Recommended semester/trimester of the course: 1.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 138

A	B	C	D	E	FX
42.03	46.38	8.7	0.72	0.0	2.17

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

Date of last modification: 27.06.2022

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of ECTS credits: 3

Recommended semester/trimester of the course: 6.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 15

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

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

Date of last modification: 27.06.2022

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of ECTS credits: 3

Recommended semester/trimester of the course: 5.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 13

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

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

Date of last modification: 27.06.2022

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

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

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

Number of ECTS credits: 3

Recommended semester/trimester of the course: 2.

Course level: I.

Prerequisities:

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

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

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

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

Recommended literature:

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

Course language:

Notes:

Course assessment

Total number of assessed students: 28

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

Provides: doc. RNDr. Ján Kaňuk, PhD., Mgr. Jozef Šupinský, PhD., Mgr. Loránt Pregi, PhD.

Date of last modification: 27.06.2022

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of ECTS credits: 3

Recommended semester/trimester of the course: 6.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 25

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

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

Date of last modification: 05.09.2024

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of ECTS credits: 4

Recommended semester/trimester of the course: 6.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 152

A	B	C	D	E	FX
41.45	25.0	21.71	9.21	0.66	1.97

Provides: doc. Ing. Katarína Bónová, PhD.

Date of last modification: 30.09.2021

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

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: 242

A	B	C	D	E	FX
40.08	41.32	16.94	0.83	0.41	0.41

Provides: PaedDr. Michal Novocký, PhD.

Date of last modification: 12.03.2024

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚCHV/ OCHU/21	**Course name:** Organic chemistry

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

Number of ECTS credits: 5

Recommended semester/trimester of the course: 2.

Course level: I.

Prerequisities: ÚCHV/VCHU/15 or ÚCHV/VCHU/14 or ÚCHV/VCHU/10 or ÚCHV/VACH/10

Conditions for course completion:
Written test. Two tests, in 7th and 14th week. Test max 50 points. A student must obtain at least 51% of points. Writing of the tests is mandatory.
Written exam, 100 points. 69 Theoretical questions (69 points), 62 chemical formulas (31 points). A student must obtain at least 51% of points. Final evaluation: A 91-100 pts, B 81-90 pts, C 71-80 pts, D 61-70 pts, E 51-60 pts, FX 0-50 pts.

Learning outcomes:
Basic organic chemistry course.
Nomenclature of organic compounds, their chemical properties, structure, reactivity and characteristic reactions. Preparation of organic molecules, explanation of the basic mechanisms and principles of organic reactions.
After completing the subject, the student understands the studied theories, principles, methods and logical procedures of organic chemistry. He has knowledge of modern organic chemistry with an emphasis on the current development of knowledge in the aforementioned area.

Brief outline of the course:
Chemical bonding Hybridization and Bonding Covalent bonds Double bonds and Triple Bonds Structural Formulas of Organic Molecules Polar Covalent Bonds and Electronegativity Constitutional Isomers Alkenes Electrophilic Additions Strong Brønsted Acids Lewis Acids (non-Proton Electrophiles) Electrophilic Halogen Reagents Other Electrophilic Reagents Reduction Oxidation Radical Additions Allylic Substitution Alkynes Addition Reactions Hydrogenation Electrophiles Hydration & Tautomerism Hydroboration Nucleophilile Addition & Reduction Acidity of Terminal Alkynes (Substitution of H) Alkyl Halides General Reactivity Substitution(of X) SN2 Mechanism SN1 Mechanism Elimination (of HX) Summary of Substiution vs. Elimination Substitution by Metals Elimination Reactions of Dihalides Alcohols Reactions of Alcohols Substitution of the Hydroxyl H Substitution of the Hydroxyl Group Elimination of Water Oxidation of Alcohols Reactions of Phenols Acidity of Phenols Ring Substitution of Phenols Oxidation to Quinones Aromatic compounds Electrophilic Substitution A Substitution Mechanism Reactions of Substituted Benzenes Reaction Characteristics Reactions of Disubstituted Rings Reactions of Substituent Groups Nucleophilic Substitution, Elimination & Addition Reactions Amines Basicity of Nitrogen Compounds Acidity of Nitrogen Compounds Important Reagent Bases Reactions of

Amines Electrophilic Substitution at Nitrogen Preparation of 1°-Amines Preparation of 2° & 3°-Amines Reactions with Nitrous Acid Reactions of Aryl Diazonium Intermediates Elimination Reactions of Amines Oxidation States of Nitrogen Basic information: Aldehydes & Ketones Carboxylic Acids Derivatives of Carboxylic acids Natural products

Recommended literature:

1. Organic chemistry, J. Clayden, N. Greeves Warren, S. Wothers, Oxford University Press, 2012, ISBN 978-0-19-92-7029-3.
2. Organic chemistry, J. E. McMurry, Brooks/Cole, a Thomson Learning Company 2004, Sixth Eddition, ISBN 0534389996.
3. Organic chemistry, P. Zahradník, M. Mečiarová, P. Magdolen, Univerzita Komenského v Bratislave, 2019, ISBN: 978-80-223-4589-7.

Course language:

anglický

Notes:

Teaching is carried out in person or, if necessary, online using the MS Teams tool. The form of teaching is specified by the teacher at the beginning of the semester, updated continuously.

Course assessment

Total number of assessed students: 83

A	B	C	D	E	FX
12.05	9.64	22.89	42.17	12.05	1.2

Provides: RNDr. Slávka Hamuľaková, PhD., univerzitná docentka, doc. RNDr. Miroslava Martinková, PhD., univerzitná profesorka, doc. RNDr. Mária Vilková, PhD.

Date of last modification: 04.08.2022

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ POCHU/15	**Course name:** Organic chemistry - Lab.

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

Number of ECTS credits: 4

Recommended semester/trimester of the course: 3.

Course level: I.

Prerequisities: ÚCHV/OCHU/03 or ÚCHV/OCHU/21

Conditions for course completion:
100% participations in practical exercises.
Two written tests 2 x 25 pts (a minimum of 13 points must be obtained in each test), twelve reports 12 x 2 pts, laboratory skills 12 pts, short quizzes and questions 14 pts.
A 100 pts. in total.
Assessment A: 91-100; B: 81-90; C: 71-80; D: 60-71; E: 51-60; FX: 0-50 pts.

Learning outcomes:
Students will become familiar with the basic isolation and purification methods used in a synthetic laboratory. Students should master basic laboratory technique and be able to apply the theoretical knowledge from the basic course of organic chemistry in simple synthetic projects.

Brief outline of the course:
Preparation, isolation, purification and identification of organic compounds. The emphasis is on gaining the experimental skills in synthesis of organic compounds, distillation, extraction, crystallization, sublimation and thin-layer chromatography.
1. Isolation and purification methods - crystallization
2. Isolation and purification methods - distillation
3. Preparation of ethyl acetate
4. Preparation of acetylsalicylic acid
5. Preparation of benzalaniline
6. Spectral methods in organic chemistry
7. Preparation of acetophenone oxime
8. Preparation of benzilic acid
9. Preparation of 4,5-diphenylimidazole
10. Isolation of caffeine from tea
11. Isolation of trimyristin from nutmeg

Recommended literature:
1. Handout with experimental procedures http://kekule.science.upjs.sk/pochu.
2. Organic chemistry lectures.

Course language:

Slovak

Notes:

Course assessment
Total number of assessed students: 251

A	B	C	D	E	FX
54.58	27.89	10.76	5.98	0.8	0.0

Provides: RNDr. Slávka Hamuľaková, PhD., univerzitná docentka, RNDr. Ján Elečko, PhD., RNDr. Jana Špaková Raschmanová, PhD., doc. RNDr. Mariana Budovská, PhD., RNDr. Kvetoslava Stanková, PhD.

Date of last modification: 28.01.2022

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ OCH1b/21	**Course name:** Organická chémia 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: 3., 5.

Course level: I.

Prerequisities:

Conditions for course completion:
Written test. Two tests, in 7th and 14th week. Test max 50 points. A student must obtain at least 51% of points from each test. Writing of the tests is mandatory.
Written exam, 100 points. 69 Theoretical questions (69 points), 62 chemical formulas (31 points). A student must obtain at least 51% of points. Final evaluation: A 91-100 pts, B 81-90 pts, C 71-80 pts, D 61-70 pts, E 51-60 pts, FX 0-50 pts.

Learning outcomes:
The advanced organic chemistry. The structure, reactivity and synthesis of organic compounds with careful explanations of difficult concepts and reaction mechanisms.
After completing the subject, the student has deeper knowledge of organic chemistry, knows how to connect the properties of organic compounds with their structure and reactivity. He can explain the principles of the mechanisms of organic reactions and propose syntheses of various groups of organic compounds (also multi-stage).
The student understands the studied theories, principles, methods and logical procedures of advanced organic chemistry. He has knowledge of modern trends in the field of organic chemistry with an emphasis on the current development of knowledge in the aforementioned field.

Brief outline of the course:
Ethers - their nomenclature, preparation and reactions. Sigmatropic rearrangements, their selectivity. Preparation and reactions of epoxides.
Nitrogen compounds, Amines, their nomenclature, basicity and nucleophilicity, preparation amines, their reactions. Diazonium salts, their preparation and reactions. Nitro compounds, their preparation and reactions. Nitroso compounds, oximes, hydrazones, nitroaldol reaction.
Carbonyl compounds - aldehydes and ketones, their nomenclature and reactivity. Nucleophilic additions, addition of the primary and secondary amines and related nitrogen reagents, the aldol reaction, self-condensations, cross-condensations and related reactions. Claisen condensation and its variants. Alkylation of enolates and their applications. Benzilic acid rearrangement, Benzoin condensation, Cannizzaro reaction, Mannich reaction, Reformatsky reaction, Perkin synthesis, Knoevenagel condensation, Julia olefination, Julia-Kocienski and Petersen olefination, Wittig reaction, HWE olefination, Baylis-Hillman reaction, Darzens reaction, Baeyer-Villiger oxidation, conjugate addition, Michael addition (Michael's donors and acceptors), Robinson annulation.

Carboxylic acids, their nomenclature, properties and preparation. Reactions of carboxylic acids, Esterification. Carboxylic acid derivatives (acyl halides, anhydrides, esters, amides, – their nomenclature, properties, preparation and reactions). β-Oxoesters – their preparation and reactions. Acyloin condensation, Arndt-Eistert synthesis, Hofmann degradation, Lossen degradation, Curtius rearrangement, Wolff rearrangement.
Amino acids – their stereochemistry, properties, preparation and reactions, peptide bond - its structure, synthesis of peptides, the protective groups for amino acids.
Saccharides - classification, their nomenclature and stereochemistry. Fischer and Haworth projection, conformation of saccharides, reaction of saccharides (oxidation, reduction, production of the glycosidic bond). The protective groups. Oligosaccharides, polysaccharides.
Nucleotides and nucleic acids (structure of nucleoside, saccharides in NA, purine and pyrimidine bases in NA). Examples of nucleotides in RNA and DNA.
Heterocyclic compounds. Five and six membered heterocyclic compounds.
Terpenes, stereoids and alkaloids - their classification and properties.

Recommended literature:

Recommended literature:

1. J. Clayden, N. Greeves, S. Warren, P. Wothers: Organic Chemistry, Oxford University Press, 2012.
2. Solomons T.W. Graham: Solomon’s Organic Chemistry, Willey&Sons Inc., 2017.
3. J. E. McMurry: Organic Chemistry, Vysoké učení technické v Brne, 2007, VUTIUM, ISBN: 978-80-214-3291-8 (VUT v Brne).
4. J. E. McMurry: Organic Chemistry, Cengage, 2015.

Course language:

english

Notes:

Teaching is carried out in person or, if necessary, online, using the MS Teams tool. The form of teaching is specified by the teacher at the beginning of the semester, updated continuously.

Course assessment

Total number of assessed students: 22

A	B	C	D	E	FX
9.09	18.18	18.18	22.73	27.27	4.55

Provides: doc. RNDr. Miroslava Martinková, PhD., univerzitná profesorka

Date of last modification: 04.08.2022

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of ECTS credits: 2

Recommended semester/trimester of the course: 3.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 1155

A	B	C	D	E	FX
23.81	28.57	22.68	13.85	9.18	1.9

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

Date of last modification: 14.09.2024

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ FCHU/22	**Course name:** Physical Chemistry

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: 4.

Course level: I.

Prerequisities: ÚCHV/VCHU/14 or ÚCHV/VCHU/10 or ÚCHV/VACH/10 or ÚCHV/VCHU/15

Conditions for course completion:
Active participation in seminars. Two partial tests from computational seminars, each must be mastered at A-E. In the case of distance learning, it is necessary to prepare 2 assignments, each must be mastered at 80%.
Examination, unerstanding of three thematic areas of the subject (thermodynamics, electrochemistry, kinetics), must be mastered at A-E.

Learning outcomes:
Acquirement of the basics knowledgements of physical chemistry within the chapters: thermodynamics, phase equilibria, chemical equilibria, electrochemistry, chemical kinetics.

Brief outline of the course:
Fundamental concepts of thermodynamics, thermochemistry, chemical equilibrium, phase equilibria and diagrams, laws for ideal gas and reals gases, liquids, solutions, solutions of electrolytes. Electrochemistry: ionics and electrodics. Electrodes and electrochemical cells, corrosion. Chemical kinetics, catalysis. Adsorption.

Recommended literature:
T. Engel, P. Reid: Physical Chemistry, Pearson Educat. Inc., San Francisco 2006
P.W. Atkins: Physical Chemistry, Oxford University Presss, Oxford 1986, 1990, 1996
W.J. Moore: Physical Chemistry, Longman, London 1972 and newer editions

Course language:

Notes:
Teaching is carried out in person. If a distance form is required, the lectures will take place online, using the BigBlueButton (https://bbb.science.upjs.sk/). Other conditions will be specified by the teacher.

Course assessment
Total number of assessed students: 43

A	B	C	D	E	FX
30.23	11.63	20.93	18.6	11.63	6.98

Provides: RNDr. Ján Macko, PhD., RNDr. Ivana Šišoláková, PhD., univerzitná docentka, prof. RNDr. Renáta Oriňaková, DrSc., Mgr. Frederika Chovancová
Date of last modification: 22.07.2022
Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚCHV/ FCH1b/10	**Course name:** Physical Chemistry II

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: 6.

Course level: I.

Prerequisities: ÚCHV/FCH1a/03 or ÚCHV/FCH1a/21 or ÚCHV/FCHU/10

Conditions for course completion:
1. Participation in seminars (also applies to the online form of teaching). Students are required to attend seminars. The relevant teacher who leads the seminar will justify the reasoned absence of the student (incapacity for work, family reasons, etc.) in a maximum of two seminars during the semester without the need for replacement. In the event of a longer-term reasoned absence (for example due to incapacity for work), the relevant teacher will provide the student with an alternative form of mastering the missed material.
2. Activity at seminars. The preparation of students and their regular monitoring is always assessed by the relevant teacher who conducts the seminar, within his/her competence.
3. Two tests from computational exercises, usually in the 6th and 12th week of the semester. To successfully pass each test, it is necessary to obtain at least 8 points (out of 15 points). Successful completion of continuous tests is a condition of admission to the oral exam.
4. The exam is observed in a regular oral form, resp. in case of restrictions of contact forms of the pedagogical process, the exam is performed by a suitable distance - electronic form.
5. To successfully master the subject, it is necessary to prove mastery of the required curriculum at least 51%.

Learning outcomes:
Students will gain knowledge about the principles that govern the speed of chemical processes, the kinetics and mechanism of some selected reactions, the balance and kinetics of electrode processes. They will also learn the basics of electrochemistry and catalysis.

Brief outline of the course:
Electrochemistry. Equilibrium homogeneous processesn electrolyte solutions. Charge transfer in electrolyte solutions. Nonequilibrium homogeneous processes. Trnasport processes in electrolyte solutions. Conductance and molar conductivity. Hindering effects. Transport numbers. Equilibrium in heterogeneous electrochemical systems. Pocesses on charged interfaces. Electrochemical cells and fuel cells. Classification of electrode types. Concentration cells. Electrolysis. Electrochemical power sources. Potentiometry. Electrical double layer. Surface tension.
Chemical kinetics. Homogeneous processes. Reaction rate. Reaction order. Classification of chemical reactions. Elementary chemical reactions. Mechanism and kinetics equations of complicated chemical processes. Methods of rate low determination. Theory of chemical kinetics.

Ttemperature dependence of reaction rates. Collision theory. Activated complex theory. Chain reactions. Structure and rate lows of chain reactions. Explosion. Polymerisation reactions. Photochemical reactions. Catalysis. Theory of homogeneous catalysis. Chemical oscillation reactions. Heterogeneous processes. Difusion. Physical and chemical adsorption. Adsorption and diffusion. Processes in heterogeneous electrochemical systems. Electrode kinetics, activation and diffusive mechanism of charge transfer.
Application of theoretical relationships on the solving of concrete problems and on the calculation of examples during seminars.

Recommended literature:

T. Engel, P. Reid : Physical Chemistry, Pearson Educat. Inc., San Francisco 2006
P.W. Atkins : Physical Chemistry,Oxford University Presss, Oxford 1986, 1990, 1994, 1998
W.J. Moore : Physical Chemistry,Longman, London 1972 and newer editions

Course language:
Slovak language

Notes:
Teaching is carried out in person or, if necessary, remotely using the bbb or MS Teams tool.
The form of teaching is specified by the teacher at the beginning of the semester, updated continuously.

Course assessment
Total number of assessed students: 623

A	B	C	D	E	FX
15.41	18.62	22.47	18.46	21.35	3.69

Provides: prof. RNDr. Renáta Oriňaková, DrSc., RNDr. Jana Shepa, PhD., RNDr. Ján Macko, PhD., RNDr. Ivana Šišoláková, PhD., univerzitná docentka

Date of last modification: 25.11.2021

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

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

Course assessment
Total number of assessed students: 43

abs	n
100.0	0.0

Provides: RNDr. Dušan Barabas, CSc., RNDr. Alena Gessert, PhD., univerzitná docentka, Mgr. Imrich Sládek, PhD.
Date of last modification: 27.06.2022
Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of ECTS credits: 5

Recommended semester/trimester of the course: 4.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 75

A	B	C	D	E	FX
13.33	26.67	29.33	12.0	6.67	12.0

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

Date of last modification: 14.02.2023

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚFV/ FPCh/21	**Course name:** Physics for Chemists

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

Number of ECTS credits: 5

Recommended semester/trimester of the course: 1.

Course level: I.

Prerequisities:

Conditions for course completion:
Two written examinations during the semester, where students apply the new knowledge by solving problems.
Oral exam where students present theoretical knowledge of the thematic areas listed in the syllabus.

Learning outcomes:
Completing the course students will get knowledge of fundamental physical laws and will understand their relation to chemistry.

Brief outline of the course:
1. Kinematics of a point mass.
- Average and instantaneous velocity, 1D and 3D.
- Acceleration of a point mass (free fall, angled shot).
- Steady movement on a circle.
2. Dynamics of a mass point I.
- Newton's laws, applications. Different types of forces. Friction.
3. Dynamics of a mass point II.
- Mechanical work.
- Kinetic energy.
- Conservative force field, potential energy (gravitational, springs).
- The law of conservation of mechanical energy.
- The power.
4. System of mass points and rigid bodies I.
- Center of gravity. 1st impulse theorem.
- The law of momentum conservation.
5. System of mass points and rigid bodies II.
- Rotary motion. Angular momentum, moment of inertia. 2nd impulse theorem.
- The law of angular momentum conservation. Kinetic energy of rotational motion of rigid bodies.
- Balance.
6. Fluid mechanics I.
- Ideal fluid. Density and pressure.
- Hydrostatics, pressure measurement. Pascal's law. Archimedes' law.

7. Fluid mechanics II.
- Fluid dynamics.
- Continuity equation.
- Bernoulli equation, applications.
8. Molecular physics and thermodynamics I.
- Molecular structure of substances (osmosis, Brownian motion).
- Amount of substances, molar mass, Avogadro's law.
- Internal energy. Temperature and its measurement (Celsius, Kelvin).
- Heat, heat capacity. Latent heat.
9. Molecular physics and thermodynamics II.
- Ideal gas: state equation, internal energy, speed distribution.
- I. law of thermodynamics. Isothermal, adiabatic and cyclic processes.
- Heat transfer: conduction, convection, radiation.
- II. law of thermodynamics. Entropy.
- Heat engines, Carnot cycle.
10. Electricity and magnetism I.
- Electric charge. Coulomb's law. Electric field intensity and potential (voltage).
- Capacitor, capacity.
- Electric current. Ohm's law. Electrical power. Kirchhoff's laws.
11. Electricity and magnetism II.
- Magnetism. Magnetic induction, Lorentz force. Ampere's force. Biot-Savart law.
- Faraday's law of electromagnetic induction. Lenz's law.
12. Modern physics
- Relativity. Introduction to quantum physics.
- Atomic physics. Nuclear physics, applications. Elementary particles and cosmology.

Recommended literature:

1. V. Hajko, J. Daniel-Szabó: Základy fyziky. Veda, Bratislava, 1980.
2. Š. Veis, J. Maďar, V. Martišovič: Všeobecná fyzika 1, Mechanika a molekulová fyzika. Alfa, Bratislava, 1978.
3. P. Čičmanec: Všeobecná fyzika 2, Elektrina a magnetizmus. Alfa, Bratislava, 1980.
4. R.P. Feynman, R.B. Leighton, M. Sands: Feynmanove prednášky z fyziky 1-5. Alfa, Bratislava, 1985.
5. V. Hajko a kol.: Fyzika v príkladoch. Alfa, Bratislava, 1983.

Course language:
Slovak language.

Notes:

Course assessment
Total number of assessed students: 206

A	B	C	D	E	FX
26.7	22.33	24.76	12.62	13.59	0.0

Provides: doc. Mgr. Gregor Bánó, PhD., RNDr. Zuzana Jurašeková, PhD., Mgr. Andrej Hovan, PhD.

Date of last modification: 22.09.2021

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of ECTS credits: 5

Recommended semester/trimester of the course: 6.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 16

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

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

Date of last modification: 27.06.2022

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of ECTS credits: 5

Recommended semester/trimester of the course: 2.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 123

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

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

Date of last modification: 19.02.2024

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ ADP/03	**Course name:** Porous materials and their applications

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: 6.

Course level: I., II., III.

Prerequisities:

Conditions for course completion:
Written test in the middle and the end of the semester.

Learning outcomes:
To make the acquaintance of various types of advanced porous solids and basic methods for their investigation. To gen up the students with the methods used in characterisation of specific surface area and pore size of different types of porous materials.

Brief outline of the course:
Terminology and principal terms associated with powders, porous solids and adsorption. Methodology of adsorption at the gas-solid interface, liquid-solid interface. Assessment of surface area and porosity. Inorganic materials (active carbon, metal oxides, zeolites, clay minerals, new advanced materials) and phenomenon of adsorption. Application in the industry and everyday life.

Recommended literature:
1. F. Rouquerol, J. Rouquerol, K. Sing: Adsorption by powders and porous solids, Academic press, London, UK, 1999
2. S. J. Gregg, K.S.W. Sing: Adsorption, surface area and porosity, Academic Press, London,, UK, 1982.
3. V. Zeleňák: Adsorption and porosity of solid substances, internal study text, PF UPJŠ, 2020.

Course language:

Notes:
The course is standardly realized in full-time form, in case of necessary circumstances by distance.

Course assessment
Total number of assessed students: 104

A	B	C	D	E	FX	N	P
77.88	9.62	3.85	0.0	0.0	0.0	0.0	8.65

Provides: prof. RNDr. Vladimír Zeleňák, DrSc.

Date of last modification: 21.11.2021

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

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:
Students will acquire basic knowledge concerning the reasons for founding Positive psychology, its main theory, current research, as well as application of Positive psychology as a new and rapidly developing field within psychology. Students will also gain experience in applying 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 critically evaluate 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: 462

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

Provides: Mgr. Jozef Benka, PhD.

Date of last modification: 24.06.2022

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/PACHU/03	**Course name:** Practical from Inorganic Chemistry

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

Number of ECTS credits: 4

Recommended semester/trimester of the course: 2.

Course level: I.

Prerequisities: ÚCHV/VCHU/14 or ÚCHV/VCHU/15 or ÚCHV/VCHU/10 or ÚCHV/VACH/10

Conditions for course completion:

Learning outcomes:
Acquisition of practical skills and knowledge necessary for work in a chemical laboratory in the preparation of inorganic and other compounds, in the preparation of solutions, methods of distillation and other basic techniques of work in the laboratory. Students will also be able to perform basic characterization of substances and proof reactions.

Brief outline of the course:
The utilization of common laboratory techniques for preparation of elements (H2, O2, Cu, Ni), oxides(CO2, Al2O3·xH2O), nitrides(Mg3N2), acids (HNO3, H3BO3), salts((NH4)2SO4, KMnO4), binary salts(NH4)Fe(SO4)2·12H2O), halides (CuCl, CuCl2·2H2O, CuBr2) and coordination compounds [Cu(NH3)4]SO4·H2O, K3[Al(C2O4)3]·3H2O).

Recommended literature:
J. Černák, J. Bubanec, M. Dzurillová, V. Zeleňák: Praktikum z anorganickej chémie. UPJŠ Košice, 1999.
Z. Vargová, J. Kuchár: Základné praktikum z anorganickej chémie, UPJŠ, Košice, 2009.
Z.Vargova, M.Almáši, J. Kuchár, J.Dinajová: Základné laboratórne cvičenia z anorganickej chémie, ŠafárikPress, 2020.

Course language:

Notes:

Course assessment
Total number of assessed students: 661

A	B	C	D	E	FX
54.16	27.08	13.77	2.57	1.66	0.76

Provides: doc. RNDr. Juraj Kuchár, PhD., RNDr. Martin Vavra, PhD., RNDr. Miroslava Matiková Maľarová, PhD., prof. RNDr. Zuzana Vargová, Ph.D., Mgr. Michaela Rendošová, PhD.

Date of last modification: 22.07.2022

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚCHV/PFCU/22	**Course name:** Practical in Physical Chemistry

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

Number of ECTS credits: 4

Recommended semester/trimester of the course: 5.

Course level: I.

Prerequisities: ÚCHV/FCHU/21 or ÚCHV/FCHU/22 or ÚCHV/FCHU/10

Conditions for course completion:
1. Adequate theoretical preparation for individual tasks of experimental practice according to the recommended literature.
2. Passing tasks with relevant results.
3. Processing of experimental work results in the form of a protocols and its acceptance.
4. Assessment of theoretical knowledges and practical skills.
<p>
In the case of distance learning:
1. Elaboration of a paper on a selected topic and its presentation.
2. Theoretical preparation in the form of protocols, where the basic principles of individual tasks are stated.
3. Teaching is realized in blocks without limiting the scope in the alternative term.

Learning outcomes:
Theoretical principles, description of each technique and appropriate physical chemistry experiments.

Brief outline of the course:
Experimental verification of theoretical knowledge on thermodynamics, thermochemistry, chemical equilibria (determination of enthalpy, phase diagrams), colligative properties (cryoscopy, ebulioscopy), adsorption.
Experimental verification of theoretical knowledge on electrochemistry (conductivity, dissociation constants, activity coefficients, electromotive force of galvanic cell, Daniell cell, potentials, polarography) and chemical kinetics (determination of rate constants).

Recommended literature:
B.P. Levitt: Findlay´s Practical Physical Chemistry, Longman, London 1973
W.J. Moore: Physical Chemistry, Longman, London 1972
P.W. Atkins: Physical Chemistry, Oxford University Press, Oxford, New York 2002

Course language:

Notes:

Teaching is carried out in person. If a distance form is required, the conditions will be specified by the teacher.

Course assessment
Total number of assessed students: 47

A	B	C	D	E	FX
97.87	2.13	0.0	0.0	0.0	0.0

Provides: RNDr. František Kaľavský, RNDr. Jana Shepa, PhD., RNDr. Ján Macko, PhD., RNDr. Radka Gorejová, PhD.

Date of last modification: 22.07.2022

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of ECTS credits: 2

Recommended semester/trimester of the course: 3.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 870

A	B	C	D	E	FX
37.47	21.15	15.98	12.41	11.26	1.72

Provides: doc. Mgr. Gabriel Baník, PhD.

Date of last modification: 24.06.2022

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

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: 230

A	B	C	D	E	FX
41.74	25.22	26.52	4.78	1.3	0.43

Provides: Mgr. Ondrej Kalina, PhD.

Date of last modification: 12.09.2024

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of ECTS credits: 5

Recommended semester/trimester of the course: 6.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 43

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

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

Date of last modification: 27.06.2022

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of ECTS credits: 3

Recommended semester/trimester of the course: 5.

Course level: I., II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 11

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

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

Date of last modification: 20.06.2022

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: KPPaPZ/RKS/14	**Course name:** Resolving Conflict Situations in Educational Practice
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: 4	
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: 179

abs	n
94.41	5.59

Provides: PhDr. Anna Janovská, PhD.
Date of last modification: 27.05.2024
Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

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: 325

A	B	C	D	E	FX
45.23	29.85	14.46	6.46	3.38	0.62

Provides: PaedDr. Michal Novocký, PhD.

Date of last modification: 14.09.2024

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

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: 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:
Completion: passed
Condition for successful course completion:
- active participation in line with the study rule of procedure and course guidelines
- effective performance of all tasks- aerobics, water exercise, yoga, Pilates and others

Learning outcomes:
Content standard:
The student demonstrates relevant knowledge and skills in the field, which content is defined in the course syllabus and recommended literature.
Performance standard:
Upon completion of the course students are able to meet the performance standard and:
- perform basic aerobics steps and basics of health exercises,
- conduct verbal and non-verbal communication with clients during exercise,
- organise and manage the process of physical recreation in leisure time

Brief outline of the course:
Brief outline of the course:
1. Basic aerobics – low impact aerobics, high impact aerobics, basic steps and cuing
2. Basics of aqua fitness
3. Basics of Pilates
4. Health exercises
5. Bodyweight exercises
6. Swimming
7. Relaxing yoga exercises
8. Power yoga
9. Yoga relaxation
10. Final assessment

Students can engage in different sport activities offered by the sea resort – swimming, rafting, volleyball, football, table tennis, tennis and other water sports in particular.

Recommended literature:
1. BUZKOVÁ, K. 2006. Fitness jóga. Praha: Grada. 167 s.

2. ČECHOVSKÁ, I., MILEROVÁ, H., NOVOTNÁ, V. Aqua-fitness. Praha: Grada. 136 s.
3. EVANS, M ., HUDSON, J., TUCKER, P. 2001. Umění harmonie: meditace, jóga, tai-či, strečink. 192 s.
4. JARKOVSKÁ, H., JARKOVSKÁ, M. 2005. Posilováni s vlastním tělem 417 krát jinak. Praha: Grada. 209 s.
5. KOVAŘÍKOVÁ, K. 2017. Aerobik a fitness. Karolium, 130 s.

Course language:
Slovak language

Notes:

Course assessment
Total number of assessed students: 62

abs	n
9.68	90.32

Provides: Mgr. Agata Dorota Horbacz, PhD.

Date of last modification: 29.03.2022

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of ECTS credits: 2

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

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 33

A	B	C	D	E	FX
66.67	18.18	12.12	3.03	0.0	0.0

Provides: PhDr. Dušan Hruška, PhD.

Date of last modification: 13.04.2022

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: KPPaPZ/ECo-C2/14	**Course name:** Self Marketing ECo-C2

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

Number of ECTS credits: 4

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

Course level: I.

Prerequisities:

Conditions for course completion:
1. Active participation in lessons (absence is allowed max. 90 min.), 2. Realization of assignments according to the teacher's instructions.
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 is able to understand and explain the basic assumptions of good self-marketing, knows the possibilities for the correct presentation of his own person and understands the related knowledge and principles of personal and communication area. He / she can understand his / her competencies, his / her goals, how to make his / her strengths visible and he / she can apply this knowledge and social and professional skills in the personal and professional sphere of his / her life, which will also improve his / her employment opportunities.

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

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

VÝROST, Jozef - SLAMĚNÍK, Ivan. Aplikovaná sociální psychologie II. 1. vyd. Praha : Grada Publishing, 2001. 260 s.

Course language:
slovak

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

Course assessment
Total number of assessed students: 171

abs	n
90.64	9.36

Provides: Mgr. Ondrej Kalina, PhD.

Date of last modification: 12.09.2024

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

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

Course assessment
Total number of assessed students: 10

abs	n
90.0	10.0

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

COURSE INFORMATION LETTER

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

Course assessment
Total number of assessed students: 0

abs	n
0.0	0.0

Provides: RNDr. Dušan Barabas, CSc., doc. Ing. Katarína Bónová, PhD., RNDr. Alena Gessert, PhD., univerzitná docentka
Date of last modification: 27.06.2022
Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ASM/03	**Course name:** Separation Methods

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: 6.

Course level: I.

Prerequisities: (ÚCHV/ANCHU/03 or ÚCHV/ANCHU/21 or ÚCHV/ANCHE/09 or ÚCHV/ANCH1b/03 or ÚCHV/ANCH1b/21) and (ÚCHV/PAEC/03 or ÚCHV/PANCH/06 or ÚCHV/PANCHE/09 or ÚCHV/PACU/03)

Conditions for course completion:
1. Preparation and presentation of a project focused on the application of separation methods.
2. Examination. The exam consists of 3 questions (each of 33%), 50% must be obtained for the pass exam.

Learning outcomes:
Survey of basic principles, theoretical background and applications of separation methods in research and analytical practice.

Brief outline of the course:
Basic principles, classification, theory and applications of separation methods. Extraction - LLE, SPE, SPME. Chromatographic methods - theory, classification. Gas chromatography, stationary phases. Instrumentation, detectors in GC. Data evaluation - qualitative and quantitative analysis. High-performance liquid chromatography, principles, classification. Stationary and mobile phases in LC, instrumentation. Applications.
Planar chromatographic methods - TLC, HPTLC, PC.
Electrophoretic techniques and their applications.

Recommended literature:
Skoog D. A., Leary J. J.: Principles of instrumental analysis. Saunders College Publishing, New York 1997.
Pawliszyn J., Lord H. L.: Handbook of sample preparation, Wiley 2010.
Current scientific literature

Course language:
Slovak, english language

Notes:

Course assessment Total number of assessed students: 506					
A	B	C	D	E	FX
28.66	26.09	25.1	12.65	5.34	2.17
Provides: doc. RNDr. Taťána Gondová, CSc.					
Date of last modification: 01.08.2022					
Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.					

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of ECTS credits: 2

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

Course level: I.

Prerequisities:

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

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

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

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

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 201

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

Provides: Mgr. Ján Ruman, PhD.

Date of last modification: 13.04.2022

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

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:
Active participation in class and completed homework assignments. Students are allowed to miss 2 classes at the most (2x90 min.). 1 control tests during the semester and written assignments. Final grade will be calculated as follows: A 93-100 %, B 86-92%, C 79-85%, D 72-78%, E 65-71%, FX 64 % and less.

Learning outcomes:
The development of students´ language skills - reading, writing, listening, speaking, improvement of their linguistic competence - students acquire knowledge of selected phonological, lexical and syntactic aspects, development of pragmatic competence - students can efectively use the language for a given purpose, with focus on Academic English and English for specific/professional purposes - Natural Science , level B1.

Brief outline of the course:

Recommended literature:
Duden Basiswissen Schule. Abitur: Enthält die Bände Mathematik, Physik, Chemie, Biologie, Geographie, Geschichte. (2007). ISBN: 978-3411002511.
Zettl, E. et al.: Aus moderner Technik und Naturwissenschaft. Ismaning: Hueber, 2003.
Reiss, K.: Basiswissen Zahlentheorie: Eine Einführung in Zahlen und Zahlbereiche (Mathematik für das Lehramt), Springer, 2007. ISBN: 978-3540453772.
Meyer, L., Schmidt, G.- D.: Basiswissen Ausbildung: Physik. Bildungsverlag EINS, 2008. ISBN: 978-3427799337.
Duden. Schülerduden Biologie: Das Fachlexikon von A-Z. Bibliographisches Institut Berlin, 2009. ISBN: 978-3411054275.
Mortimer, Ch. E., Müller, U., Beck, J.: Chemie: Das Basiswissen der Chemie. Stuttgart: Thieme, 2014. ISBN: 978-313484311
Deutsch perfekt, GEO, MaxPlanck Forschung a iné printové a elektronické médiá

Course language:
German

Notes:

Course assessment
Total number of assessed students: 149

A	B	C	D	E	FX
24.16	23.49	24.16	20.13	7.38	0.67

Provides: Mgr. Ulrika Strömplová, PhD.

Date of last modification: 09.02.2023

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

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

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

Number of ECTS credits: 2

Recommended semester/trimester of the course: 1.

Course level: I., II.

Prerequisities:

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

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

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

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

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

Course language:
Slovak language

Notes:

Course assessment
Total number of assessed students: 15203

abs	abs-A	abs-B	abs-C	abs-D	abs-E	n	neabs
86.07	0.07	0.0	0.0	0.0	0.05	8.67	5.15

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

Date of last modification: 07.02.2024

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

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

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

Number of ECTS credits: 2

Recommended semester/trimester of the course: 2.

Course level: I., II.

Prerequisities:

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

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

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

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

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

Course language:
Slovak language

Notes:

Course assessment
Total number of assessed students: 13788

abs	abs-A	abs-B	abs-C	abs-D	abs-E	n	neabs
83.84	0.49	0.01	0.0	0.0	0.04	11.18	4.43

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

Date of last modification: 07.02.2024

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

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

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

Number of ECTS credits: 2

Recommended semester/trimester of the course: 3.

Course level: I., II.

Prerequisities:

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

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

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

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

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

Course language:
Slovak language

Notes:

Course assessment
Total number of assessed students: 9104

abs	abs-A	abs-B	abs-C	abs-D	abs-E	n	neabs
88.38	0.07	0.01	0.0	0.0	0.02	4.46	7.06

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

Date of last modification: 07.02.2024

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

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

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

Number of ECTS credits: 2

Recommended semester/trimester of the course: 4.

Course level: I., II.

Prerequisities:

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

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

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

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

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

Course language:
Slovak language

Notes:

Course assessment
Total number of assessed students: 5839

abs	abs-A	abs-B	abs-C	abs-D	abs-E	n	neabs
82.51	0.27	0.03	0.0	0.0	0.0	8.25	8.92

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

Date of last modification: 07.02.2024

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of ECTS credits: 3

Recommended semester/trimester of the course: 2.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 118

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

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

Date of last modification: 12.02.2023

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚCHV/MUSU/22	**Course name:** Structure determination - spectroscopic methods

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

Number of ECTS credits: 5

Recommended semester/trimester of the course: 6.

Course level: I.

Prerequisities: (ÚCHV/ACHU/21 or ÚCHV/ACHU/03) and (ÚCHV/ANCHU/21 or ÚCHV/ANCHU/03) and (ÚCHV/OCHU/21 or ÚCHV/OCHU/03)

Conditions for course completion:
1. Participation in exercises in accordance with the Study Rules of PF UPJŠ.
2. Successful execution of 3 control written works on exercises after 4., 8. and.12. weeks of teaching. Obtaining a minimum grade E from seminars.
The test consists of: 1. Solution of 2 structures of unknown compounds on the basis of combined application of spectral methods. 2. Theoretical and practical questions.
Percentage rating: 100-91% (A), 90-81% (B), 80-71% (C), 70-61% (D), 60-51% (E), 50% and less FX.

Learning outcomes:
Fundamentals of molecular spectroscopy and magnetic properties study, as powerful tools for structure determination in chemistry. Ultraviolet, visible, infrared and Raman spectroscopy, mass spectrometry and methods based on magnetic resonance (1H NMR, 13C NMR).

Brief outline of the course:
Fundamentals of molecular spectroscopy, mass spectrometry and magnetic methods as powerful tools for structure determination in chemistry. Ultraviolet and visible spectroscopy. Emission spectroscopy. Symmetry and group theory. Infrared and Raman spectroscopy. Mass spectrometry in organic and analytical chemistry and biochemistry. Nuclear magnetic resonance - NMR. Chemical shift and splitting of signals by spin-spin coupling. Coupling constants. 1H NMR, 13C NMR, NMR of other nuclei. Two- and more dimensional NMR. NMR applications. Methods and instruments used for spectra measurements. Combined application of spectral methods for solution of chemical problems.

Recommended literature:
1. Kováč Š., Ilavský D., Leško J.: Spektrálne metódy v organickej chémii a technológii, ALFA, Bratislava, 1987.
2. Milata V., Segľa P.: Vybrané metódy molekulovej spektroskopie. STU BA, 2007.
3. Milata V., Segľa P.: Spektrálne metódy v chémii. STU FCHPT Bratislava 2002.
4. Miertuš S. a kol.: Atómová a molekulová spektroskopia, ALFA, Bratislava 1991.
5. T. D. W. Claridge: High-Resolution NMR Techniques in Organic Chemistry, 5. Ed., Elsevier, 2016.

Course language:
slovak, english

Notes:
In-person course, alternatively online course using the BigBlueButton tool or MS Teams.
The form of teaching is specified by the teacher at the beginning of the semester, updated continuously.

Course assessment
Total number of assessed students: 47

A	B	C	D	E	FX
36.17	36.17	14.89	10.64	2.13	0.0

Provides: doc. RNDr. Ján Imrich, CSc., doc. RNDr. Juraj Kuchár, PhD., RNDr. Zuzana Kudličková, PhD., RNDr. Monika Tvrdoňová, PhD.

Date of last modification: 16.08.2022

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚGE/SVG/04	**Course name:** Student Scientific Conference in Geography

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

Number of ECTS credits: 4

Recommended semester/trimester of the course:

Course level: I., II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:
After choosing a topic suggested by supervisors implying a geographical problem, the students will work on the topic, write a thesis and defense it before the committee.

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 12

abs	n
100.0	0.0

Provides: RNDr. Dušan Barabas, CSc., RNDr. Alena Gessert, PhD., univerzitná docentka, RNDr. Janetta Nestorová-Dická, PhD., univerzitná docentka, Mgr. Marián Kulla, PhD., doc. Ing. Katarína Bónová, PhD., RNDr. Stela Csachová, PhD.

Date of last modification: 01.12.2021

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ SVKB/04	**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.

Prerequisities:

Conditions for course completion:
Present the results of student's work at the Student Scientific Conference and answer questions from committee members and others present.

Learning outcomes:
The student will acquire competences for independent scientific work in the laboratory, for analysis and written processing of obtained results and knowledge. By presenting the obtained results, the student prepares to present the obtained results in the defense of the bachelor's thesis and in front of the professional public at scientific conferences.

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 12

abs	n
100.0	0.0

Provides:

Date of last modification: 22.07.2022

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

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

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

Number of ECTS credits: 2

Recommended semester/trimester of the course: 1.

Course level: I.

Prerequisities:

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

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

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

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

Recommended literature:

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

Course language:
slovak

Notes:

Course assessment
Total number of assessed students: 163

A	B	C	D	E	FX
69.33	4.29	4.29	0.0	22.09	0.0

Provides: doc. RNDr. Jozef Hanč, PhD.

Date of last modification: 26.01.2022

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

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

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

Number of ECTS credits: 2

Recommended semester/trimester of the course:

Course level: I., II.

Prerequisities:

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

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

Brief outline of the course:
Brief outline of the course:
1. Assessment of difficulty of waterways
2. Safety rules for rafting
3. Setting up a crew
4. Practical skills training using an empty canoe
5. Canoe lifting and carrying
6. Putting the canoe in the water without a shore contact
7. Getting in the canoe
8. Exiting the canoe
9. Taking the canoe out of the water
10. Steering
a) The pry stroke (on fast waterways)
b) The draw stroke

11. Capsizing
12. Commands

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

Course language:
Slovak language

Notes:

Course assessment
Total number of assessed students: 232

abs	n
36.64	63.36

Provides: Mgr. Dávid Kaško, PhD.

Date of last modification: 29.03.2022

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of ECTS credits: 2

Recommended semester/trimester of the course: 6.

Course level: I., II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 59

A	B	C	D	E	FX
88.14	10.17	0.0	0.0	0.0	1.69

Provides: doc. PaedDr. Renáta Orosová, PhD., Mgr. Zuzana Vagaská, PhD.

Date of last modification: 12.03.2024

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: KPPaPZ/ECo-C1/14	**Course name:** Team Work ECo-C1
Course type, scope and the method: **Course type:** Practice **Recommended course-load (hours):** **Per week:** 2 **Per study period:** 28 **Course method:** present	
Number of ECTS credits: 4	
Recommended semester/trimester of the course: 4., 6.	
Course level: I.	
Prerequisities:	
Conditions for course completion:	
Learning outcomes:	
Brief outline of the course:	
Recommended literature:	
Course language:	
Notes:	

Course assessment
Total number of assessed students: 142

abs	n
97.89	2.11

Provides: PhDr. Anna Janovská, PhD.
Date of last modification: 14.09.2024
Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.

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: 678

A	B	C	D	E	FX
45.13	30.24	16.08	4.72	1.92	1.92

Provides: Mgr. Katarína Petríková, PhD., Mgr. Beáta Sakalová, PhD.

Date of last modification: 12.03.2024

Approved: prof. Mgr. Jaroslav Hofierka, PhD., prof. RNDr. Vladimír Zeleňák, DrSc.