CONTENT

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: CJP/ PFAJAKA/07	**Course name:** Academic English

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

Number of ECTS credits: 2

Recommended semester/trimester of the course:

Course level: I., II., N

Prerequisities:

Conditions for course completion:
Active classroom participation, assignments handed in on time, 2 absences tolerated
1 test (10th week), no retake.
Presentation on chosen topic
Final evaluation- average assessment of test (40%), essay (30%) and presentation (30%).
Grading scale: A 93-100%, B 86-92%, C 79-85%, D 72-78%, E 65-71%, FX 64% and less

Learning outcomes:
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: 400

A	B	C	D	E	FX
34.75	22.0	15.75	9.5	6.25	11.75

Provides: Mgr. Viktória Mária Slovenská

Date of last modification: 19.09.2022

Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚCHV/ AMCU/15	**Course name:** Activating teaching methods in 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: 2.

Course level: II.

Prerequisities: ÚCHV/SPC1a/03

Conditions for course completion:
1. Participations in seminars (also applies to the online form of teaching). Students are required to participate in seminars. The students can excuse themself (incapacity for work, family reasons, etc.) for a maximum of two seminars during the semester without the need for replacement. In the case of a longer-term justified absence (for example due to incapacity for work), the student will be assigned an alternative form of completing the missed curriculum.
2. Active participation in class. Seminars are conducted in a form in which students are active – students present assignments, which include worksheets. The student is obliged to prepare 5 written assignments. The assignments will be available through the e-learning portal LMS Moodle (direct link to the website: https://lms.upjs.sk/) in the course Activating teaching methods in chemistry (ÚCHV/AMCU/15).
3. The content of the seminars also includes assignment in a form of seminar work, which the student submits to the course (ÚCHV/AMCU/15). The seminar work will focus on: Suggestion of an activity on a selected topic for active inquiry (inquiry-based learning, project based learning, use of digital technologies) with a focus on the development of specific scientific and digital skills and skills related to learning. The design of the activity will also include the design of summative and formative assessment tools to verify understanding and skills in the topic.
4. The final presentation of the seminar work. Assessment of the presentation skills. (0 - 20 points). The final presentation will form a comprehensive output of acquired knowledge and skills.
The final evaluation in the course consists of the sum of points obtained for:
1. Assignments during the semester 5x (0 - 50 points)
2. Seminar work (0 - 30 points)
3. Final presentation of the seminar paper (0 - 20 points)
Classification level:
A = 90-100 points
B = 80-90 points
C = 70-80 points
D = 60-70 points
E = 50-60 points
FX = 0-50 points

Learning outcomes:

Students will gain an overview of selected activating methods in teaching chemistry from a theoretical and practical point of view. They can design project work, include it in teaching and evaluate its outcomes. They will be able to design inquiry-based activities, include them in teaching and verify their effectiveness based on formative assessment tools. Students will gain knowledge about the requirements of assessment in the 21st century with a focus on the development and validation of conceptual understanding and skills through the tools of summative and formative assessment. They will learn how to create tasks at different levels of Bloom's taxonomy. They will get acquainted with selected cognitive and metacognitive tools of formative assessment as well as with specific examples. They will know and practically use applications usable for online assessment purposes (Google Forms, Socrative, Kahoot, etc.). Students will acquire skills for the implementation of teaching with computer-based experiments in terms of work procedures, working with technology and organization of work.

Brief outline of the course:

1. Characteristics of activating methods in chemistry teaching.
2. Project-based method in chemistry teaching, characteristics and examples of project work.
3. Inquiry-based methods in chemistry teaching, examples of inquiry-based activities.
4. Requirements for assessment in the 21st century.
5. Assessment in chemistry teaching - Summative assessment. Bloom's taxonomy.
6. Assessment in chemistry teaching - Formative assessment.
7. Applications usable for online assessment purposes (Google Forms, Socrative, Kahoot, etc.).
8. Computer-based chemical experiments.

Recommended literature:

1. GANAJOVÁ, M.: Metodika tvorby učebných úloh a didaktických testov pre chémiu. Košice: UPJŠ, 2015. ISBN 978-80-8152-237-6. https://unibook.upjs.sk/img/cms/2015/pf/didaktika-texty-ganajova.pdf
2. GANAJOVÁ, M., BRESTENSKÁ, B., GUNIŠ, J., JEŠKOVÁ, Z., KIREŠ, M., LEŠKOVÁ, A., LUKÁČ, S., OROSOVÁ, R., SOTÁKOVÁ, I., SZARKA, K., ŠNAJDER, Ľ.: Formatívne hodnotenie vo výučbe prírodných vied, matematiky a informatiky. 1. vyd. UPJŠ v Košiciach, 2021, 450 s. ISBN 978-80-8152-973-3.
3. Inovovaný štátny vzdelávací program pre 2. stupeň ZŠ. Človek a príroda. Chémia. http://www.statpedu.sk/files/articles/dokumenty/inovovany-statny-vzdelavaci-program/chemia_nsv_2014.pdf
4. Inovovaný štátny vzdelávací program pre gymnázia so štvorročným a päťročným vzdelávacím programom. Človek a príroda. Chémia. http://www.statpedu.sk/files/articles/dokumenty/inovovany-statny-vzdelavaci-program/chemia_g_4_5_r.pdf
5. Učebnice chémie pre základné školy a gymnáziá.
6. KIREŠ, M., JEŠKOVÁ, Z., GANAJOVÁ, M., KIMÁKOVÁ, K.: Bádateľské aktivity v prírodovednom vzdelávaní. Časť A. Bratislava: ŠPÚ, 2016. http://www.statpedu.sk/files/articles/nove_dokumenty/ucebnice-metodiky-publikacie/badatelske-aktivity/01cast_a_web.pdf
7. GANAJOVÁ, M., KRISTOFOVÁ, M.: Bádateľské aktivity v prírodovednom vzdelávaní. Časť B. Ukážky vytvorených metodických a pracovných materiálov z predmetu Chémia. Bratislava: ŠPÚ, 2016. http://www.statpedu.sk/files/articles/nove_dokumenty/ucebnice-metodiky-publikacie/badatelske-aktivity/04cast_b_chemia_web.pdf
8. GANAJOVÁ a kol.: Zbierka inovatívnych metodík z chémie pre základné školy. Bratislava: CVTI SR, 2020.

https://vzdelavanie.itakademia.sk/vystupy/zim-che-zs.pdf
9. GANAJOVÁ a kol.: Zbierka inovatívnych metodík z chémie pre stredné školy. Bratislava: CVTI SR, 2020. https://vzdelavanie.itakademia.sk/vystupy/zim-che-ss.pdf
10. GANAJOVÁ a kol.: Rozvíjanie kompetencií žiakov prostredníctvom učebných úloh z chémie. Bratislava: ŠPÚ, 2018. https://www.statpedu.sk/files/sk/publikacna-cinnost/publikacie/spu-chemia-2018-web.pdf
11. Školský informačný systém. Chémia. http://kekule.science.upjs.sk/chemia/index.htm
12. GANAJOVÁ, M. KALAFUTOVÁ, J. a kol.: Projektové vyučovanie v chémii. Didaktická príručka pre učiteľov základných škôl. Bratislava: Štátny pedagogický ústav, 2010. 144 s. ISBN 978-80-8118-058-3.
13. E – learning kurz: Aktivizujúce metódy výučby chémie (ÚCHV/AMCU/15), https://lms.upjs.sk/

Course language:

Notes:

Course assessment
Total number of assessed students: 48

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

Provides: doc. RNDr. Mária Ganajová, CSc., RNDr. Ivana Sotáková, Ph.D.

Date of last modification: 25.10.2021

Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚMV/ ATA/14	**Course name:** Algebra and theoretical arithmetic

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: 4

Recommended semester/trimester of the course: 3.

Course level: II.

Prerequisities:

Conditions for course completion:
It is based on the results of written and oral exam.

Learning outcomes:
Obtain knowledge about sets N, Z, Q and R, about their axiomatic building-up, the operations and the orderigs on them.

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

Recommended literature:
Tibor Katriňák, Martin Gavalec, Eva Gedeonová, Jaroslav Smítal: Algebra a teoretická aritmetika (1), Alfa, Bratislava, 1985.
Tibor Šalát, Alfonz Haviar, Tomáš Hecht, Tibor Katriňák: Algebra a teoretická aritmetika (2), Alfa, Bratislava, 1986.
Garrett Birkhoff, Saunders Mac Lane: Prehľad modernej algebry, Alfa, Bratislava, 1979.
Norman T. Hamilton, Joseph Landin: Set Theory. The Structure of Arithmetic, Dover Publications, Inc., 2018.

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 64

A	B	C	D	E	FX
48.44	26.56	14.06	10.94	0.0	0.0

Provides: prof. RNDr. Jozef Doboš, CSc.

Date of last modification: 17.09.2021

Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚMV/ AIM/10	**Course name:** Application of ICT into mathematics teaching

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: II.

Prerequisities: ÚMV/DDMa/14

Conditions for course completion:
To master specific means of information and communication technologies usable for the support of mathematical education and for solving various types of mathematical problems. To be able to assess and evaluate the suitability and ways of using selected types of modern technologies to support active learning of mathematics. To be able to apply the basic principles of constructivism and research approaches to the teaching of mathematics in the planning and preparation of the teaching of mathematics. To be able to find and prepare ideas and examples for meaningful and effective use of information and communication technologies in the teaching process, to point out several possibilities of solving mathematical problems.
Rating:
Entry questionnaire - 2 b.
Design and solution of motivational word problems for the use of systems of linear equations - 5 b.
Test for the application of a spreadsheet in solving mathematical problems - 4 b.
Project for the application of the EUR model or research-oriented teaching in teaching a selected topic - 10 b.
Didactic processing of a selected construction task - 5 b.
Test for solving construction tasks - 4 b.
Participating in a discussion forum - 2 b.
Use of CAS in solving tasks - 5 b.
Design of examples for the use of CAS in teaching mathematics - 8 b.
Classification scale:
A: 91 % - 100 %,
B: 81 % - 90 %,
C: 71 % - 80 %,
D: 61 % - 70 %,
E: 51 % - 60 %,
FX: 0 % - 50 %.

Learning outcomes:
Students will learn standard work procedures for the use of modern information and communication technologies in solving mathematical problems. Students will be provided with examples and suggestions for the use of modern information technologies in creating a stimulating learning

environment supporting active learning mathematics. Students will gain skills in the use of modern information technologies in modeling real situations and exploring mathematical patterns. Development of creative and evaluation skills of students to plan and prepare the teaching of specific topics in school mathematics with effective and meaningful use of modern information technologies.

Brief outline of the course:

1. Integration of modern information technologies into mathematical education.
2. - 3. Possibilities of using mathematical tools of a spreadsheet in modeling and solving algorithmic problems in teaching mathematics.
4. - 5. Constructivist conception of teaching mathematics, research of properties of mathematical objects and their mutual relations.
6. - 7. Solving construction tasks, examining the properties of identical and similar transformations and their use in solving problems.
8. Possibilities of using dynamic geometric systems in solving selected types of stereometry tasks.
9. - 10. Mathematical modeling and problem solving in the CAS environment. The position of CAS in the teaching of mathematics.

Recommended literature:

Oldknow, A., Taylor, R., Tetlow, L.: Teaching Mathematics Using ICT, Bloomsbury Publishing, 2010.
Lukáč, S.: Multimédiá a počítačom podporované učenie sa v matematike, PF UPJŠ Košice 2001.
Johnston-Wilder, S., Pimm, D.: Teaching secondary mathematics with ICT, Open University Press, 2005.
Vaníček, J.: Počítačové kognitivní technologie ve výuce geometrie. Pedagogická fakulta Univerzity Karlovy, 2009.

Course language:

Slovak

Notes:

Course assessment

Total number of assessed students: 167

A	B	C	D	E	FX
42.51	29.34	13.77	8.98	5.39	0.0

Provides: doc. RNDr. Stanislav Lukáč, PhD.

Date of last modification: 12.01.2022

Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚCHV/ ZTOX/04	**Course name:** Basic Toxicology

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: 1.

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:
In this course, students will learn how important it is in a teacher's job to know the toxicity and physicochemical properties of the substances they work with. They will gain knowledge especially about the specific and systemic toxicity of substances, they will get acquainted with the classification of xenobiotics and with the methods of their effect and possible identification.
They will also be familiar with the risks involved in working with a given chemical, from simple metals, oxides to salts. The very important knowledge that will be the result of education is that they will learn how to work and how to handle dangerous substances and ways to protect themselves and students for whom working with these substances is intended.
An inseparable part of education is also the knowledge of current Slovak and European chemical legislation, which is dynamic and changes depending on new knowledge in the field of xenobiotic toxicity.

Brief outline of the course:
Historical aspects, types of toxic substances, types of exposure, dose-response relationship. Disposition of toxic compounds (absorption, distribution, excretion of toxic compounds). Metabolism of toxic compounds. Drugs as toxic substances, food additives and contaminants, environmental pollutans. Statement of chemistry laboratory policy. Safe and handling of toxic substances.

Recommended literature:
G. F. Fuhrman: Allgemeine Toxikologie fuer Chemiker, Teubner Verlag, Stutgart 1984.
V. E. Forbes, T. L. Forbe: Ecotoxicology in Theory and Practice, Chapman&Hall, London 1994.
J. A. Timbrell: Introduction to Toxicology, Taylor&Francis, London 1994.
J.H.Duffus, H.G.J. Worth: Fundamental toxicology, RSC Publishing, Cambridge, 2006.

Course language:

Notes:

Course assessment
Total number of assessed students: 325

A	B	C	D	E	FX
21.23	28.0	24.92	17.23	7.38	1.23

Provides: RNDr. Miroslava Matiková Maľarová, PhD.

Date of last modification: 21.06.2022

Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ BTC/03	**Course name:** Biotechnology

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

Number of ECTS credits: 5

Recommended semester/trimester of the course: 2.

Course level: II.

Prerequisities:

Conditions for course completion:
Written test, from which the student must obtain at least 51%.

Learning outcomes:
Students will have knowledge of basic biotechnological processes and their applications in industry, agriculture, food production and medicine.

Brief outline of the course:
Classification of biotechnology, disciplines and subjects which are involved with biotechnology. The fermentation processes, types of bioreactors, impellers, principles of microbial growth, media and substrates for fermentation processes. The bioremediation, production and application of biogas, in-vessel composting. Micro-organisms used to preparation amino acids, their fermentation preparation, isolation and possible uses. The methods of classical Plant Biotechnology. Ethanol fermentation, spirits, production of wine and beer. The biological filters, nutrient removal and the membrane bioreactors. Antibiotics.

Recommended literature:
E.M.T. El-Mansi et al. ,Fermentation microbiology ang biotechnology,second edition, 2007
Y.H. Hui, Food biochemistry & food processing,Blackwell Publishing 2006
J.E. Smith, Biotechnology, Cambridge university press 2009

Course language:

Notes:

Course assessment
Total number of assessed students: 118

A	B	C	D	E	FX
50.85	19.49	16.95	7.63	5.08	0.0

Provides: RNDr. Danica Sabolová, PhD.

Date of last modification: 17.08.2022

Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: KPPaPZ/SNP/09	**Course name:** Bullying, Violence and Their Prevention

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., 3.

Course level: II.

Prerequisities:

Conditions for course completion:
Active participation in seminars. Detailed information will be given.
Active participation - 20%
Seminar work - 40%
Seminar work 2 - 40%

Learning outcomes:
The student will acquire the latest information about bullying in schools and its consequences, about solving problematic situations associated with bullying as well as about possible ways of prevention. Within the seminars, students will develop professional skills through the implementation of prevention activities. At the same time, their sensitivity to the issue of bullying and their willingness to actively address it during their pedagogical practice will increase.

Brief outline of the course:
Aggressive behavior. Characteristics of actors of bullying (personality, characteristics of family environment). Manifestations and possible causes of bullying. Bullying as a group process. The role of teacher, school and parent in solving bullying. Possibilities of prevention of bullying at the level of school, class, individuals. Primary, secondary and tertiary prevention. Socio-psychological activities used in the prevention of bullying.

Recommended literature:
Kolář, M.: Bolest šikanování. Cesta k zastavení epidemie šikanování ve školách. Portál, Praha, 2001
Jánošová a kol. Psychologie školní šikany. Grada, Praha, 2016
Říčan, P.: Agresivita a šikana mezi dětmi. Portál, Praha, 1995

Course language:

Notes:

Course assessment
Total number of assessed students: 190

A	B	C	D	E	FX
83.68	14.74	1.05	0.53	0.0	0.0

Provides: doc. Mgr. Mária Bačíková, PhD.

Date of last modification: 24.06.2022

Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ ZCVU/04	**Course name:** Chemical Engineering

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: 2., 4.

Course level: I., II., III.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:
General and Inorganic Engineering; Mineral raw materials; Raw materials processing, transport and holding; Chemical reactors; Chemical metallurgy – Fe, Al, Cu working; Inorganic acids manufacture (H2SO4, HNO3, HCl, HF, H3PO4); Industrial electrochemistry; Industrial fertilizers; Silicate industry – cement manufacture, ceramics; Petrochemistry

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 22

A	B	C	D	E	FX	N	P
22.73	54.55	13.64	4.55	0.0	0.0	0.0	4.55

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

Date of last modification: 21.01.2022

Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ CHE2/03	**Course name:** Chemical Excursion

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

Number of ECTS credits: 4

Recommended semester/trimester of the course: 2.

Course level: 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: 109

A	B	C	D	E	FX
87.16	12.84	0.0	0.0	0.0	0.0

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

Date of last modification: 28.10.2021

Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/MSSU1/14	**Course name:** Chemistry and Didactics of Chemistry 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: 2

Recommended semester/trimester of the course:

Course level: II.

Prerequisities: ÚCHV/DCH1/15 and ÚCHV/VKAU/04

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 115

A	B	C	D	E	FX
57.39	26.09	13.91	2.61	0.0	0.0

Provides:

Date of last modification:

Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/MSSU2/14	**Course name:** Chemistry and Didactics of Chemistry II

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

Number of ECTS credits: 2

Recommended semester/trimester of the course:

Course level: II.

Prerequisities: ÚCHV/DCH2/15 and ÚCHV/VKOCH/03

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 45

A	B	C	D	E	FX
77.78	13.33	6.67	2.22	0.0	0.0

Provides:

Date of last modification: 08.02.2022

Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: KPO/ SDaM/15	**Course name:** Child and Adolescent Sociology

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: 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: 913

A	B	C	D	E	FX
50.6	29.35	15.01	3.5	1.2	0.33

Provides: doc. Mgr. Alexander Onufrák, PhD.

Date of last modification: 29.06.2022

Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: KPE/MT/09	**Course name:** Class Management

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

Number of ECTS credits: 2

Recommended semester/trimester of the course: 2.

Course level: 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: 568

A	B	C	D	E	FX
53.87	34.68	8.45	1.58	0.53	0.88

Provides: doc. PaedDr. Renáta Orosová, PhD.

Date of last modification: 20.06.2022

Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of ECTS credits: 2

Recommended semester/trimester of the course:

Course level: I., II., N

Prerequisities:

Conditions for course completion:
Active participation in class and completed homework assignments. Students are allowed to miss two classes at the most.
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.

Course language:
English language, B2 level according to CEFR

Notes:

Course assessment
Total number of assessed students: 289

A	B	C	D	E	FX
44.64	20.76	17.65	7.96	6.23	2.77

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

Date of last modification: 12.02.2023

Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of ECTS credits: 2

Recommended semester/trimester of the course:

Course level: I., II., N

Prerequisities:

Conditions for course completion:
Active classroom participation (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: 432

A	B	C	D	E	FX
39.81	19.91	16.2	8.1	5.79	10.19

Provides: Mgr. Lenka Klimčáková

Date of last modification: 13.09.2022

Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of ECTS credits: 2

Recommended semester/trimester of the course:

Course level: I., II.

Prerequisities:

Conditions for course completion:
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: 56

A	B	C	D	E	FX
60.71	10.71	8.93	3.57	8.93	7.14

Provides: Mgr. Ulrika Strömplová, PhD.

Date of last modification: 12.07.2022

Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/MPPc/15	**Course name:** Continuous practice teaching I

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

Number of ECTS credits: 2

Recommended semester/trimester of the course: 3.

Course level: II.

Prerequisities: ÚCHV/MPPb/15 and ÚCHV/DCH1/22 or ÚCHV/DCH1/15

Conditions for course completion:
1. Compulsory attendance during the organisational and informational seminar.
2. Compulsory attendance: sitting in on classes, analytical classes at training schools.
3. Sitting in on classes and analytical classes with supervising teachers – 6x.
4. Teaching classes and analytical classes under supervision – 18x.
5. Submitted Continued practice teaching (CPT) I documentation.
(Sitting-in records, Written class preparations, List of sitting-in sessions and trainee's performance during CPT I, CPT I report, Assessment of the trainee's pedagogical performance during CPT).

Learning outcomes:
The student can plan lessons and teach them. Present their own psychodidactic and subject-specific didactic concepts of teaching in the environment of a real school classroom. Apply the didactic skills developed during the previous observation of teaching in practice to teach chemistry. Evaluate one's own lesson project and professional competence level (areas: student, educational process, professional development) in terms of pedagogic theory and assessment provided by the supervising teacher.

Brief outline of the course:
Observation and analysis of chemistry lessons and teaching under the supervision of the supervising teacher. Written class preparation and teaching, active participation in extracurricular activities. Didactic Continued practice teaching I analysis.

Recommended literature:
Current chemistry textbooks for primary and secondary schools in the Slovak Republic.

Course language:

Notes:

Course assessment
Total number of assessed students: 152

abs	n
100.0	0.0

Provides: RNDr. Ivana Sotáková, Ph.D., doc. RNDr. Mária Ganajová, CSc.
Date of last modification: 26.10.2021
Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚMV/ VSPc/15	**Course name:** Continuous practice teaching I
Course type, scope and the method: **Course type:** Practice **Recommended course-load (hours):** **Per week: Per study period:** 4t **Course method:** present	
Number of ECTS credits: 2	
Recommended semester/trimester of the course: 3.	
Course level: II.	
Prerequisities: ÚMV/VPPb/15	
Conditions for course completion: Teaching of a specified number of hours and visitations of specified number of classes (18 teaching and 6 visitation of classes). Submission of written assignments (reflection on teaching practice, statement of teaching hours and classes visitations, selected lesson plans).	
Learning outcomes: Application of the knowledge acquired in didactic courses focused on teaching mathematics in pedagogical practice. Development of the student's self-reflection within the framework of the analysis of the lessons taught by the student. Identification of the student's weaknesses in order to shift his/her knowledge. Acquaint students with the atmosphere and the organization of school.	
Brief outline of the course: Visitations of classes in selected lessons Analysis of lessons Lesson plans preparation Classes managed according to prepared lesson plan Reflection on realized classes	
Recommended literature: Mathematics curricula and textbooks for middle and secondary schools Hejný, M.: Teória vyučovania matematiky 2. Bratislava : SPN 1989 M. Hejný, J. Novotná, N. Stehlíková: Dvacet pět kapitol z didaktiky matematiky 2, Univerzita Karlova v Praze - Pedagogická fakulta, Praha, 2004	
Course language: Slovak	
Notes:	

Course assessment
Total number of assessed students: 91

abs	n
100.0	0.0

Provides: doc. RNDr. Ingrid Semanišinová, PhD., doc. RNDr. Dušan Šveda, CSc.

Date of last modification: 24.08.2022

Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚCHV/ MPPd/15	**Course name:** Continuous practice teaching II
Course type, scope and the method: **Course type:** Practice **Recommended course-load (hours):** **Per week: Per study period:** 6t **Course method:** present	
Number of ECTS credits: 2	
Recommended semester/trimester of the course: 4.	
Course level: II.	
Prerequisities: ÚCHV/MPPc/15 and ÚCHV/DCH2/22	
Conditions for course completion: 1. Compulsory attendance during the organisational and informational seminar. 2. Compulsory attendance: sitting in on classes, analytical classes at training schools. 3. Complete 8 lessons: sitting in on classes and analytical classes with supervising teachers. 4. Teaching classes and analytical classes under supervision – 30x. 5. Submit Continued practice teaching (CPT) II documentation. (Trainee's sitting-in and teaching schedule, Sitting-in records, Written class preparations, List of sitting-in sessions and trainee's performance during CPT II, CPT II report, Assessment of the trainee's pedagogical performance during CPT).	
Learning outcomes: The student can plan a series of lessons and other forms of instruction and teach them continually. Apply the pedagogic as well as subject-specific theory in practical teaching. Apply the didactic skills developed during the previous teaching practice completed in the actual educational environment. Evaluate one's own lesson project and professional competence level (areas: student, educational process, professional development) in terms of pedagogic theory and evaluation provided by the supervising teacher.	
Brief outline of the course: Observation and analysis of chemistry lessons and teaching under supervision. Written class preparation and teaching, active participation in extracurricular activities. Didactic Continued practice teaching (CPT) II analysis.	
Recommended literature: Current chemistry textbooks for primary and secondary schools in the Slovak Republic.	
Course language:	
Notes:	

Course assessment
Total number of assessed students: 131

abs	n
100.0	0.0

Provides: RNDr. Ivana Sotáková, Ph.D., doc. RNDr. Mária Ganajová, CSc.

Date of last modification: 17.11.2021

Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚMV/ VSPd/15	**Course name:** Continuous practice teaching II
Course type, scope and the method: **Course type:** Practice **Recommended course-load (hours):** **Per week: Per study period:** 6t **Course method:** present	
Number of ECTS credits: 2	
Recommended semester/trimester of the course: 4.	
Course level: II.	
Prerequisities: ÚMV/VSPc/15	
Conditions for course completion: Teaching of a specified number of hours and visitations of specified number of classes (30 teaching and 8 visitation of classes). Submission of written assignments (reflection on teaching practice, statement of teaching hours and classes visitations, selected lesson plans).	
Learning outcomes: Application of the knowledge acquired in didactic courses focused on teaching mathematics in pedagogical practice. Development of the student's self-reflection within the framework of the analysis of the lessons taught by the student. Identification of the student's weaknesses in order to shift his/her knowledge. Acquaint students with the atmosphere and the organization of school.	
Brief outline of the course: Visitations of classes in selected lessons Analysis of lessons Lesson plans preparation Classes managed according to prepared lesson plan Reflection on realized classes	
Recommended literature: Mathematics curricula and textbooks for middle and secondary schools Hejný, M.: Teória vyučovania matematiky 2. Bratislava : SPN 1989 M. Hejný, J. Novotná, N. Stehlíková: Dvacet pět kapitol z didaktiky matematiky 2, Univerzita Karlova v Praze - Pedagogická fakulta, Praha, 2004	
Course language: Slovak	
Notes:	

Course assessment
Total number of assessed students: 81

abs	n
100.0	0.0

Provides: doc. RNDr. Ingrid Semanišinová, PhD., doc. RNDr. Dušan Šveda, CSc.

Date of last modification: 24.08.2022

Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ KC/03	**Course name:** Cosmetic 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: 3.

Course level: II.

Prerequisities:

Conditions for course completion:
Seminar written report on the selected topic of this subject and its oral presentation connected with the discussion. Terminal examination by the written form. The corresponding written part is evaluated as follows: 100-91% of points = A, 90-81% of points = B, 80- 71% of points = C, 70-61% = D, 60-51% of points = E, 50% and less = FX. A student must obtain at least 51% of points.

Learning outcomes:
The basic chemical ingredients in cosmetic products, their isolation from natural sources. The construction of some interesting groups of the orgnaic structures and their application in cosmetic industry.

Brief outline of the course:
Skin and its components. The chemistry of lipids. Lipids, their classification (triacylglycerols, glycerophospholipids and sfingophoslipids), liposomes as transport systems. Fatty acids and alcohols, natural and synthetic waxes. Surfactants, their classification. Antioxidants. Dyes, their classification, organic and inorganic dyes, natural and synthetic. Biological active compounds (amino acids, peptides, proteins hydroxy acids, vitamins, polysaccharides) as the cosmetic ingredients. The chemistry of fragrances. Compounds derived from shikimic acid and mevalonic acid, their biosynthesis, Synthetic fragrances and their construction.

Recommended literature:
1. S. V. Bhat, B. A. Nagasampagi, M. Sivakumar: Chemistry of Natural Products, Springer Narosa 2005, ISBN 81-7319-481-5.
2. G. Ohloff: Scent and Fragrances, Springer-Verlag Berlín Heidelberg 1994, ISBN 3-540-57108-6.
3. D. H. Pybus, CH. S. Sell: The chemistry of fragrances, Royal Society of Chemistry 1999, ISBN 0-8540-528-7.
4. Pybus, D. H., Sell, C. S.: The chemistry of fragrances, The Royal Society of Chemistry 1999 UK, ISBN: 0-85404-528-7
5. J. McMurry: Organic chemistry, Brooks/Cole, a Thomson Learning Company 2004, Sixth Eddition, ISBN 0534389996.

Course language:

slovak, english

Notes:
Teaching is carried out in person or, if necessary, online using the 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: 86

A	B	C	D	E	FX
79.07	15.12	4.65	1.16	0.0	0.0

Provides: doc. RNDr. Miroslava Martinková, PhD.

Date of last modification: 28.01.2022

Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: KPE/ TTUP/15	**Course name:** Creating Text Teaching Aids

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: 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: 226

A	B	C	D	E	FX
57.96	29.65	8.85	2.65	0.88	0.0

Provides: doc. PaedDr. Renáta Orosová, PhD.

Date of last modification: 20.06.2022

Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: KSSFaK/ KJPUAP/15	**Course name:** Culture of Spoken Discourse

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: 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: 0

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

Provides: PhDr. Iveta Bónová, PhD.

Date of last modification: 24.06.2022

Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: KPPaPZ/VPU/17	**Course name:** Developmental Psychology for Teachers

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: II.

Prerequisities:

Conditions for course completion:
Evaluation of participation in teaching, continuous evaluation of activity in seminars, evaluation of seminar work,

Learning outcomes:
The graduate will understand the principles of developmental psychology, and will be able to characterize the norm in separate developmental stages with a specific focus on the period of school age and adolescence. As part of the seminar work, a students will process current knowledge published in foreign journals. They will have a knowledge about the current social discourse on the topics covered. The graduate will be able to consider various aspects of the possible influence of parents and friends on the development of piupils and apply the knowledge of developmental psychology in the practice of the teacher.

Brief outline of the course:
Determinants and factors of development, cognitive development, personality development. Socialization in separate developmental stages (family, peers, school). Specifics of development in the period of school age, in pubescence and adolescence. Parents and their role in child development. Application of knowledge of developmental psychology in the teacher's practice - communication with students in different developmental stages, creating a teacher-student relationship with respect to the development needs of the student.

Recommended literature:
Vágnerová, M. Vývojová psychologie. Portál, Praha 2000
Říčan, P. Cesta životem. Portál, Praha, 2004.
Thorová, K. Vývojová psychologie. Portál, Praha, 2015.
Macek, P. Adolescence. Praha: Portál, 2003
Matějček, Z. - rôzne diela
Bačíková, M. Psychológia rodičovskej kontroly, Šafárik Press, Košice 2019

Course language:

Notes:

Course assessment
Total number of assessed students: 88

A	B	C	D	E	FX
82.95	11.36	2.27	3.41	0.0	0.0

Provides: doc. Mgr. Mária Bačíková, PhD.

Date of last modification: 24.06.2022

Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚCHV/ DCH1/15	**Course name:** Didactics of Chemistry I

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: 2.

Course level: II.

Prerequisities: ÚCHV/SPC1a/03

Conditions for course completion:
1. Participations in seminars (also applies to tohe online form of teaching). Students are required to participate in seminars. The students can excuse themself (incapacity for work, family reasons, etc.) for a maximum of two seminars during the semester without the need for replacement. In the case of a longer-term justified absence (for example due to incapacity for work), the student will be assigned an alternative form of mastering the missed curriculum.
2. Active participation in class. Seminars are conducted in a form in which students are active – students present assignments, which include worksheets. The student is obliged to prepare 2 written assignments and a micro-output, which will be one of the conditions for participation in the exam. Topics of micro-outputs as well as requirements will be available through the e-learning portal LMS Moodle (direct link to the website: https://lms.upjs.sk/) in the course Didactics of Chemistry I (ÚCHV/DCH1/15).
3. The content of the seminars also includes assignments of seminar papers, which the student submits to the course Didactics of Chemistry I (ÚCHV/DCH1/15).
4. The student must pass a continuous assessment in the form of a written exam twice a semester.
5. Passing the exam: distance form of the exam – written test: Due to the current pandemic situation in Slovakia and in accordance with the conditions of the Faculty of Science UPJŠ in Košice, a written form of the exam is implemented through the Google Form application. Students fill in the answers to the written test. Test questions are always randomly generated. Distance form of the exam – oral form through a webinar.
The final assessment in the course consists of the sum of points obtained for:
1. Seminar work (0-20 points)
2. Continuous assessment (0-30 points)
3. Final written test (0-20 points)
4. Oral exam (0-30 points)
Conditions for successful completion of the course:
In order to obtain an A rating, it is necessary to obtain at least 85 points in total, to obtain an B rating at least 75 points, to obtain a C rating at least 65 points, to obtain a D rating at least 55 points and to obtain an E rating at least 45 points.

Learning outcomes:

The student will acquire knowledge and necessary skills for the work of teachers in the field of didactics of general and inorganic chemistry. Can implement inquiry-based learning and digital tools in the teaching of topics from these fields of chemistry at primary school and grammar school with a focus on the use of videos, models, animations, simulations, interactive games and exercises (https://viki.iedu.sk/landing, https://phet.colorado.edu/sk/, https://www.olabs.edu.in/, https://studiumchemie.cz/). Expand your knowledge and skills on how to carry out demonstration experiments and projected experiments using a digital visualizer.

Brief outline of the course:

1. Introduction to didactics of chemistry. History of chemistry didactics and its current state. Teacher preparation for teaching (basic curricular documents: State educational program, school educational program, curricula, thematic educational plan, teacher preparation for a lesson).
2. Teaching aids in chemistry. Information and communication technologies in chemistry teaching.
3. School chemical experiment in chemistry teaching, demonstration and projected experiments.
4. Nomenclature of inorganic chemistry. Use of didactic games.
5. Didactics of the topic Matter, substance, mixture. Inquiry methods in teaching the topic Mixtures and separation of components of mixtures. Inquiry-based method in teaching chemistry.
6. Didactics of the topic Atom, its composition and structure.
7. Didactics of the topic Chemical bonding.
8. Didactics of the topic Periodic table of elements. Interactive periodic table of elements at the Institute of Chemistry Faculty of Science, P. J. Šafárik University in Košice.
9. Didactics of the topic Chemical process. Thermochemistry and Chemical Kinetics.
10. Didactics of the topic Chemical process. Types of chemical reactions. Practical use of redox events. Electrolysis. Galvanic cells. Inquiry activities, computer-based experiments and projected experiments using a digital visualizer on the topic of Chemical process.
11. Presentation of micro-outputs on assigned topics.

Recommended literature:

1. GANAJOVÁ, M.: Vybrané kapitoly zo všeobecnej didaktiky chémie. UPJŠ v Košiciach, Prírodovedecká fakulta, 2009, 141 s. ISBN 978-80-7097-756-9.
2. KIREŠ, M., JEŠKOVÁ, Z., GANAJOVÁ, M., KIMÁKOVÁ, K.: Bádateľské aktivity v prírodovednom vzdelávaní. Časť A. Bratislava: ŠPÚ, 2016. ISBN 978-80-8118-155-9. https://www.statpedu.sk/files/articles/nove_dokumenty/ucebnice-metodiky-publikacie/badatelske-aktivity/01cast_a_web.pdf
3. GANAJOVÁ, M., KRISTOFOVÁ, M.: Bádateľské aktivity v prírodovednom vzdelávaní. Časť B. Ukážky vytvorených metodických a pracovných materiálov z predmetu Chémia. Bratislava: ŠPÚ, 2016. https://www.statpedu.sk/files/articles/nove_dokumenty/ucebnice-metodiky-publikacie/badatelske-aktivity/04cast_b_chemia_web.pdf
4. GANAJOVÁ a kol.: Zbierka inovatívnych metodík z chémie pre základné školy. Doplnené vydanie. Bratislava: CVTI SR, 2021. ISBN 978-80-8240-007-9. https://vzdelavanie.itakademia.sk/vystupy/zim-che-zs.pdf
5. GANAJOVÁ a kol.: Zbierka inovatívnych metodík z chémie pre stredné školy. Doplnené vydanie. Bratislava: CVTI Bratislava: CVTI SR, 2021. ISBN 978-80-8240-008-6. https://vzdelavanie.itakademia.sk/vystupy/zim-che-ss.pdf
6. GANAJOVÁ, M.: Metodika tvorby učebných úloh a didaktických testov pre chémiu. Košice: UPJŠ, 2015. ISBN 978-80-8152-237-6. https://unibook.upjs.sk/sk/prirodovedecka-fakulta/445-metodika-tvorby-ucebnych-uloh-a-didaktickych-testov-pre-chemiu
7. GANAJOVÁ a kol.: Rozvíjanie kompetencií žiakov prostredníctvom učebných úloh z chémie. Bratislava: ŠPÚ, 2018. ISBN 978-80-8118-215-0. https://www.statpedu.sk/files/sk/publikacna-cinnost/publikacie/spu-chemia-2018-web.pdf

8. GANAJOVÁ, M., BRESTENSKÁ, B., GUNIŠ, J., JEŠKOVÁ, Z., KIREŠ, M., LEŠKOVÁ, A., LUKÁČ, S., OROSOVÁ, R., SOTÁKOVÁ, I., SZARKA, K., ŠNAJDER, Ľ.: Formatívne hodnotenie vo výučbe prírodných vied, matematiky a informatiky. 1. vyd. UPJŠ v Košiciach, 2021, 450 s. ISBN 978-80-8152-973-3.
9. Inovovaný štátny vzdelávací program pre 2. stupeň ZŠ. Človek a príroda. Chémia. https://www.statpedu.sk/files/articles/dokumenty/inovovany-statny-vzdelavaci-program/chemia_nsv_2014.pdf
10. Inovovaný štátny vzdelávací program pre gymnázia so štvorročným a päťročným vzdelávacím programom. Človek a príroda. Chémia. https://www.statpedu.sk/files/articles/dokumenty/inovovany-statny-vzdelavaci-program/chemia_g_4_5_r.pdf
11. Učebnice chémie pre základné školy a gymnáziá.
12. E – learning kurz: Didaktika chémie I (ÚCHV/DCH1/15), https://lms.upjs.sk/

Course language:

Notes:

Course assessment
Total number of assessed students: 131

A	B	C	D	E	FX
67.18	19.08	8.4	3.05	2.29	0.0

Provides: doc. RNDr. Mária Ganajová, CSc., RNDr. Ivana Sotáková, Ph.D.

Date of last modification: 21.01.2022

Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚCHV/ DCH2/15	**Course name:** Didactics of Chemistry II

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.

Course level: II.

Prerequisities: ÚCHV/DCH1/15

Conditions for course completion:
1. Participations in seminars (also applies to tohe online form of teaching). Students are required to participate in seminars. The students can excuse themself (incapacity for work, family reasons, etc.) for a maximum of two seminars during the semester without the need for replacement. In the case of a longer-term justified absence (for example due to incapacity for work), the student will be assigned an alternative form of mastering the missed curriculum.
2. Active participation in class. Seminars are conducted in a form in which students are active – students present assignments, which include worksheets. The student is obliged to prepare 2 written assignments, which will be one of the conditions for participation in the exam. Topics of written assignments as well as requirements will be available through the e-learning portal LMS Moodle (direct link to the website: https://lms.upjs.sk/) in the course Didactics of Chemistry II (ÚCHV/ DCH2/15).
3. The content of the seminars also includes assignments of seminar papers, which the student submits to the course Didactics of Chemistry II (ÚCHV/DCH2/15).
4. The student must pass a continuous assessment in the form of a written exam twice a semester.
5. Passing the exam: distance form of the exam assignments written test: Due to the current pandemic situation in Slovakia and in accordance with the conditions of the Faculty of Science UPJŠ in Košice, a written form of the exam is implemented through the Google Form application. Students fill in the answers to the written test. Test questions are always randomly generated. distance form of the exam assignments assignments – oral form through a webinar.
The final assessment in the course consists of the sum of points obtained for:
1. Written assignments (0-20 points)
2. Seminar work (0-10 points)
3. Written tests (0-20 points)
4. Final written test (20 points)
5. Oral exam (30 points)
Conditions for successful completion of the course: In order to obtain an A rating, it is necessary to obtain at least 85 points in total, to obtain an B rating at least 75 points, to obtain a C rating at least 65 points, to obtain a D rating at least 55 points and to obtain an E rating at least 45 points.

Learning outcomes:

Student will acquire knowledge and necessary skills for the work of teachers in the field of didactics of inorganic and organic chemistry as well as in selected topics of didactics of biochemistry. Can implement inquiry-based learning and digital tools in the teaching of topics from these fields of chemistry at primary school and grammar school with a focus on the use of videos, models, animations, simulations, interactive games and exercises (https://viki.iedu.sk/landing, http://kekule.science.upjs.sk/chemia/index.htm, https://studiumchemie.cz/, http://www.studiumbiochemie.cz/aplikace2.html#10, http://didaktikabiochemie.natur.cuni.cz/db2020/db.html). He is able to included selected topics with an interdisciplinary focus (water quality, greenhouse effect, ozone hole, renewable energy sources) into teaching.

Brief outline of the course:

1. Didactics of calculation tasks in chemistry. Chemical calculations with a focus on the chemistry of everyday life.
2. Didactics of the topic Water. Water hardness, types of water, water conductivity, mineral water. Project-based learning of water, acid rain.
3. Didactics of the topic Air, Global environmental problems: Ozone and the ozone hole, Greenhouse effect.
4. Didactics of inorganic chemistry – selected chemical elements and their inorganic compounds. Alkali metals, alkaline earth metals, selected transition elements. Use of SATL method in teaching chemistry, complex tasks focused on the development of transformation skills.
5. Didactics of organic chemistry. Isomerism in the teaching of organic chemistry - Constitutional isomerism and stereoisomerism.
6. Didactics of the topic Hydrocarbons and hydrocarbon derivatives. SATL method. Energy sources - fossil fuels and renewable energy sources.
7. Plastics, chemistry of macromolecular substances. Use of inquiry-based method in teaching topics: Recognition of plastics, Properties of plastics.
8. Didactics of the topic Natural substances. Use of inquiry-based learning and project-based learning in topics: Proteins, Carbohydrates, Lipids.
9. Didactics of the topic Washing and cleaning agents.
10. Didactics of the topic Additives in food.

Recommended literature:

1. GANAJOVÁ, M. KALAFUTOVÁ, J. a kol.: Projektové vyučovanie v chémii. Didaktická príručka pre učiteľov základných škôl. Bratislava: Štátny pedagogický ústav, 2010. 144 s. ISBN 978-80-8118-058-3.
2. KIREŠ, M., JEŠKOVÁ, Z., GANAJOVÁ, M., KIMÁKOVÁ, K.: Bádateľské aktivity v prírodovednom vzdelávaní. Časť A. Bratislava: ŠPÚ, 2016. ISBN 978-80-8118-155-9. https://www.statpedu.sk/files/articles/nove_dokumenty/ucebnice-metodiky-publikacie/badatelske-aktivity/01cast_a_web.pdf
3. GANAJOVÁ, M., KRISTOFOVÁ, M.: Bádateľské aktivity v prírodovednom vzdelávaní. Časť B. Ukážky vytvorených metodických a pracovných materiálov z predmetu Chémia. Bratislava: ŠPÚ, 2016. https://www.statpedu.sk/files/articles/nove_dokumenty/ucebnice-metodiky-publikacie/badatelske-aktivity/04cast_b_chemia_web.pdf
4. GANAJOVÁ a kol.: Zbierka inovatívnych metodík z chémie pre základné školy. Doplnené vydanie. Bratislava: CVTI SR, 2021. ISBN 978-80-8240-007-9. https://vzdelavanie.itakademia.sk/vystupy/zim-che-zs.pdf
5. GANAJOVÁ a kol.: Zbierka inovatívnych metodík z chémie pre stredné školy. Doplnené vydanie. Bratislava: CVTI SR, 2021. ISBN 978-80-8240-008-6. https://vzdelavanie.itakademia.sk/vystupy/zim-che-ss.pdf

6. GANAJOVÁ, M.: Metodika tvorby učebných úloh a didaktických testov pre chémiu. Košice: UPJŠ, 2015. ISBN 978-80-8152-237-6. https://unibook.upjs.sk/img/cms/2015/pf/didaktika-textyganajova.pdf
7. GANAJOVÁ a kol.: Rozvíjanie kompetencií žiakov prostredníctvom učebných úloh z chémie. Bratislava: ŠPÚ, 2018. ISBN 978-80-8118-215-0. https://www.statpedu.sk/files/sk/publikacna-cinnost/publikacie/spu-chemia-2018-web.pdf
8. GANAJOVÁ, M., BRESTENSKÁ, B., GUNIŠ, J., JEŠKOVÁ, Z., KIREŠ, M., LEŠKOVÁ, A., LUKÁČ, S., OROSOVÁ, R., SOTÁKOVÁ, I., SZARKA, K., ŠNAJDER, Ľ.: Formatívne hodnotenie vo výučbe prírodných vied, matematiky a informatiky. 1. vyd. UPJŠ v Košiciach, 2021, 450 s. ISBN 978-80-8152-973-3.
9. Inovovaný štátny vzdelávací program pre 2. stupeň ZŠ. Človek a príroda. Chémia. https://www.statpedu.sk/files/articles/dokumenty/inovovany-statny-vzdelavaci-program/chemia_nsv_2014.pdf
10. Inovovaný štátny vzdelávací program pre gymnázia so štvorročným a päťročným vzdelávacím programom. Človek a príroda. Chémia. https://www.statpedu.sk/files/articles/dokumenty/inovovany-statny-vzdelavaci-program/chemia_g_4_5_r.pdf
11. Školský informačný systém. Chémia. http://kekule.science.upjs.sk/chemia/index.htm
12. E – learning kurz: Didaktika chémie II (ÚCHV/DCH2/15), https://lms.upjs.sk/

Course language:

Notes:

Course assessment

Total number of assessed students: 137

A	B	C	D	E	FX
78.83	13.14	6.57	1.46	0.0	0.0

Provides: doc. RNDr. Mária Ganajová, CSc., RNDr. Ivana Sotáková, Ph.D.

Date of last modification: 21.01.2022

Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚMV/ DDMa/14	**Course name:** Didactics of mathematics

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: II.

Prerequisities:

Conditions for course completion:
Continuous assessment - 60% of the total assessment, exam - 40% of the total assessment.

Learning outcomes:
Master the basic principles and methods of teaching of mathematics at primary and secondary schools. Gain knowledge of the various ways of teaching specific topics of school mathematics.

Brief outline of the course:
1. Subject of Didactics of Mathematics, the development of mathematics and mathematics education.
2. Aims and objectives of mathematics teaching
3. Planning in mathematics teaching Logical and didactical curriculum analysis Determination of learning objectives
4. - 5. Didactical principles, methods of mathematics teaching
6. - 7. Assessment of learning outcomes, the creation of didactic tests
8. Mathematical problems
9. - 10. Construction numeric fields,
11. Theory of elementary functions,
12. - 13. Synthetic and analytic geometry

Recommended literature:
[1] M.Hejný a kol.: Teorie vyučovania matematiky, SPN Blava 1989, (in slovak)
[2] L.Frantíková,K.Hončarivová,O.Kopanev: Didaktika matematiky, UPJŠ 1982 (in slovak)
[3] R.Fischer,G.Malle: Človek a matematika, SPN Bratislava 1992 (in slovak)
[4] Polya, G.: How to solve it, Princeton University Press, 1957.
[5] Hejný, M., Kuřina, F.: Dítě, škola a matematika: Konstruktivistické přístupy k vyučování. Portál, Praha 2001. (in czech)

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 93

A	B	C	D	E	FX
37.63	34.41	16.13	8.6	3.23	0.0

Provides: doc. RNDr. Dušan Šveda, CSc.

Date of last modification: 19.09.2021

Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚMV/ DDMb/14	**Course name:** Didactics of mathematics

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

Number of ECTS credits: 4

Recommended semester/trimester of the course: 3.

Course level: II.

Prerequisities: ÚMV/DDMa/14

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

Learning outcomes:
The student demonstrates a shift in students' cognitive understanding specifically by orienting to some familiar general student problems (e.g., distinguishing between sentences and definitions) and to specific problems in some areas of mathematics (e.g., incorrect use of the equals sign) when solving a homework assignment.
While solving problems on written tests, the student will show that he or she has a conceptual understanding of mathematical concepts, properties and methods from school mathematics and is familiar with some standard and nonstandard procedures that students use when learning mathematics.
When presenting the seminar work, the student demonstrates that he/she is aware of the potential of the chosen topic, the necessary input knowledge of the pupils and the connections within the topic and with other topics, and has developed the objectives of the lesson properly. Furthermore, he/she demonstrates that he/she is aware of the possibilities of the proposed activities, teaching methods, selected tasks (what are their weaknesses and strengths). Demonstrates that he/she reflects on the response to a pupil's mistake in order to help him/her in his/her learning.

Brief outline of the course:

The content is based on current research findings related to mathematics teacher's specialised knowledge model. We focus mainly on pedagogical content knowledge, specifically knowledge of features of learning mathematics, knowledge of mathematics teaching, and knowledge of mathematics learning standards.
This knowledge is developed in the context of the five essential topics:
- Numbers, variables and numerical operations with numbers
- Relationships, functions, tables, diagrams
- Geometry and measurement
- Combinatorics, probability, statistics
- Logic, reasoning, proofs.
Within these essential topics we deal with the cognitive process of students, different representations of mathematical concepts, students' difficulties and their possible causes, teaching mathematical proofs, developing students' creativity, ways of motivating pupils, and also some didactical theories, such as Van Hiele's theory of geometric thinking. In each topic area we focus on critical points in terms of students' learning and the teaching of mathematics, preferably in secondary school.

Recommended literature:

[1] M.Hejný a kol. Teória vyučovania matematiky. Bratislava: SPN, 1989.
[2] Hejný, M.; Kuřina, F. Dítě, škola a matematika: konstruktivistické přístupy k vyučování. Praha: Portál, 2001.
[3] Hejný, M.; Novotná, J.; Stehlíková, N. Dvacet pět kapitol z didaktiky matematiky. Praha: PedF UK, 2004.
[4] Fischer, R.; Malle, G. Človek a matematika, Bratislava: SPN, 1992.
[5] Vondrová Naďa a kol. Kritická místa matematiky základní školy v řešení žáků. Praha: Karolinum, 2016.
[6] Textbooks and collections of problems and taks for secondary and middle school.

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 89

A	B	C	D	E	FX
68.54	15.73	12.36	2.25	1.12	0.0

Provides: doc. RNDr. Ingrid Semanišinová, PhD.

Date of last modification: 31.01.2022

Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚMV/ DFR/10	**Course name:** Differential equations

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: 1.

Course level: I., II.

Prerequisities:

Conditions for course completion:
Continuous assessment is taken the form of two tests during the semester. Final evaluation is given by continuous assessment (40%), written and oral part of the exam (30% and 30%).

Learning outcomes:
Theory of differential equations is one of the fundamental areas of mathematical analysis. It has numerous applications in various fields of science and technology. The main objective of this course is to familiarize students with the basics of the theory of ordinary differential equations and their systems, and methods for solving certain types of differential equations and systems. We consider them as possible mathematical models of real situations.

Brief outline of the course:
Basic concepts. Elementary methods for solving and applications of the first order differential equations. The existence and uniqueness of solutions to Cauchy problem for differential equations of the first order, the n-th order and for differential systems. The relationship between differential equations of the n-th order and systems. Linear differential equations of the n-th order and linear differential systems - the local and global theorem on the existence and uniqueness
of solutions to Cauchy problem, basic properties of solutions, fundamental system of solutions, structure of general solution, Lagrange method of variation of constants, linear differential equations and systems with constant coefficients. Reduction of the order of differential equations. Euler differential equations. Elimination method for solving the systems of differential equations.

Recommended literature:
1. L. Kluvánek, I. Mišík, M. Švec: Matematika II, SVTL, Bratislava, 1961 (in Slovak).
2. J. Eliaš, J. Horváth, J. Kajan: Zbierka úloh z vyššej matematiky 3, Alfa, Bratislava, 1980 (in Slovak).
3. S. J. Farlow: An introduction to differential equations and their applications, Dover Publications, New York, 2006.
4. W. Kohler, L. Johnson: Elementary differential equations with boundary value problems, Pearson Education, Boston, 2006.
5. M. Tenenbaum: Ordinary differential equations, Dover Publications, New York, 1985.
6. J. C. Robinson: An introduction to ordinary differential equations, Cambridge University Press, Cambridge, 2004.

7. J. Polking, A. Boggess, D. Arnold: Differential equations, Prentice Hall (Pearson), Upper Saddle River, 2006.

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 158

A	B	C	D	E	FX
19.62	22.78	14.56	21.52	17.72	3.8

Provides: doc. Mgr. Jozef Kiseľák, PhD.

Date of last modification: 03.05.2015

Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ DTCU/15	**Course name:** Digitálne technológie vo výučbe chémie

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

Number of ECTS credits: 5

Recommended semester/trimester of the course: 3.

Course level: 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: 10

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

Provides: doc. RNDr. Mária Ganajová, CSc., RNDr. Ivana Sotáková, Ph.D.

Date of last modification: 03.05.2015

Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚCHV/ DPP1/14	**Course name:** Diploma Project 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: 1	
Recommended semester/trimester of the course: 1.	
Course level: II.	
Prerequisities:	
Conditions for course completion:	
Learning outcomes:	
Brief outline of the course:	
Recommended literature:	
Course language:	
Notes:	
Course assessment Total number of assessed students: 65	

abs	n
100.0	0.0

Provides:
Date of last modification: 17.01.2022
Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚCHV/ DPP2/14	**Course name:** Diploma Project II
Course type, scope and the method: **Course type:** **Recommended course-load (hours):** **Per week: Per study period:** **Course method:** present	
Number of ECTS credits: 2	
Recommended semester/trimester of the course: 2.	
Course level: II.	
Prerequisities:	
Conditions for course completion:	
Learning outcomes:	
Brief outline of the course:	
Recommended literature:	
Course language:	
Notes:	
Course assessment Total number of assessed students: 65	
abs	n
100.0	0.0
Provides:	
Date of last modification: 17.01.2022	
Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.	

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚCHV/ DPP3/14	**Course name:** Diploma Project III
Course type, scope and the method: **Course type:** **Recommended course-load (hours):** **Per week: Per study period:** **Course method:** present	
Number of ECTS credits: 2	
Recommended semester/trimester of the course: 3.	
Course level: 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: 76

abs	n
100.0	0.0

Provides:
Date of last modification: 17.01.2022
Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/DPOU/14	**Course name:** Diploma 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: 14

Recommended semester/trimester of the course:

Course level: II.

Prerequisities: ÚCHV/DPP3/14

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
83.12	14.29	2.6	0.0	0.0	0.0

Provides:

Date of last modification: 26.01.2022

Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚMV/ DPP2a/14	**Course name:** Diploma project 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: 1	
Recommended semester/trimester of the course: 1.	
Course level: II.	
Prerequisities:	
Conditions for course completion:	
Learning outcomes:	
Brief outline of the course:	
Recommended literature:	
Course language: Slovak	
Notes:	
Course assessment Total number of assessed students: 48	

abs	n
100.0	0.0

Provides:
Date of last modification: 03.05.2015
Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚMV/ DPP2b/14	**Course name:** Diploma project II
Course type, scope and the method: **Course type:** **Recommended course-load (hours):** **Per week: Per study period:** **Course method:** present	
Number of ECTS credits: 2	
Recommended semester/trimester of the course: 2.	
Course level: II.	
Prerequisities: ÚMV/DPP2a/14	
Conditions for course completion:	
Learning outcomes:	
Brief outline of the course:	
Recommended literature:	
Course language: Slovak	
Notes:	
Course assessment Total number of assessed students: 48	

abs	n
100.0	0.0

Provides:
Date of last modification: 03.05.2015
Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚMV/ DPP2c/14	**Course name:** Diploma project III
Course type, scope and the method: **Course type:** **Recommended course-load (hours):** **Per week: Per study period:** **Course method:** present	
Number of ECTS credits: 2	
Recommended semester/trimester of the course: 3.	
Course level: II.	
Prerequisities: ÚMV/DPP2b/14	
Conditions for course completion:	
Learning outcomes:	
Brief outline of the course:	
Recommended literature:	
Course language: Slovak	
Notes:	
Course assessment Total number of assessed students: 41	

abs	n
100.0	0.0

Provides:
Date of last modification: 03.05.2015
Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚCHV/ DSU1a/10	**Course name:** Diplomový seminár z chémie pre XCH
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: 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: 13

abs	n
100.0	0.0

Provides: doc. RNDr. Mária Ganajová, CSc., RNDr. Ivana Sotáková, Ph.D.
Date of last modification: 21.01.2022
Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚCHV/ DSU1b/10	**Course name:** Diplomový seminár z chémie pre XCH
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: 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: 6

abs	n
100.0	0.0

Provides: doc. RNDr. Mária Ganajová, CSc., RNDr. Ivana Sotáková, Ph.D.
Date of last modification: 08.02.2022
Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: KPPaPZ/PUDU/15	**Course name:** Drug Addiction Prevention in Educational Practice

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

Number of ECTS credits: 4

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

Course level: II.

Prerequisities:

Conditions for course completion:
1st part of the semester evaluation: active participation in the training part (30p). 2nd part of the semester evaluation: active participation in workshops (20p) 3rd part of the semester evaluation - preparation (10p) and implementation (10p) of block activities (20p, minimum 11 points). 4th part of the evaluation - written knowledge exam (20p, minimum 11 points). In total, students can get 90p and the final grade is as follows: 90 - 82: A 81 - 73: B 72 - 66: C 65 - 59: D 58 - 54: E 53 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 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. 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 apply the learned rules, procedures and competencies for the work of a teacher in the field of drug use prevention, as well as the acquired professional skills for the work of a teacher and prevention coordinator at school.

Brief outline of the course:
Psychological, pedagogical-psychological, medical and legal-forensic aspects of substance use prevention
Prevention of substance use based on risk and resilience
Primary, secondary and tertiary prevention of substance use
Universal, selective and indicated prevention of substance use
Effective substance prevention strategies based on research data
Preparation and implementation of components of effective substance use prevention programs

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: 371

A	B	C	D	E	FX
54.18	38.01	7.01	0.81	0.0	0.0

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

Date of last modification: 24.06.2022

Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚMV/ DGE/10	**Course name:** Dynamic geometry

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: 3.

Course level: II.

Prerequisities:

Conditions for course completion:
Master the concept of dynamic geometric systems and commands for creating and modifying dynamic constructions. To be able to use dynamic geometric systems in the study of the properties of geometric shapes and the discovery of geometric patterns. To be able to effectively use the commands of dynamic geometric systems for modeling various situations, solving geometric problems, exploring geometric transformations, exploring graphs of functions, data processing.
Rating:
Test requiring the solution of geometric problems using classical tools and the use of a dynamic geometric system - 16 b.
Elaboration of a project focused on the use of a dynamic geometric system in solving geometric problems on a selected topic - 16 b.
Classification scale:
A: 91 % - 100 %,
B: 81 % - 90 %,
C: 71 % - 80 %,
D: 61 % - 70 %,
E: 51 % - 60 %,
FX: 0 % - 50 %.

Learning outcomes:
Skills to create dynamic constructions in a dynamic geometric system and to use commands usable in solving geometric problems. Knowledge and skills to effectively use geometric, algebraic and other types of tools in experimenting with geometric objects and their attributes, in discovering invariant properties of geometric shapes and geometric relationships between objects in triangles, quadrilaterals, conic sections and in basic types of spatial bodies. Be able to use geometric transformations in solving more complex constructing tasks.

Brief outline of the course:
1. - 4. Constructions and investigation of properties and geometric relations in triangles, quadrilaterals, circles and their use in solving construction problems. Menelaos's theorem, Ceva's theorem, Varignon's theorem, Ptolemy's theorem, cyclic and tangential quadrilaterals, center of gravity of triangles and quadrilaterals.

5. Investigation of sets of points with a given property.
6. Discovering and testing geometric relationships.
7. Composing congruent transformations. Use of congruent and similar transformations and circular inversion for solving tasks.
8. Mathematical modeling, investigation of functional dependencies between quantities, solving problems to find extremes.
9. - 10. Constructions of bodies, mutual positions of geometric shapes in space, sections of bodies, intersection of a line with a body.

Recommended literature:

Vaníček, J.: Počítačové kognitivní technologie ve výuce geometrie, Pedagogická fakulta Univerzity Karlovy, 2009
Stahl, G.: Dynamic-Geometry activities with GeoGebra for Virtual Math Teams, The Math Forum at Drexel University, 2012.
De Villiers, M., D.: Rethinking proof with the Geometer's Sketchpad. Key Curriculum Press, 2003.

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 43

A	B	C	D	E	FX
51.16	27.91	13.95	6.98	0.0	0.0

Provides: doc. RNDr. Stanislav Lukáč, PhD.

Date of last modification: 12.01.2022

Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: KPPaPZ/VP/09	**Course name:** Educational Counselling

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: 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: 208

A	B	C	D	E	FX
70.67	18.27	7.21	2.88	0.96	0.0

Provides: PhDr. Anna Janovská, PhD.

Date of last modification: 24.06.2022

Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: KPE/ ZSP/15	**Course name:** Essentials of Special 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: 3.

Course level: 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: 591

A	B	C	D	E	FX
59.56	23.52	10.83	4.4	1.18	0.51

Provides: PaedDr. Michal Novocký, PhD.

Date of last modification: 20.06.2022

Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: KPE/ ZZP/12	**Course name:** Experiential Education

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: 1., 3.

Course level: 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: 380

A	B	C	D	E	FX
45.0	37.11	13.95	3.68	0.26	0.0

Provides: doc. PaedDr. Renáta Orosová, PhD., Mgr. Katarína Petríková, PhD.

Date of last modification: 20.06.2022

Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚMV/ GEO2b/10	**Course name:** Geometry 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: 1.

Course level: II.

Prerequisities:

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

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

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

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

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 149

A	B	C	D	E	FX
16.78	16.11	24.83	16.78	20.13	5.37

Provides: RNDr. Igor Fabrici, Dr. rer. nat., RNDr. Veronika Hubeňáková, PhD.

Date of last modification: 28.10.2021

Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚMV/ GEO2c/10	**Course name:** Geometry III

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: 2.

Course level: II.

Prerequisities:

Conditions for course completion:
In the covered areas of geometry, the ability to formulate definitions and statements, to present proofs of statements, to explain individual steps in proofs and to solve selected problems related to given topics is required. During the semester (continuous assessment) a test take place, from which 30% of points can be obtained, and from the oral exam the remaining 70% can be obtained. Evaluation: A ... at least 90%, B ... at least 80%, C ... at least 70%, D ... at least 60%, E ... at least 50%, FX ... less than 50%

Learning outcomes:
Acquired knowledge of important points, lines, and circles in triangles, of quadrangles, and of circles and their properties, and the ability to solve problems on this area. A new look on classical geometric results.

Brief outline of the course:
- (week 1-5) Points and lines connected with a triangle (Menelaus's theorem, Ceva's theorem, points of interest, the incircle and excircles, pedal triangles, Euler line, nine-point circle)
- (week 6-8) Properties of circles (the power of a point with respect to a circle, radical axis of two circles, Simson lines, Ptolemy's theorem, Morley's theorem)
- (week 9-11) Collinearity and concurrence (quadrangles, Varignon's parallelogram, cyclic quadrangles, Brahmagupta's formula, Napoleon triangles)
- (week 12-14) Inversion with respect to a circle (basic properties, composition of inversions and homotheties)

Recommended literature:
1. H.S.M. Coxeter, S.L. Greitzer, Geometry revisited, MAA, 1967.
2. R.A. Johnson, Advanced Euclidean geometry, Dover Publ., 2007.
3. A.V. Akopyan, A.A. Zaslavsky, Geometry of conics, AMS, 2007.
4. D.A. Brannan, M.F. Esplen, J.J. Gray, Geometry, Cambridge Univ. Press, 2007.

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 118

A	B	C	D	E	FX
25.42	25.42	28.81	9.32	11.02	0.0

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

Date of last modification: 28.10.2021

Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: KPPaPZ/PsZ/15	**Course name:** Health 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: 3.

Course level: II.

Prerequisities:

Conditions for course completion:
Active participation in seminars, preparation and presentation of seminar work, final evaluation

Learning outcomes:
The aim of the course is to provide students with the latest knowledge and background of Health Psychology as well as forms of its application in order to improve the mental and physical health of individuals and society. The graduate of the course will understand the principles of health psychology, will be familiar with the current social discourse on the topics covered. The student will learn to use the acquired knowledge in school practice.

Brief outline of the course:
1. Health psychology. Definition of health. Bio-psycho-social model of health.
2. Mental health and quality of life, well being.
3. Physiological aspects of mental health, lifestyle
4. Stress. Coping, resilience.
5. Psychosomatic diseases, placebo.
6. Social support and its importance for health.
7. Burnout syndrome.
8. The meaning of life, faith.
9. Health-related behavior and prevention. Risky behavior, excessive use of the Internet and screens.
10. Socio-economic inequalities in health. Unemployment and health.

Recommended literature:
Křivohlavý, J.: Psychologie zdraví. Praha: Portál, 2001
Kebza, V.: Psychosociální determinanty zdraví. Praha: Academia, 2005
Křivohlavý, J.: Psychologie nemoci. Praha : Grada, 2002
Sarafino, E.P.: Health Psychology: Biopsychosocial Interactions, John Wiley & Sons, 2007
Taylor, E.: Health Psychology. Singapore: McGraw-Hill, 2006
Vollrath M.E.: Handbook of Personality and Health. Chichester: John Wiley & Sons, 2006

Course language:

Notes:

Course assessment
Total number of assessed students: 111

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

Provides: doc. Mgr. Mária Bačíková, PhD.

Date of last modification: 22.06.2022

Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: KPPaPZ/UPN/17	**Course name:** Introduction into Psychology of Religion

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: II.

Prerequisities:

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

Learning outcomes:
The student wil acquire a basic overview of the origin and current state of knowledge in the field of research and application the psychology of religion. He/she will be able to described, explaine, and evaluate this knowlege. The student will be able to apply the acquired knowledge in the basic orientation in the field, and develop critical thinking and will be able to apply and integrate already acquired knowledge from other (psychological) distributions

Brief outline of the course:
1. History of psychology of religion in national and world context
2. Psychological perspective on religion and religious experience
3. Psychology of religion in an interdisciplinary context
4. Basic approaches to psychological interpretation and selected views
5. Different types of religious experience
6. Psychological view of religion from a biodromal perspective
7. Spirituality versus religiosity in a postmodern society
8. Coping in the context of religiosity
9. Psychotherapy and religion, pastoral psychology

Recommended literature:
Eliade, M. (1994). Posvátné a profánní. Praha: Česká křesťanská akademie.
Eliade, M. (1995). Dějiny náboženského myšlení 1. Praha: Oikoymenh.
Freud, S. (1999). Nutkavá jednání a náboženské úkony. In Freud, S., Spisy z let 1906–1909. Praha: Psychoanalytické nakladatelství.
Fromm, E. (2003). Psychoanalýza a náboženství. Praha: Aurora
Erikson, E. (1996). Mladý muž Luther: studie psychoanalytická a historická. Praha: Psychoanalytické nakladatelství.
James, W. (1930). Druhy náboženské zkušenosti. Praha: Melantrich.
Jung, C. G. (1993). Analytická psychologie: Její teorie a praxe. Praha: Academia.

Křivohlavý, J. (2000). Pastorální péče. Praha: Oliva
Pargament, K. (1997), Psychology of religion and coping,
Říčan, P. (2007). Psychologie náboženství a spirituality. Praha: Portál.
Říčan P. (2002), Psychologie náboženství, Portál, Praha,
Stríženec, M. (2001) Súčasná psychológia náboženstva

Course language:

Notes:

Course assessment
Total number of assessed students: 55

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

Provides: Mgr. Jozef Benka, PhD.

Date of last modification: 24.06.2022

Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ UECH/03	**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: 1., 3.

Course level: I., II.

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.

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.

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: 223

A	B	C	D	E	FX
49.78	21.52	14.8	8.07	5.83	0.0

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

Date of last modification: 21.01.2022

Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚCHV/ FUMCH1/03	**Course name:** Introduction to Material 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: 1., 3.

Course level: I., II.

Prerequisities:

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 student's justified non-participation (incapacity for work, family reasons, etc.) in a maximum of two seminars during the semester without the need for substitute performance. In the case of a longer-term justified absence (for example due to incapacity for work), the relevant teacher will assign the student an alternative form of mastering the missed material.
2. Activity at seminars. The preparation of students and their activity in seminars is always assessed by the relevant teacher who leads the seminar, within his / her competence.
3. Elaboration and submission of a seminar paper on an assigned topic within the independent work at home and presentation of the most important conclusions of the seminar paper in the form of a PPT presentation. The seminar papers must be handed over to the relevant teacher who leads the seminars by the 12th week of the semester, and the presentation must take place no later than the 8th week of the semester. The seminar work and performance are evaluated by the relevant teacher. Submission of the seminar paper and its successful defense is a condition of admission to the oral exam.
4. The exam is usually carried out orally, resp. in case of restrictions of contact forms of the pedagogical process, the exam will be performed in 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:
To present the different types of functional materials, their atomic structure and mechanical properties.

Brief outline of the course:
Historical perspectives. Materials and human being. Participation of natural science in material engineering. Material revolutions. Classification of materials. Atomic structure and interatomic bonding. Amorphous and crystalline materials. Mechanics of materials. Imperfections in solids. Crystal lattice defects. Point defects. Line defects. Dislocations. Diffusion. Diffusion mechanisms. Deformations and failures, re-crystallization. Deformations. Plastic deformations. Solid solutions. Intermediary phases. Phases in ceramic systems. Phase transformations. Crystallization of metals.

Phase identification methods. Stress and strain. Structure of metallic and ceramic materials. Alloys. Steel. Light metals. Metallic glasses. Gold. Inorganic non-metallic materials. Ceramic construction materials. Ceramic tools. Bio-ceramics. Ceramics in cosmos. High-temperature superconductors. Glass. Building binders. Polymers. Essence of polymers. Thermoplastics. Reactoplastics. Polymer structure. Mechanical properties of polymers. Natural materials. Wood. Bones. Teeth. Conchs and shells. Tectrices.

Recommended literature:

W. D. Callister, Jr.: Fundamentals of Materials Science and Engineering, John Wiley & Sons, 2001.
Brian S. Mitchell: An Introduction to Materials Engineering and Science: For Chemical and Materials Engineers, John Wiley & Sons,
2004.

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: 78

A	B	C	D	E	FX
89.74	8.97	0.0	0.0	0.0	1.28

Provides: prof. RNDr. Renáta Oriňaková, DrSc.

Date of last modification: 25.11.2021

Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: KPPaPZ/ZMPPV/15	**Course name:** Introduction to Research Methodoly in Education and Psychology

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

Number of ECTS credits: 4

Recommended semester/trimester of the course: 2.

Course level: II.

Prerequisities: KPPaPZ/PPgU/15 and KPE/PDU/15

Conditions for course completion:
- active participation in seminars, presentation of assignments in groups, final exam

Learning outcomes:
The graduate of the course will gain information about the research methodology, will understand the basic methods of pedagogical and psychological research that can be used in the practice of the teacher. Within the seminars, students will develop professional skills through their own demonstration of a specific research method. The graduate of the course will be able to carry out simple scientific research, present the results of research and read the results of the latest research in the field of pedagogy and psychology.

Brief outline of the course:
Research in pedagogy and psychology. Scientific research, scientific thinking. Parts of a research project. Research planning. Topic selection, research problem formulation. Types of research plans. Hypothesis, variables, operationalization. Ethical issues of scientific research. Experiment (experiment problems, control of variables in the experiment). Experimental plans, quasi-experiment. Reliability and validity of research. Research sample, methods of sample selection. Data collection techniques - questionnaire, interview, sociometry, semantic differential, observation, tests. Introduction to qualitative methodology. Possibilities of quantitative data processing. How to write a scientific article, presentation, poster, qualification work. Interpretation of findings, integration of findings into context.

Recommended literature:
Bačíková, M., Janovská, A., Orosová, O. Základy metodológie pedagogicko-psychologického výskumu. 2.doplnené vydanie. Šafárik Press, 2019. dostupné online: https://unibook.upjs.sk/img/cms/2019/FF/zaklady-metodologie-ped-psych-vyskumu-2-vyd-web.pdf
Gavora, P.: Úvod do pedagogického výskumu. Bratislava, UK 1999.
Švec, Š. a kol.: Metodológia vied o výchove. Bratislava, Iris 1998. Turek, I.: K základom pedagogického výskumu. Prešov, KPÚ 1991.
Ferjenčík, J.: Úvod do metodológie psychologického výskumu. Praha, Portál 2000.
http://www.e-metodologia.fedu.uniba.sk/

Course language:

Notes:

Course assessment
Total number of assessed students: 716

A	B	C	D	E	FX
19.41	27.09	24.72	19.55	9.08	0.14

Provides: doc. Mgr. Mária Bačíková, PhD., PhDr. Anna Janovská, PhD.

Date of last modification: 24.06.2022

Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚMV/ pLTM/21	**Course name:** Logic and set theory

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

Number of ECTS credits: 3

Recommended semester/trimester of the course: 1.

Course level: 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: 3

A	B	C	D	E	FX
33.33	33.33	0.0	33.33	0.0	0.0

Provides: RNDr. Jaroslav Šupina, PhD.

Date of last modification:

Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚMV/ DPU/14	**Course name:** Magister thesis and its defense

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

Number of ECTS credits: 15

Recommended semester/trimester of the course:

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 41

A	B	C	D	E	FX
75.61	9.76	7.32	4.88	2.44	0.0

Provides:

Date of last modification: 07.12.2021

Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚMV/ pMRU/21	**Course name:** Mathematical problem solving strategies

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: 1.

Course level: 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: 3

A	B	C	D	E	FX
0.0	0.0	66.67	33.33	0.0	0.0

Provides: doc. RNDr. Ingrid Semanišinová, PhD., doc. RNDr. Stanislav Lukáč, PhD., doc. RNDr. Dušan Šveda, CSc.

Date of last modification:

Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚMV/ MST/19	**Course name:** Mathematical statistics

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

Number of ECTS credits: 5

Recommended semester/trimester of the course: 1.

Course level: I., II.

Prerequisities:

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

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

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

Recommended literature:
1. Skřivánková V.: Pravdepodobnosť v príkladoch, UPJŠ, Košice, 2006 (in Slovak)
2. Skřivánková V.-Hančová M.: Štatistika v príkladoch, UPJŠ, Košice, 2005 (in Slovak)
3. Casella, G., Berger, R., Statistical Inference, 2nd ed., Duxbury Press, 2002
4. DeGroot, M. H., Schervish, M. J.: Probability and Statistics, 4th ed., Pearson, Boston, 2012
5. Anděl J.: Základy matematické statistiky, MatfyzPress, Praha, 2011 (in Czech)

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 158

A	B	C	D	E	FX
25.32	20.89	13.92	18.99	12.66	8.23

Provides: doc. RNDr. Martina Hančová, PhD.

Date of last modification: 14.04.2022

Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚMV/ MDM/14	**Course name:** Mathematics and didactics of mathematics

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

Number of ECTS credits: 1

Recommended semester/trimester of the course:

Course level: II.

Prerequisities: ÚMV/DDMa/14 and ÚMV/DDMb/14

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

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

Brief outline of the course:

Recommended literature:

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 86

A	B	C	D	E	FX
29.07	24.42	23.26	13.95	9.3	0.0

Provides:

Date of last modification: 03.05.2015

Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚFV/ FEP1/07	**Course name:** Microcomputer Based Science Laboratory

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:

Course level: II.

Prerequisities:

Conditions for course completion:
Terms and conditions of assessment during the semester
-participation in classes in accordance with study regulations and teacher´s instructions
-active participation at seminars and exercises
-submitting all the assignments in accordance with teacher´s instruction
-realization, presentation and defence of the final assignment
Final assessment:
-based on assessment during the semester
Conditions for successful completion of the course:
-participation in lessons in accordance with the study regulations and teacher's instructions
-achieving the level higher than 50 % in assessment during the semester and in final assessment

Learning outcomes:
By the end of the course student gains an overview about the possible use of digital technologies to support active learning in science implementing methods of inquiry-based science education. He gains skills to use and develop activities on measuring data with the help of datalogging, measuring on videorecordings and picture and modeling processes. Student is able to implement such activities in science teaching to support active learning, conceptual understanding and inquiry skills´ development.

Brief outline of the course:
1. Inquiry-based science education (IBSE). Inquiry skills. Digital technologies to enhance IBSE.
2. Inquiry teaching and learning in computer-based laboratory. Digital tools for data collection, videomeasruement, modeling and data processing and analysis.
3. Data collection in real experiment with the help of sensors.
4. Processing and analysis of data gained with the help of sensors.
5.Activities on real-time measurements and processing and data analysis implementing IBSE methods.
6. Videomeasurement. How to measure on videorecording and picture.
7. Processing and analysis of data gained from videomeaurement.
8. Activities on videomeasurement and processing and data analysis implementing IBSE methods

9.Mathematical modeling with the help of computer. Role of computer modeling in science education.
10. Activities on computer modeling implementing IBSE methods.
11.Inquiry-based science education and methods of assessment.
12.Lesson design implementing digital technologies and IBSE methods.

Recommended literature:

DEMKANIN, Peter a kol.: Počítačom podporované prírodovedné laboratórium, Knižničné a edičné centrum FMFI UK Bratislava, 2006
Learning by doing the CMA way, dostupné na https://cma-science.nl/

Course language:

Slovak
English

Notes:

Course assessment

Total number of assessed students: 34

A	B	C	D	E	FX
44.12	44.12	11.76	0.0	0.0	0.0

Provides: doc. RNDr. Zuzana Ješková, PhD.

Date of last modification: 15.09.2021

Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚFV/ MDT/19	**Course name:** Modern Didactical Technology

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: II.

Prerequisities:

Conditions for course completion:
Summary evaluation based on ongoing assessment:
1. Active participation at the seminars (in the contact or online form) with minimum 80% participation.
2. Practical ongoing assignments (10) and their defense. At least 50% must be obtained from each assignment elaborated according to assessment criteria.

Learning outcomes:
Student graduated from subject will be able:
- recognize current available digital tools and their parameters for educational activities,
- to use all types of actual digital tools in education of science or humanities,
- to design and realize educational activities by using the modern technologies.

Brief outline of the course:
00. Introduction - goals and didactic principles
01. Modern hybrid classroom in 21st century
02. Digital learning spaces in 21st century
03. Cloud repositories, services, modern web-browser
04. Cloud editors for notes, texts, spreadsheets and presentations
05. Digital text (scan, OCR, voice recognition, Kami pdf)
06. Digital image and audio (digital recording and editing)
07. Interactive E-voting and videoconference systems in education
08. Digital collaborative technologies (social e-reader, collaborative whiteboard)
09. Virtual and digitally based experiments, digital databases
10. Education video (digital recording and editing)
11. Smartphone and tablet in classic and blended education
12. Teaching tools and digital teacher's workspace

Recommended literature:
1. Kireš, M. et al.: Modern didactical technics in teacher practice (in Slovak), Košice: Elfa, 2010
2 . Redecker, C., & Punie, Y. (2017). European Framework for the Digital Competence of Educators: DigCompEdu. Luxembourg: Publications Office of the European Union.

3. C. R. Tucker, T. Wycoff, J. T. Green, Blended Learning in Action: A Practical Guide Toward Sustainable Change. Thousand Oaks: Corwin Press, 2016.
4. D. Bannister, Guidelines on Exploring and Adapting: LEARNING SPACES IN SCHOOLS. Brussels: European Schoolnet, 2017.
5. current information from web sites related to didactical technologies,
catalogues of teaching tools,
current articles about modern trends in science and humanities education.

Course language:
Slovak, English

Notes:

Course assessment
Total number of assessed students: 96

A	B	C	D	E	FX
53.13	30.21	11.46	3.13	2.08	0.0

Provides: doc. RNDr. Jozef Hanč, PhD.

Date of last modification: 07.07.2022

Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: KPE/ PDK/17	**Course name:** Pedagogical Communication

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

Number of ECTS credits: 2

Recommended semester/trimester of the course: 1.

Course level: 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: 144

A	B	C	D	E	FX
73.61	24.31	2.08	0.0	0.0	0.0

Provides: Mgr. Katarína Petríková, PhD.

Date of last modification: 20.06.2022

Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: KPE/ PDD/17	**Course name:** Pedagogical Diagnostics

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: 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: 85

A	B	C	D	E	FX
83.53	11.76	4.71	0.0	0.0	0.0

Provides: PaedDr. Michal Novocký, PhD.

Date of last modification: 20.06.2022

Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: KPE/ PPD/15	**Course name:** Pedagogy and Psychology
Course type, scope and the method: **Course type:** **Recommended course-load (hours):** **Per week: Per study period:** **Course method:** present	
Number of ECTS credits: 1	
Recommended semester/trimester of the course:	
Course level: II.	
Prerequisities: KPE/PDU/15 and KPPaPZ/PPgU/15	
Conditions for course completion: Obtaining the required number of credits in the prescribed composition by the study plan.	
Learning outcomes: Verification of the acquired competencies of the student in accordance with the profile of the graduate.ie required number of credits in the prescribed composition by the study plan.	
Brief outline of the course: Pedagogy: 1. Pedagogy, basic pedagogical categories, system of pedagogical scientific disciplines. 2. Education, pages and functions of education, educational process, self-education.3. Factors of education, educated individual, pedagogue, pedagogical profession, professional competencies.4. School education, family education. 5. Educational goals, taxonomy, requirements, classification of educational goals.6. Methods of education. 7. Pedagogical principles. 8. School system of the Slovak Republic. 9. Didactics, basic questions of didactics, current starting points of didactics. 10. Objectives of the teaching process, the teacher's work with the objectives of teaching.11. Content of education, basic curriculum, extension curriculum, elements and components of curriculum. 12. Assessment in school education, types, functions and criteria of assessment.13. Pedagogical control, methods and forms of pedagogical control.14. Teacher's work planning, written preparation of the teacher for teaching.15. Teaching process, stages of the teaching process and their didactic functions.16. Organizational forms of teaching, lesson, stages, types of lessons.17. Teaching methods, classification, functions, selection of teaching methods. 18. Didactic principles of the teaching process. 19. Basic pedagogical documents, textbook, functions and structural components of the textbook.20. Current concepts of the teaching process. Psychology: 1.Psychology as a science, goals and subject of psychology in terms of influential psychological directions.2.Pedagogical psychology in teacher training, its subject, function.3.Psychology in school practice: professional forms of control and assistance, psychological examination, counseling process. Crisis intervention. Code of ethics.4.Psychology in school practice: approaches and models of prevention, prevention spectrum, protective and risk factors of risk behavior of schoolchildren in the context of the theory of triadic influence.5.Psychology in school practice: effective strategies for prevention of substance use.6.Psychology of education from from the point of view of psychodynamic approach (Psychoanalysis and Individual Psychology) .7.Psychology of education from the point of	

view of humanistic psychology.8.Psychology of education from the point of view of cognitive psychology.9.Psychology of learning and types of learning supplemented by examples from school practice. / success in the context of individual theories of cognitive development.11. Nutritional peculiarities, school non-success / intelligence in terms of intelligence.12. Memory and developmental peculiarities, school non-success 13. Attention and developmental peculiarities, school non / success peculiarities of individual types of family, educational styles.15.Social relations at school, me modes of cognition of interaction U and Ž. Psychosocial climate of school class and school, methods of cognition, sociometry.16.Social influence: presence of others, interpersonal influences and meaningful understanding of social influence in teacher's work.17.Teacher as a professional, his professional ability, teaching style, attitudes towards students, expectations towards students, coping with stress, burnout syndrome.18.Students: gifted and talented, school failure, non-thriving pupils and failing pupils, pupils' self-efficacy.19. Types of research plans and their creation (setting goals, hypotheses, variables, selection of research sample) in the context of pedagogical-psychological research.20. Selected methods of pedagogical-psychological research - questionnaire, interview, observation and possibilities of their use in school practice.

Recommended literature:

Pedagogika:
Čapek, R. (2016). Moderní didaktika. Praha: Grada.
Dytrtová, R., Krhutová, M. (2009). Učitel. Příprava na profesi. Praha: Grada.
Kalhous, Z., Obst, O. (2002). Školní didaktika. Praha: Portál.
Petlák, E. (2016). Všeobecná didaktika. Bratislava: Iris.
Petlák, E. (2005). Kapitoly zo súčasnej didaktiky. Bratislava: IRIS.
Prucha, J. (2017). Moderní pedagogika. Praha: Portál.
Turek, I. (2014). Didaktika. Bratislava: Wolters Kluwer.
Vališová, A., Kasíková, H. (2010). Pedagogika pro učitele. Praha: Grada.
Zormanová, L. (2014). Obecná didaktika. Praha: Grada.
Psychológia:
Mareš, J. (2013). Pedagogická psychologie. Praha : Grada.
Mareš, J., ČÁP, J. (2001). Psychologie pro učitele. Praha: Portál.
Džuka, J. (2003). Základy pedagogickej psychológie. Prešov: UK.
Orosová, O. a kol. (2005). Psychológia a pedagogická psychológia 1. Košice: UPJŠ.
Orosová, O. a kol. (2012). Základy prevencie užívania drog a problematického používania internetu v školskej praxi. Košice: UPJŠ.
Bačíková, M., Janovská, A. (2019). Základy metodológie pedagogicko-psychologického výskumu. Sprievodca pre študentov učiteľstva. 2. rozšírené vydanie. Šafárik press, Košice.
Gavora, P. a kol. (2010). Elektronická učebnica pedagogického výskumu. Bratislava: Univerzita Komenského. Dostupné online na www. e-metodologia. fedu. uniba. sk.
Vágnerová, M. (2005). Základy psychológie. Praha : Karolinum.
Vágnerová, M. (2005). Vývojová psychológie. Praha : Karolinum.
Vágnerová, M. (2005). Škoní podadenská psychologie pro pedagogy. Praha : Karolinum.
Výrost, J., Slaměník, I. (2008). Sociální psychologie. Praha : Grada.
Výrost, J., Salměník, I. (1998). Aplikovaná sociální psychológie I. Praha: Portál. Strana: 2
Fontana, D. (1997). Psychologie ve školní praxi. Praha: Portál.
Zelina, M. (2011). Stratégie a metódy rozvoja osobnosti dieťaťa: (metódy výchovy). Bratislava, Iris.
Křivohlavý, J. (2004). Pozitívni psychologie. Praha: Portál.
Křivohlavý, J. (2003). Psychologie zdraví. Praha: Portál.

Course language:

Notes:

Course assessment
Total number of assessed students: 574

A	B	C	D	E	FX
27.7	28.75	25.61	14.46	3.14	0.35

Provides:

Date of last modification: 07.06.2021

Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: KPPaPZ/PASZ/17	**Course name:** Problem and Aggressive Behaviour of Pupils. Etiology, Prevention and Intervention.

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: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:
General principles of mental development as a basis for recognizing mental disorders in children and adolescents. Etiology of mental disorders and developmental disorders in children and adolescents. Definition of aggressive behavior. Concepts of aggression vs. aggressiveness. Theoretical approaches to aggression. Causes and factors of aggressive behavior. Violence at school and in the family. Bullying. Psychology of problem students. Problems resulting from disturbed behavior. Problems arising from group relationships. Adolescent lifestyle issues. Problems resulting from impaired emotional experience. Solving problematic and aggressive behavior in the school environment. School classroom management, group preventive and intervention work with the classroom. Crisis intervention. Work with parents of problem students. Principles of interviewing a parent. Cooperation with other experts. Prevention of aggressive and problematic behavior at school. Classroom and school climate, school prevention programs.
Viac o tomto zdrojovom texteNa získanie ďalších informácií o preklade sa vyžaduje zdrojový text
Odoslať spätnú väzbu
Bočné panely

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 94

A	B	C	D	E	FX
73.4	19.15	7.45	0.0	0.0	0.0

Provides: PhDr. Anna Janovská, PhD.

Date of last modification: 24.06.2022

Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: KPPaPZ/KPE/EPU/15	**Course name:** Professional Ethics for Teachers and School Counsellors

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., 4.

Course level: II.

Prerequisities:

Conditions for course completion:
1. Active participation in seminars (max. 1 absence) - 30p, 2. Preparation for the seminar - 40p, 3. Preparation (description and analysis) of the moral dilemma - 30p. By summing the points obtained during the semester, the student obtains the final evaluation according to the scale: A 87 - 100, B 77 - 86, C 69 - 76, D 61 - 68, E 56 - 60, FX 55 and less. 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 will understand the principles of teacher ethics and the ethics of the educational counselor as one of the branch types of professional ethics. The student can theoretically reflect on the ethical and moral issues of the teaching profession and the function of the educational counselor (including the formulation of moral values, principles and standards of the teaching profession and the function of the educational counselor in the form of codes of ethics). He is able to analyze and solve practical moral problems in pedagogical practice, which supports the development of professional skills of students. The student is able to critically evaluate situations with a moral context thanks to the opportunity to discuss moral and ethical issues in an open way.

Brief outline of the course:
Moral emotions (theories of emotion, the center of emotions in the brain, types of emotions and their manifestations)
Development of moral reasoning, cognitive approaches to moral reasoning and their comparison (Piaget, Kohlberg, Gilligan, Eisenberg, Selman, Lind),
Moral behavior (from the point of view of learning theories) and moral (vs. social and emotional) intelligence in the work of a teacher
Possibilities of examining moral behavior and judgment (socio-psychological research of conformity, obedience, aggression and psychodiagnostic approaches to the determination of moral judgment)
Morality and professional ethics in general (ethical principles in helping professions) and codes of ethics
Professional ethics of the teacher and educational counselor (terminology, concepts, main principles of teacher ethics) and teacher ethics codes

Moral dilemmas and ways of solving them, MD of teaching practice
Possibilities of influencing and stimulating moral judgment, use of moral dilemma in education
Cheating and other unethical manifestations in the school environment, ethics and etiquette of final exams

Recommended literature:

Ráczová, Babinčák, P. Základy psychológie morálky. Košice : Equilibria, 2009. - 130 s. ISBN 9788070977866 (brož.).
Gluchmanová, M. K niektorým terminologickým otázkam učiteľskej etiky. Pedagogická orientace 2007, č. 2, s. 11–25. ISSN 1211-4669.
Malankievičová, S. Profesijná etika: FF PU. 2008.
Miezgová J., Vargová, D. Etika. SPN Mladé letá 2007.
Remišová A. Dejiny etického myslela v Európe a USA. Bratislava, Kalligram 2008.
Zelina, M. Teória výchovy alebo hľadanie dobra. Bratislava SPN 2010.
Gluchmanová, M. Uplatnenie princípov a hodnôt etiky sociálnych dôsledkov v učiteľskej etike. Prešov: FF PU,2009. 222 s. ISBN 978-80-555-0042-3
Campbell, E. The Ethical Teacher. Berkshire (England): Open University Press, 2003. 178 s. ISBN 03-3521-219-0.

Course language:
slovak

Notes:

Course assessment
Total number of assessed students: 490

A	B	C	D	E	FX
96.94	2.65	0.41	0.0	0.0	0.0

Provides: Mgr. Lucia Barbierik, PhD.

Date of last modification: 24.06.2022

Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: KPPaPZ/PPgU/15	**Course name:** Psychology and Educational Psychology

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: II.

Prerequisities:

Conditions for course completion:
Combined method.
Assessment Maximum 50 points during the semester (Three assignments).
Exam entry criteria: Active participation in exercises and at least 35 points obtained during the semester.
Continuous assessment (50%) and written examination (50%) / 10 questions.
Final evaluation:
A 94-100
B 93-87
C 86-80
D 79-73
E 72- 66
FX 65 -0
Electronic board of the course AIS2 - more information and news.

Learning outcomes:
Students will be able to show understanding of the human behaviour in educational situations.
Students will be able to describe, explain and justify possible teachers‘ decisions by using psychological concepts, principles and theories.
Students will be able to apply the psychological findings in the field of education.
Students will be able to explain how adolescents learn and retain new information, to explain their behaviour in response to educational environment.
Students will be able to explain the desired data-based modification of adolescents‘ behaviour to bring an all-round development of his personality and school performance, to explain the desired data-based modification of the behaviour of adolescents with educational problems, with disadvantages.

Brief outline of the course:
Introduction: The content of the course is based on current knowledge of psychological disciplines, especially pedagogical and school psychology.

Teaching is realized by a combination of lectures with engaging narrative interpretation and seminars using interactive, experiential methods, discussion and open communication with mutual respect, support of independence, activity and motivation of students.
Syllabus: The subject and goals of psychology and educational psychology. Professional forms of help in school practice.
Implementation of psychological concepts of personality into school practice (Classical and contemporary psychoanalytic theory, Individual psychology, Humanistic psychology, Concept of creative-humanistic education; Cognitivism and Theory of personal constructs). Social psychology of school and family. Learning and teaching. Health and disease; risk / protective factors with healthy related risk behavior. Psychology of students with behavioral and learning problems. Psychology of students with psychosocial, socio-cultural, health disadvantages. Psychological examination. Consulting process. Crisis intervention. Programs for prevention of risky behavior of schoolchildren.

Recommended literature:

Mareš, J.: Pedagogická psychologie. Praha : Grada 2013.
Mareš, J., & ČÁP, J.: Psychologie pro učitele. Praha: Portál, 2001.
Džuka, J.: Základy pedagogickej psychológie. Prešov: UK 2003.
Orosová, O. a kol: Psychológia a pedagogická psychológia 1. Košice: UPJŠ, 2005.
Orosová, O. a kol.: Základy prevencie užívania drog a problematického používania internetu v školskej praxi. Košice: UPJŠ 2012.
Vágnerová, M.: Základy psychológie. Praha : Karolinum 2005.
Vágnerová, M.: Vývojová psychológie. Praha : Karolinum 2005.
Vágnerová, M.: Škoní podadenská psychologie pro pedagogy. Praha : Karolinum 2005. Výrost, J., Slaměník, I.: Sociální psychologie. Praha : Grada 2008.
Výrost, J., Salměník, I.: Aplikovaná sociální psychológie I. Praha: Portál 1998.
Fontana, D. : Psychologie ve školní praxi. Praha: Portál 1997.
Zelina, M.: Stratégie a metódy rozvoja osobnosti. Bratislava, Iris: 1996.
Křivohlavý, J.: Pozitívni psychologie. Praha: Portál 2004.
Křivohlavý, J.: Psychologie zdraví. Praha: Portál 2003.

Course language:
slovak

Notes:

Course assessment
Total number of assessed students: 1625

A	B	C	D	E	FX
11.2	19.88	23.75	22.22	20.43	2.52

Provides: prof. PhDr. Oľga Orosová, CSc., Mgr. Lucia Barbierik, PhD., PhDr. Anna Janovská, PhD.

Date of last modification: 24.06.2022

Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: KPPaPZ/PTPN/17	**Course name:** Psychology of Creativity and Working with Gifted Students in Teacher 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: 2.

Course level: II.

Prerequisities:

Conditions for course completion:
1. active participation in lessons (max. 2 absences) - 30p, 2. own output at the seminar - 40p, 3. seminar work - 30p. By summing the points obtained during the semester, the student obtains the final evaluation according to the given scale: A 87 - 100, B 77 - 86, C 69 - 76, D 61 - 68, E 56 - 60, FX 55 and less. 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 the basic factors and process of creativity. The student is able to explain the specifics of working with the gifted. He knows the methods of identifying talent and also can apply methods to support creativity and the development of talent in the implementation of creative creativity in education.

Brief outline of the course:
The concept of creativity.
A brief history of the theory of creativity.
Social, psychological and biological factors of creativity.
Cognitive processes in creativity.
Creativity and cognitive style.
Development of creativity.
Talent and giftedness.
Methods of determining creativity and talent.
Methods of developing creativity and talent.
Creativity and talent development programs. Specifics of working with the gifted children.

Recommended literature:
DOČKAL, V. (2006): Inteligencia a tvorivosť, tvorivé nadanie od intelektovej schopnosti po štruktúru osobnosti. In: KUSÁ, D. a kol. EDS. (2006): Zjavná a skrytá tvorivosť. Bratislava: Slovak Academic Press
HŘÍBKOVÁ, L. (2009): Nadání a nadaní. Pedagogicko- psychologické přístupy, modely, výzkumy a jejich vztah ke školské praxi. Praha: Grada Publishing
DACEY, J.S.- LENNON, K.H. (2000): Kreativita. Praha: Grada

GROSS, M.U.M. (2009): Highly Gifted Young People: Development from Childhood to Adulthood. In: SHAVININA, L. (2009): International Handbook on Giftedness. Part one. Springer
KUSÁ, D. a kol. EDS. (2006): Zjavná a skrytá tvorivosť. Bratislava: Slovak Academic Press
KOLKOVÁ, S. (2000): Tvorivosť a jej rozvoj vo voľnočasových aktivitách detí (v školskom klube). Bratislava: Metodické centrum v Bratislave
LOKŠOVÁ, I., - LOKŠA, J.: (2003): Tvořivé vyučování. Praha: Grada
LAZNIBATOVÁ, J. (2004): Špecifiká vývinu a vzdelávania nadaných detí. In: Psychológia a patopsychológia dieťaťa, roč.39, č. 2-3
LAZNIBATOVÁ, J. (2001): Nadané dieťa, jeho vývin, vzdelávanie a podporovanie. Bratislava: Iris
MESÁROŠOVÁ, M. (1998): Nadané deti. Poznávanie a rozvíjanie ich osobnosti. Prešov: Manacon
SZOBIOVÁ, E. (2004): Tvorivosť – Od záhady k poznaniu. Bratislava: Stimul - Centrum informatiky a vzdelávania FIF UK
National and international scientific journlas

Course language:
slovak

Notes:

Course assessment
Total number of assessed students: 79

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

Provides: Mgr. Lucia Barbierik, PhD.

Date of last modification: 24.06.2022

Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: KSSFaK/ ČGUAP/15	**Course name:** Reading Literacy in Educational Process
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: 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: 42	

abs	n
100.0	0.0

Provides: doc. PaedDr. Ivica Hajdučeková, PhD.
Date of last modification: 29.06.2022
Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/MPPb/15	**Course name:** Scheduled practice teaching

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

Number of ECTS credits: 1

Recommended semester/trimester of the course: 2.

Course level: II.

Prerequisities: KPE/MPPa/15 and KPE/PDU/15 and (KPPaPZ/PaSPP/09 or KPPaPZ/PPgU/15)

Conditions for course completion:
1. Compulsory attendance during the organisational and informational seminar.
2. Compulsory attendance: sitting in on classes, analytical classes at training schools.
3. Sitting in on classes and analytical classes taught by supervising teachers – 11x.
4. Complete 1 independent teaching session and analytical class under supervision.
5. Submitted Scheduled practice teaching (SPT) documentation.
(Sitting-in records, Written class preparation, List of sitting-in sessions and trainee's performance during SPT, SPT report, Assessment of the trainee's pedagogical performance during SPT).

Learning outcomes:
The student can purposefully perceive and interpret phenomena observed during chemistry classes in terms of subject didactics and psychodidactics. Confront their own preconcepts pertaining to subject didactics and psychodidactics with the actual teachers' concepts in practice. Gain motivation for further study of the respective disciplines in terms of their own specialisation and for purposeful development of professional competences. Apply didactic skills to teach chemistry by designing a lesson project and teaching it in practice.

Brief outline of the course:
Students observe the process of teaching the subject of chemistry in primary school and secondary school and analyze it with supervising teacher. The internship takes place continuously during the semester. It is included in the timetable once a week at time 1-3. lessons at primary and secondary schools. The first two hours students observe/teach, the third lesson is an analysis.
Observation, perception, and analysis of subject-specific and psychodidactic phenomena in the way chemistry is taught at the training schools. Written evaluation and theoretical generalisation of the phenomena observed during the classes. Didactic Scheduled practice teaching analysis. Analysis of the perceived phenomena, theoretical generalisation, and comparison of the findings against theory. Written class preparation for teaching a lesson in chemistry. Trainee's teaching performance.

Recommended literature:
Current chemistry textbooks for primary and secondary schools in the Slovak Republic.

Course language:

Notes:

Course assessment
Total number of assessed students: 313

abs	n
100.0	0.0

Provides: RNDr. Ivana Sotáková, Ph.D., doc. RNDr. Mária Ganajová, CSc.

Date of last modification: 26.10.2021

Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚMV/ VPPb/15	**Course name:** Scheduled practice teaching
Course type, scope and the method: **Course type:** Practice **Recommended course-load (hours):** **Per week: Per study period:** 36s **Course method:** present	
Number of ECTS credits: 1	
Recommended semester/trimester of the course: 2.	
Course level: II.	
Prerequisities: KPE/MPPa/15 and KPE/PDU/15 and (KPPaPZ/PaSPP/09 or KPPaPZ/PPgU/15)	
Conditions for course completion: Teaching of a specified number of hours and visitations of specified number of classes (1 teaching and 11 visitation of classes). Submission of written assignments (reflection on teaching practice, statement of teaching hours and classes visitations, selected lesson plans).	
Learning outcomes: Application of the knowledge acquired in didactic courses focused on teaching mathematics in pedagogical practice. Development of the student's self-reflection within the framework of the analysis of the lessons taught by the student. Identification of the student's weaknesses in order to shift his/her knowledge. To acquaint students with the atmosphere and the organization of school.	
Brief outline of the course: Visitations of classes in selected lessons Analysis of lessons Lesson plans preparation Classes managed according to prepared lesson plan Reflection on realized classes	
Recommended literature: Mathematics curricula and textbooks for middle and secondary schools Hejný, M.: Teória vyučovania matematiky 2. Bratislava : SPN 1989 M. Hejný, J. Novotná, N. Stehlíková: Dvacet pět kapitol z didaktiky matematiky 2, Univerzita Karlova v Praze - Pedagogická fakulta, Praha, 2004	
Course language: Slovak	
Notes:	

Course assessment
Total number of assessed students: 97

abs	n
100.0	0.0

Provides: doc. RNDr. Ingrid Semanišinová, PhD., doc. RNDr. Dušan Šveda, CSc.

Date of last modification: 24.08.2022

Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

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: 54

abs	n
11.11	88.89

Provides: Mgr. Agata Dorota Horbacz, PhD.

Date of last modification: 29.03.2022

Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ VKAU/04	**Course name:** Selected Topics in Inorganic 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: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:
Greenwood, N.N., Earnshaw, A.: Chemistry of the elements I and II, Pergamon Press N.Y., 1993.
C. N. R. Rao, A. Muller, A. K. Cheetham: The Chemistry of Nanomaterials (Vol. 1,2), Wiley-VCH,2006.
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: 96

A	B	C	D	E	FX
46.88	29.17	19.79	2.08	2.08	0.0

Provides: prof. RNDr. Vladimír Zeleňák, DrSc.

Date of last modification: 08.09.2021

Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/VKOCH/03	**Course name:** Selected topics in organic 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: 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: 115

A	B	C	D	E	FX
36.52	25.22	19.13	13.04	6.09	0.0

Provides: doc. RNDr. Ján Imrich, CSc.

Date of last modification: 10.09.2021

Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚMV/ VMA/19	**Course name:** Selected topics on mathematical analysis

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

Number of ECTS credits: 4

Recommended semester/trimester of the course: 2.

Course level: I., II.

Prerequisities: ÚMV/FRPb/19

Conditions for course completion:
Final evaluation is given by continuous assessment.

Learning outcomes:
Expand the knowledge of mathematical analysis needed to deepen understanding of machine learning and artificial intelligence.

Brief outline of the course:
1. Vector (linear) space - examples of infinite-dimensional spaces (spaces of sequences and functions).
2. Metric space (MS) - metric, convergence of sequences, closure and interior of a set, completeness and compactness of MP, Banach fixed-point theorem.
3. Normed linear space (NLS) - norm, Banach spaces, relation to MS, dual spaces, Hölder, Minkowski inequality.
4. Space with scalar product - unitary and Hilbert spaces, Cauchy-Schwartz inequality, Pythagorean theorem, parallelogram rule, relation to LNP, orthogonal projections.
6. Operators (functionals) in NLP - linearity, continuity, boundedness, adjointness.

Recommended literature:
1. N. Katzourakis, E. Varvaruca, An illustrative introduction to modern analysis. Boca Raton, FL:CRC Press (2018)
2. A. M. Bruckner, J. B. Bruckner, B. S. Thomson, Real analysis, 2nd. ed., ISBN 1434844129, 2008
3. Taylor, A.: Úvod do funkcionální analýzy, Academia 1973.
4. Kolmogorov, A., Fomin, S.: Základy teórie funkcí a funkcionální analýzy, 1975.
5. S. Lang, Undegraduate Analysis, Springer, 1997.

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 1

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

Provides: doc. RNDr. Ondrej Hutník, PhD., doc. Mgr. Jozef Kiseľák, PhD.

Date of last modification: 27.03.2019

Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

COURSE INFORMATION LETTER

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

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

Number of ECTS credits: 2

Recommended semester/trimester of the course: 2.

Course level: I., II.

Prerequisities:

Conditions for course completion:
Conditions for continuous evaluation:
1. Participation in teaching in accordance with the study rules and instructions of the teacher.
2. Activity.
3. Homework and tests.
4. Seminar work and its presentation at the seminar – poster from history of mathematics on the selected topic
Conditions for successful completion of the course:
1. Participation in teaching in accordance with the study regulations and according to the instructions of the teacher;
2. Credits will be awarded to students who score at least 50% on homework assignments and tests. Additional points can be achieved for the presentation of a seminar paper.

Learning outcomes:
Students will demonstrate an understanding of the history of the development of some mathematical disciplines and selected concepts, and parallels between the phylogeny and ontogeny of mathematical thinking. They will demonstrate this understanding by scoring at least 50% on tests given at the beginning of the seminar on previous topics and on homework assignments.

Brief outline of the course:
Prehistory, ontogeny and phylogeny.
Mathematics in ancient cultures: Egypt, Mesopotamia, China, India.
Mathematics in ancient Greece: Origins of Greek natural philosophy and mathematics. The discovery of incommensurability and its consequences (Pythagoras and his school). Classical problems of Greek mathematics. Problems with infinity (Zeno). Eudoxus' method. Plato, Aristotle, Euclid and his Foundations. Archimedes of Syracuse, Eratosthenes, Apollónios, Claudios Ptolemy, Diophantos.
Arabic mathematics and its relation to medieval European mathematics.
The origins of modern mathematics. The search for the roots of polynomial equations. The origins of analytic geometry. Probability. Infinitesimal calculus. Number theory. Non-Euclidean geometry. The origin of set theory.
Development of mathematical symbolism.

Selected topics in school mathematics from the perspective of the history of mathematics.

Recommended literature:

Burton, D. M.: The History of Mathematics: An Introduction. McGraw−Hill, 2007.
Devlin, K.: Jazyk matematiky. Dokořán, 2002. (in czech)
Čižmár, J . Dejiny matematiky (Od najstarších čias po takmer súčasnosť) Perfekt, 2017. (in slovak)
Mareš , M . Příběhy matematiky. Pistorius, 2011. (in czech)

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 125

A	B	C	D	E	FX
72.0	12.0	8.8	3.2	3.2	0.8

Provides: doc. RNDr. Ingrid Semanišinová, PhD.

Date of last modification: 31.01.2022

Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚMV/SSM/15	**Course name:** Seminar on school mathematics

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

Number of ECTS credits: 2

Recommended semester/trimester of the course: 2.

Course level: II.

Prerequisities:

Conditions for course completion:
Active participation.
Seminar works.

Learning outcomes:
In this course, students will learn the way of thinking that a mathematics teacher should use in the processing of school mathematics in preparation for the lesson. They will get acquainted with some possibilities of using digital technologies in teaching mathematics and acquire basic knowledge for quality use of formative assessment.

Brief outline of the course:
The concept of function in mathematics, its aspects, and definitions. The concept of function in the school curriculum, knowledge of the structure of mathematics with respect to the concept of function. Proximal formative assessment, knowledge of the characteristics of learning mathematics. Instrumented formative assessment with a focus on the use of digital technologies for assessment in mathematics. Selection of tasks and digital tools for teaching functions. MTSK model as a tool for teacher self-reflection.

Recommended literature:
Slovak and Czech mathematics textbooks for secondary education. National mathematics curriculum of Slovakia, Czech republic and USA.

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 84

A	B	C	D	E	FX
55.95	39.29	3.57	0.0	1.19	0.0

Provides: RNDr. Veronika Hubeňáková, PhD.

Date of last modification: 18.02.2022

Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: KSSFaK/VSJU/15	**Course name:** Slovak Language for Teachers

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

Number of ECTS credits: 2

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

Course level: II.

Prerequisities:

Conditions for course completion:
Conditions for successful completion of the course:
a) regular active participation in seminars,
b) preparation of basic literature and content of lectures,
c) elaboration of seminar work / creative task,
d) successful completion of the final test.
Conditions for obtaining the final evaluation: a) seminar work / creative task b) final test (min. 56%) Final evaluation: 100,00 - 92,00% A 91,99 - 83,00% B 82,99 - 74,00 % C 73.99 - 65.00% D 64.99 - 56.00% E 55.99% and less FX
Prerequisites for successful completion of the course are annually updated on the electronic bulletin board in AIS2.

Learning outcomes:
During the final evaluation, the student demonstrates adequate mastery of the content standard of the course, which is defined by the required literature and seminar content, and demonstrates mastery of the performance standard, within which the student is able to practically apply the standard of standard Slovak in oral and written communications. manuals, gain skill in the bibliographic and citation standard. The graduate of the course normatively masters written communication on the basis of current orthographic rules and knows the basic characteristics of the means of expression of the text and functional language style.

Brief outline of the course:
Characteristics of basic terms of general linguistics (language – speech, language functions, the sign character of language, language levels, content and form in language, individual and general aspect of language units) on interdisciplinary background and with the application to Slovak as a national language. Language standard, codification, usus. Basic codification manuals. Application of orthographic rules in practical documents. Sound culture, pronunciation styles. Orthoepic phenomena in vowels and consonants. Application of rhythmic law and its exceptions. Assimilation and its specific features in Slovak. Style, stylization – methods and demonstration of structure of text components.

Recommended literature:
BÓNOVÁ, I. - JASINSKÁ, L.: Jazyková kultúra nielen pre lingvistov. Košice: UPJŠ 2019. 100 s.

FINDRA, J.: Štylistika slovenčiny. Martin : Osveta, 2004.
FINDRA, J.: Štylistika slovenčiny v cvičeniach. Martin : Osveta, 2005.
KRÁĽ, Á.: Pravidlá slovenskej výslovnosti. Martin: Matica slovenská 2006. 423 s.
Krátky slovník slovenského jazyka. Martin: Matica slovenská 2020.
SABOL, J.- SLANČOVÁ, D. - SOKOLOVÁ, M.: Kultúra hovoreného slova. Prešov, FF UPJŠ 1989.
Pravidlá slovenského pravopisu. Bratislava: Veda 2000 (2013).
SABOL, J. – BÓNOVÁ, I. – SOKOLOVÁ, M.: Kultúra hovoreného prejavu. Prešov: FF PU 2006.
SLANČOVÁ, D.: Praktická štylistika. 2., upravené a doplnené vydanie. Prešov: Slovacontact 1996. 178 s. ISBN 80-901417-9-X.
Slovník súčasného slovenského jazyka. Bratislava: Veda 2006.
Slovník súčasného slovenského jazyka. Bratislava: Veda 2011.
Slovník súčasného slovenského jazyka. Bratislava: Veda 2015.

Course language:
Slovak language

Notes:

Course assessment
Total number of assessed students: 124

A	B	C	D	E	FX
16.94	25.0	33.87	13.71	9.68	0.81

Provides: PhDr. Iveta Bónová, PhD., PhDr. Lucia Jasinská, PhD.

Date of last modification: 24.06.2022

Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚCHV/ SPC1a/03	**Course name:** Special Practising the School Experiments I

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: 5

Recommended semester/trimester of the course: 1.

Course level: II.

Prerequisities:

Conditions for course completion:
1. Participations in exercises (also applies to tohe online form of teaching). Students are required to participate in laboratory exercises. The students can excuse themself (incapacity for work, family reasons, etc.) for a maximum of two exercises during the semester without the need for replacement. In the case of a longer-term justified absence (for example due to incapacity for work), the student will be assigned an alternative form of mastering the missed curriculum.
2. Active participation in class. Students are active – they master the knowledge of general and inorganic chemistry, they know the working procedures for experiments, which include worksheets, cooperation and communication in pairs/groups and presentation of the results of their work. Learning materials will be available through the e-learning portal LMS Moodle (direct link to the website: https://lms.upjs.sk/) in the course Special Practising the School Experiments I (ÚCHV/ SPC1a/03c).
3. Outputs – presentation of experiments for primary and secondary school. There will be two outputs focused on demonstration experiments on selected topics of primary and secondary school chemistry.
4. A part of the student's assessment in the subject is also a written test, given in the 8th week of teaching.
The final assessment in the course consists of the sum of points obtained for:
1. Active preparation for exercises (0-30 points).
2. Outputs – presentation of experiments for primary and secondary schools (0-20 points).
3. Written test (0-50 points).
Conditions for successful completion of the course: In order to obtain an A rating, it is necessary to obtain at least 85 points in total, to obtain an B rating at least 75 points, to obtain a C rating at least 65 points, to obtain a D rating at least 55 points and to obtain an E rating at least 45 points.

Learning outcomes:
The aim of the course is to acquire and consolidate basic experimental skills and habits in work techniques in school demonstration experiments with an emphasis on the safety and health of students in student experimental work. Students will also acquire basic knowledge and skills in the field of inquiry-based learning and work with computer-based chemical experiments.

Brief outline of the course:

1. General instructions for work in a school chemical laboratory.
2. Basic chemical concepts.
3. Basic chemical laws and properties of substances. Solubility of substances. Solutions. Determination of physical and chemical constants.
4. Energy changes in chemical reactions. Factors affecting the rate of chemical reactions.
5. Experiments on the topic of oxygen, hydrogen, air.
6. Halogens and their compounds.
7. Chalcogens and their compounds.
8. Carbon, nitrogen and their compounds.
9. Acids and bases.
10. Chemistry of everyday life in school experiments.
11. Environmental chemistry. Interesting school experiments.

Recommended literature:

1. GANAJOVÁ, M., DZURILLOVÁ, M.: Školské pokusy z chémie I. Košice: UPJŠ v Košiciach, Prírodovedecká fakulta, 2005. ISBN 80-7097-617-9.
2. KIREŠ, M., JEŠKOVÁ, Z., GANAJOVÁ, M., KIMÁKOVÁ, K.: Bádateľské aktivity v prírodovednom vzdelávaní. Časť A. Bratislava: ŠPÚ, 2016. ISBN 978-80-8118-155-9. https://www.statpedu.sk/files/articles/nove_dokumenty/ucebnice-metodiky-publikacie/badatelske-aktivity/01cast_a_web.pdf
3. GANAJOVÁ, M., KRISTOFOVÁ, M.: Bádateľské aktivity v prírodovednom vzdelávaní. Časť B. Ukážky vytvorených metodických a pracovných materiálov z predmetu Chémia. Bratislava: ŠPÚ, 2016. ISBN 978-80-8118-155-9. https://www.statpedu.sk/files/articles/nove_dokumenty/ucebnice-metodiky-publikacie/badatelske-aktivity/04cast_b_chemia_web.pdf
4. GANAJOVÁ a kol.: Zbierka inovatívnych metodík z chémie pre základné školy. Doplnené vydanie. Bratislava: CVTI SR, 2021. ISBN 978-80-8240-007-9. https://vzdelavanie.itakademia.sk/vystupy/zim-che-zs.pdf
5. GANAJOVÁ a kol.: Zbierka inovatívnych metodík z chémie pre stredné školy. Doplnené vydanie. Bratislava: CVTI Bratislava: CVTI SR, 2021. ISBN 978-80-8240-008-6. https://vzdelavanie.itakademia.sk/vystupy/zim-che-ss.pdf
6. Inovovaný štátny vzdelávací program pre 2. stupeň ZŠ. Človek a príroda. Chémia. https://www.statpedu.sk/files/articles/dokumenty/inovovany-statny-vzdelavaci-program/chemia_nsv_2014.pdf
7. Inovovaný štátny vzdelávací program pre gymnázia so štvorročným a päťročným vzdelávacím programom. Človek a príroda. Chémia. https://www.statpedu.sk/files/articles/dokumenty/inovovany-statny-vzdelavaci-program/chemia_g_4_5_r.pdf
8. Učebnice chémie pre základné školy a gymnáziá.
9. Školský informačný systém. Chémia. http://kekule.science.upjs.sk/chemia/index.htm
10. Virtuálne prírodovedecké laboratórium. http://www.virtual-lab.sk/videozaznamy.html
11. Studium chemie. Portál PřF UK pro podporu vyuky chemie na SŠ a ZŠ. https://studiumchemie.cz/
12. E-ChemBook – Multimediální učebnice chemie. https://www.youtube.com/user/VideosChemWeb/videos
13. E – learning kurz: Špeciálne praktikum školských pokusov I (ÚCHV/SPC1a/03c) https://lms.upjs.sk/

Course language:

Notes:

Course assessment
Total number of assessed students: 296

A	B	C	D	E	FX
67.91	24.66	6.42	1.01	0.0	0.0

Provides: doc. RNDr. Mária Ganajová, CSc., RNDr. Ivana Sotáková, Ph.D.

Date of last modification: 09.02.2022

Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚCHV/ SPC1b/03	**Course name:** Special practising the school experiments II

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: 2.

Course level: II.

Prerequisities:

Conditions for course completion:
1. Pressence is complusory. In the case of long-term absence can student realize experiments in alternative term.
2. Students activity - knowledges about reaction mechanisms and experimental skills to realize experiments.
3. Make reports of every exercise.
Classification:
1. Short exams on the beginning of every exercise (max 35 points)
2. Reports of every exercise (max 15 points)
3. Two exams (each max 25 points, min 51%)
A: 100 – 91%
B: 90 – 81%
C: 80 – 71%
D: 70 – 61%
E: 60 – 51%

Learning outcomes:
The students will become familiar with the basic laboratory skills and techniques that they can apply in demonstrating experiments in their future career as a teacher. The rules of healthy and safety laboratory work are emphasised. Students will apply their knowledges and sklills in exploration activities in the topic of Natural compounds on the basis of 5E. They can motivate students using chemical experiments (https://studiumchemie.cz/, https://www.youtube.com/user/VideosChemWeb/videos, http://www.e-chembook.eu/).

Brief outline of the course:
1. Qualitative analysis of organic compounds - confirmation reactions for carbon, hydrogen, halogens and nitrogen.
2. Alkanes - preparation of methane.
3. Alkenes - preparation of ethene and its confirmation using its addition reactions; addition reactions of β-carotene.
4. Alkynes - preparation of acetylene and its derivatives, confirmation reactions of acetylene.

5. Aromatic hydrocarbons and their derivatives – preparation of benzene, aromatic electrophilic substitution reactions – nitration of toluene and naphthalene, preparation of benzyl bromide.
6. Halogenoderivatives – preparation of chloroethane and iodoform.
7. Hydroxoderivatives – oxidation reactions of ethanol, ability to distinguish methanol from ethanol, confirmation reaction of glycerol, preparation of sodium ethanolate and sodium phenoxide, bromation of phenol, colour reactions of phenols and naphtols.
8. Ethers – properties of diethyl ether.
9. Carbonyl compounds - preparation of formaldehyde and acetaldehyde, confirmation reactions of aldehydes and ketones.
10. Carboxylic acids and their derivatives – esterification reactions, reaction of carboxylic acids with magnesium, preparation and properties of soap.
11. Natural compounds – carbohydrates, proteins, amino acids, lipids. Exploration activities on the topic of Natural compounds: fermentation, bioglue, murder and food
12. Natural pH indicator - study of its colur changes depending on pH values.
13. Column chromatography -acetylation reaction of ferrocene - its preparation and separation of the obtained products by column chromatography.
14. Isolation of the fragrant components using steam distillation.
15. Everyday life chemistry.

Recommended literature:

1. SMIK, L., MERVA, L., BRUTOVSKÁ, A: Technika a didaktika školských pokusov Košice: Vyd. Rektorát UPJŠ, 1988.
2. SMIK, L. a kol.: Špeciálna didaktika chémie II., Košice: Vyd. Rektorát UPJŠ, 1984.
3. Špeciálne praktikum školských pokusov z organickej chémie – Interné skriptá.
4. GANAJOVÁ a kol.: Zbierka inovatívnych metodík z chémie pre základné školy. 1. doplnené vydanie. Bratislava: CVTI SR, 2021. https://vzdelavanie.itakademia.sk/vystupy/zim-che-zs.pdf
5. GANAJOVÁ a kol.: Zbierka inovatívnych metodík z chémie pre stredné školy. 1. doplnené vydanie. Bratislava: CVTI SR, 2021. https://vzdelavanie.itakademia.sk/vystupy/zim-che-ss.pdf
6. Inovovaný štátny vzdelávací program pre 2. stupeň ZŠ. Človek a príroda. Chémia. https://www.statpedu.sk/files/articles/dokumenty/inovovany-statny-vzdelavaci-program/chemia_nsv_2014.pdf
7. Inovovaný štátny vzdelávací program pre gymnázia so štvorročným a päťročným vzdelávacím programom. Človek a príroda. Chémia. https://www.statpedu.sk/files/articles/dokumenty/inovovany-statny-vzdelavaci-program/chemia_g_4_5_r.pdf
8. Učebnice chémie pre základné školy a gymnáziá.
9. Studium chemie. Portál PřF UK pro podporu vyuky chemie na SŠ a ZŠ. https://studiumchemie.cz/
10. E-ChemBook – Multimediální učebnice chemie. https://www.youtube.com/user/VideosChemWeb/videos

Course language:
slovak language

Notes:

Course assessment
Total number of assessed students: 291

A	B	C	D	E	FX
45.7	28.18	16.15	6.87	3.09	0.0

Provides: RNDr. Jana Špaková Raschmanová, PhD., RNDr. Ján Elečko, PhD., RNDr. Slávka Hamuľaková, PhD.
Date of last modification: 21.01.2022
Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

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., I.II., II.

Prerequisities:

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

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

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

Recommended literature:
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: 14548

abs	abs-A	abs-B	abs-C	abs-D	abs-E	n	neabs
86.46	0.07	0.0	0.0	0.0	0.05	8.41	5.02

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

Date of last modification: 29.03.2022

Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

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., I.II., II.

Prerequisities:

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

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

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

Recommended literature:
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: 13211

abs	abs-A	abs-B	abs-C	abs-D	abs-E	n	neabs
84.35	0.51	0.02	0.0	0.0	0.05	10.78	4.29

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

Date of last modification: 29.03.2022

Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

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., I.II., II.

Prerequisities:

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

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

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

Recommended literature:
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: 8879

abs	abs-A	abs-B	abs-C	abs-D	abs-E	n	neabs
88.62	0.07	0.01	0.0	0.0	0.02	4.25	7.03

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

Date of last modification: 29.03.2022

Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

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., I.II., II.

Prerequisities:

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

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

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

Recommended literature:
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: 5628

abs	abs-A	abs-B	abs-C	abs-D	abs-E	n	neabs
82.66	0.28	0.04	0.0	0.0	0.0	8.05	8.97

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

Date of last modification: 29.03.2022

Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ SAZ1/15	**Course name:** Stereochemistry of Inorganic Compounds

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:

Course level: II.

Prerequisities:

Conditions for course completion:
Successful completion of two written tests (2 x 50b) in the middle and at the end of the semester. Final written test (100b) in the examination period. A minimum of 50% for each test is considered successful. 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:
Gaining knowledge of the structure, isomerism and stereochemistry of inorganic compounds.

Brief outline of the course:
Molecular symmetry, distribution of electron pairs on valence shell, configuration of molecules, polyhedral-regular, semi-regular, irregular, chemical coordination polyhedra, secondary building units, spin and charge correlation, non-equivalence of electron pairs, molecular geometry

Recommended literature:
Kepert, D.L.: Inorganic stereochemistry, Sringer, 1982.
Morris, D.G.: Stereochemistry, Royal Society of Chemistry, 2001
Schiermund, T.: Introduction to stereochemistry, Springer, 2021.

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. A notebook is required for the exercises, as some assignments require data analysis in graphics programs.

Course assessment
Total number of assessed students: 31

A	B	C	D	E	FX
64.52	16.13	12.9	6.45	0.0	0.0

Provides: prof. RNDr. Vladimír Zeleňák, DrSc.
Date of last modification: 27.01.2022
Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ STA1/03	**Course name:** Structure Analysis

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

Number of ECTS credits: 6

Recommended semester/trimester of the course:

Course level: II.

Prerequisities:

Conditions for course completion:
2 written tests during semester and written examination.
The final evaluation is based on the results from the tests (30 %) and written examination (70 %).
The student must obtain at least 51% of each test and exam.
The same is valid also for online education.

Learning outcomes:
Students get an overview about the symmetry at the micro- and macrostructure level, about principles of difraction and about diffraction methods used for the crystal structure determination and they will learn how to use the results of the crystal structure analysis in their own work.

Brief outline of the course:
Macrostructure and microstructure symmetry, individual work with space groups. Theoretical basis of the diffraction experiment. Practical aspects of crystal structure solution. Processing the results of structural analysis. Theoretical basis, practical aspects and possibilities of X-ray powder diffraction analysis, its use at work of a chemist.

Recommended literature:
Massa, W.: Crystal structure determination, 2nd edition. Springer 2004.
Clegg, W. et al.: Crystal structure analysis. Principles and practice. Oxford University Press 2009.
Hahn, T.: International tables for crystallography, Vol. A. Kluwer Academic Publishers 2002.
Klug, H.P. & Alexander, L.E.: X-Ray diffraction procedures for polycrystalline and amorphous materials. John Wiley & Sons, Inc. 1970.

Course language:
Slovak and 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: 144

A	B	C	D	E	FX
27.08	15.97	29.17	20.14	6.94	0.69

Provides: doc. RNDr. Ivan Potočňák, PhD.

Date of last modification: 21.07.2022

Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚMV/ SVK/10	**Course name:** Students scientific conference
Course type, scope and the method: **Course type:** **Recommended course-load (hours):** **Per week: Per study period:** **Course method:** present	
Number of ECTS credits: 4	
Recommended semester/trimester of the course:	
Course level: I., II.	
Prerequisities:	
Conditions for course completion:	
Learning outcomes: Individual scientific work of students. Publishing of obtained results in a written form and as a public presentation.	
Brief outline of the course:	
Recommended literature: With respect to the research problematics (article in journals, books).	
Course language: Slovak or English	
Notes:	
Course assessment Total number of assessed students: 17	

abs	n
100.0	0.0

Provides:
Date of last modification: 01.12.2021
Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

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: 209

abs	n
37.32	62.68

Provides: Mgr. Dávid Kaško, PhD.

Date of last modification: 29.03.2022

Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: KPE/ MPPa/15	**Course name:** Supervised Teaching Practice
Course type, scope and the method: **Course type:** Practice **Recommended course-load (hours):** **Per week: Per study period:** 36s **Course method:** present	
Number of ECTS credits: 2	
Recommended semester/trimester of the course: 1.	
Course level: 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: 689

abs	n
100.0	0.0

Provides: doc. PhDr. Beata Gajdošová, PhD., doc. PaedDr. Renáta Orosová, PhD., Mgr. Katarína Petríková, PhD.
Date of last modification: 20.06.2022
Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: KPE/ PDU/15	**Course name:** Teaching Methodology and Pedagogy

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: 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: 746

A	B	C	D	E	FX
24.66	28.15	27.35	13.94	5.36	0.54

Provides: doc. PaedDr. Renáta Orosová, PhD., Mgr. Katarína Petríková, PhD.

Date of last modification: 20.06.2022

Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: KPPaPZ/UPR/15	**Course name:** The Art of Aiding by Verbal Exchange

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: II.

Prerequisities:

Conditions for course completion:
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. Final test in the range of 20 questions from selected chapters and lectures. Maximum number of points 20; minimum number of points 11. The final evaluation (mark) is the sum of points for the presentation and the test. A 40b - 37b B 36b - 33b C 32b - 29b D 28b - 25b E 24b - 21b FX 20b - 0b
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:
Provide students with basic information about a systemic approach to helping. Train interviewing, clarify orders. Reflect on help options.
The student is able to demonstrate an understanding of the theoretical principles of conducting a helping conversation.
The student is able to describe, explain and evaluate in what context to use which of the selected techniques to help the interview with the individual.
The student is able to use basic selected techniques when working with an individual in the interview process.
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.

Brief outline of the course:

Psychological preparation for conducting an interview. Self-reflection of one's own possibilities, abilities to lead a conversation, to help. Possibilities of helping with conversations from the point of view of selected psychological approaches. Systematic approach to helping. Interview and professional ways to help and control. Objectivist and constructivist framework of conversation in theory and practice. Is it possible to help with control? Opening the interview, negotiating the course, course, ending the interview. Constructivist questions in the interview. Analysis of individual phases of conducting the interview. Reflex team possibilities of help in conversation. Models of reflective teams. Model situations of conducting an interview with an individual. Model situations of conducting an interview with a group. Professional possibilities, advantages and pitfalls of solving problems with an individual, with a group.

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 149

A	B	C	D	E	FX
89.26	2.68	6.04	1.34	0.67	0.0

Provides: Mgr. Ondrej Kalina, PhD.

Date of last modification: 24.06.2022

Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚCHV/ VKCH/10	**Course name:** Vybrané kapitoly z chémie

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

Number of ECTS credits: 4

Recommended semester/trimester of the course: 1.

Course level: II.

Prerequisities:

Conditions for course completion:
Terminal examination by written form.

Learning outcomes:
Organic chemistry:
The general review on the basic chemistry of saccharides, lipids, amino acids and peptides.
Inorganic chemstry:
To get acquaintance of the students with the stereochemistry of inorganic compounds, methods of the study and its influence on the properties of the compounds. Moreover to get acqaintance of the students with actual direction of inorganic chemistry in the area of nanomaterials.

Brief outline of the course:
Organic chemistry:
Nomenclature of monosaccharides, their stereochemistry (the Fischer projection, the Haworth projection, conformation of sugars). Monosaccharide derivatives. Ascending reactions. Oligosaccharides and polysaccharides.
Lipids, their structure and classification. Groups of lipids. Triacylglycerols, glycerophospholipids sfingophospholipids, glycosphingolipids.
Amino acids, their nomenclature, classification and stereochemistry. Synthesis of amino acids. Nonribosomal construction of peptides.
Inorganic chemistry:
Symmetry, elements of symmetry, point groups, symmetrical properties of orbitals and bonds. Principles of stereochemistry, VSEPR, configuration of molecules, polyhedra, regular and semiregular polyhedra, the use of concept of symmetry in IR and UV-VIS spectroscopy. Nanochemistry - definition, bonds in nanoparticles and nanopowders, interactions between nanoparticles. Unique properties of nanomaterials, new methods of the synthesis of nanomaterials.

Recommended literature:
J. McMurry: Organic chemistry, Books/Cole, a Thomson Learning Company 2004, Sixth Eddition, ISBN 0534389996.
J. Chomič: Stereochemistry of inorganic compounds, UPJŠ Košice, 1988.
K. J. Klabunde, R. M. Richards: Nanoscale Materials in Chemistry, Wiley-CH, 2009.

Course language:

Notes:

Course assessment
Total number of assessed students: 232

A	B	C	D	E	FX
27.59	28.45	30.6	11.21	1.72	0.43

Provides: prof. RNDr. Mária Kožurková, CSc., prof. RNDr. Vladimír Zeleňák, DrSc., doc. RNDr. Miroslava Martinková, PhD.

Date of last modification: 15.09.2021

Approved: prof. PhDr. Oľga Orosová, CSc., doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Jozef Doboš, CSc.