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 credits: 2

Recommended semester/trimester of the course:

Course level: I., II., N

Prerequisities:

Conditions for course completion:
kontrolný písomný test, aktivita na hodine
záverečný písomný test
povolené max. 2 absencie
stupnica hodnotenia: A 93-100, B 86-92, C 79-85, D 72-78, E 65-71, FX 64 a menej
aktivita na hodine
predmet končí hodnotením, t.j. povolený je 1 opravný test

Learning outcomes:
Osvojenie si a rozvíjanie užitočných techník akademického písomného ako aj ústneho prejavu so zameraním na rozvoj jazykových kompetencií študenta, na upevňovanie a rozvíjanie všetkých jazykových zručností na stredne pokročilej až pokročilej úrovni ovládania jazyka (B2/C1 podľa Spoločného európskeho referenčného rámca pre jazyky). Predmet kladie dôraz na používanie akademickej angličtiny v akademickom prostredí.

Brief outline of the course:
Akademická angličtina a jej charakteristiky
Čítanie odborných článkov, analýza, parafrázovanie
Spájacie slová v akademickom písaní
Formálna a neformálna angličtina a ich črty
Vyjadrovanie príčiny, následku v akademickom jazyku
Čítanie odbornej publikácie, analýza, parafrázovanie
Slovotvorba v anglickom jazyku- predpony a prípony
Ako prezentovať v angličtine
Parafrázovanie a definovanie
Ako písať abstrakt
Slovosled v akademickom diškurze

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:

Notes:

Course assessment
Total number of assessed students: 292

A	B	C	D	E	FX
29.11	22.26	16.1	11.3	8.22	13.01

Provides: PaedDr. Gabriela Bednáriková

Date of last modification: 06.02.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of 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: 54

A	B	C	D	E	FX
85.19	12.96	0.0	0.0	0.0	1.85

Provides: Mgr. Ján Juščák, PhD.

Date of last modification: 04.02.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: KFaDF/ AFS/05	**Course name:** Antique Philosophy and Present Times

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 credits: 2

Recommended semester/trimester of the course: 2.

Course level: I., II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 30

A	B	C	D	E	FX
83.33	6.67	6.67	0.0	3.33	0.0

Provides: doc. PhDr. Pavol Tholt, PhD., mim.prof., Doc. PhDr. Peter Nezník, CSc.

Date of last modification: 26.01.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚFV/ AST/13	**Course name:** Astronomy

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 credits: 4

Recommended semester/trimester of the course: 3.

Course level: II.

Prerequisities:

Conditions for course completion:
Test; seminar paper.
Oral exam with preparation; 3 questions within the curriculum presented during the course.

Learning outcomes:
Become acquainted with basic knowledge about the structure and evolution of the universe.

Brief outline of the course:
The stars, their basic properties, structure and evolution. Structure and distribution of matter in the universe. Cosmological theories, formation, evolution and future of the universe.

Recommended literature:
1. Carroll, B. W., Ostlie, D. A., An Introduction to Modern Astrophysics, Addison-Wesley Publishing Company, Reading, Massachusetts, 1996.
2. Contopoulos, D. Kotsakis, Cosmology, the structure and evolution of the Universe, Springer, 1984
3. Narlikar, J.V., An Introduction to Cosmology, Cambridge University Press, Cambridge, 2002

Course language:

Notes:

Course assessment
Total number of assessed students: 17

A	B	C	D	E	FX
76.47	17.65	5.88	0.0	0.0	0.0

Provides: doc. RNDr. Rudolf Gális, PhD.

Date of last modification: 31.01.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ZEM1/04	**Course name:** Basic experimental apparatus methods

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 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: 2

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

Provides: prof. RNDr. Katarína Györyová, DrSc., prof. RNDr. Juraj Černák, CSc., doc. RNDr. Mária Reháková, CSc., doc. RNDr. Vladimír Zeleňák, PhD., doc. RNDr. Ivan Potočňák, PhD.

Date of last modification: 03.02.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

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 credits: 5

Recommended semester/trimester of the course: 1.

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:
Goal of the course is to provide the students with a knowledge of types of toxic substances and their metabolism, safe and handling of toxic substances.

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.

Course language:

Notes:

Course assessment
Total number of assessed students: 250

A	B	C	D	E	FX
21.2	26.8	24.0	18.0	8.8	1.2

Provides: prof. RNDr. Katarína Györyová, DrSc.

Date of last modification: 03.02.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

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 credits: 5

Recommended semester/trimester of the course: 2.

Course level: II.

Prerequisities:

Conditions for course completion:
test

Learning outcomes:
Students obtained the knowledge of basic biotechnological processes and their applications in agriculture, industry, 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: 84

A	B	C	D	E	FX
42.86	23.81	19.05	8.33	5.95	0.0

Provides: RNDr. Danica Sabolová, PhD.

Date of last modification: 03.02.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

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 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: 351

A	B	C	D	E	FX
58.4	30.48	8.55	1.14	0.28	1.14

Provides: PaedDr. Renáta Orosová, PhD.

Date of last modification: 04.02.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: KPPaPZ/KK/07	**Course name:** Communication and Cooperation

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 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: 281

abs	n	z
98.22	1.78	0.0

Provides: Mgr. Ondrej Kalina, PhD.

Date of last modification: 04.02.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: KGER/ NJKK/07	**Course name:** Communication Competence in the 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 credits: 2

Recommended semester/trimester of the course:

Course level: I., II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 42

A	B	C	D	E	FX
57.14	14.29	7.14	4.76	14.29	2.38

Provides: Mgr. Eva Černáková, PhD.

Date of last modification: 05.02.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of credits: 2

Recommended semester/trimester of the course:

Course level: I., II., N

Prerequisities:

Conditions for course completion:
ontrolný písomný test, aktivita na hodine
záverečný písomný test
stupnica hodnotenia A 93-100, B 86 - 92, C 79-85, D 72-78, E 65-71, FX menej ako 64
Povolené max. 2 absencie počas semestra
predmet končí hodnotením, možnosť jedného opravného testu

Learning outcomes:
Uplatnenie a aktívne používanie svojich teoretických vedomostí v praktických komunikačných situáciách. Zdokonalenie jazykových vedomostí a zručností študenta, rečovej, pragmatickej a vecnej kompetencie, predovšetkým zlepšujú komunikáciu, schopnosťprijímať a formulovať výpovede, efektívne vyjadrovať svoje myšlienky ako aj orientovať sa v obsahovom pláne výpovede. Precvičovanie rečových intencií kontaktných (napr. pozdravy, oslovenia, pozvanie, oslovenie), informatívnych (napr. získavanie a podávanie informácií, vyjadrenie priestorových a časových vzťahov), regulačných (napr. prosba, poďakovanie, zákaz, pochvala, súhlas, nesúhlas) a hodnotiacich (napr. vyjadrenie vlastného názoru, stanoviska, želania, emócií). Výsledkom budovania praktickej jazykovej kompetencie majú byť vedomosti a zručnosti zodpovedajúce požiadavkám a kritériám dokumentu Spoločný európsky referenčný rámec pre vyučovanie jazykov - úroveň B2.

Brief outline of the course:
Rodina, jej formy a problémy
Vyjadrovanie pocitov a dojmov
Dom, bývanie a budúcnosť
Formy a dialekty v anglickom jazyku
Život v meste a na vidieku
Kolokácie a idiomy, zaužívané slovné spojenia
Prázdniny a sviatky vo svete
Životné prostredie a ekológia
Výnimky zo slovosledu
Frázové slovesá a ich použitie
Charakteristiky neformálneho diškurzu

Recommended literature:

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

Course language:

Notes:

Course assessment

Total number of assessed students: 174

A	B	C	D	E	FX
36.78	22.41	18.39	9.77	8.05	4.6

Provides: PaedDr. Gabriela Bednáriková, Mgr. Silvia Marcinová, PhD.

Date of last modification: 06.02.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of credits: 2

Recommended semester/trimester of the course:

Course level: I., II., N

Prerequisities:

Conditions for course completion:
kontrolná písomná práca,
záverečná písomná práca
stupnica hodnotenia: A 93-100, B 86-92, C 79-85, D 65-71, 64 a menej - FX
aktivita na hodinách, povolené 2 absencie
predmet je ukončený hodnotením, možnosť jedného opravného testu

Learning outcomes:
Identifikovanie a odstránenie najfrekventovanejších gramatických chýb v ústnom prejave, ako aj v písomnom styku. Rozvoj jazykových kompetencií študenta so zameraním na funkcie gramatiky anglického jazyka v každodennej interakcii, v komunikačnom akte na stredne pokročilej úrovni ovládania jazyka (B2 podľa Spoločného európskeho referenčného rámca pre jazyky).

Brief outline of the course:
Zvieratá a rastliny na zemi
Zločin a trest
Cestovanie po mori a vzduchom
Jedlá a reštaurácie, národná kuchyňa
Vzdelanie na vysokých školách
História a viera
Vybrané problémy anglickej výslovnosti, gramatiky (nepriama reč, slovotvorba, predložkové väzby, anglická syntax, kondicionály v angličtine a slovnej zásoby príslušného zamerania
Vybrané funkcie praktického odborného jazyka potrebné na prácu s odborným textom

Recommended literature:
Misztal M.: Thematic Vocabulary, 1994
McCarthy, O'Dell: English Vocabulary in Use, 1994
Alexander L.G.: Longman English Grammar, Longman, 1988
Jones I. - Communicative Grammar Practice, CUP, 1992
Vince M.: Macmillan Grammar in Context, Macmillan, 2008
www.bbclearningenglish.com
Gráf T., Peters S.: Time to practise, Polyglot, 2007

Course language:

Notes:

Course assessment
Total number of assessed students: 378

A	B	C	D	E	FX
39.42	18.25	17.2	8.73	5.82	10.58

Provides: PaedDr. Gabriela Bednáriková

Date of last modification: 06.02.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚFV/ FEP1/04	**Course name:** Computer Aided School Physical Experiment

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 credits: 4

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

Course level: II.

Prerequisities:

Conditions for course completion:
test 30 points
active participation 10 points
project (development of mathematical model, videomeasurement and physical experiment) 60 points
The final assessment is based on the sum of partial results

Learning outcomes:
After the course student gains an overview about the possible use of digital technologies to support active learning in physics. He gains skills to use and develop activities on measuring data with the help of datalogging, measuring on picture and viderecording and modeling physical processes. Student is able to implement such activities in physics teaching to support active learning and conceptual understanding.

Brief outline of the course:
The aim of the course is to present the use of digital technologies to enhance active learning in physics with the help of datalogging, videomeasurement and modelling tools. Mathematical modelling is based on dynamical modeling of physical phenomena. Within the course students carry out computer-based experiments and videomeasurements and create corresponding models. The activities involves selected topics of secondary schools physics (mechanics, electricity, magnetism, thermal physics, ideal gas laws, optics and acoustics).

Recommended literature:
[1]Koubek, V., Pecen, I.: Fyzikálne experimenty a modely v školskom mikropočítačom podporovanom laboratóriu, Univerzita Komenského, Bratislava, 1999
[2]Príručka COACH
[3]http://physedu.science.upjs.sk/sis/fyzika/experimenty/index.htm

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 32

A	B	C	D	E	FX
46.88	46.88	6.25	0.0	0.0	0.0

Provides: doc. RNDr. Zuzana Ješková, PhD.

Date of last modification: 18.02.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/MPPb/03	**Course name:** Continual pedagogic practice I

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

Number of credits: 1

Recommended semester/trimester of the course: 2.

Course level: II.

Prerequisities: ÚCHV/SPC1a/03

Conditions for course completion:

Learning outcomes:
The aim of this subject is to apply theoretical preparation from chemistry didactics by the creation of lesson plans for teaching

Brief outline of the course:
The practice runs 3 week and is realizes only in one school in Košice from both certificated subjects. Content of practise is obligate visitation at 8 lessons and unlearns minimal 10 lessons from each certificated subject. A part of practice is methodical and professional analysis unlearn lesson and active implication in out of class and school activities.

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 158

abs	n
100.0	0.0

Provides: doc. RNDr. Mária Ganajová, CSc., RNDr. Milena Kristofová

Date of last modification: 03.02.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/MPPc/04	**Course name:** Continual pedagogic practice II

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

Number of credits: 2

Recommended semester/trimester of the course: 3.

Course level: II.

Prerequisities: ÚCHV/MPPb/03 and ÚCHV/DCHa/03

Conditions for course completion:

Learning outcomes:
The aim of this subject is to apply theoretical preparation from chemistry didactics by the creation of lesson plans for teaching

Brief outline of the course:
The practice runs 4 week and is realizes only in one school in Košice from both certificated subjects. Content of practise is obligate visitation at 8 lessons and unlearns minimal 18 lessons from each certificated subject. A part of practice is methodical and professional analysis unlearn lesson and active implication in out of class and school activities.

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 138

abs	n
100.0	0.0

Provides: doc. RNDr. Mária Ganajová, CSc., RNDr. Milena Kristofová, RNDr. Ivana Sotáková

Date of last modification: 03.02.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/MPPd/05	**Course name:** Continual pedagogic practise III

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

Number of credits: 2

Recommended semester/trimester of the course: 4.

Course level: II.

Prerequisities: (ÚCHV/MPPc/04 or ÚCHV/MPPc/15) and ÚCHV/DCH2/15

Conditions for course completion:

Learning outcomes:
The aim of this subject is to apply theoretical preparation from chemistry didactics by the creation of lesson plans for teaching

Brief outline of the course:
The practice runs 3 week and is realizes only in one school in Košice from both certificated subjects. Content of practise is obligate visitation at 4 lessons and unlearns minimal 15 lessons from each certificated subject. A part of practice is methodical and professional analysis unlearn lesson and active implication in out of class and school activities.

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 150

abs	n
100.0	0.0

Provides: doc. RNDr. Mária Ganajová, CSc., RNDr. Milena Kristofová, RNDr. Ivana Sotáková

Date of last modification: 03.02.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚFV/ MPPb/03	**Course name:** Continuous Teaching Practice I

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

Number of credits: 1

Recommended semester/trimester of the course: 2.

Course level: II.

Prerequisities:

Conditions for course completion:
Verbal: trainer-teacher assessment of student's outcomes in analysis of the lesson
Written evaluation of the work of the student trainer-teacher.

Learning outcomes:
Enable students to gain first practical experience in teaching physics to apply theoretical knowledge in specific teaching situation to develop their teaching skills. To acquaint students with the atmosphere and the organization of school.

Brief outline of the course:
The practice lasts three weeks at primary or at secondary school. During practice students visit lessons of Physics and assist teacher during lessons. They teach at least five lessons of Physics stand-alone. Required is also an analysis of lessons with a trainer-teacher. Students are required to participate in school life and in the activities organized by the school.

Recommended literature:
J. Janovič a kol.: Didaktika fyziky, MFF UK Bratislava, 1990
J. Janovič a kol.: Vybrané kapitoly didaktiky fyziky, MFF UK Bratislava, 1999
E. Kašpar a kol.: Didaktika fyziky, SPN Praha, 1978
Current curriculum and Physics textbooks in Slovakia.

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 53

abs	n
100.0	0.0

Provides: RNDr. Ľudmila Onderová, PhD., PhDr. Silvia Kontírová, PhD., Mgr. Mária Sarková, PhD.

Date of last modification: 18.02.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚFV/ MPPc/03	**Course name:** Continuous Teaching Practice II

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

Number of credits: 2

Recommended semester/trimester of the course: 3.

Course level: II.

Prerequisities: ÚFV/MPPb/03 and ÚFV/DF1a/04 or ÚFV/DF1a/10

Conditions for course completion:
Verbal assessment of outcomes by trainer-teacher during the analysis of the lesson.
A written evaluation of the student work by the trainer-teacher.

Learning outcomes:
Enable students to gain first practical experience in teaching physics to apply theoretical knowledge in specific teaching situation to develop their teaching skills. To acquaint students with the atmosphere and the organization of school.

Brief outline of the course:
The practice lasts four weeks at primary or at secondary school. During practice students visit lessons of Physics and assist teacher during lessons. They teach18 lessons of Physics stand-alone. Required is also an analysis of lessons with a trainer-teacher. Students are required to participate in school life and in the activities organized by the school.

Recommended literature:
J. Janovič a kol.: Didaktika fyziky, MFF UK Bratislava, 1990
J. Janovič a kol.: Vybrané kapitoly didaktiky fyziky, MFF UK Bratislava, 1999
E. Kašpar a kol.: Didaktika fyziky, SPN Praha, 1978
Učebnice fyziky pre ZŠ, SŠ a G
J. Janovič a kol.: Didaktika fyziky, MFF UK Bratislava, 1990
J. Janovič a kol.: Vybrané kapitoly didaktiky fyziky, MFF UK Bratislava, 1999
E. Kašpar a kol.: Didaktika fyziky, SPN Praha, 1978
Physics textbooks for primary and secondary school

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 51

abs	n
100.0	0.0

Provides: PhDr. Silvia Kontírová, PhD., Mgr. Mária Sarková, PhD., RNDr. Ľudmila Onderová, PhD.

Date of last modification: 18.02.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚFV/MPPd/05	**Course name:** Continuous Teaching Practice III

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

Number of credits: 2

Recommended semester/trimester of the course: 4.

Course level: II.

Prerequisities: (ÚFV/MPPc/03 or ÚFV/MPPc/15) and ÚFV/DF1b/04 or ÚFV/DF1b/10

Conditions for course completion:
Verbal assessment of outcomes by trainer-teacher during the analysis of the lesson.
A written evaluation of the student work by the trainer-teacher.

Learning outcomes:
Enable students to gain first practical experience in teaching physics to apply theoretical knowledge in specific teaching situation to develop their teaching skills. To acquaint students with the atmosphere and the organization of school.

Brief outline of the course:
The practice lasts three weeks at primary or at secondary school. During practice students visit lessons of Physics and teach lessons of Physics stand-alone. Required is also an analysis of lessons with a trainer-teacher. Students are required to participate in school life and in the activities organized by the school.

Recommended literature:
Physics textbooks for primary and secondary school

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 58

abs	n
100.0	0.0

Provides: PhDr. Silvia Kontírová, PhD., Mgr. Mária Sarková, PhD., RNDr. Ľudmila Onderová, PhD.

Date of last modification: 18.02.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

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 credits: 4	
Recommended semester/trimester of the course: 3.	
Course level: II.	
Prerequisities:	
Conditions for course completion: Seminar report on the selected subjects of cosmetic chemistry and its oral presentation connected with discussion. Terminal examination by oral form.	
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. J. McMurry: Organic chemistry, Brooks/Cole, a Thomson Learning Company 2004, Sixth Eddition, ISBN 0534389996.	
Course language:	
Notes:	

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: 03.02.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: KAE/ KAp/03	**Course name:** Cultural Anthropology

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 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: 126

A	B	C	D	E	FX
84.92	14.29	0.79	0.0	0.0	0.0

Provides: Mgr. Adriana Jesenková, PhD.

Date of last modification: 29.01.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: KPPaPZ/RSEI/03	**Course name:** Development of Social and Emotional Intelligence
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 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: 319	

abs	n
97.18	2.82

Provides: Mgr. Lucia Hricová	
Date of last modification: 04.02.2014	
Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.	

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚFV/ DF1a/10	**Course name:** Didactics of Physics I

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

Number of credits: 5

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: 31

A	B	C	D	E	FX
61.29	25.81	6.45	6.45	0.0	0.0

Provides: doc. RNDr. Marián Kireš, PhD.

Date of last modification: 18.02.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚFV/ DF1b/10	**Course name:** Didactics of Physics II

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

Number of credits: 5

Recommended semester/trimester of the course: 3.

Course level: II.

Prerequisities: ÚFV/DF1a/04 or ÚFV/DF1a/10

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 26

A	B	C	D	E	FX
88.46	3.85	3.85	3.85	0.0	0.0

Provides: doc. RNDr. Marián Kireš, PhD.

Date of last modification: 18.02.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚFV/ 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 credits: 1

Recommended semester/trimester of the course: 1.

Course level: II.

Prerequisities:

Conditions for course completion:
regular consultations with diploma thesis supervisor about the progress of diploma project development, design of investigation plan

Learning outcomes:
Student has studied the theoretical background, formulates research questions, has designed investigation plan, has presented first results, eventually.

Brief outline of the course:
Development of diploma project

Recommended literature:
Recommended literature that is included in the diploma thesis assignments
Regulations for diploma thesis preparation
template for diploma thesis

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 4

abs	n
100.0	0.0

Provides:

Date of last modification: 17.02.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

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 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: 12

abs	n
100.0	0.0

Provides:
Date of last modification: 17.02.2014
Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

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 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: 12

abs	n
100.0	0.0

Provides: doc. Ing. Viera Vojteková, PhD.
Date of last modification: 17.02.2014
Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚFV/ 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 credits: 2

Recommended semester/trimester of the course: 2.

Course level: II.

Prerequisities:

Conditions for course completion:
regular consultaions with diploma thesis supervisor about the progress of diploma project development and about the investigation
regular consultations
study of available resources connected with the diploma thesis assignments
first results

Learning outcomes:
Student understands the methods of investigation and he gains first results.

Brief outline of the course:
Work on the diploma project with regard to the assignemnts of the diploma thesis

Recommended literature:
Recommended literature that is included in the diploma thesis assignments
Regulations for diploma thesis preparation
template for diploma thesis

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 4

abs	n
100.0	0.0

Provides:

Date of last modification: 17.02.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

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 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: 15	

abs	n
100.0	0.0

Provides: doc. RNDr. Ivan Potočňák, PhD., doc. Ing. Viera Vojteková, PhD.
Date of last modification: 17.02.2014
Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚFV/ 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 credits: 2

Recommended semester/trimester of the course: 3.

Course level: II.

Prerequisities:

Conditions for course completion:
regular consultations with diploma thesis supervisor about the progress of diploma project development and about the project results

Learning outcomes:
Student has enough knowledge to prepare a theoretical part of the diploma thesis and for practical part based on the problem analysis and drawing conclusions.

Brief outline of the course:
Work on the project with regard to the diploma thesis assignments

Recommended literature:
Recommended literature that is included in the diploma thesis assignments
Regulations for diploma thesis preparation
template for diploma thesis

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 8

abs	n
100.0	0.0

Provides:

Date of last modification: 17.02.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚFV/ DSD/04	**Course name:** Diploma Seminar

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

Number of 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: 2

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

Provides: doc. RNDr. Marián Kireš, PhD.

Date of last modification: 18.02.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚFV/ DSD2/08	**Course name:** Diploma Seminar

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

Number of 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: 4

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

Provides: doc. RNDr. Marián Kireš, PhD.

Date of last modification: 18.02.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

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 credits: 15

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: 16

A	B	C	D	E	FX
62.5	31.25	6.25	0.0	0.0	0.0

Provides:

Date of last modification: 17.02.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚFV/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 credits: 15

Recommended semester/trimester of the course:

Course level: II.

Prerequisities:

Conditions for course completion:
Preparation and submission of diploma thesis in printed and electronic form.
Presentation of diploma thesis results and its defence in front of examination board.

Learning outcomes:
Knowledge and skills connected with selected problem analysis and presentation of diploma thesis results in front of experts.

Brief outline of the course:
Preparation and submission of diploma thesis to central registration system.
Printed version for reviewing.
Presentation of diploma thesis results and answers to the questions of reviewrs.
Discussion on the content of diploma thesis and answers to the questions of examination board members.

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 7

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

Provides:

Date of last modification: 17.03.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

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 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: 5

abs	n
100.0	0.0

Provides: doc. RNDr. Mária Ganajová, CSc., RNDr. Milena Kristofová
Date of last modification: 03.02.2014
Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

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 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: 1

abs	n
100.0	0.0

Provides: doc. RNDr. Mária Ganajová, CSc., RNDr. Milena Kristofová
Date of last modification: 03.02.2014
Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: KPE/APV/09	**Course name:** Educational Action Research

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 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: 29

A	B	C	D	E	FX
86.21	13.79	0.0	0.0	0.0	0.0

Provides: prof. Volodymyr Starosta, DrSc.

Date of last modification: 04.02.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: KPE/ SL1/05	**Course name:** Education-related Legislation

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

Number of credits: 2

Recommended semester/trimester of the course: 2.

Course level: I., II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 337

A	B	C	D	E	FX
39.17	31.16	16.91	4.15	1.78	6.82

Provides: PaedDr. Renáta Orosová, PhD., Mgr. Zuzana Nováková, PhD.

Date of last modification: 04.02.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: KPE/ ZMPPV/12	**Course name:** Fundamentals of Educational and Psychological Research Methodology

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 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: 372

A	B	C	D	E	FX
20.97	27.42	22.85	20.43	7.53	0.81

Provides: PhDr. Anna Janovská, PhD., Mgr. Zuzana Nováková, PhD., Mgr. Mária Bačíková, PhD.

Date of last modification: 04.02.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: KAE/ ZET2/07	**Course name:** Fundamentals of Ethics 2

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

Number of credits: 3

Recommended semester/trimester of the course: 2.

Course level: II.

Prerequisities: KAE/ZE1/07

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 50

A	B	C	D	E	FX
94.0	6.0	0.0	0.0	0.0	0.0

Provides: PhDr. Andrea Klimková, PhD.

Date of last modification: 29.01.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚFV/ VBF2/08	**Course name:** General Biophysics II

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 credits: 4

Recommended semester/trimester of the course:

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:
To provide information about the object, significance and role of biophysics in science. The main emphasis will be given on the understanding of the principles determining the structure and function of the most important biological structures (nucleis acids, proteins, biomembranes) as well as on the thermodynamics and kinetics of selected chemical and biophysical processes.

Brief outline of the course:
The definition of biophysics and its role in the science. Intra- and inter-molecular interactions in biological systems. Function and structure of the important biomacromolecules (nucleic acids, proteins, biomembranes, sugars). Conformational transitions in biopolymers: helix-coil transition in DNA, denaturation of proteins, phase transitions in biomembranes.
Thermodynamics of biological processes. Gibbs energy and chemical equilibrium, chemical potential, binding constants of the ligand-macromolecule intractions, cooperativity of the binding between biological important molecules, membrane potential.
Kinetics of the chemical and biophysical processes. The principles of chemical kinetics, enzymatic reactions, inhibition of the enzymes, membrane transport, introduction to the pharmacokinetics.
Cell biophysics. The basic bioenergetic processes, oxidative phosphorylation, photosynthesis. Mechanisms of regulations and control processes in cells-the basic principles.
Medicinal biophysics. Biophysical principles of selected diagnostic and therapeutical methods.
Radiation and environmental biophysics. The influence of physico-chemical factors of the environment on the living systems.

Recommended literature:
1. M. B. Jackson, Molecular and cellular biophysics, Cambridge University Press, 2006.
2. M. Daune, Molecular biophysics-Structures in motion, Oxford University Press, 2004.
3. R. Glaser, Biophysics, Springer Verlag, 2001.
4. M.V. Volkenštein, Biofizika, Nauka, Moskva 1988.
5. W.Hoppe and W. Lohmann, Biophysics, Springer Verlag, 1988.
6. K.E.van Holde, W.C. Johnson and P. Shing Ho, Principles of

physical biochemistry, Simon and Schuster, Prentice Hall, 1998.
7. D.G. Nichols and S.J. Ferguson, Bioenergetics 3, Academic Press, Elsevier Science Ltd., 2002.

Course language:

Notes:

Course assessment
Total number of assessed students: 9

A	B	C	D	E	FX
22.22	44.44	11.11	11.11	11.11	0.0

Provides: doc. Mgr. Daniel Jancura, PhD.

Date of last modification: 10.02.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: KPE/ VPD/03	**Course name:** General Pedagogy and Didactics

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 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: 958

A	B	C	D	E	FX
10.65	21.71	25.99	21.82	10.33	9.5

Provides: PaedDr. Renáta Orosová, PhD., Mgr. Zuzana Nováková, PhD.

Date of last modification: 04.02.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚFV/ TRV1/00	**Course name:** General Theory of Relativity

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 credits: 3

Recommended semester/trimester of the course: 2.

Course level: II.

Prerequisities:

Conditions for course completion:
In the eighth week the test of the mathematical problem.
Individual report at the end of the semester.
Oral examination.

Learning outcomes:

Brief outline of the course:
Overview of the special theory of relativity (STR). Uniformly accelerated motion in STR. Local principle of equivalence - Eotvos experiment. Tensor calculus in pseudoriemann's metric. Einstein equations of gravitational field. Schwarzschild's solution for spherically symetric field. Experimental tests of the general theory of relativity. Black holes. Solutions for homogeneous and isotropic distribution of mass. Cosmological applications.

Recommended literature:
1. Hughston, L. P., Tod K. P.: An Introduction to General Relativity, London Mathenatical Society Student Texts 5. CUP, Cambridge, 1990.
2. Wald, R.W.: General Relativity, University of Chicago Press, Chicago, 1984.
3. Misner, C.W., Thorne, K.S., Wheller, J.A.: Gravitation, Freeman, San Francisco, 1973.
4. Landau L.D., Lifshitz E.M.: The classical theory of fields. Addison- Wesley, Reading, Mass., USA, 1977.

Course language:
1. Slovak,
2. English

Notes:

Course assessment
Total number of assessed students: 70

A	B	C	D	E	FX
94.29	4.29	1.43	0.0	0.0	0.0

Provides: prof. RNDr. Andrej Bobák, DrSc., RNDr. Marián Jurčišin, PhD.

Date of last modification: 31.01.2014
Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: KGER/ NJKG/07	**Course name:** Grammar in the German Language 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 credits: 2

Recommended semester/trimester of the course:

Course level: I., II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 46

A	B	C	D	E	FX
54.35	13.04	8.7	4.35	10.87	8.7

Provides: Dr. rer. pol. Michaela Kováčová

Date of last modification: 05.02.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚFV/ DEJ1/99	**Course name:** History of Physics

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 credits: 2

Recommended semester/trimester of the course: 2.

Course level: I., II.

Prerequisities:

Conditions for course completion:
written test and thesis
exam

Learning outcomes:
Basic facts in the history of physics.

Brief outline of the course:
Evolution of knowledge before Galileo. Evolution of physics within the mechanical picture of the world. Evolution and limits of classical physics, phase of breakthrough in physics. Origin and evolution of the theory of relativity. Quantum physics and prospects of further evolution of physics and their application. Contemporary state of physical research and its application in technology, natural sciences and philosophy. Position of physics in our society.

Recommended literature:
1. R.Zajac, J.Chrapan: Dejiny fyziky, skriptá, MFF UK, Bratislava, 1982.
2. V.Malíšek: Co víte o dějinách fyziky, Horizont, Praha, 1986.
3. I.Kraus, Fyzika v kulturních dějinách Evropy, Starověk a středověk, Nakladatelství ČVUT, Praha, 2006.
4. A.I.Abramov: Istoria jadernoj fiziky, KomKniga, Moskva, 2006.
5. L.I.Ponomarev: Pod znakom kvanta, Fizmatlit, Moskva, 2006.
6. I.Kraus, Fyzika v kulturních dějinách Evropy, Od Leonarda ke Goethovi, Nakladatelství ČVUT, Praha, 2007.
7. I.Kraus, Fyzika od Thaléta k Newtonovi, Academia, Praha, 2007.
8. I.Štoll, Dějiny fyziky, Prometheus, Praha, 2009.
9. www-pages.
10.Brandt S., The harvest of a century, Discoveries of modern physics in 100 episodes, Oxford, 2009.

Course language:

Notes:

Course assessment
Total number of assessed students: 11

A	B	C	D	E	FX
63.64	18.18	18.18	0.0	0.0	0.0

Provides: prof. RNDr. Stanislav Vokál, DrSc.

Date of last modification: 11.02.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: KFaDF/KDF/05	**Course name:** Chapters from History of Philosophy of 19th and 20th Centuries (General Introduction)

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

Number of credits: 2

Recommended semester/trimester of the course: 2.

Course level: I., II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 10

A	B	C	D	E	FX
50.0	20.0	10.0	0.0	10.0	10.0

Provides: doc. PhDr. Pavol Tholt, PhD., mim.prof.

Date of last modification: 26.01.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: KFaDF/FVp/04	**Course name:** Chapters from Philosophy of Education

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

Number of credits: 2

Recommended semester/trimester of the course: 1.

Course level: I., II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 3

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

Provides: doc. PhDr. Pavol Tholt, PhD., mim.prof.

Date of last modification: 26.01.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

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 credits: 5

Recommended semester/trimester of the course: 2.

Course level: 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: 5

A	B	C	D	E	FX	N	P
20.0	60.0	20.0	0.0	0.0	0.0	0.0	0.0

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

Date of last modification: 03.02.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

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 credits: 4

Recommended semester/trimester of the course: 2.

Course level: II.

Prerequisities: ÚCHV/ACHU/03 or ÚCHV/ACH2/03

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 76

A	B	C	D	E	FX
93.42	6.58	0.0	0.0	0.0	0.0

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

Date of last modification: 03.02.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

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 credits: 1

Recommended semester/trimester of the course:

Course level: II.

Prerequisities: ÚCHV/VKAU/04 ÚCHV/DCH2/15 and

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 19

A	B	C	D	E	FX
36.84	36.84	21.05	5.26	0.0	0.0

Provides:

Date of last modification: 19.02.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

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 credits: 1

Recommended semester/trimester of the course:

Course level: II.

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

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 4

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

Provides:

Date of last modification: 19.02.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: KPPaPZ/SDaM/09	**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 credits: 2

Recommended semester/trimester of the course: 4.

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: 704

A	B	C	D	E	FX
49.01	29.83	15.48	3.69	1.56	0.43

Provides: PhDr. Zlatica Buocová, CSc., Mgr. Alexander Onufrák, PhD.

Date of last modification: 04.02.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: R UPJŠ/ IB10/14	**Course name:** IB10 - Medzinárodný certifikát ECo-C
Course type, scope and the method: **Course type:** **Recommended course-load (hours):** **Per week: Per study period:** **Course method:** present	
Number of credits: 16	
Recommended semester/trimester of the course:	
Course level: I., I.II., 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

abs	n	neabs
0.0	0.0	0.0

Provides:
Date of last modification: 11.08.2014
Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: R UPJŠ/ IB11/14	**Course name:** IB11 - Medzinárodný certifikát ECDL
Course type, scope and the method: **Course type:** **Recommended course-load (hours):** **Per week: Per study period:** **Course method:** present	
Number of credits: 14	
Recommended semester/trimester of the course:	
Course level: I., I.II., 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

abs	n	neabs
0.0	0.0	0.0

Provides:
Date of last modification: 11.08.2014
Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: R UPJŠ/ IB12/14	**Course name:** IB12 - Používanie, administrácia a vývoj v systéme SAP

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

Number of credits: 54

Recommended semester/trimester of the course:

Course level: I., I.II., 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

abs	n	neabs
0.0	0.0	0.0

Provides:

Date of last modification: 11.08.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: R UPJŠ/ IB1/14	**Course name:** IB1 - Etika v biomedicínskych vedách pre zdravotnícku prax
Course type, scope and the method: **Course type:** **Recommended course-load (hours):** **Per week: Per study period:** **Course method:** present	
Number of credits: 16	
Recommended semester/trimester of the course:	
Course level: I., I.II., 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

abs	n	neabs
0.0	0.0	0.0

Provides:
Date of last modification: 11.08.2014
Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: R UPJŠ/ IB2/14	**Course name:** IB2 - Právne minimum – súkromnoprávne aspekty
Course type, scope and the method: **Course type:** **Recommended course-load (hours):** **Per week: Per study period:** **Course method:** present	
Number of credits: 16	
Recommended semester/trimester of the course:	
Course level: I., I.II., 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

abs	n	neabs
0.0	0.0	0.0

Provides:
Date of last modification: 11.08.2014
Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: R UPJŠ/ IB3/14	**Course name:** IB3 - Právne minimum – verejnoprávne aspekty
Course type, scope and the method: **Course type:** **Recommended course-load (hours):** **Per week: Per study period:** **Course method:** present	
Number of credits: 16	
Recommended semester/trimester of the course:	
Course level: I., I.II., 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

abs	n	neabs
0.0	0.0	0.0

Provides:
Date of last modification: 11.08.2014
Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: R UPJŠ/ IB4/14	**Course name:** IB4 - Projektový manažment
Course type, scope and the method: **Course type:** **Recommended course-load (hours):** **Per week: Per study period:** **Course method:** present	
Number of credits: 20	
Recommended semester/trimester of the course:	
Course level: I., I.II., 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

abs	n	neabs
0.0	0.0	0.0

Provides:
Date of last modification: 11.08.2014
Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: R UPJŠ/ IB5/14	**Course name:** IB5 - Manažérska ekonomika
Course type, scope and the method: **Course type:** **Recommended course-load (hours):** **Per week: Per study period:** **Course method:** present	
Number of credits: 16	
Recommended semester/trimester of the course:	
Course level: I., I.II., 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

abs	n	neabs
0.0	0.0	0.0

Provides:
Date of last modification: 11.08.2014
Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: R UPJŠ/ IB6/14	**Course name:** IB6 - Riešenie konfliktných a krízových situácií v školskej praxi
Course type, scope and the method: **Course type:** **Recommended course-load (hours):** **Per week: Per study period:** **Course method:** present	
Number of credits: 16	
Recommended semester/trimester of the course:	
Course level: I., I.II., 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

abs	n	neabs
0.0	0.0	0.0

Provides:
Date of last modification: 11.08.2014
Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: R UPJŠ/ IB7/14	**Course name:** IB7 - Štatistika pre prax
Course type, scope and the method: **Course type:** **Recommended course-load (hours):** **Per week: Per study period:** **Course method:** present	
Number of credits: 16	
Recommended semester/trimester of the course:	
Course level: I., I.II., 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

abs	n	neabs
0.0	0.0	0.0

Provides:
Date of last modification: 11.08.2014
Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: R UPJŠ/ IB8/14	**Course name:** IB8 - Environmentálne aspekty záťaže životného prostredia

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

Number of credits: 16

Recommended semester/trimester of the course:

Course level: I., I.II., 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

abs	n	neabs
0.0	0.0	0.0

Provides:

Date of last modification: 11.08.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: R UPJŠ/ IB9/14	**Course name:** IB9 - Medzinárodný certifikát TOEFL
Course type, scope and the method: **Course type:** **Recommended course-load (hours):** **Per week: Per study period:** **Course method:** present	
Number of credits: 17	
Recommended semester/trimester of the course:	
Course level: I., I.II., 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

abs	n	neabs
0.0	0.0	0.0

Provides:
Date of last modification: 11.08.2014
Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: KFaDF/IH1/03	**Course name:** Idea Humanitas 1 (General Introduction)

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

Number of credits: 2

Recommended semester/trimester of the course: 2.

Course level: I., II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 9

A	B	C	D	E	FX
55.56	11.11	0.0	11.11	22.22	0.0

Provides: Doc. PhDr. Peter Nezník, CSc.

Date of last modification: 26.01.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: KPE/ MPPa/12	**Course name:** Interim Pedagogical-Psychological Training
Course type, scope and the method: **Course type:** Practice **Recommended course-load (hours):** **Per week: Per study period:** 36s **Course method:** present	
Number of 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: 691

abs	n
99.86	0.14

Provides: PhDr. Beáta Gajdošová, PhD., PaedDr. Renáta Orosová, PhD., Mgr. Ján Juščák, PhD., Mgr. Zuzana Nováková, PhD.
Date of last modification: 04.02.2014
Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

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 credits: 5

Recommended semester/trimester of the course: 1.

Course level: I., II.

Prerequisities:

Conditions for course completion:
Oral examination

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
6. www

Course language:

Notes:

Course assessment
Total number of assessed students: 189

A	B	C	D	E	FX
48.15	19.05	16.93	9.52	5.82	0.53

Provides: RNDr. Andrea Straková Fedorková, PhD.

Date of last modification: 03.02.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚFV/ UNT1/99	**Course name:** Introduction to Low Temperature Physics

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 credits: 3

Recommended semester/trimester of the course: 1.

Course level: II., III.

Prerequisities:

Conditions for course completion:
Successful passing final exam

Learning outcomes:
The course addresses fundamental concepts of physics of solid state. The students acquire information on the state of the art knowledge of selected structural, thermal, electric and magnetic properties of crystalline systems. Beside the standard materials an attention will be paid also to nonconventional systems. Basic experimental methods appropriate for studies of the mentioned properties will be overviewed.

Brief outline of the course:
Crystal structure. Wave diffraction and the reciprocal lattice. Crystal binding. Lattice vibrations, phonons. Fermi gases and liquids. Energy bands. Fermi surfaces. Superconductivity. Superconducting materials. Nonconventional superconductivity. Fundamental magnetic orders. Strong electron correlations.

Recommended literature:
1. Ch. Kittel: Introduction to Solid State Physics, 8th edition, John Wiley and sons, New York 2005.
2. H.Ibach, H.Luth: Solid-State Physics, Springer, Berlin 1996.
3. R. Kužel et al.: Úvod do fyziky kovú II, SNTL, Praha 1985.
4. P.Grosse: Svobodnyje elektrony v tverdych telach, Mir, Moskva, 1982
5. M Tinkham: Introduction to Superconductivity, 2-nd edition, Mc Graw- Hill, New York 1996.
6. S. Takács a L.Cesnak.: Supravodivosť, Alfa , Bratislava 1979
7. K. Fossheim, A. Sudbo, Superconductivity. Physics and Applications, John Wiley & Sons, Chichester, 2004.
8. James F. Annett, Superconductivity, Superfluids and Condensates, Oxford University Press, Oxford, UK.

Course language:
Slovak, English

Notes:

Course assessment
Total number of assessed students: 22

A	B	C	D	E	FX	N	P
81.82	9.09	0.0	0.0	0.0	0.0	0.0	9.09

Provides: Dr.h.c. prof. RNDr. Alexander Feher, DrSc.

Date of last modification: 18.02.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

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 credits: 5

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

Course level: I., II.

Prerequisities:

Conditions for course completion:
Seminar work.
Examination.

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:

Notes:

Course assessment
Total number of assessed students: 49

A	B	C	D	E	FX
85.71	12.24	0.0	0.0	0.0	2.04

Provides: doc. RNDr. Renáta Oriňáková, PhD.

Date of last modification: 03.02.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ USA/03	**Course name:** Introduction to Structure Analysis

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 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: 1

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

Provides: doc. RNDr. Ivan Potočňák, PhD.

Date of last modification: 03.02.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/DCHa/03	**Course name:** Methodology of Chemistry Teaching I

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 credits: 3

Recommended semester/trimester of the course: 2.

Course level: II.

Prerequisities: ÚCHV/SPC1a/03

Conditions for course completion:
Seminar work
Oral examination

Learning outcomes:
The aim of this subject is to apply the pedagogical, psychological and didactic relation of education with connection to theory and praxis. It is meant for education of chemistry on primary and secondary school.

Brief outline of the course:
Methodology of Teaching Chemistry as Science and as object of Teaching. Select, structural, compassion, documentation of curriculum chemistry, concretization of pedagogical-educational aims. View of forms Teaching chemistry, methods of Teaching and means disclosure of curriculum on the concrete subject of curriculum secondary chemistry. Complex summary of use material didactic resources in the academic too contemporary forms Teaching of chemistry. The use of didactic technology in theoretical and experimental Teaching of chemistry. Hobby and out of school activities in chemistry.

Recommended literature:
1. Ganajová, M.: Vybrané kapitoly zo všeobecnej didaktiky chémie, UPJŠ Košice 2009, ISBN 978-80-7097-756-9
2. Ganajová, M., Kalafutová, J.: http://moodle.science.upjs.sk e-kurz: Vybrané kapitoly zo všeobecnej didaktiky chémie pre rok 2008/2009

Course language:

Notes:

Course assessment
Total number of assessed students: 238

A	B	C	D	E	FX
68.07	18.91	6.72	3.78	1.68	0.84

Provides: doc. RNDr. Mária Ganajová, CSc., RNDr. Milena Kristofová

Date of last modification: 03.02.2014
Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/DCHb/03	**Course name:** Methodology of Chemistry Teaching II

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

Number of credits: 5

Recommended semester/trimester of the course: 3.

Course level: II.

Prerequisities: ÚCHV/DCHa/03

Conditions for course completion:
Seminar work
Oral examination

Learning outcomes:
The aim of this subject is an analysis of a concrete theme and themes of chemistry curriculum meant for secondary school. Students should familiarize with contents, selected teaching methods and possibility of ICT applying in chemistry education

Brief outline of the course:
Didactic of Atomic structure
Didactic of Molecular structure and chemical bonding
Didactic of Chemical action
Didactic of Periodic system of elements
Didactic of Chemical thermodynamics and kinetics
Didactic of Organic chemistry
Didactic of Chemistry of common life

Recommended literature:
1. Pachman E. a kol.: Speciální didaktika chemie. SPN Praha 1986.
2. Smik L. a kol.: Špeciálna didaktika chémie. Učebný text I. a II. UPJŠ 1984.
3. Pfeifer P.: Konkrete Fachdidaktik Chemie Oldenbourg Verlag GmbH. München 1992.
4. The primary and secondary textbook of chemistry
5. Journals: J. Chem. Educ., Chemie in der Schule, Přírodní vědy šk.

Course language:

Notes:

Course assessment
Total number of assessed students: 200

A	B	C	D	E	FX
61.5	21.5	12.5	2.5	2.0	0.0

Provides: doc. RNDr. Mária Ganajová, CSc., RNDr. Milena Kristofová
Date of last modification: 03.02.2014
Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

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 credits: 4

Recommended semester/trimester of the course:

Course level: II.

Prerequisities:

Conditions for course completion:
test 30 points
active participation 10 points
project (development of mathematical model, videomeasurement and physical experiment) 60 points
The final assessment is based on the sum of partial results

Learning outcomes:
After the course student gains an overview about the possible use of digital technologies to support active learning in science. He gains skills to use and develop activities on measuring data with the help of datalogging, measuring on picture and viderecording and modeling natural processes. Student is able to implement such activities in science teaching to support active learning and conceptual understanding.

Brief outline of the course:
The aim of the course is to present the use of digital technologies to enhance active learning in science with the help of datalogging, videomeasurement and modeling tools. Mathematical modeling is based on dynamical modeling of natural phenomena. Within the course students carry out computer-based experiments, videomeasurements and measurement on picture and create corresponding models. The activities involve selected topics of secondary schools science. The emphasize is put on the methods of implementation of the activities with regard to active students ´ learning.

Recommended literature:
[1]Koubek, V., Pecen, I.: Fyzikálne experimenty a modely v školskom mikropočítačom podporovanom laboratóriu, Univerzita Komenského, Bratislava, 1999
[2]Príručka COACH
[3]http://physedu.science.upjs.sk/sis/fyzika/experimenty/index.htm

Course language:
Slovak

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: 18.02.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚFV/ MDT06/06	**Course name:** Modern Didactical Technics

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 credits: 3

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

Course level: I., II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 76

A	B	C	D	E	FX
97.37	1.32	0.0	0.0	0.0	1.32

Provides: doc. RNDr. Marián Kireš, PhD.

Date of last modification: 18.02.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚFV/ MFDF/08	**Course name:** Modern Physics from Didactics Point of View

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 credits: 4

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

Course level: II.

Prerequisities:

Conditions for course completion:
Active participation; completing reading assigments; realization of a chosen modern physics project with a practical application.
Exam and defending own project

Learning outcomes:
1. Achieving better conceptual understanding and getting an integrated view on fundamental ideas of contemprorary modern physics, which every future physicist and physics teacher should have. Emphasis is not on abstract mathematical methods, but on using most recent knowledge and tools of Physics Education Research - computer modeling of physical phenomena and employing only elementary algebra and calculus.
2. Getting physical intuition and experience dealing with practical applications of modern physics.

Brief outline of the course:
1. Fundamental ideas of modern mechanics: symmetry, event, worldlline, spacetime diagram, principle of least action, conservation laws; practical applications.
2. Fundamental ideas of relativity: principle of relativity, space-time interval, conservation of momenergy, metrics, principle of maximal aging; practical applications.
3. Fundamental ideas of quantum mechanics: probability amplitude, principle of democracy of histories, rules for amplitudes, propagator, Schrödinger's equation, stationary state, Feynman's diagrams; practical applications.

Recommended literature:
1. Moore, T. A, Six Ideas That Shaped Physics - Unit Q: Particles Behave Like Waves, 2nd ed., Mc Graw Hill, Boston, 2003
2. Feynman, R.P., QED - The Strange theory of Light and Matter, Princeton University Press, Princeton, 1985
3. Hey, A., Walters, P., New Quantum Universe, Cambridge University Press, 2003
4. Taylor, E. F, Wheeler, J. A., Space-time Physics-Introduction to Special Relativity, 2nd ed., W.H. Freeman and Company, New York, 1992
5. Thorne, K. S., Black Holes and Time Warps, W.W. Norton, New York, 1995
6. Relevant resources from recent journal literature (American Journal of Physics, European Journal of Physics, Scientific American...)

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 26

A	B	C	D	E	FX
26.92	30.77	23.08	15.38	3.85	0.0

Provides: Doc. RNDr. Jozef Hanč, PhD.

Date of last modification: 18.02.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚTVŠ/ NJ//13	**Course name:** Naval Yachting
Course type, scope and the method: **Course type:** Practice **Recommended course-load (hours):** **Per week:** 36 **Per study period:** 504 **Course method:** present	
Number of credits: 2	
Recommended semester/trimester of the course:	
Course level: I., II.	
Prerequisities:	
Conditions for course completion:	
Learning outcomes:	
Brief outline of the course:	
Recommended literature:	
Course language:	
Notes:	

Course assessment
Total number of assessed students: 2

abs	n
100.0	0.0

Provides: doc. Mgr. Rastislav Feč, PhD.
Date of last modification: 15.01.2014
Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/NTVC/06	**Course name:** New Trends in Chemistry Teaching

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 credits: 5

Recommended semester/trimester of the course: 2.

Course level: II.

Prerequisities:

Conditions for course completion:
Seminar work
Oral examination

Learning outcomes:
The aim of this subject is to acquaint future teachers of chemistry with brand new trends of education in European Union countries.

Brief outline of the course:
Chemistry of everyday life both at home and abroad, educational texts, chemical experiments, CD-ROMs, Chemistry Nourishes Us, Chemistry of Water, Soil and Air
Chemical experiments of everyday life connected with the themes such as Chemistry Nourishes Us, Cosmetic Chemistry, Acids and Bases of Common Life, Project-based learning in chemistry, Teleprojects in chemistry, Using ICT in the teaching of themes: Chemical experiments of everyday life, Vitamins, Mineral substances and Mineral water

Recommended literature:
1. Ganajová, M. 2005: Chemické experimenty s vybranými produktami z obchodu. UPJŠ v Košiciach, Prírodovedecká fakulta, 110 s. ISBN 80-7097-611-X
2. Obendrauf, V., Becker, R., Ganajová, M., Dunčková, I., Müllerová, V., Kövaryová, E.: Chémia dnes. Košice: Prírodovedecká fakulta UPJŠ, 2001. 80s. ISBN 80-7097-472-9
3. http://kekule.science.upjs.sk

Course language:

Notes:

Course assessment
Total number of assessed students: 74

A	B	C	D	E	FX
93.24	5.41	1.35	0.0	0.0	0.0

Provides: doc. RNDr. Mária Ganajová, CSc., RNDr. Milena Kristofová

Date of last modification: 03.02.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚFV/ NET1/04	**Course name:** Nontraditional View on Selected Problems of General Physics I

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 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: 96

A	B	C	D	E	FX
73.96	16.67	2.08	5.21	1.04	1.04

Provides: doc. RNDr. Marián Kireš, PhD.

Date of last modification: 18.02.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚFV/NFY1/03	**Course name:** Nontraditional View on Selected Problems of General Physics II

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 credits: 3

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: 60

A	B	C	D	E	FX
75.0	15.0	8.33	0.0	0.0	1.67

Provides: doc. RNDr. Marián Kireš, PhD.

Date of last modification: 18.02.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚFV/ JZP1/03	**Course name:** Nuclear Radiation in Environment

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 credits: 3

Recommended semester/trimester of the course: 2.

Course level: I., II.

Prerequisities:

Conditions for course completion:
term project
examination

Learning outcomes:
Basic knowledge of the nuclear radiation in the environment and consequences for health.

Brief outline of the course:
Sources of radiation. Interaction of radiation with matter. Dosimetry units. Biological effects of ionizing radiation and radiological protection. Natural sources of radiation. Man-made sources of radionuclides.Application of radionuclides.
Nuclear weapons. Nuclear plants. The risk of accidents. Nuclear waste. Reprocessing. Radiation and health.

Recommended literature:
1. Cooper J.R, Randle K., Sokhi R.S.: Radioactive releases in the environment, J.Wiley &Sons, Ltd. 2003
2. R. L. Murray, Nuclear Energy, An Introduction to th Concepts, Systems, and Applications of Nuclear Processes, 6th edition,Elsevier, 2009
3. P.A.Tipler, R.A.Llewellyn: Modern Physics, 6th Edition,W.H.Freeman and Company, 2012

Course language:
slovak

Notes:

Course assessment
Total number of assessed students: 44

A	B	C	D	E	FX
54.55	20.45	9.09	9.09	2.27	4.55

Provides: RNDr. Janka Vrláková, PhD.

Date of last modification: 11.02.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚFV/ MAFV/06	**Course name:** Out of School Physics Educational Activities

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 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: 6

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

Provides: doc. RNDr. Marián Kireš, PhD.

Date of last modification: 18.02.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚINF/ PES1/04	**Course name:** Pedagogical software

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 credits: 4

Recommended semester/trimester of the course:

Course level: II.

Prerequisities:

Conditions for course completion:
Assessment of preliminary assignments - a review of selected educational software, specification of own educational software.
In final exam students will demonstrate an overview of types, evaluation and life cycle of educational software in written form and they will present and defend their own final project - educational interactive hypertext project (containing motivation, interactive simulation, collection of tasks, vocabulary, autotest), respectively an educational game (labyrinth, pexeso, quiz, crossword, interactive story, simulation) including methodological guide for teachers.including methodological guide for teachers.

Learning outcomes:
- To acquire an overview of the types of educational software, its evaluation, process development and use in education.
- To create your own educational interactive hypertext, respectively an educational game including methodological guide for teachers.

Brief outline of the course:
Typology of educational software, its evaluation, process development and use in education. Creation of educational interactive hypertext (containing motivation, interactive simulation, collection of tasks, vocabulary, autotest), respectively an educational game (labyrinth, pexeso, quiz, crossword, interactive story, simulation) including methodological guide for teachers.

Recommended literature:
LACHS, V. Making Multimedia in the Classroom. London : RoutledgeFalemer, 2000. ISBN 0415216842.
GÖBEL, S. et al. Technologies for Interactive Digital Storytelling and Entertainment (LNCS 4326). Darmstadt : Springer, 2006. ISBN 3540499342.
SCHURMANN, E. M., PARDI, W. J. Dynamické HTML v akci. Praha : Computer Press, 2001. ISBN 807226401X.
KOSEK, J. Téměř vše o WWW. [online] Dostupné na internete: <http://www.kosek.cz>.

Course language:

Notes:

Course assessment
Total number of assessed students: 94

A	B	C	D	E	FX
23.4	28.72	26.6	8.51	10.64	2.13

Provides: RNDr. Ľubomír Šnajder, PhD.

Date of last modification: 03.02.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: KPE/PP/14	**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 credits: 1

Recommended semester/trimester of the course:

Course level: II.

Prerequisities: KPE/VPD/03 and KPPaPZ/PPGS/04 or KPPaPZ/PaSPP/09

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 133

A	B	C	D	E	FX
16.54	30.83	28.57	21.05	1.5	1.5

Provides:

Date of last modification: 04.02.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: KPE/ PVC/09	**Course name:** Pedagogy of Leisure Time

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 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: 222

A	B	C	D	E	FX
75.68	16.67	6.31	0.0	1.35	0.0

Provides: Mgr. Ján Juščák, PhD.

Date of last modification: 04.02.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: Dek. PF UPJŠ/PPZ/13	**Course name:** Personality Development and Key Competences for Success on a Labour Market

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

Number of credits: 2

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: 39

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

Provides: RNDr. Peter Stefányi, PhD.

Date of last modification: 17.02.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚFV/FPK1/07	**Course name:** Phase Transitions and Critical Phenomena

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 credits: 4

Recommended semester/trimester of the course: 2.

Course level: II.

Prerequisities:

Conditions for course completion:
Examination

Learning outcomes:
To acquaint students with based problems of the phase transitions and critical phenomena.

Brief outline of the course:
Thermodynamics of phase transitions. Classification of phase transitions. Critical phenomena, universality. Microscopic models of the magnetic phase transitions. Ising model in one and two dimensions. Mean field theory of the Ising model. Landau theory of phase transitions.

Recommended literature:
1. Stanley H.G.: Introduction to Phase Transitions and Critical Phenomena, Clarendon Press Oxford, Oxford, 1971.
2. Reichl L.E.: A Modern Course in Statistical Physics, University of Texas Press, Austin, 1980.
3. Plischke M., Bergersen B.: Equilibrium Statistical Physics, World Scientific, Singapore, 1994.
4. Kadanoff L.P.: Statistical Physics, Statistics, Dynamics and Renormalization, World Scientific, Singapore, 2000.

Course language:
1. Slovak,
2. English

Notes:

Course assessment
Total number of assessed students: 87

A	B	C	D	E	FX
65.52	9.2	9.2	11.49	4.6	0.0

Provides: prof. RNDr. Andrej Bobák, DrSc.

Date of last modification: 31.01.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚFV/FYU1/10	**Course name:** Physical Problems

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 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: 31

A	B	C	D	E	FX
58.06	29.03	9.68	3.23	0.0	0.0

Provides: doc. RNDr. Marián Kireš, PhD., doc. RNDr. Zuzana Ješková, PhD.

Date of last modification: 18.02.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚFV/FDFA/14	**Course name:** Physics and Didactics of Physics

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

Number of credits: 1

Recommended semester/trimester of the course:

Course level: II.

Prerequisities: (ÚFV/DF1b/10 and ÚFV/TRS/03 and ÚFV/SEV/10)

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:

Date of last modification: 17.03.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚFV/FDFB/14	**Course name:** Physics and Didactics of Physics

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

Number of credits: 1

Recommended semester/trimester of the course:

Course level: II.

Prerequisities: (ÚFV/DF1b/10 and ÚFV/VKL/07 and ÚFV/FPK1/07)

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 2

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

Provides:

Date of last modification: 17.03.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚFV/FDFC/14	**Course name:** Physics and Didactics of Physics

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

Number of credits: 1

Recommended semester/trimester of the course:

Course level: II.

Prerequisities: (ÚFV/DF1b/10 and ÚFV/SJF1/03 and ÚFV/VBF2/08)

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 1

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

Provides:

Date of last modification: 17.03.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚFV/ FDFD/14	**Course name:** Physics and Didactics of Physics

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

Number of credits: 1

Recommended semester/trimester of the course:

Course level: II.

Prerequisities: ÚFV/DF1b/10 and (ÚFV/NFY1/07 or ÚFV/NFY1/03) and ÚFV/MFDF/08

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 4

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

Provides:

Date of last modification: 17.03.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚFV/FMJ/06	**Course name:** Physics of Magnetic Phenomena

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 credits: 3

Recommended semester/trimester of the course: 1.

Course level: I., II., III.

Prerequisities:

Conditions for course completion:
Exam

Learning outcomes:
The aim of the subject is to give overview to the physical mechanism of the magnetization process.

Brief outline of the course:
Basic units for magnetic material characterization. Magnetic materials. Magnetic anisotropies. Magnetic parameters. Domain structure. Magnetization processes. Dynamics of magnetization processes.

Recommended literature:
1; B.D. Cullity and C.D. Graham, Introduction to magnetic materials, Willey-IEEE Press, 2007
2; S. Chikazumi, Physics of Ferromagnetism, Claredon Press, 1997
3; C.W. Chen, Magnetism and metallurgy of soft magnetic materials, Dover Publ.,1986

Course language:
slovak or english

Notes:

Course assessment
Total number of assessed students: 44

A	B	C	D	E	FX	N	P
65.91	4.55	2.27	2.27	0.0	0.0	0.0	25.0

Provides: doc. RNDr. Rastislav Varga, DrSc.

Date of last modification: 18.02.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: KPPaPZ/PPGS/04	**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 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: 790

A	B	C	D	E	FX
10.13	17.22	21.39	22.03	24.81	4.43

Provides: Prof. PhDr. Oľga Orosová, CSc., PhDr. Karolína Barinková, PhD., Mgr. Lucia Hricová, PhDr. Anna Janovská, PhD.

Date of last modification: 04.02.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚTVŠ/ ÚTVŠ/CM/13	**Course name:** Seaside Aerobic Exercise
Course type, scope and the method: **Course type:** Practice **Recommended course-load (hours):** **Per week:** 36 **Per study period:** 504 **Course method:** present	
Number of credits: 2	
Recommended semester/trimester of the course:	
Course level: I., II.	
Prerequisities:	
Conditions for course completion:	
Learning outcomes:	
Brief outline of the course:	
Recommended literature:	
Course language:	
Notes:	

Course assessment
Total number of assessed students: 7

abs	n
57.14	42.86

Provides: Mgr. Alena Buková, PhD., Mgr. Agata Horbacz, PhD.
Date of last modification: 15.01.2014
Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚFV/ DEX/04

Course name: Selected Demonstration Experiments

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 credits: 4

Recommended semester/trimester of the course: 2.

Course level: II.

Prerequisities:

Conditions for course completion:
Seminar work – a project dealing with hands-on experiments and their role in Physics teachig.
Oral examination

Learning outcomes:
The goal of the course is to develop pedagogic skills and creativity of further Physics teachers through non-traditional physical experiments.

Brief outline of the course:
The aim of the lecture is to show a lot of non-traditional physical experiments which can help students understand physical phenomena and find their connection with everyday life. The experiments are mainly hands-on ones which can be performed with simple tools and don't require any special equipment. The experiments are carried out by students themselves. Through these experiments students are able to gain practical skills, develop experimental habits and verify their theoretical knowledge.

Recommended literature:
1. Onderová Ľ.:Netradičné experimenty vo vyučovaní fyziky, MC Prešov,2002
2. Lorbeer,G.L.,Nelsonová, L.W.: Fyzikální pokusy pro děti, Portál, Praha, 1998
3. Kostič, Ž.: Medzi hrou a fyzikou, Alfa, Bratislava, 1971
4. Kireš, M., Onderová, Ľ.: Fyzika každodenného života v experimentoch a úlohách, JSMF Bratislava 2001, ISBN 80-7097-446-X
5. http://physedu.science.upjs.sk/sis/fyzika/experimenty/index.htm

Course language:

Notes:

Course assessment
Total number of assessed students: 27

A	B	C	D	E	FX
62.96	14.81	14.81	0.0	7.41	0.0

Provides: RNDr. Ľudmila Onderová, PhD.

Date of last modification: 18.02.2014
Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚFV/ VKL/07	**Course name:** Selected Topics from Condensed Mater Physics

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 credits: 4

Recommended semester/trimester of the course: 1.

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:
Explanation of the nature of physical phenomena which appears in macroscopic quantum systems, in systems with magnetic ordering and also in the interaction between electromagnetic radiation and matter. Discussion of physical principles of radiospectroscopic techniques and neutron scattering applied for the investigation of properties of matter. Introduction in modern trends of electron microscopy and applications of the experimental techniques in applied solid state physics.

Brief outline of the course:
Macroscopic quantum effects: Bose-Einstein condensation. Non-Fermi liquid behaviour of electrons. Unconventional superconductivity. Physics in dimensions smaller than 3. Magnetic ordering:Ferromagnetism. Antiferromagnetism. Ferrimagnetism. Parasitic ferromagnetism. Miktomagnetism and spin glasses. Spectroscopy:Electron paramagnetic resonance. Nuclear magnetic resonance. Neutron scattering and scan tunelling spectroscopy
Modern trends in electron microscopy (transmission and scanning EM): Electron microprobe analysis: WDX spectrometer, EDX spectrometer, Auger electron spectrometer. Self-emission microscopy. Convergent beam diffraction. Using synchrotron X- ray in material science.

Recommended literature:
Encyclopedia of Chemical Physics and Physical Chemistry, Vol. 2, edited by J. H. Moore and N.D.Spencer, Institute of Physics Publishing, Bristol, 2001.
S. Amelincks, D.van Dyck, J. van Landyut, Electron Microscopy – Principles and Fundamentals, VCH, 1997.
M.H. Loretto, Electrom beam analysis of materials. Springer, 2002.
S. Chikazumi: Physics of Magnetism, J. Willey and Sons, Inc. New York, London, Sydney, 1997.
J. F. Annett: Superconductivity, Superfluids and Condensates, Oxford University Press, New York, USA, 2004
Scientific journals.

Course language:
slovak, english

Notes:

Course assessment
Total number of assessed students: 78

A	B	C	D	E	FX
46.15	19.23	15.38	10.26	8.97	0.0

Provides: RNDr. Erik Čižmár, PhD., prof. RNDr. Pavol Sovák, CSc., Dr.h.c. prof. RNDr. Alexander Feher, DrSc., prof. RNDr. Peter Kollár, DrSc.

Date of last modification: 18.02.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ VKACH/03	**Course name:** Selected Topics in Analytical 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 credits: 5

Recommended semester/trimester of the course: 3.

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:
Classical methods of analytical chemistry - volumetric analysis, gravimetry. Review of analytical instrumental methods. New analytical techniques for characterization and identifications of analytes.

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

Course language:

Notes:

Course assessment
Total number of assessed students: 3

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

Provides: doc. RNDr. Taťána Gondová, CSc.

Date of last modification: 03.02.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ VKA/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 credits: 5

Recommended semester/trimester of the course: 3.

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:
To make the acquaintance of actual status of research in inorganic chemistry.

Brief outline of the course:
Cu-Zn heterobimetallic compounds: preparation, structure and properties.
Biological and physicochemical properties of some zinc komplex compounds with bioactive ligands.
Pentacoordinated Copper(II) compounds: a trigonal bipyramid or a tetragonal pyramid?
Structure, spectral and thermal properties of cyanoargentates.
Hydrothermal synthesis in inorganic chemistry.
Materials on the basis of inclusion compounds, their structure, properties and application.

Recommended literature:
1. Greenwood, N.N., Earnshaw, A.: Chemistry of the elements I and II, Pergamon Press N.Y., 1993
2. J. E. Huheey, E.A. Keiter, R.L. Keiter: Inorganic Chemistry: Principles of Structure and Reactivity (4th Edition, Addison-Wesley Pub Co, 4th edition,1997

Course language:

Notes:

Course assessment
Total number of assessed students: 197

A	B	C	D	E	FX
41.62	27.41	17.77	8.12	5.08	0.0

Provides: prof. RNDr. Juraj Černák, CSc., prof. RNDr. Katarína Györyová, DrSc., doc. RNDr. Vladimír Zeleňák, PhD., doc. RNDr. Zuzana Vargová, Ph.D., doc. RNDr. Ivan Potočňák, PhD., doc. RNDr. Jozef Chomič, CSc., doc. RNDr. Mária Reháková, CSc., RNDr. Juraj Kuchár, PhD.

Date of last modification: 03.02.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

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 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: 74

A	B	C	D	E	FX
35.14	17.57	21.62	17.57	8.11	0.0

Provides: doc. RNDr. Ján Imrich, CSc.

Date of last modification: 03.02.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚFV/ PSP1a/05	**Course name:** School Physical Experiments I

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 credits: 2

Recommended semester/trimester of the course: 1.

Course level: II.

Prerequisities:

Conditions for course completion:
continuous written tests
being active in practises
final oral examination

Learning outcomes:
To gain basic skills with demonstration and physics interpretation of school physics experiments belonging to the subject matter in Physics classes at basic schools and high schools. To become familiar with didactic procedures related to using school experiments in different phases of the educational process.

Brief outline of the course:
The practices are aimed at practical realization and physics interpretation of school demonstration experiments from selected topics of the physics subject matter for basic-school and high-school pupils. The emphasis is on familiarizing with teaching aids and didactic devices used in performing school physics experiments and on getting basic skills with their utilization in physics teaching.

Recommended literature:
1.Kašpar,E.,Vachek,J.: Pokusy z fyziky na středních školách, I.díl, SPN Praha,1967
2.Koubek, V. a kol.: Školské pokusy z fyziky, SPN Bratislava, 1992
3.http://physedu.science.upjs.sk/sis/fyzika/experimenty/index.htm

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 58

A	B	C	D	E	FX
34.48	25.86	22.41	8.62	5.17	3.45

Provides: doc. RNDr. Zuzana Ješková, PhD., doc. RNDr. Marián Kireš, PhD., RNDr. Ľudmila Onderová, PhD.

Date of last modification: 18.02.2014
Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚFV/ PSP1b/04	**Course name:** School Physical 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 credits: 2

Recommended semester/trimester of the course: 2.

Course level: II.

Prerequisities:

Conditions for course completion:
continuous written tests
being active in practises
final oral examination

Learning outcomes:
Students should gain knowledge and broaden skills necessary for understanding methods, techniques and physical interpretations of all types of school physical experiments that are parts of the subject matter in physics classes at basic and high schools.

Brief outline of the course:
The practises are aimed at practical realization and physics interpretation of school demonstration experiments from selected topics of the physics subject matter for basic- and high-school pupils and their convenient incorporation into educational process. The emphasis is on familiarizing with teaching aids and didactic devices used in performing school physics experiments and on extending skills with their utilization in physics teaching.

Recommended literature:
1.Onderová, Ľ., Kireš, M., Ješková, Z., Degro, J.: Praktikum školských pokusov z fyziky II., PF UPJŠ
2.Kašpar, E., Vachek, J.: Pokusy z fyziky na středních školách, I. díl, SPN Praha, 1967
3.Žouželka,, J., Fuka, J.: Pokusy z fyziky na středních školách, II. díl, SPN Praha, 1971
4.http://physedu.science.upjs.sk/sis/fyzika/experimenty/index.htm

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 56

A	B	C	D	E	FX
44.64	12.5	33.93	5.36	1.79	1.79

Provides: doc. RNDr. Zuzana Ješková, PhD., doc. RNDr. Marián Kireš, PhD., RNDr. Ľudmila Onderová, PhD.
Date of last modification: 18.02.2014
Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚFV/ VPSP/04	**Course name:** School Physics Experiments III

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 credits: 3

Recommended semester/trimester of the course: 3.

Course level: II.

Prerequisities:

Conditions for course completion:
continuous written tests
active work in practises
final oral examination

Learning outcomes:
The students gain skills and competencies to the own and effective organisation and solving of experimental tasks, use of activities enhanced by digital technologies for physics teaching at lower and upper secondary level.

Brief outline of the course:
The practices are aimed at practical realization and physics interpretation of different forms of selected school demonstration. The emphasis is on creative utilization of teaching aids and didactic devices and computer-aided experiments.

Recommended literature:
Šucha, J.: Metodická príručka pre rozkladný transformátor, Učebné pomôcky B.Bystrica, 1973
Demkanin, P. a kol. Počítačom podporované prírodovedné laboratórium, FMFI UK Bratislava, 2006, ISBN:80-89186-10-6
Ješková, Z., a kol. Využitie informačných a komunikačných technológií v predmete Fyzika pre stredné školy : učebný materiál - modul 3. - 1. vyd. - Košice : Elfa, 2010. - 242 s., ISBN 978-80-8086-146-9
Duľa, I. a kol. Využitie informačných a komunikačných technológií v predmete Fyzika pre základné školy : učebný materiál - modul 3. - 1. vyd. - Košice : Elfa, 2010. - 240 s., ISBN 978-80-8086-154-4
Ješková, Z., Degro, J., Onderová, Ľ.: Počítačom podporovaná výučba fyziky, PF UPJŠ, Košice, ISBN 80 - 7097 - 451 -6
http://physedu.science.upjs.sk/sis/fyzika/experimenty/index.htm

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 2

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

Provides: doc. RNDr. Zuzana Ješková, PhD., doc. RNDr. Marián Kireš, PhD., RNDr. Ľudmila Onderová, PhD.

Date of last modification: 18.02.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: KPPaPZ/SPVKE/07	**Course name:** Social-Psychological Training of Coping with Critical Life Situations

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 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: 101

abs	n	z
97.03	2.97	0.0

Provides:

Date of last modification: 04.02.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

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 credits: 5

Recommended semester/trimester of the course: 1.

Course level: II.

Prerequisities:

Conditions for course completion:
Continuous checking of theoretical preparation, development of report and presentation.
Semestral test

Learning outcomes:
The aim of this subject is learn of basic experimental skillfulness in techniques in school experiment with accent on safety and health protections of students at scholar experimental work.

Brief outline of the course:
Selection and arrangement of chemical experiments as the demonstrative experiments, or pupils ´ experiments to themes basic laws of chemistry, determination of constant physicochemical, factors influence speed of chemical reaction, experiments from electrochemistry, creating gases; preparation works characters of quantitative, interesting experiments of everyday life.

Recommended literature:
1. Ganajová, M., Dzurillová, M. 2005: Školské pokusy z chémie I. UPJŠ v Košiciach, Prírodovedecká fakulta, 140 s. ISBN 80-7097-617-9
2. Ganajová, M. 2005: Chemické experimenty s vybranými produktami z obchodu. UPJŠ v Košiciach, Prírodovedecká fakulta, 110 s. ISBN 80-7097-611-X
3. Tomeček,O.: Školská experimentálna semimikrosúprava. Učebné pomôcky Banská Bystrica 1980
4. The primary and secondary textbook of chemistry
5. http://kekule.science.upjs.sk – (ŠIS)

Course language:

Notes:

Course assessment
Total number of assessed students: 181

A	B	C	D	E	FX
61.88	29.83	7.18	1.1	0.0	0.0

Provides: doc. RNDr. Mária Ganajová, CSc., RNDr. Milena Kristofová

Date of last modification: 03.02.2014
Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

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 credits: 3

Recommended semester/trimester of the course: 2.

Course level: II.

Prerequisities:

Conditions for course completion:
The knowledge of the reaction mechanism of the main tests of several organic compounds derivatives and the ability of their laboratory realization are required. Written tests: more than 50% from each one is required.

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.

Brief outline of the course:
Qualitative analysis of organic compounds
Alkanes - preparation of methane
Alkenes preparation and addition reactions of ethene, addition reactionf of β-carotene
Alkynes, Aromatic hydrocarbons and their derivatives – preparation of benzene, aromatic electrophilic substitution reactions – nitration of toluene and naphthalene, preparation of benzyl bromide
Halogenoderivatives – preparation of chloroethane, chloroform, methyl iodide, iodoform
Hydroxoderivatives – properties and reactivity - methanol, ethanol, ethylene glycol, glycerol, preparation of sodium ethanolate and sodium phenoxide, bromation of phenol, colour reactions of phenols, naphtols
Oxoderivatives – diethyl ether – preparation and properties, Aldehydes and Ketones – preparation of formaldehyde, oxidation of formaldehyde, acetone – addition of sodium hydrogensulfite
Carboxylic acids and their derivatives – preparation and properties of soap
Natural compounds – carbohydrates, proteins, amino acids, lipids
Factors that affect the rate of chemical reactions – temperature and concentration
Isolation of the fragrant components using steam distillation

Recommended literature:
1. Smik, L., Merva, L., Brutovská, A: Technika a didaktika školských pokusov, Vyd.Rektorát UPJŠ,Košice,1988
2. Smik, L. a kol.: Špeciálna didaktika chémie II.,Vyd.Rektorát UPJŠ,Košice, 1984
3. Internal scripts -Školské pokusy z organickej chémie

Course language:
slovak

Notes:

Course assessment
Total number of assessed students: 160

A	B	C	D	E	FX
33.75	29.38	20.0	11.88	5.0	0.0

Provides: RNDr. Jana Špaková Raschmanová, PhD., RNDr. Ján Elečko, RNDr. Margaréta Takácsová, RNDr. Kvetoslava Stanková, PhD.

Date of last modification: 03.02.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚFV/TRS/03	**Course name:** Special Theory of Relativity

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 credits: 3

Recommended semester/trimester of the course: 1.

Course level: I., II.

Prerequisities: ÚFV/TEP1/03

Conditions for course completion:
Final examination

Learning outcomes:
To acquaint students with principles of a special theory of relativity.

Brief outline of the course:
Galilean transformation and Galilean principle of relativity. Ether's hypothesis. Michelson experiment. Einstein's principles of the special theory of relativity. Lorentz transformation and its physical consequences. Interval and light cone. Proper time. Minkowski's space-time. Mathematical apparatus of special relativity. Relativistic electrodynamics. Relativistic mechanics.

Recommended literature:
1. Greiner W.: Classical Mechanics-Point Particles and Relativity, Springer-Verlag, New York, 2004.
2. Goldstein H., Poole Ch., Safko J.: Classical Mechanics, Addison Wesley, San Francisco, 2002.
3. Landau L.D., Lifšic E.M.: The Classical Theory of Fields, Pergamon Press, Oxford, 1975.

Course language:
1. Slovak,
2. English

Notes:

Course assessment
Total number of assessed students: 158

A	B	C	D	E	FX
51.9	22.78	13.29	6.33	5.06	0.63

Provides: prof. RNDr. Andrej Bobák, DrSc.

Date of last modification: 31.01.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/STOX/04	**Course name:** Special 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 credits: 5

Recommended semester/trimester of the course: 3.

Course level: II.

Prerequisities: ÚCHV/ZTOX/04

Conditions for course completion:

Learning outcomes:
Goal of the course is to provide the students with a knowledge of toxicology of organic and inorganic compounds, drugs, food additives, e.g., safety of substances, designation of substances in accordance of norm of European Union and order of Government of Slovak Republic.

Brief outline of the course:
Goal of the course is to provide the students with a knowledge of toxicology of organic and inorganic compounds, drugs, food additives, e.g., safety of substances, designation of substances in accordance of norm of European Union and order of Government of Slovak Republic.

Recommended literature:
J. A. Timbrell: Introduction to Toxicology, Taylor and Francis, London 1989.
H. Kenneth Dillon, Mat H. Ho: Biological Monitoring of Exposure to
Chemicals: Metals, John Wiley & Sons, New York 1991.
V. E. Forbes, T. L. Forbes: Toxicology in Theory and Practice, Chapmane Hall, London 1994.
H. M. Stahr: Analytical Methods in Toxicology, John Wiley & Sons, New York 1991.

Course language:

Notes:

Course assessment
Total number of assessed students: 192

A	B	C	D	E	FX
50.52	23.96	17.19	6.25	2.08	0.0

Provides: prof. RNDr. Katarína Györyová, DrSc.

Date of last modification: 03.02.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚTVŠ/TVa/11	**Course name:** Sports Activities I.

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

Number of credits: 2

Recommended semester/trimester of the course: 1.

Course level: I., I.II., 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: 7160

abs	n	neabs
88.42	7.82	3.76

Provides: PaedDr. Imrich Staško, doc. PhDr. Ivan Šulc, CSc., doc. Mgr. Rastislav Feč, PhD., Mgr. Ivan Matúš, PhD., Mgr. Zuzana Küchelová, Mgr. Peter Bakalár, PhD., doc. PaedDr. Ivan Uher, PhD., PaedDr. Milena Švedová, PhD., Mgr. Agata Horbacz, PhD., Mgr. Marek Valanský, Mgr. Dávid Kaško

Date of last modification: 15.01.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚTVŠ/ TVb/11	**Course name:** Sports Activities II.

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

Number of credits: 2

Recommended semester/trimester of the course: 2.

Course level: I., I.II., 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: 6364

abs	n	neabs
84.95	11.06	3.99

Provides: PaedDr. Imrich Staško, doc. Mgr. Rastislav Feč, PhD., doc. PhDr. Ivan Šulc, CSc., Mgr. Ivan Matúš, PhD., Mgr. Zuzana Küchelová, doc. PaedDr. Ivan Uher, PhD., Mgr. Peter Bakalár, PhD., PaedDr. Milena Švedová, PhD., Mgr. Agata Horbacz, PhD., Mgr. Marek Valanský, Mgr. Dávid Kaško

Date of last modification: 15.01.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚTVŠ/ TVc/11	**Course name:** Sports Activities III.

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

Number of credits: 2

Recommended semester/trimester of the course: 3.

Course level: I., I.II., 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: 4191

abs	n	neabs
89.91	4.72	5.37

Provides: PaedDr. Imrich Staško, doc. Mgr. Rastislav Feč, PhD., doc. PhDr. Ivan Šulc, CSc., Mgr. Ivan Matúš, PhD., Mgr. Zuzana Küchelová, doc. PaedDr. Ivan Uher, PhD., PaedDr. Milena Švedová, PhD., Mgr. Peter Bakalár, PhD., Mgr. Agata Horbacz, PhD., Mgr. Marek Valanský, Mgr. Dávid Kaško

Date of last modification: 15.01.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚTVŠ/ TVd/11	**Course name:** Sports Activities IV.

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

Number of credits: 2

Recommended semester/trimester of the course: 4.

Course level: I., I.II., 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: 3363

abs	n	neabs
86.14	6.78	7.08

Provides: PaedDr. Imrich Staško, doc. Mgr. Rastislav Feč, PhD., doc. PhDr. Ivan Šulc, CSc., Mgr. Ivan Matúš, PhD., Mgr. Zuzana Küchelová, PaedDr. Milena Švedová, PhD., Mgr. Peter Bakalár, PhD., doc. PaedDr. Ivan Uher, PhD., Mgr. Agata Horbacz, PhD., Mgr. Marek Valanský, Mgr. Dávid Kaško

Date of last modification: 15.01.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/SAZ1/03	**Course name:** Stereochemistry of Inorganic Compounds

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 credits: 4

Recommended semester/trimester of the course: 1.

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:
Symmetry, elements of symmetry, point groups, symmetrical properties of orbitals and bonds. Principles of stereochemistry, VSEPR, configuration of molecules, polyhedra, regular and semiregular polyhedra. Valence shells with 4 –12 electron pairs, geometry of molecules and periodic system.

Recommended literature:
Kepert, D. L.: Inorganic Stereochemistry. Springer-Verlag, Berlin, 1982.
Kettle, S. F. A.: Symmetry and Structure. John Wiley & Sons, New York, 1985.

Course language:

Notes:

Course assessment
Total number of assessed students: 41

A	B	C	D	E	FX
58.54	21.95	17.07	0.0	2.44	0.0

Provides: doc. RNDr. Vladimír Zeleňák, PhD.

Date of last modification: 03.02.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚFV/ SVKD/04	**Course name:** Student Scientific Conference

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

Number of credits: 4

Recommended semester/trimester of the course: 2.

Course level: II.

Prerequisities:

Conditions for course completion:
presentation of results of studnets´ research work at Students´ scientific conference

Learning outcomes:
Student gains experience and skills in processing and presentation of results of his research work.

Brief outline of the course:
Presentation of results of studnets´ research work at Students´ scientific conference.

Recommended literature:
Based on the recommendations of supervisor

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 42

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

Provides: doc. RNDr. Zuzana Ješková, PhD.

Date of last modification: 18.02.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚFV/ SJF1/03	**Course name:** Subnuclear Physics

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 credits: 5

Recommended semester/trimester of the course: 2.

Course level: II.

Prerequisities:

Conditions for course completion:
written test and thesis
exam

Learning outcomes:
Preview of basic characteristics and classification of elementary particles, their structures, theoretical description and experimental technique.

Brief outline of the course:
Historical introduction to the particle physics. The forces in nature. Leptons and hadrons. Strange particles. Mass and neutrino oscillations. Antiparticles.Stable baryons and resonances.Classification of particles.The eightfold way. Symmetrics and conservation laws. Structure of hadrons.Quarks and gluons. Quantum chromodynamics - theory of quarks.Unification of weak and electromagnetic forces. Standard model.Beyond the standard model. Cosmology, particle physics and Big-Bang. Subnuclear physics and experimental techniques.

Recommended literature:
1. Close F.: The Cosmic Onion - Quarks and the Nature of the Universe, Oxford, 1990.
2. Hajko V. and team of authors, Physics in experiments, Bratislava, 1997.
3. Kapitonov I.M., Vvedenije v fiziku jadra i chastic (Russian), Moscow, 2004.
4. Brandt S., The harvest of a century, Discoveries of modern physics in 100 episodes, Oxford, 2009.

Course language:

Notes:

Course assessment
Total number of assessed students: 49

A	B	C	D	E	FX
20.41	16.33	16.33	18.37	20.41	8.16

Provides: prof. RNDr. Stanislav Vokál, DrSc.

Date of last modification: 11.02.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚTVŠ/ LKSp//13	**Course name:** Summer Course-Rafting of TISA River
Course type, scope and the method: **Course type:** Practice **Recommended course-load (hours):** **Per week:** 36 **Per study period:** 504 **Course method:** present	
Number of credits: 2	
Recommended semester/trimester of the course:	
Course level: I., II.	
Prerequisities:	
Conditions for course completion:	
Learning outcomes:	
Brief outline of the course:	
Recommended literature:	
Course language:	
Notes:	
Course assessment Total number of assessed students: 63	

abs	n
41.27	58.73

Provides: Mgr. Peter Bakalár, PhD.
Date of last modification: 15.01.2014
Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚTVŠ/ KP/12	**Course name:** Survival Course
Course type, scope and the method: **Course type:** Practice **Recommended course-load (hours):** **Per week:** 36 **Per study period:** 504 **Course method:** present	
Number of credits: 2	
Recommended semester/trimester of the course:	
Course level: I., II.	
Prerequisities:	
Conditions for course completion:	
Learning outcomes:	
Brief outline of the course:	
Recommended literature:	
Course language:	
Notes:	

Course assessment
Total number of assessed students: 185

abs	n
41.62	58.38

Provides: Mgr. Marek Valanský
Date of last modification: 15.01.2014
Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: KPPaPZ/UPR/03	**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 credits: 2

Recommended semester/trimester of the course: 2., 4.

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: 47

A	B	C	D	E	FX
87.23	4.26	2.13	2.13	0.0	4.26

Provides: Mgr. Ondrej Kalina, PhD.

Date of last modification: 04.02.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚFV/ VMV1/04	**Course name:** Using Multimedia in 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 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: 85

A	B	C	D	E	FX
85.88	10.59	0.0	0.0	1.18	2.35

Provides: doc. RNDr. Marián Kireš, PhD., RNDr. Rastislav Adamek, PhD.

Date of last modification: 18.02.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

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 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, Brooks/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: 101

A	B	C	D	E	FX
16.83	20.79	36.63	20.79	3.96	0.99

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

Date of last modification: 03.02.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚTVŠ/ ZKLS//13	**Course name:** Winter Ski Training Course
Course type, scope and the method: **Course type:** Practice **Recommended course-load (hours):** **Per week:** 36 **Per study period:** 504 **Course method:** present	
Number of credits: 2	
Recommended semester/trimester of the course:	
Course level: I., II.	
Prerequisities:	
Conditions for course completion:	
Learning outcomes:	
Brief outline of the course:	
Recommended literature:	
Course language:	
Notes:	

Course assessment
Total number of assessed students: 59

abs	n
25.42	74.58

Provides: PaedDr. Imrich Staško, doc. PhDr. Ivan Šulc, CSc.
Date of last modification: 15.01.2014
Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ XBCH/04	**Course name:** Xenobiochemistry

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 credits: 5

Recommended semester/trimester of the course: 2.

Course level: II.

Prerequisities:

Conditions for course completion:
test

Learning outcomes:
Students obtained modern knowledge of xenobiotics metabolism in living organisms

Brief outline of the course:
Characterization of metabolism of xenobiotics in the liver. The basic types of biotransformation reactions - oxidation, reduction, hydrolysis, conjugation. Biotransformation enzymes. Free radicals and their effects, lipid peroxidation.

Recommended literature:
Z. Ďuračková: Voľné radikály a antioxidanty v medicíne, Slovak akademik press 1998.
Z.Vodrážka : Biochémia, Praha, 1996.
A. Jindra: Biochémia, molekulárnobiologické a farmakologické aspekty, Praha, 1985.

Course language:

Notes:

Course assessment
Total number of assessed students: 32

A	B	C	D	E	FX
59.38	21.88	12.5	3.13	3.13	0.0

Provides: RNDr. Danica Sabolová, PhD.

Date of last modification: 03.02.2014

Approved: doc. RNDr. Mária Ganajová, CSc., prof. RNDr. Andrej Bobák, DrSc., prof. Volodymyr Starosta, DrSc.