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COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice					
Faculty: Faculty of Science					
Course ID: ÚCHV/ AMCU/15		Course name: Aktivizujúce metódy výučby chémie			
Course type, scope and the method: Course type: Lecture / Practice Recommended course-load (hours): Per week: 2 / 2 Per study period: 28 / 28 Course method: present					
Number of ECTS credits: 5					
Recommended semester/trimester of the course: 2.					
Course level: II.					
Prerequisites:					
Conditions for course completion:					
Learning outcomes:					
Brief outline of the course:					
Recommended literature:					
Course language:					
Notes:					
Course assessment Total number of assessed students: 44					
A	B	C	D	E	FX
100.0	0.0	0.0	0.0	0.0	0.0
Provides: doc. RNDr. Mária Ganajová, CSc., RNDr. Ivana Sotáková, Ph.D.					
Date of last modification: 03.05.2015					
Approved:					

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice					
Faculty: Faculty of Science					
Course ID: ÚCHV/ ZTOX/04		Course name: Basic Toxicology			
Course type, scope and the method: Course type: Lecture / Practice Recommended course-load (hours): Per week: 2 / 1 Per study period: 28 / 14 Course method: present					
Number of ECTS credits: 5					
Recommended semester/trimester of the course: 1.					
Course level: II.					
Prerequisites:					
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 pollutants. Statement of chemistry laboratory policy. Safe and handling of toxic substances.					
Recommended literature: G. F. Fuhrman: Allgemeine Toxikologie fuer Chemiker, Teubner Verlag, Stuttgart 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: 320					
A	B	C	D	E	FX
21.25	27.5	25.0	17.5	7.5	1.25
Provides: RNDr. Miroslava Matiková Mařarová, PhD.					
Date of last modification: 03.05.2015					
Approved:					

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice					
Faculty: Faculty of Science					
Course ID: ÚCHV/ BTC/03		Course name: Biotechnology			
Course type, scope and the method: Course type: Lecture Recommended course-load (hours): Per week: 3 Per study period: 42 Course method: present					
Number of ECTS credits: 5					
Recommended semester/trimester of the course: 2.					
Course level: II.					
Prerequisites:					
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: 114					
A	B	C	D	E	FX
50.0	20.18	16.67	7.89	5.26	0.0
Provides: RNDr. Danica Sabolová, PhD.					
Date of last modification: 03.05.2015					
Approved:					

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice							
Faculty: Faculty of Science							
Course ID: ÚCHV/ ZCVU/04		Course name: Chemical Engineering					
Course type, scope and the method: Course type: Lecture / Practice Recommended course-load (hours): Per week: 2 / 1 Per study period: 28 / 14 Course method: present							
Number of ECTS credits: 5							
Recommended semester/trimester of the course: 2., 4.							
Course level: I., II., III.							
Prerequisites:							
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 (H ₂ SO ₄ , HNO ₃ , HCl, HF, H ₃ PO ₄); Industrial electrochemistry; Industrial fertilizers; Silicate industry – cement manufacture, ceramics; Petrochemistry							
Recommended literature:							
Course language:							
Notes:							
Course assessment Total number of assessed students: 20							
A	B	C	D	E	FX	N	P
20.0	60.0	15.0	5.0	0.0	0.0	0.0	0.0
Provides: doc. RNDr. Zuzana Vargová, Ph.D.							
Date of last modification: 23.02.2018							
Approved:							

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice					
Faculty: Faculty of Science					
Course ID: ÚCHV/ CHE2/03		Course name: Chemical Excursion			
Course type, scope and the method: Course type: Practice Recommended course-load (hours): Per week: Per study period: 1t Course method: present					
Number of ECTS credits: 4					
Recommended semester/trimester of the course: 2.					
Course level: II.					
Prerequisites:					
Conditions for course completion:					
Learning outcomes:					
Brief outline of the course:					
Recommended literature:					
Course language:					
Notes:					
Course assessment Total number of assessed students: 94					
A	B	C	D	E	FX
89.36	10.64	0.0	0.0	0.0	0.0
Provides: doc. RNDr. Zuzana Vargová, Ph.D.					
Date of last modification: 03.05.2015					
Approved:					

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice					
Faculty: Faculty of Science					
Course ID: ÚCHV/MSSU1/14		Course name: Chemistry and Didactics of Chemistry I			
Course type, scope and the method: Course type: Recommended course-load (hours): Per week: Per study period: Course method: present					
Number of ECTS credits: 2					
Recommended semester/trimester of the course:					
Course level: II.					
Prerequisites: ÚCHV/VKAU/04, 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: 95					
A	B	C	D	E	FX
56.84	27.37	13.68	2.11	0.0	0.0
Provides:					
Date of last modification: 03.05.2015					
Approved:					

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice					
Faculty: Faculty of Science					
Course ID: ÚCHV/MSSU2/14		Course name: Chemistry and Didactics of Chemistry II			
Course type, scope and the method: Course type: Recommended course-load (hours): Per week: Per study period: Course method: present					
Number of ECTS credits: 2					
Recommended semester/trimester of the course:					
Course level: II.					
Prerequisites: ÚCHV/VKoch/03, 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: 37					
A	B	C	D	E	FX
81.08	10.81	5.41	2.7	0.0	0.0
Provides:					
Date of last modification: 03.05.2015					
Approved:					

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚCHV/MPPc/15	Course name: Continuous practice teaching I
Course type, scope and the method: Course type: Practice Recommended course-load (hours): Per week: Per study period: 4t Course method: present	
Number of ECTS credits: 2	
Recommended semester/trimester of the course: 3.	
Course level: II.	
Prerequisites: ÚCHV/MPPb/15 and leboÚCHV/MPPb/03	
Conditions for course completion:	
Learning outcomes:	
Brief outline of the course:	
Recommended literature:	
Course language:	
Notes:	
Course assessment Total number of assessed students: 108	
abs	n
100.0	0.0
Provides: RNDr. Ivana Sotáková, Ph.D., doc. RNDr. Mária Ganajová, CSc.	
Date of last modification: 03.05.2015	
Approved:	

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚCHV/MPPd/15	Course name: Continuous practice teaching II
Course type, scope and the method: Course type: Practice Recommended course-load (hours): Per week: Per study period: 6t Course method: present	
Number of ECTS credits: 2	
Recommended semester/trimester of the course: 4.	
Course level: II.	
Prerequisites: ÚCHV/MPPc/15	
Conditions for course completion:	
Learning outcomes:	
Brief outline of the course:	
Recommended literature:	
Course language:	
Notes:	
Course assessment Total number of assessed students: 87	
abs	n
100.0	0.0
Provides: RNDr. Ivana Sotáková, Ph.D., doc. RNDr. Mária Ganajová, CSc.	
Date of last modification: 03.05.2015	
Approved:	

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚCHV/ KC/03	Course name: Cosmetic chemistry
Course type, scope and the method: Course type: Lecture / Practice Recommended course-load (hours): Per week: 2 / 1 Per study period: 28 / 14 Course method: present	
Number of ECTS credits: 4	
Recommended semester/trimester of the course: 3.	
Course level: II.	
Prerequisites:	
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 organic 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 sphingophospholipids), 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 Berlin 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 Edition, 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: 06.02.2020					
Approved:					

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice					
Faculty: Faculty of Science					
Course ID: ÚCHV/ DCH1/15		Course name: Didaktika chémie I			
Course type, scope and the method: Course type: Lecture / Practice Recommended course-load (hours): Per week: 1 / 2 Per study period: 14 / 28 Course method: present					
Number of ECTS credits: 4					
Recommended semester/trimester of the course: 2.					
Course level: II.					
Prerequisites: ÚCHV/SPC1a/03					
Conditions for course completion:					
Learning outcomes:					
Brief outline of the course:					
Recommended literature:					
Course language:					
Notes:					
Course assessment Total number of assessed students: 116					
A	B	C	D	E	FX
66.38	18.97	8.62	3.45	2.59	0.0
Provides: doc. RNDr. Mária Ganajová, CSc., RNDr. Ivana Sotáková, Ph.D.					
Date of last modification: 03.05.2015					
Approved:					

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice					
Faculty: Faculty of Science					
Course ID: ÚCHV/ DCH2/15		Course name: Didaktika chémie II			
Course type, scope and the method: Course type: Lecture / Practice Recommended course-load (hours): Per week: 1 / 2 Per study period: 14 / 28 Course method: present					
Number of ECTS credits: 4					
Recommended semester/trimester of the course: 3.					
Course level: II.					
Prerequisites: ÚCHV/DCH1/15					
Conditions for course completion:					
Learning outcomes:					
Brief outline of the course:					
Recommended literature:					
Course language:					
Notes:					
Course assessment Total number of assessed students: 108					
A	B	C	D	E	FX
77.78	13.89	6.48	1.85	0.0	0.0
Provides: doc. RNDr. Mária Ganajová, CSc., RNDr. Ivana Sotáková, Ph.D.					
Date of last modification: 03.05.2015					
Approved:					

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice					
Faculty: Faculty of Science					
Course ID: ÚCHV/ DTCU/15		Course name: Digitálne technológie vo výučbe chémie			
Course type, scope and the method: Course type: Lecture / Practice Recommended course-load (hours): Per week: 2 / 2 Per study period: 28 / 28 Course method: present					
Number of ECTS credits: 5					
Recommended semester/trimester of the course: 3.					
Course level: II.					
Prerequisites:					
Conditions for course completion:					
Learning outcomes:					
Brief outline of the course:					
Recommended literature:					
Course language:					
Notes:					
Course assessment Total number of assessed students: 10					
A	B	C	D	E	FX
100.0	0.0	0.0	0.0	0.0	0.0
Provides: doc. RNDr. Mária Ganajová, CSc., RNDr. Ivana Sotáková, Ph.D.					
Date of last modification: 03.05.2015					
Approved:					

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚCHV/ DPP1/14	Course name: Diploma Project I
Course type, scope and the method: Course type: Recommended course-load (hours): Per week: Per study period: Course method: present	
Number of ECTS credits: 1	
Recommended semester/trimester of the course: 1.	
Course level: II.	
Prerequisites:	
Conditions for course completion:	
Learning outcomes:	
Brief outline of the course:	
Recommended literature:	
Course language:	
Notes:	
Course assessment Total number of assessed students: 64	
abs	n
100.0	0.0
Provides:	
Date of last modification: 03.05.2015	
Approved:	

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚCHV/ DPP2/14	Course name: Diploma Project II
Course type, scope and the method: Course type: Recommended course-load (hours): Per week: Per study period: Course method: present	
Number of ECTS credits: 2	
Recommended semester/trimester of the course: 2.	
Course level: II.	
Prerequisites:	
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
100.0	0.0
Provides:	
Date of last modification: 03.05.2015	
Approved:	

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚCHV/ DPP3/14	Course name: Diploma Project III
Course type, scope and the method: Course type: Recommended course-load (hours): Per week: Per study period: Course method: present	
Number of ECTS credits: 2	
Recommended semester/trimester of the course: 3.	
Course level: II.	
Prerequisites:	
Conditions for course completion:	
Learning outcomes:	
Brief outline of the course:	
Recommended literature:	
Course language:	
Notes:	
Course assessment Total number of assessed students: 66	
abs	n
100.0	0.0
Provides:	
Date of last modification: 03.05.2015	
Approved:	

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice					
Faculty: Faculty of Science					
Course ID: ÚCHV/ DPOU/14		Course name: Diploma Thesis and its Defence			
Course type, scope and the method: Course type: Recommended course-load (hours): Per week: Per study period: Course method: present					
Number of ECTS credits: 14					
Recommended semester/trimester of the course:					
Course level: II.					
Prerequisites: 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: 67					
A	B	C	D	E	FX
80.6	16.42	2.99	0.0	0.0	0.0
Provides:					
Date of last modification: 03.05.2015					
Approved:					

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚCHV/ DSU1a/10	Course name: Diplomový seminár z chémie pre XCH
Course type, scope and the method: Course type: Practice Recommended course-load (hours): Per week: 2 Per study period: 28 Course method: present	
Number of ECTS credits: 2	
Recommended semester/trimester of the course: 2.	
Course level: II.	
Prerequisites:	
Conditions for course completion:	
Learning outcomes:	
Brief outline of the course:	
Recommended literature:	
Course language:	
Notes:	
Course assessment Total number of assessed students: 11	
abs	n
100.0	0.0
Provides: doc. RNDr. Mária Ganajová, CSc.	
Date of last modification: 03.05.2015	
Approved:	

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚCHV/ DSU1b/10	Course name: Diplomový seminár z chémie pre XCH
Course type, scope and the method: Course type: Practice Recommended course-load (hours): Per week: 2 Per study period: 28 Course method: present	
Number of ECTS credits: 2	
Recommended semester/trimester of the course: 3.	
Course level: II.	
Prerequisites:	
Conditions for course completion:	
Learning outcomes:	
Brief outline of the course:	
Recommended literature:	
Course language:	
Notes:	
Course assessment Total number of assessed students: 6	
abs	n
100.0	0.0
Provides: doc. RNDr. Mária Ganajová, CSc.	
Date of last modification: 03.05.2015	
Approved:	

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚCHV/ UECH/03	Course name: Introduction to Environmental Chemistry
Course type, scope and the method: Course type: Lecture / Practice Recommended course-load (hours): Per week: 2 / 1 Per study period: 28 / 14 Course method: present	
Number of ECTS credits: 5	
Recommended semester/trimester of the course: 1., 3.	
Course level: I., II.	
Prerequisites:	
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: 216					
A	B	C	D	E	FX
49.54	20.83	15.28	8.33	6.02	0.0
Provides: doc. RNDr. Andrea Straková Fedorková, PhD.					
Date of last modification: 20.09.2017					
Approved:					

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚCHV/ FUMCH1/03	Course name: Introduction to Material Chemistry
Course type, scope and the method: Course type: Lecture / Practice Recommended course-load (hours): Per week: 2 / 1 Per study period: 28 / 14 Course method: present	
Number of ECTS credits: 5	
Recommended semester/trimester of the course: 1., 3.	
Course level: I., II.	
Prerequisites:	
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: 77					
A	B	C	D	E	FX
89.61	9.09	0.0	0.0	0.0	1.3
Provides: prof. RNDr. Renáta Oriňáková, DrSc.					
Date of last modification: 20.09.2017					
Approved:					

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚCHV/ MPPb/15	Course name: Scheduled practice teaching
Course type, scope and the method: Course type: Practice Recommended course-load (hours): Per week: Per study period: 36s Course method: present	
Number of ECTS credits: 1	
Recommended semester/trimester of the course: 2.	
Course level: II.	
Prerequisites: KPE/MPPa/15,KPE/PDU/15,(KPPaPZ/PaSPP/09 and leboKPPaPZ/PPgU/15)	
Conditions for course completion:	
Learning outcomes:	
Brief outline of the course:	
Recommended literature:	
Course language:	
Notes:	
Course assessment Total number of assessed students: 274	
abs	n
100.0	0.0
Provides: RNDr. Ivana Sotáková, Ph.D., doc. RNDr. Mária Ganajová, CSc.	
Date of last modification: 03.05.2015	
Approved:	

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice					
Faculty: Faculty of Science					
Course ID: ÚCHV/ VKAU/04		Course name: Selected Topics in Inorganic Chemistry			
Course type, scope and the method: Course type: Lecture / Practice Recommended course-load (hours): Per week: 2 / 1 Per study period: 28 / 14 Course method: present					
Number of ECTS credits: 5					
Recommended semester/trimester of the course: 3.					
Course level: II.					
Prerequisites:					
Conditions for course completion:					
Learning outcomes:					
Brief outline of the course:					
Recommended literature: Greenwood, N.N., Earnshaw, A.: Chemistry of the elements I and II, Pergamon Press N.Y., 1993. C. N. R. Rao, A. Muller, A. K. Cheetham: The Chemistry of Nanomaterials (Vol. 1,2), Wiley-VCH, 2006. Atkins O., Overton T., Rourke J., Weller M., Armstrong F.: Inorganic Chemistry, University Press, Oxford, 2006.					
Course language:					
Notes:					
Course assessment Total number of assessed students: 75					
A	B	C	D	E	FX
45.33	29.33	20.0	2.67	2.67	0.0
Provides: prof. RNDr. Vladimír Zelenák, DrSc.					
Date of last modification: 03.05.2015					
Approved:					

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice					
Faculty: Faculty of Science					
Course ID: ÚCHV/ VKOCH/03		Course name: Selected topics in organic chemistry			
Course type, scope and the method: Course type: Lecture / Practice Recommended course-load (hours): Per week: 2 / 1 Per study period: 28 / 14 Course method: present					
Number of ECTS credits: 5					
Recommended semester/trimester of the course: 3.					
Course level: II.					
Prerequisites:					
Conditions for course completion:					
Learning outcomes:					
Brief outline of the course:					
Recommended literature:					
Course language:					
Notes:					
Course assessment Total number of assessed students: 108					
A	B	C	D	E	FX
35.19	25.0	20.37	13.89	5.56	0.0
Provides: doc. RNDr. Ján Imrich, CSc.					
Date of last modification: 03.05.2015					
Approved:					

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice					
Faculty: Faculty of Science					
Course ID: ÚCHV/SPC1a/03		Course name: Special practising the school experiments I			
Course type, scope and the method: Course type: Practice Recommended course-load (hours): Per week: 4 Per study period: 56 Course method: present					
Number of ECTS credits: 5					
Recommended semester/trimester of the course: 1.					
Course level: II.					
Prerequisites:					
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: 282					
A	B	C	D	E	FX
66.67	25.53	6.74	1.06	0.0	0.0
Provides: doc. RNDr. Mária Ganajová, CSc., RNDr. Ivana Sotáková, Ph.D.					

Date of last modification: 03.05.2015
Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚCHV/ SPC1b/03	Course name: Special practising the school experiments II
Course type, scope and the method: Course type: Practice Recommended course-load (hours): Per week: 3 Per study period: 42 Course method: present	
Number of ECTS credits: 3	
Recommended semester/trimester of the course: 2.	
Course level: II.	
Prerequisites:	
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: at least 51% 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 reactions of β -carotene Alkynes - preparation of acetylene and studying of its reaction Aromatic hydrocarbons and their derivatives – preparation and their characteristic reactions Halogenoderivatives – preparation of chloroethane and iodoform Hydroxoderivatives and ethers – properties and reactivity - methanol, ethanol, glycerol, preparation of sodium ethanolate, phenols, characteristic properties of diethylether Carbonyl compounds - preparation and their reactions Carboxylic acids and their derivatives – preparation and properties Natural compounds – carbohydrates, proteins, amino acids, lipids Column chromatography -acetylation reaction of ferrocene - its preparation and separation of the obtained products by column chromatography Isolation of the fragrant components using steam distillation Everyday life chemistry	
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 studying material - Špeciálne praktikum školských pokusov z organickej chémie	

Course language: slovak language					
Notes:					
Course assessment Total number of assessed students: 276					
A	B	C	D	E	FX
44.2	28.26	17.03	7.25	3.26	0.0
Provides: RNDr. Jana Špaková Raschmanová, PhD., RNDr. Ján Elečko, PhD.					
Date of last modification: 05.02.2020					
Approved:					

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice					
Faculty: Faculty of Science					
Course ID: ÚCHV/ SAZ1/15		Course name: Stereochemistry of Inorganic Compounds			
Course type, scope and the method: Course type: Practice Recommended course-load (hours): Per week: 2 Per study period: 28 Course method: present					
Number of ECTS credits: 3					
Recommended semester/trimester of the course:					
Course level: II.					
Prerequisites:					
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: 22					
A	B	C	D	E	FX
59.09	13.64	18.18	9.09	0.0	0.0
Provides: prof. RNDr. Vladimír Zelenák, DrSc.					
Date of last modification: 03.05.2015					
Approved:					

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚCHV/ STA1/03	Course name: Structure Analysis
Course type, scope and the method: Course type: Lecture / Practice Recommended course-load (hours): Per week: 2 / 2 Per study period: 28 / 28 Course method: present	
Number of ECTS credits: 6	
Recommended semester/trimester of the course:	
Course level: II.	
Prerequisites:	
Conditions for course completion: 2 written tests. 30 % The final examination is in a written form. The final mark is based on the results from current and final tests.	
Learning outcomes: Students get an overview about the symmetry at the micro- and macrostructure level and about diffraction methods used for the crystal structure determination and they will learn how to use the results of the crystal structure analysis in their own work.	
Brief outline of the course: Macrostructure and microstructure symmetry, individual work with space groups. Theoretical basis of the diffraction experiment. Practical aspects of crystal structure solution. Processing the results of structural analysis. Theoretical basis, practical aspects and possibilities of X-ray powder diffraction analysis, its use at work of a chemist.	
Recommended literature: Massa, W.: Crystal structure determination, 2nd edition. Springer 2004. Clegg, W. et al.: Crystal structure analysis. Principles and practice. Oxford University Press 2009. Hahn, T.: International tables for crystallography, Vol. A. Kluwer Academic Publishers 2002. Stout, G.H. & Jensen, L.H.: X-ray Structure Determination. Macmillan Publishing Co., Inc. 1968. Klug, H.P. & Alexander, L.E.: X-Ray diffraction procedures for polycrystalline and amorphous materials. John Wiley & Sons, Inc. 1970.	
Course language: Slovak and English	
Notes:	

Course assessment					
Total number of assessed students: 119					
A	B	C	D	E	FX
28.57	16.81	26.05	19.33	8.4	0.84
Provides: doc. RNDr. Ivan Potočník, PhD.					
Date of last modification: 03.05.2015					
Approved:					

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚCHV/ VKCH/10	Course name: Vybrané kapitoly z chémie
Course type, scope and the method: Course type: Lecture / Practice Recommended course-load (hours): Per week: 2 / 1 Per study period: 28 / 14 Course method: present	
Number of ECTS credits: 4	
Recommended semester/trimester of the course: 1.	
Course level: II.	
Prerequisites:	
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 chemistry: 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 acquaintance 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 Edition, ISBN 0534389996. J. Chomič: Stereochemistry of inorganic compounds, UPIŠ 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: 217					
A	B	C	D	E	FX
24.42	28.57	32.72	11.98	1.84	0.46
Provides: prof. RNDr. Mária Kožurková, CSc., prof. RNDr. Vladimír Zeleňák, DrSc., doc. RNDr. Miroslava Martinková, PhD.					
Date of last modification: 29.08.2021					
Approved:					