COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ ACH2/03	**Course name:** Inorganic Chemistry II

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

Number of credits: 7

Recommended semester/trimester of the course:

Course level: I.

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

Conditions for course completion:
Written examination at the end of the course. The final mark is given by the sum of points from seminars (max. 10 points) and 3x30 points from written test, totally 100 points. To pass it is required to obtain at least 51 points as well as 51 % of points from every partial examination.

Learning outcomes:
Goal of the course is to provide the students with a knowledge of systematic chemistry of metallic elements.

Brief outline of the course:
Electronic configuration, abundance, use, physical and chemical properties and reactivity of the elements of the 1st, 2nd groups, transition metal elements, elements of the 12th group, Al, Ga, In, Tl, Ge, Sn, Pb, As, Sb, Bi, Se, Te, Po, lanthanides and actinides. Binary and other compounds formed by these elements, their properties and reactivity. General properties, structure and bonding in metals, co-ordination and organometallic compounds.

Recommended literature:
1. Greenwood, N. N., Earnshaw, A: Chemistry of the Elements. Pergamon Press, Oxford, 1984
2. Shriver, D.F., Atkins, P.W., Langford, C. H.: Inorganic Chemistry. 2ndEd., Oxford University Press, Oxford, 1995

Course language:

Course assessment
Total number of assessed students: 602

A	B	C	D	E	FX
11.63	19.1	30.4	26.58	7.81	4.49

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

Date of last modification: 26.02.2018

Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ ACHU/03	**Course name:** Inorganic Chemistry

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

Number of credits: 6

Recommended semester/trimester of the course: 2.

Course level: I.

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

Conditions for course completion:
Test in the middle and at the end of the semester.
Oral examination.

Learning outcomes:
Aim of the course is to provide the students with a knowledge of systematic chemistry of non-metallic elements

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

Recommended literature:
http://kosice.upjs.sk/~vladimir.zelenak/ACHU.htm (ppt slides from the lectures as a support for self study)
Greenwood, N. N., Earnshaw, A: Chemistry of the Elements. Pergamon Press, Oxford, 1984
Atkins O., Overton T., Rourke J., Weller M., Armstrong F.: Inorganic Chemistry, University Press, Oxford, 2006.

Course language:

Course assessment
Total number of assessed students: 661

A	B	C	D	E	FX
10.44	20.12	30.41	25.57	10.14	3.33

Provides: prof. RNDr. Vladimír Zeleňák, PhD.

Date of last modification: 26.02.2018

Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of credits: 5

Recommended semester/trimester of the course: 3.

Course level: I.

Prerequisities:

Conditions for course completion:
Written examination

Learning outcomes:
Anatomic systems of man.

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

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

Course language:

Course assessment
Total number of assessed students: 1652

A	B	C	D	E	FX
4.6	16.71	27.36	25.48	22.82	3.03

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

Date of last modification: 23.02.2018

Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of credits: 5

Recommended semester/trimester of the course: 6.

Course level: I., II., III.

Prerequisities:

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

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

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

Recommended literature:
1. F. Rouquerol, J. Rouquerol, K. Sing: Adsorption by powders and porous solids, Academic press, London, UK, 1999
2. S. J. Gregg, K.S.W. Sing: Adsorption, surface area and porosity, Academic Press, London,, UK, 1982.
3. V. Zeleňák: Adsorption and porosity of solid substances, internal study text, PF UPJŠ, 2007.

Course language:

Course assessment
Total number of assessed students: 78

A	B	C	D	E	FX	N	P
78.21	11.54	2.56	0.0	0.0	0.0	0.0	7.69

Provides: prof. RNDr. Vladimír Zeleňák, PhD.

Date of last modification: 26.02.2018

Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: KPE/ ALP/06	**Course name:** Alternative Education
Course type, scope and the method: **Course type:** Practice **Recommended course-load (hours):** **Per week:** 2 **Per study period:** 28 **Course method:** present	
Number of credits: 2	
Recommended semester/trimester of the course: 4.	
Course level: I.	
Prerequisities:	
Conditions for course completion:	
Learning outcomes:	
Brief outline of the course:	
Recommended literature:	
Course language:	

Course assessment

Total number of assessed students: 180

A	B	C	D	E	FX
66.11	30.56	0.56	1.11	0.56	1.11

Provides: Mgr. Katarína Petríková, PhD.
Date of last modification: 23.08.2017
Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ ANCH1b/03	**Course name:** Instrumental 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:

Course level: I.

Prerequisities:

Conditions for course completion:
Test

Learning outcomes:
Getting a knowledge of the theoretical principles and instrumentation in analytical chemistry.

Brief outline of the course:
Spectroscopic methods of analysis. Electromagnetic radiation. Basic components of spectroscopic instrumentation. Sources of energy. Detectors. Spectroscopy based on absorption. Transmittance and absorbance. Beer's Law. Limitations to Beer's Law. Ultraviolet-visible and infrared spectrophotometry. Atomic absorption spectroscopy. Spectroscopy based on emission. Molecular photoluminescence spectroscopy. Atomic emission spectroscopy. Spectroscopy based on scattering. Mass spectrometry. Electrochemical methods of analysis. Potentiometric methods of analysis. Reference electrodes. Membrane electrodes. Coulometric methods of analysis. Voltammetric methods of analysis. Chromatographic methods. General theory of column chromatography. Optimizing chromatographic separations. Gas chromatography. High-performance liquid chromatography. Ion-exchange chromatography. Supercritical fluid chromatography.

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

Course language:

Course assessment
Total number of assessed students: 519

A	B	C	D	E	FX
20.42	12.14	21.58	19.08	26.4	0.39

Provides: prof. Mgr. Vasiľ Andruch, DrSc., RNDr. Rastislav Serbin, PhD., RNDr. Lívia Kocúrová, PhD., RNDr. Jana Šandrejová, PhD.
Date of last modification: 26.02.2018
Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ANCHU/03	**Course name:** Analytical Chemistry

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

Number of credits: 6

Recommended semester/trimester of the course: 3.

Course level: I.

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

Conditions for course completion:
3x test of analytical calculations.
Examination

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

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

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

Course language:

Course assessment
Total number of assessed students: 634

A	B	C	D	E	FX
18.61	18.77	25.08	24.29	9.31	3.94

Provides: doc. RNDr. Taťána Gondová, CSc.

Date of last modification: 26.02.2018

Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of credits: 5

Recommended semester/trimester of the course: 6.

Course level: I.

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

Conditions for course completion:
Examination

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

Brief outline of the course:
Basic principles, classification, theory and applications of separation methods. Extraction - LLE, SPE, SPME. Chromatographic methods - theory, classification. Gas chromatography, retention mechanisms, stationary phases and their selection. Instrumentation, detectors in GC. Data evaluation - qualitative and quantitative analysis. High-performance liquid chromatography, principles, classification. Stationary and mobile phases in LC, instrumentation. Applications. Comparison of GC and HPLC methods.
Planar chromatographic methods - TLC, HPTLC, PC.
Electrophoretic techniques - CE, ITP, HPCE. MEKC - micellar electrokinetic capillary chromatography. Lab-on-a-Chip (LOC), TAS, electrophoresis on a chip, principles and applications.

Recommended literature:
Krupčík, J.: Separačné metódy, SVŠT CHTF, Bratislava 1983.
Skoog D. A., Leary J. J.: Principles of instrumental analysis. Saunders College Publishing, New York 1997.
Pawliszyn J., Lord H. L.: Handbook of sample preparation, Wiley 2010.
Churáček J., Jandera P.: Úvod do vysokoúčinné kapalinové chromatografie, SNTL, Praha 1984.

Course language:

Course assessment
Total number of assessed students: 439

A	B	C	D	E	FX
27.11	25.06	26.2	12.98	6.15	2.51

Provides: doc. RNDr. Taťána Gondová, CSc.
Date of last modification: 26.02.2018
Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of credits: 5

Recommended semester/trimester of the course: 5.

Course level: I., II.

Prerequisities:

Conditions for course completion:
Test or seminar works
examination

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

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

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

Course language:

Course assessment
Total number of assessed students: 243

A	B	C	D	E	FX
41.98	27.98	18.11	4.53	7.0	0.41

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

Date of last modification: 26.02.2018

Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of credits: 5

Recommended semester/trimester of the course: 3.

Course level: I.

Prerequisities:

Conditions for course completion:
written test
Oral examination

Learning outcomes:
Principles and theoretical foundations the application of analytical methods in bioanalysis.

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

Recommended literature:
1.Mikkelsen S.R, Cortón E.: Bioanalytical Chemistry, Wiley, 2004
2.Wilson I., Bioanalytical Separations 4, (Handbook of Analytical Separations), Elsevier, 2003
3.Lee, D.C., Webb, M. Pharmaceutical Analysis, Blackwell, 2003

Course language:

Course assessment
Total number of assessed students: 75

A	B	C	D	E	FX
30.67	33.33	30.67	4.0	0.0	1.33

Provides: doc. RNDr. Katarína Reiffová, PhD.

Date of last modification: 26.02.2018

Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/BCHU/03 | **Course name:** Biochemistry

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: 5.

Course level: I.

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

Conditions for course completion:
test + oral examination

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

Brief outline of the course:
1. Protein Structure and Function, Exploring proteins
2. DNA and RNA and the Flow of Genetic Information, Exploring genes
3. Enzymes: Basic Concepts and Kinetics, Catalytic Strategies and Regulatory Strategies
4. Carbohydrates (Monosaccharides, Disaccharides, Polysaccharides – Functions and Properties)
5. Lipids and Cells Membranes, Membrane Channels and Pumps
6. Metabolis: Basic Concepts and Design, Signal-Transduction Pathways
7. Glycolysis and Gluconeogenesis, Glycogen Metabolism
8. The Citric Acid Cycle and Glyoxylate Cycle
9. Oxidative Phosphorylation, The Light Reactions of Photosyntesis
10. The Calvine Cycle and the Pentose Phosphate Pathway
11. Fatty Acids Metabolism, Urea Cycle
12. DNA Replication, Transcription (RNA Synthesis)
13. Protein Synthesis & Degradation, the Integration of Metabolism

Recommended literature:
Škárka: Biochémia. Alfa, 1992
Voet a Voetová: Biochemie. Victoria Publishing, Praha, 1994
Stryer, L.: Biochemistry, W.H. Freeman and Company, New York, 1988

Course language:

Course assessment
Total number of assessed students: 1105

A	B	C	D	E	FX
18.01	17.47	20.81	21.54	19.28	2.9

Provides: doc. RNDr. Erik Sedlák, PhD., RNDr. Nataša Tomášková, PhD.
Date of last modification: 26.02.2018
Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of credits: 2

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

Course level: I.

Prerequisities:

Conditions for course completion:
Written test

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

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

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

Course language:

Course assessment
Total number of assessed students: 1402

A	B	C	D	E	FX
30.53	22.97	17.9	18.12	9.91	0.57

Provides: doc. RNDr. Monika Kassayová, CSc.

Date of last modification: 21.08.2017

Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/BKP/14	**Course name:** Bachelor Project

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

Number of credits: 2

Recommended semester/trimester of the course: 5.

Course level: I.

Prerequisities:

Conditions for course completion:
Submission of the bachelor project, the defense of the project and acceptance of its content by the supervisor.

Learning outcomes:

Brief outline of the course:

Recommended literature:
1. Scientific papers related to the topic of the bachelor project. 2. Directive No. 1/2011 of the rector UPJS in Košice.

Course language:

Course assessment
Total number of assessed students: 71

abs	n
100.0	0.0

Provides:

Date of last modification: 23.02.2018

Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ BKP/14	**Course name:** Bachelor Project

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

Number of credits: 2

Recommended semester/trimester of the course: 5.

Course level: I.

Prerequisities:

Conditions for course completion:
Submission of the bachelor project, the defense of the project and acceptance of its content by the supervisor.

Learning outcomes:

Brief outline of the course:

Recommended literature:
1. Scientific papers related to the topic of the bachelor project.
2. Directive No. 1/2011 of the rector UPJS in Košice.

Course language:

Course assessment
Total number of assessed students: 40

abs	n
100.0	0.0

Provides:

Date of last modification: 26.02.2018

Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of credits: 5

Recommended semester/trimester of the course: 3.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:
Introduction to biology of lower plants.

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

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

Course language:

Course assessment
Total number of assessed students: 1656

A	B	C	D	E	FX
13.41	19.26	25.24	20.23	19.2	2.66

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

Date of last modification: 23.02.2018

Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ BO1/15	**Course name:** Botany I

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

Number of credits: 4

Recommended semester/trimester of the course: 3.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:
Introduction to biology of lower plants.

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

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

Course language:

Course assessment
Total number of assessed students: 214

A	B	C	D	E	FX
26.64	16.82	23.83	18.69	11.21	2.8

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

Date of last modification: 23.02.2018

Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of credits: 5

Recommended semester/trimester of the course: 2.

Course level: I.

Prerequisities: ÚBEV/TCB1/03

Conditions for course completion:
Practical and theoretical exam.

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

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

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

Course language:

Course assessment
Total number of assessed students: 1439

A	B	C	D	E	FX
10.35	12.44	17.37	19.81	24.67	15.36

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

Date of last modification: 23.02.2018
Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ BOT1/15	**Course name:** Botany II

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

Number of credits: 4

Recommended semester/trimester of the course: 2.

Course level: I.

Prerequisities: ÚBEV/TCB1/03

Conditions for course completion:
Practical and theoretical exam.

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

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

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

Course language:

Course assessment
Total number of assessed students: 263

A	B	C	D	E	FX
14.45	13.31	26.62	22.81	14.07	8.75

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

Date of last modification: 23.02.2018
Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of credits: 4

Recommended semester/trimester of the course:

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:
Oral presentation of the thesis results. Answering questions of the thesis oponent or members of the state examination board.

Recommended literature:

Course language:
slovak

Course assessment
Total number of assessed students: 154

A	B	C	D	E	FX
87.01	9.09	1.95	1.95	0.0	0.0

Provides:

Date of last modification: 26.02.2018

Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of credits: 4

Recommended semester/trimester of the course:

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Course assessment
Total number of assessed students: 172

A	B	C	D	E	FX
50.58	26.16	16.86	4.65	1.74	0.0

Provides:

Date of last modification: 23.02.2018

Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of credits: 6

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

Course level: I.

Prerequisities:

Conditions for course completion:
Recognition.
Recognition.

Learning outcomes:
To provide the students with knowledge on basic principles of statistic methods used in biology and their scope of application

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

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

Course language:

Course assessment
Total number of assessed students: 181

A	B	C	D	E	FX
3.31	8.84	16.57	21.55	35.36	14.36

Provides: prof. RNDr. Beňadik Šmajda, CSc.

Date of last modification: 23.02.2018

Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ BSB/15	**Course name:** Biology

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: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Course assessment
Total number of assessed students: 143

A	B	C	D	E	FX
22.38	21.68	26.57	18.18	11.19	0.0

Provides:

Date of last modification: 23.02.2018

Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of credits: 2

Recommended semester/trimester of the course: 1.

Course level: I.

Prerequisities:

Conditions for course completion:
Short written tests.
Written test.

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

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

Recommended literature:
Potočňák I.: Chemické výpočty vo všeobecnej a anorganickej chémii (skriptum), PF UPJŠ, Košice, 2006.

Course language:

Course assessment
Total number of assessed students: 1240

A	B	C	D	E	FX
20.56	19.68	24.44	20.56	13.95	0.81

Provides: RNDr. Martin Vavra, PhD., RNDr. Miroslav Almáši, PhD.

Date of last modification: 26.02.2018

Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of credits: 6

Recommended semester/trimester of the course: 1.

Course level: I.

Prerequisities:

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

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

Brief outline of the course:
Levels of living system organization. Characteristics and comparison of prokaryotic and eukaryotic plant and animal cells. Microscopic, submicroscopic and molecular structure and function of individual cell components. Nucleus and cell division.

Recommended literature:
Alberts, B., Bray, D., Lewis, J. et al.: Molecular Biology of the Cell. Garland Publishing Inc., New York, London, 1994

Course language:

Course assessment
Total number of assessed students: 3862

A	B	C	D	E	FX
5.85	15.64	24.52	23.05	26.05	4.89

Provides: RNDr. Rastislav Jendželovský, PhD., RNDr. Zuzana Jendželovská, PhD.

Date of last modification: 23.02.2018

Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of credits: 4

Recommended semester/trimester of the course: 6.

Course level: I., II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Course assessment
Total number of assessed students: 738

A	B	C	D	E	FX
60.84	13.82	12.6	8.67	3.39	0.68

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

Date of last modification: 31.08.2017

Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚMV/ DGS/15	**Course name:** Students` Digital Literacy

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

Number of credits: 2

Recommended semester/trimester of the course: 1.

Course level: I.

Prerequisities:

Conditions for course completion:
continuous assessment and final project

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

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

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

Course language:
Slovak

Course assessment
Total number of assessed students: 147

abs	n
96.6	3.4

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

Date of last modification: 23.08.2017

Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚINF/ EDS/15	**Course name:** Educational software

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

Number of credits: 2

Recommended semester/trimester of the course: 5.

Course level: I.

Prerequisities:

Conditions for course completion:
1 Preparation of interim assignments:
a) Worksheet for student (with custom graphics)
b) Multimedia educational presentation (with pictures, animations and sounds)
c) Interactive educational quiz (with several types of quiz items)
d) Methodological guidance on the use of interactive applications in teaching selected topic of chosen school subject.
2 Creation and presentation of final project on the use of educational software in education.

Learning outcomes:
1. To acquire an overview of the educational software types and its exploitation in education.
2. To gain or enhance basic skills in working with:
a) presentation software, programs for creation and editing images, animations, diagrams, sounds, concept maps,
b) programs for creation of quizes, questionnaires, voting,
c) simulation and modeling software,
d) selected subject-oriented educational programs,
3. To create and present a final project on the use of educational software in education.

Brief outline of the course:
Educational software types. Onlilne educational sources and tools. Multimedia processing. Tools for creation of teaching aids.

Recommended literature:
1. Digitálna gramotnosť učiteľa : učebný materiál- modul 1 / Rastislav Adámek ... [et al.]. - Košice : Ústav informácií a prognóz školstva, 2009. - 80 s. - ISBN 9788080861193(brož.).
2. Moderná didaktická technika v práci učiteľa : učebný materiál modul 2 / Rastislav Adámek ... [et al.] ; recenzenti Viliam Fedák, Anton Lavrin. - Košice : Elfa, 2010. - 200 s. - ISBN 9788080861353 (brož.).
3. Web, Multimédiá / Martin Homola ... [et al.]. - Bratislava : Štátny pedagogický ústav, 2010. - 68 s. - Č. projektu: ŠPVV ĎVUi 26120130001. - ISBN 9788081180514 (brož.).

Course language:

Notes:

Content of lessons will be flexibly adapted to the field of study of learners. Language learners will be able to work more with pictures and sounds, physicists with simulation programs, mathematicians with mathematical software, etc.

Course assessment

Total number of assessed students: 30

A	B	C	D	E	FX
63.33	20.0	13.33	0.0	3.33	0.0

Provides: doc. RNDr. Ľubomír Šnajder, PhD.

Date of last modification: 23.08.2017

Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ FCH1b/10	**Course name:** Physical Chemistry II

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

Number of credits: 6

Recommended semester/trimester of the course:

Course level: I.

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

Conditions for course completion:
Two partial tests from computational seminars in 6th and 12th week of semester.
Examination.

Learning outcomes:
Understandable explain to students the principles of chemical kinetics of processes, to elucidate the kinetics and mechanism of some reactions. To analyse particularly the equilibrium and kinetics of electrode processes.

Brief outline of the course:
Electrochemistry. Equilibrium homogeneous processesn electrolyte solutions. Charge transfer in electrolyte solutions. Nonequilibrium homogeneous processes. Trnasport processes in electrolyte solutions. Conductance and molar conductivity. Hindering effects. Transport numbers. Equilibrium in heterogeneous electrochemical systems. Pocesses on charged interfaces. Electrochemical cells and fuel cells. Classification of electrode types. Concentration cells. Electrolysis. Electrochemical power sources. Potentiometry. Electrical double layer. Surface tension.
Chemical kinetics. Homogeneous processes. Reaction rate. Reaction order. Classification of chemical reactions. Elementary chemical reactions. Mechanism and kinetics equations of complicated chemical processes. Methods of rate low determination. Theory of chemical kinetics. Ttemperature dependence of reaction rates. Collision theory. Activated complex theory. Chain reactions. Structure and rate lows of chain reactions. Explosion. Polymerisation reactions. Photochemical reactions. Catalysis. Theory of homogeneous catalysis. Chemical oscillation reactions. Heterogeneous processes. Difusion. Physical and chemical adsorption. Adsorption and diffusion. Processes in heterogeneous electrochemical systems. Electrode kinetics, activation and diffusive mechanism of charge transfer.
Application of theoretical relationships on the solving of concrete problems and on the calculation of examples during seminars.

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

Course language:

Course assessment
Total number of assessed students: 530

A	B	C	D	E	FX
15.66	18.68	22.26	18.87	20.57	3.96

Provides: prof. RNDr. Renáta Oriňaková, DrSc., RNDr. Jana Hovancová, RNDr. Ondrej Petruš, PhD., Mgr. Radka Gorejová, Mgr. Dominika Capková

Date of last modification: 26.02.2018

Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ FCHU/10	**Course name:** Physical Chemistry

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

Number of credits: 6

Recommended semester/trimester of the course: 4.

Course level: I.

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

Conditions for course completion:
Two partial tests from computational seminars.
Examination.

Learning outcomes:
To provide the students with basic knowledge of physical chemistry.

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

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

Course language:

Course assessment
Total number of assessed students: 256

A	B	C	D	E	FX
31.64	19.53	14.45	17.19	13.28	3.91

Provides: prof. RNDr. Renáta Oriňaková, DrSc., RNDr. Andrea Morovská Turoňová, PhD., RNDr. Ján Macko, PhD., RNDr. Ivana Šišoláková, PhD.

Date of last modification: 26.02.2018

Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of credits: 5

Recommended semester/trimester of the course:

Course level: I., II.

Prerequisities:

Conditions for course completion:
Written work.
Exam.

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

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

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

Course language:

Course assessment
Total number of assessed students: 349

A	B	C	D	E	FX
38.97	22.35	21.49	8.02	8.31	0.86

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

Date of last modification: 23.02.2018

Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚFV/ FPCh/08	**Course name:** Physics for Chemists

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

Number of credits: 6

Recommended semester/trimester of the course: 1.

Course level: I.

Prerequisities:

Conditions for course completion:
Test-papers (2).
Exam.

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

Brief outline of the course:
Kinematics and dynamics of mass point, rigid bodies and fluids. Structure and properties of materia. The kinetic theory of gases and the foundations of thermodynamics. Structure and properties of liquids. Mechanical properties of solids, Hooke's Law. Stationary el. field and constant electric current. Magnetic field. Optics.

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

Course language:
Slovak language.

Course assessment
Total number of assessed students: 496

A	B	C	D	E	FX
19.56	29.23	29.03	14.11	7.86	0.2

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

Date of last modification: 01.03.2018

Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of credits: 6

Recommended semester/trimester of the course: 4.

Course level: I.

Prerequisities: ÚBEV/VB1/01

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

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

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

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

Course language:

Course assessment
Total number of assessed students: 1641

A	B	C	D	E	FX
14.69	12.8	15.42	13.77	23.71	19.62

Provides: Mgr. Silvia Gajdošová, Ph.D., doc. RNDr. Peter Paľove-Balang, PhD.

Date of last modification: 23.02.2018

Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of credits: 7

Recommended semester/trimester of the course: 6.

Course level: I.

Prerequisities: ÚBEV/HIS1/03 or ÚBEV/HISE1/04 or ÚBEV/HIS1/15 or ÚBEV/HISE1/15

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

Learning outcomes:
To provide students with basic knowledge about physiological processes in organisms of animals and man.

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

Recommended literature:
Ganong, W. F.: Review of medical physiology. Prentice-Hall, Appleton & Langer, 1993
Varder, A. J., Sherman, J. H., Luciano, D. S.: The mechanisms of body functions, McGraw-Hill, 1990
Schmidt, R. F., Thews, G.: Human Physiology, Springer-Verlag, 1989
R.W.Hill, R.Wyse, M.Anderson : Animal Physiology, Sinauer Assoc., 2008

Course language:

Course assessment
Total number of assessed students: 1251

A	B	C	D	E	FX
7.91	14.55	21.1	24.94	24.78	6.71

Provides: doc. RNDr. Monika Kassayová, CSc., prof. RNDr. Beňadik Šmajda, CSc., doc. RNDr. Bianka Bojková, PhD., RNDr. Vlasta Demečková, PhD., RNDr. Terézia Kisková, PhD., RNDr. Natália Pipová, PhD.

Date of last modification: 23.02.2018

Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of credits: 7

Recommended semester/trimester of the course: 5.

Course level: I.

Prerequisities: ÚBEV/MB1/01 or ÚBEV/MOB1/03 or ÚBEV/MOB1/15

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Course assessment
Total number of assessed students: 1275

A	B	C	D	E	FX
18.75	16.08	15.84	14.12	18.75	16.47

Provides: prof. RNDr. Eva Čellárová, DrSc., RNDr. Katarína Bruňáková, PhD.

Date of last modification: 23.02.2018

Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of credits: 6

Recommended semester/trimester of the course: 2.

Course level: I.

Prerequisities: ÚBEV/CYT1/02 or ÚBEV/CYT1/15

Conditions for course completion:
Oral examination

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

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

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

Course language:

Course assessment
Total number of assessed students: 1838

A	B	C	D	E	FX
17.68	13.71	15.78	12.57	25.46	14.8

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

Date of last modification: 23.02.2018

Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: KPE/ INP/17	**Course name:** Inclusive Pedagogy

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

Number of credits: 2

Recommended semester/trimester of the course: 5.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

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: 05.02.2018

Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ ISC1a/00	**Course name:** Cheminformatics 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.

Prerequisities:

Conditions for course completion:
seminar project

Learning outcomes:
Introductory course aimed at introducing students to the fundamental informatics techniques for chemistry-related disciplines. The class will cover a wide range of topics, including searching chemical information on internet, searching for patent information and work with the primary and secondary literature.

Brief outline of the course:
Searching, retrieving and use of the informations in chemistry. Using of "paper" resources (primary journals, Chemical Abstracts, Beilstein).Searching chemical information on Internet (Scirus, ScienceDirect, Scopus, Web of Science, Medline, NIST) and e-journals.

Recommended literature:
1. R.E. Maizell: How to find Chemical Information, John Wiley,
New York 1998
2. Internet resources for chemistry.

Course language:
slovak language and english language

Course assessment
Total number of assessed students: 787

A	B	C	D	E	FX
68.49	8.64	13.21	7.24	1.65	0.76

Provides: RNDr. Monika Tvrdoňová, PhD., RNDr. Ladislav Janovec, PhD.

Date of last modification: 26.02.2018

Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of credits: 4

Recommended semester/trimester of the course: 5.

Course level: I.

Prerequisities: ÚCHV/ACHU/03

Conditions for course completion:
Final written exam

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

Brief outline of the course:
Definition and nomenclature of coordination compounds. Central atom and ligands, coordination numbers. Isomerism, preparation and stability of coordination compounds, chemical bonding in coordination compounds.

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

Course language:

Course assessment
Total number of assessed students: 63

A	B	C	D	E	FX
55.56	22.22	15.87	3.17	3.17	0.0

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

Date of last modification: 26.02.2018

Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚTVŠ/ KP/12	**Course name:** Survival Course

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

Number of credits: 2

Recommended semester/trimester of the course:

Course level: I., II.

Prerequisities:

Conditions for course completion:
Conditions for course completion:
Attendance
Final assessment: continuous fulfilment of all tasks within the course

Learning outcomes:
Learning outcomes:
Students will be familiarized with principles of safe stay and movement in extreme natural conditions as they will obtain theoretical knowledge and practical skills to solve the extraordinary and demanding situations connected with survival and minimization of damage to health. The course develops team work and students will learn how to manage and face the situations that require overcoming of obstacles.

Brief outline of the course:
Brief outline of the course:
Lectures:
1. Principles of behaviour and safety for movement and stay in unknown mountains
2. Preparation and leadership of tour
3. Objective and subjective danger in mountains
4. Principles of hygiene and prevention of damage to health in extreme conditions
Exercises:
1. Movement in terrain, orientation and navigation in terrain (compasses, GPS)
2. Preparation of improvised overnight stay
3. Water treatment and food preparation.

Recommended literature:

Course language:

Course assessment
Total number of assessed students: 365

abs	n
44.38	55.62

Provides: MUDr. Peter Dombrovský, Mgr. Marek Valanský
Date of last modification: 18.08.2017
Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚTVŠ/ LKSp/13

Course name: Summer Course-Rafting of TISA River

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

Number of credits: 2

Recommended semester/trimester of the course:

Course level: I., II.

Prerequisities:

Conditions for course completion:
Conditions for course completion:
Attendance
Final assessment: Raft control on the waterway (attended/not attended)

Learning outcomes:
Learning outcomes:
Students have knowledge of rafts (canoe) and their control on waterway.

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

Recommended literature:

Course language:

Course assessment
Total number of assessed students: 142

abs	n
41.55	58.45

Provides: Mgr. Peter Bakalár, PhD.
Date of last modification: 18.08.2017
Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of credits: 4

Recommended semester/trimester of the course: 4.

Course level: I.

Prerequisities:

Conditions for course completion:
Oral examination.

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

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

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

Course language:

Course assessment
Total number of assessed students: 920

A	B	C	D	E	FX
6.63	10.87	16.96	18.26	34.02	13.26

Provides: doc. RNDr. Peter Pristaš, CSc.

Date of last modification: 23.02.2018

Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/MIN1/14	**Course name:** Basis of Mineralogy

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

Number of credits: 5

Recommended semester/trimester of the course: 4.

Course level: I.

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

Conditions for course completion:
Verification of theoretical knowledge and recognizing minerals.
Semester project, practical test from recognizing of minerals, optional oral examination.

Learning outcomes:
To recognize the beauty of nature and to obtain basic knowledge from mineralogy. To familiarize students with properties of usual minerals and to recognize these minerals.

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

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

Course language:
Slovak

Course assessment
Total number of assessed students: 63

A	B	C	D	E	FX
84.13	11.11	1.59	1.59	0.0	1.59

Provides: doc. RNDr. Ivan Potočňák, PhD.

Date of last modification: 26.02.2018

Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of credits: 5

Recommended semester/trimester of the course:

Course level: I.

Prerequisities:

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

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

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

Recommended literature:

Course language:

Course assessment
Total number of assessed students: 1339

A	B	C	D	E	FX
21.73	12.85	18.15	19.94	22.78	4.56

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

Date of last modification: 23.02.2018

Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: KPE/ MMKV/17	**Course name:** Multiculturalism and Multicultural Education

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

Number of credits: 2

Recommended semester/trimester of the course: 4.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Course assessment
Total number of assessed students: 48

A	B	C	D	E	FX
31.25	27.08	37.5	2.08	2.08	0.0

Provides: PaedDr. Janka Ferencová, PhD.

Date of last modification: 05.02.2018

Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚMV/ MTB/13	**Course name:** Mathematics for biologists

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: 4.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:
Short introduction to mathematics, mathematical problem solving strategies and their applications to solving problems in biology and other sciences.

Brief outline of the course:
1. Basic terms
2. Geometry in the plane (vectors, lines in the plane and their representations)
3. Systems of linear equations (linear equation and inequality, system of linear equations, Gaussian elimination)
4. Functions (monotonicity, local extrema, function composition, inverse function, elementary functions and their properties)
5. Combinatorics (binomial theorem, combinations and permutations without / with repetition, inclusion-exclusion principle)
6. Sequences and series (monotonicity and boundedness, recurrent sequence, geometric series)
7. Limit (limit of a sequence, limit of function, convergence, divergence, methods for computing limits, continuity)
8. Derivatives (sum, product, quotient and chain rule, derivatives of elementary functions, Taylor polynomial, analysis of functions)
9. Integrals (indefinite integral, integration methods: by substitution, by parts, by partial fractions; definite integral)
10. Ordinary differential equations (first order separable ODE, first order linear ODE)

Recommended literature:
E. Bohl, Mathematik in der Biologie, Springer, Berlin Heidelberg, 2006.
D. Studenovská, T. Madaras, S. Mockovčiak: Zbierka úloh z matematiky pre nematematické odbory, UPJŠ 2006.
D. Studenovská, T. Madaras: Matematika pre nematematické odbory, UPJŠ 2006.

Course language:
Slovak

Course assessment
Total number of assessed students: 535

A	B	C	D	E	FX
7.85	11.21	16.82	19.63	33.08	11.4
Provides: RNDr. Igor Fabrici, Dr. rer. nat., RNDr. Anton Hovana					
Date of last modification: 27.02.2018					
Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.					

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/MUSU/15	**Course name:** Structure determination - spectroscopic methods

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

Number of credits: 7

Recommended semester/trimester of the course: 6.

Course level: I.

Prerequisities: ÚCHV/ACHU/03 and ÚCHV/ANCHU/03 and ÚCHV/OCHU/03

Conditions for course completion:

Learning outcomes:

Brief outline of the course:
Fundamentals of molecular spectroscopy and magnetic properties study, as powerful tools for structure determination in chemistry. Those are ultraviolet, visible, infrared and Raman spectroscopy, mass spectrometry and methods based on magnetic resonance (1H NMR, 13C NMR).

Recommended literature:
L.G.Wade,Jr.: Organic Chemistry. Prentice Hall International, Inc. Englewood Cliffs, New Yersey 1995.

Course language:

Course assessment
Total number of assessed students: 96

A	B	C	D	E	FX
10.42	34.38	33.33	18.75	3.13	0.0

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

Date of last modification: 26.02.2018

Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of 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:

Course assessment
Total number of assessed students: 48

A	B	C	D	E	FX
54.17	12.5	10.42	4.17	10.42	8.33

Provides: PaedDr. Ingrid Puchalová, PhD., Mgr. Barbora Molokáčová

Date of last modification: 25.08.2017

Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚCHV/ OCH1b/03	**Course name:** Organic chemistry II
Course type, scope and the method: **Course type:** Lecture / Practice **Recommended course-load (hours):** **Per week:** 3 / 2 **Per study period:** 42 / 28 **Course method:** present	
Number of credits: 7	
Recommended semester/trimester of the course:	
Course level: I.	
Prerequisities:	
Conditions for course completion: Two tests at lecture in 7 and 14th week. Test max 50 points. At least 25 points required. Written exam, 100 points. At least 49% of points required. Final evaluation: A 90-100 pts, B 80-89 pts, C 70-79 pts, D 60-69 pts, E 50-59 pts, FX 0-49 pts	
Learning outcomes: Second part of two-semester organic chemistry course.	
Brief outline of the course: Reaction Mechanisms, Mechanisms of Organic Reactions, Reactive Intermediates,Ionic Reactions Radical Reactions Bond Energy Reaction Energetics Activation Energy Reaction Rates and Kinetics Thermodynamic and Chemical Stability Aromaticity Benzene and Other Aromatic Compounds Fused Benzene Ring Compounds Other Aromatic Systems Factors Required for Aromaticity Stereoisomers Chirality and Symmetry Enantiomorphism Polarimetry Optical Activity Designating the Configuration of Stereogenic Centers The Sequence Rule for Assignment of Configurations to Stereogenic Carbons Compounds Having Two or More Stereogenic Centers Stereogenic Nitrogen Fischer Projection Formulas Aldehydes & Ketones Natural Products Synthetic Preparation Properties of Aldehydes & Ketones Reversible Addition Reactions Hydration & Hemiacetal Formation Acetal Formation Imine Formation Enamine Formation Cyanohydrin Formation Irreversible Addition Reactions Complex Metal Hydrides Organometallic Reagents Carbonyl Group Modification Wolff-Kishner Reduction Clemmensen Reduction Hydrogenolysis of Thioacetals Oxidations Reactions at the a-Carbon Mechanism of Electrophilic a-Substitution The Aldol Reaction Ambident Enolate Anions Alkylation of Enolate Anions Carboxylic Acids Natural Products Related Derivatives Preparation of Carboxylic Acids Reactions of Carboxylic Acids Salt Formation Substitution of Hydroxyl Hydrogen Substitution of the Hydroxyl Group Reduction & Oxidation Carboxylic Derivatives Reactions of Carboxylic Acid Derivatives Acyl Group Substitution Mechanism Reduction Catalytic Reduction Metal Hydride Reduction Diborane Reduction Reaction with Organometallic Reagents Reactions at the a Carbon Acidity of a C-H The Claisen Condensation Synthesis Applications Carbohydrates Glucose The Structure and Configuration of Glucose Anomeric Forms of Monosaccharides Glycosides Disaccharides Polysaccharides Lipids Fatty Acids Soaps & Detergents Fats & Oils Nucleic Acids Alkaloids Terpenes	
Recommended literature:	

1. on-line moodle.science.upjs.sk
2. Organic Chemistry, Clayden, Greeves Warren & Wothers, Oxford University Press, 2010
3. Organic Chemistry, Solomon, Willey, 2009

Course language:

Course assessment
Total number of assessed students: 571

A	B	C	D	E	FX
11.91	11.38	16.99	22.07	34.68	2.98

Provides: prof. RNDr. Jozef Gonda, DrSc., doc. RNDr. Miroslava Martinková, PhD.

Date of last modification: 26.02.2018

Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ OCHU/03	**Course name:** Organic chemistry

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

Number of credits: 6

Recommended semester/trimester of the course: 2.

Course level: I.

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

Conditions for course completion:
Two tests at lecture in 7 and 14th week. Test max 50 points. At least 25 points required.
Written exam, 100 points. At least 49% of points required.
Final evaluation: A 90-100 pts, B 80-89 pts, C 70-79 pts, D 60-69 pts, E 50-59 pts, FX 0-49 pts

Learning outcomes:
Basic organic chemistry course.

Brief outline of the course:
Chemical bonding Hybridization and Bonding Covalent bonds Double bonds and Triple Bonds Structural Formulas of Organic Molecules Polar Covalent Bonds and Electronegativity Constitutional Isomers Alkenes Electrophilic Additions Strong Brønsted Acids Lewis Acids (non-Proton Electrophiles) Electrophilic Halogen Reagents Other Electrophilic Reagents Reduction Oxidation Radical Additions Allylic Substitution Alkynes Addition Reactions Hydrogenation Electrophiles Hydration & Tautomerism Hydroboration Nucleophilile Addition & Reduction Acidity of Terminal Alkynes (Substitution of H) Alkyl Halides General Reactivity Substitution(of X) SN2 Mechanism SN1 Mechanism Elimination (of HX) Summary of Substiution vs. Elimination Substitution by Metals Elimination Reactions of Dihalides Alcohols Reactions of Alcohols Substitution of the Hydroxyl H Substitution of the Hydroxyl Group Elimination of Water Oxidation of Alcohols Reactions of Phenols Acidity of Phenols Ring Substitution of Phenols Oxidation to Quinones Aromatic compounds Electrophilic Substitution A Substitution Mechanism Reactions of Substituted Benzenes Reaction Characteristics Reactions of Disubstituted Rings Reactions of Substituent Groups Nucleophilic Substitution, Elimination & Addition Reactions Amines Basicity of Nitrogen Compounds Acidity of Nitrogen Compounds Important Reagent Bases Reactions of Amines Electrophilic Substitution at Nitrogen Preparation of 1°-Amines Preparation of 2° & 3°-Amines Reactions with Nitrous Acid Reactions of Aryl Diazonium Intermediates Elimination Reactions of Amines Oxidation States of Nitrogen Basic information: Aldehydes & Ketones Carboxylic Acids Carboxylic Derivatives Natural products

Recommended literature:
1. on-line ppt presentation in MOODLE, moodle science.upjs.sk
2. Organic Chemistry, Clayden, Greeves Warren & Wothers, Oxford University Press, 2010
3. Organic Chemistry, Solomon, Willey, 2009

Course language:

Course assessment
Total number of assessed students: 700

A	B	C	D	E	FX
3.14	7.43	13.43	22.43	47.57	6.0

Provides: prof. RNDr. Jozef Gonda, DrSc., RNDr. Slávka Hamuľaková, PhD.

Date of last modification: 26.02.2018

Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: KGER/OJPV1/07	**Course name:** Specialised German Language - Natural Sciences 1

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

Number of credits: 2

Recommended semester/trimester of the course: 4.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Course assessment
Total number of assessed students: 136

A	B	C	D	E	FX
21.32	22.79	25.0	22.06	8.09	0.74

Provides: Mgr. Andreas Schiestl

Date of last modification: 25.08.2017

Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: KPE/ OLŠ/15	**Course name:** School Administration and Legislation

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

Number of credits: 2

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

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Course assessment
Total number of assessed students: 168

A	B	C	D	E	FX
35.71	30.36	22.02	8.33	2.98	0.6

Provides: PaedDr. Renáta Orosová, PhD.

Date of last modification: 23.08.2017

Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: KOP/ OPaPDV/14	**Course name:** Civil Law and Intellectual Property Rights
Course type, scope and the method: **Course type:** Lecture **Recommended course-load (hours):** **Per week:** 2 **Per study period:** 28 **Course method:** present	
Number of credits: 4	
Recommended semester/trimester of the course: 3., 5.	
Course level: I., N	
Prerequisities:	
Conditions for course completion:	
Learning outcomes:	
Brief outline of the course:	
Recommended literature:	
Course language:	
Course assessment Total number of assessed students: 67	

abs	n
94.03	5.97

Provides: doc. JUDr. Renáta Bačárová, PhD., LL.M., prof. JUDr. Peter Vojčík, CSc.
Date of last modification: 18.01.2018
Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of credits: 4

Recommended semester/trimester of the course: 2.

Course level: I.

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

Conditions for course completion:

Learning outcomes:
The practical acquirements at preparation and study of inorganic compounds and their physico-chemical properties by common laboratory techniques.

Brief outline of the course:
The utilization of common laboratory techniques for preparation of elements (H2, O2, Cu, Ni), oxides(CO2, Al2O3·xH2O), nitrides(Mg3N2), acids (HNO3, H3BO3), salts((NH4)2SO4, KMnO4), binary salts(NH4)Fe(SO4)2·12H2O), halides (CuCl, CuCl2·2H2O, SnI4, CuBr2) and coordination compounds ([Cr2(CH3COO)4(H2O)2], [CoCl2(en)2]Cl, [Cu(NH3)4]SO4·H2O, K3[Al(C2O4)3]·3H2O).

Recommended literature:
Z. Vargová, J. Kuchár: Praktikum z anorganickej chémie, Košice, 2008
M. Reháková, M. Dzurillová, V. Zeleňák, V. Urvichiarová: Laboratórna technika, PF UPJŠ, Košice, 1999

Course language:

Course assessment
Total number of assessed students: 481

A	B	C	D	E	FX
51.77	27.03	15.18	2.7	2.29	1.04

Provides: doc. RNDr. Juraj Kuchár, PhD., RNDr. Martin Vavra, PhD., RNDr. Miroslava Matiková-Maľarová, PhD.

Date of last modification: 26.02.2018

Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/PACU/03	**Course name:** General Course of Analytical Chemistry - Laboratory

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

Number of credits: 4

Recommended semester/trimester of the course: 4.

Course level: I.

Prerequisities: ÚCHV/ANCHU/03

Conditions for course completion:
Assessment

Learning outcomes:
Application of theoretical knowledge to analytical laboratory practise

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

Recommended literature:
D.Harvey: Modern Analytical Chemistry. McGraw Hill, Boston, 2000.
D.A.Skoog: Principles of Instrumental Analysis. Saunders Col. Publishing, New York 1985.
E.Prichard: Quality in the Analytical Chemistry Laboratory, Wiley, 1995

Course language:

Course assessment
Total number of assessed students: 286

A	B	C	D	E	FX
56.99	28.32	11.54	1.4	1.75	0.0

Provides: doc. Ing. Viera Vojteková, PhD., RNDr. Rastislav Serbin, PhD., RNDr. Lívia Kocúrová, PhD., RNDr. Jana Šandrejová, PhD.

Date of last modification: 26.02.2018

Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/PBCHU/15	**Course name:** Biochemistry Practical

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

Number of credits: 4

Recommended semester/trimester of the course: 6.

Course level: I.

Prerequisities: ÚCHV/BCHU/03

Conditions for course completion:
Protocols + 75 % continuous evaluation.

Learning outcomes:

Brief outline of the course:
The most important biochemical laboratory methods. The qualitative tests for amino acids and proteins. Time-dependent course of enzyme-catalyzed reaction: determination of enzymatic activity, determination of the first order rate constant, calculations of math models (examples), effect of a substrate concentration on initial rate of reaction, determination of Km and Vmax for urease. Isolation and detection of nucleic acids.

Recommended literature:
http://kosice.upjs.sk/~kbch/

Course language:

Course assessment
Total number of assessed students: 95

A	B	C	D	E	FX
67.37	26.32	4.21	1.05	1.05	0.0

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

Date of last modification: 26.02.2018

Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of credits: 4

Recommended semester/trimester of the course: 5.

Course level: I., II.

Prerequisities:

Conditions for course completion:

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

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

Recommended literature:

Course language:

Course assessment
Total number of assessed students: 256

A	B	C	D	E	FX
60.55	33.98	5.08	0.0	0.0	0.39

Provides: RNDr. Ján Elečko, PhD.

Date of last modification: 26.02.2018

Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: CJP/ PFAJ4/07	**Course name:** English Language of Natural Science

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

Number of credits: 2

Recommended semester/trimester of the course: 4.

Course level: I.

Prerequisities:

Conditions for course completion:
Active participation in class and completed homework assignments. Students are allowed to miss 2 classes at the most.
Continuous assessment: 2 credit tests (presumably in weeks 6 and 13) and academic presentation in English.
In order to be admitted to the final exam, a student has to score at least 65 % as a sum of both credit tests.
The exam test results represent 50% of the final grade for the course, continuous assessment results represent the other 50% of the final grade.
The final grade for the course will be calculated as follows:
A 93-100, B 86-92, C 79-85, D 72-78, E 65-71, FX 64 and less.

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

Brief outline of the course:
ANGLICKÝ JAZYK PRE GEOGRAFOV:
Veda a výskum. Odbor geografia.
Planéta Zem. Naša slnečná sústava.
Zemetrasenia, Sopečná činnosť.
Svetové oceány a ľadovce.
Životné prostredie a geografia.
Počasie a klíma.
ANGLICKÝ JAZYK PRE EKOLÓGOV:
Veda a výskum. Odbor ekológia.
Životné prostredie. Znečistenie a dôsledky.
Sopečná činnosť, zemetrasenia.
Great Pacific Garbage Patch.

Globálne otepľovanie a dôsledky. Ľadovce.
Počasie a klíma. Búrky, hurikány, tsunami.
Život na Zemi. Ohrozené rastlinné a živočíšne druhy.
ANGLICKÝ JAZYK PRE BIOLÓGOV:
veda a výskum, odbor biológia.
morfológia rastlín, koreň.
stonka, list.
rozmnožovanie rastlín, kvet.
biológia človeka - telesné sústavy.
slovná zásoba z oblasti botanickej a zoologickej nomenklatúry.
ANGLICKÝ JAZYK PRE MATEMATIKOV:
Veda a výskum, odbor matematika.
čísla a tvary v matematike.
Elementárna algebra.
Elementárna geometria.
Výpočty v matematike.
Pytagoras, Pytagorova veta.
Grafy a diagramy.
Štatistika.
ANGLICKÝ JAZYK PRE FYZIKOV
Veda a výskum, odbor fyzika.
Atómy a molekuly.
Hmota a jej premeny.
Elektrina, jej využitie.
Zvuka, jeho prenos.
Svetlo.
Solárny systém.
Matematické operácie.
ANGLICKÝ JAZYK PRE CHEMIKOV:
Veda a výskum, odbor chémia.
História, Každodenná chémia.
Laboratórium a jeho vybavenie.
Periodická tabuľka.
Hmota a jej premeny.
Životné prostredie a chémia.
ANGLICKÝ JAZYK PRE INFORMATIKOV:
Veda a výskum, informatika.
Život s počítačom.
Typický PC.
Zdravie a bezpečnosť, ergonomika.
Programovanie.
Emailovanie.
Cybercrime.
Trendy budúcnosti.

Recommended literature:

study materials provided by the course instructor
Royds-Irmak, D.E. Beginning Scientific English. Nelson, 1975.
Velebná, B. English for Chemists. ffweb.ff.upjs.sk/vyuka//
Redman, S.: English Vocabulary in Use, Pre-intermetdiate, Intermediate. Cambridge University Press, 2003.

Powel, M.: Dynamic Presentations. CUP, 2010.
Armer, T.: Cambridge English for Scientists. CUP, 2011.
Wharton J.: Academic Encounters. The Natural World. CUP, 2009.
Murphy, R.: English Grammar in Use. Cambridge University Press, 1994.
Redman, S.: English Vocabulary in Use, Pre-intermetdiate, Intermediate. Cambridge University Press, 2003.
P. Fitzgerald : English for ICT studies. Garnet Publishing, 2011.
https://worldservice/learningenglish, https://spectator.sme.sk

Course language:

Course assessment
Total number of assessed students: 2443

A	B	C	D	E	FX
34.55	25.83	17.6	10.89	8.8	2.33

Provides: Mgr. Zuzana Naďová, Mgr. Lenka Klimčáková

Date of last modification: 06.02.2018

Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

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:
Active classroom participation, 2 absences tolerated (4x45 min.) tolerated. 2 tests (5th/6th week and 12th/13th week), no retake. Minipresentation on chosen topic. Final evaluation- average assessment of tests and presentation. Grading scale: A 93-100%, B 86-92%, C 79-85%, D 72-78%, E 65-71%, FX 64% and less

Learning outcomes:

Brief outline of the course:

Recommended literature:
Seal B.: Academic Encounters, CUP, 2002
T. Armer :Cambridge English for Scientists, CUP 2011
M. McCarthy M., O´Dell F. - Academic Vocabulary in Use, CUP 2008
Zemach, D.E, Rumisek, L.A: Academic Writing, Macmillan 2005
Olsen, A. : Active Vocabulary, Pearson, 2013
www.bbclearningenglish.com
Cambridge Academic Content Dictionary, CUP, 2009

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

Course assessment
Total number of assessed students: 344

A	B	C	D	E	FX
30.81	23.55	15.99	11.05	7.27	11.34

Provides: Mgr. Zuzana Naďová

Date of last modification: 06.02.2018

Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

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

Learning outcomes:

Brief outline of the course:

Recommended literature:
Misztal M.: Thematic Vocabulary, Fragment, 1998
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:

Course assessment
Total number of assessed students: 394

A	B	C	D	E	FX
39.34	18.53	17.01	8.88	6.09	10.15

Provides: Mgr. Lenka Klimčáková

Date of last modification: 06.02.2018

Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

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:
Active participation in class and completed homework assignments. Students are allowed to miss two classes at the most.
2 credit tests (presumably in weeks 6/7 and 12/13) and short academic presentations in English on selected topics.
Final grade will be calculated as follows: A 93-100 %, B 86-92%, C 79-85%, D 72-78%, E 65-71%, FX 64 % and less.

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

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

Recommended literature:

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

Course language:

English language, B2 level according to CEFR

Course assessment

Total number of assessed students: 220

A	B	C	D	E	FX
36.36	21.82	20.45	10.45	7.27	3.64

Provides: Mgr. Zuzana Naďová

Date of last modification: 06.02.2018

Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ PFCU/03	**Course name:** Practical in Physical Chemistry

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: 5.

Course level: I., II.

Prerequisities:

Conditions for course completion:
Approved laboratory reports.
Assessment.

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

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

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

Course language:

Course assessment
Total number of assessed students: 288

A	B	C	D	E	FX
70.83	22.92	5.21	0.69	0.35	0.0

Provides: RNDr. František Kaľavský, RNDr. Andrea Morovská Turoňová, PhD.

Date of last modification: 26.02.2018

Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: KPPaPZ/PKŽ/15	**Course name:** Psychology of Everyday Life

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

Number of credits: 2

Recommended semester/trimester of the course: 3.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Course assessment
Total number of assessed students: 116

A	B	C	D	E	FX
43.1	14.66	30.17	8.62	2.59	0.86

Provides: Mgr. Ondrej Kalina, PhD.

Date of last modification: 21.08.2017

Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of credits: 4

Recommended semester/trimester of the course: 1.

Course level: I.

Prerequisities:

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

Learning outcomes:

Brief outline of the course:

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

Course language:

Course assessment
Total number of assessed students: 1782

A	B	C	D	E	FX
16.11	18.35	24.75	22.78	12.74	5.27

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

Date of last modification: 23.02.2018

Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of credits: 4

Recommended semester/trimester of the course: 3.

Course level: I.

Prerequisities: ÚCHV/OCHU/03

Conditions for course completion:
Two tests 2x25 p., twelve reports 12x2 p., laboratory skills 12 p., short quizzes and questions 14 p. A 100 p. in total.
Grades: A: 91-100b, B: 81-90b, C: 71-80b, D: 61-70b, E: 51-60b, Fx: 0-50b.
Based on continuous evaluation.

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

Brief outline of the course:
Preparation, isolation, purification and identification of organic compounds. The emphasis is on gaining the experimental skills in synthesis of organic compounds, distillation, extraction, crystallization, sublimation and thin-layer chromatography.

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

Course language:

Course assessment
Total number of assessed students: 110

A	B	C	D	E	FX
54.55	27.27	10.0	7.27	0.91	0.0

Provides: RNDr. Slávka Hamuľaková, PhD., RNDr. Mária Vilková, PhD., RNDr. Ladislav Janovec, PhD., RNDr. Ján Elečko, PhD., RNDr. Jana Špaková Raschmanová, PhD.

Date of last modification: 26.02.2018

Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: KPPaPZ/PP/15	**Course name:** Positive Psychology

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

Number of credits: 2

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

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Course assessment
Total number of assessed students: 165

A	B	C	D	E	FX
97.58	1.21	0.61	0.0	0.61	0.0

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

Date of last modification: 21.08.2017

Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: KPPaPZ/PUDB/15	**Course name:** Drug Addiction Prevention in University Students

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

Number of credits: 2

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

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Course assessment
Total number of assessed students: 256

A	B	C	D	E	FX
77.34	20.31	2.34	0.0	0.0	0.0

Provides: prof. PhDr. Oľga Orosová, CSc., Mgr. Marta Dobrowolska Kulanová, PhD.

Date of last modification: 21.08.2017

Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of credits: 2

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

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Course assessment
Total number of assessed students: 406

A	B	C	D	E	FX
20.94	18.97	26.11	19.46	13.55	0.99

Provides: Mgr. Katarína Petríková, PhD.

Date of last modification: 23.08.2017

Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of credits: 2

Recommended semester/trimester of the course: 1., 3., 5.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Course assessment
Total number of assessed students: 318

A	B	C	D	E	FX
16.04	11.01	24.53	23.9	20.75	3.77

Provides: prof. PhDr. Oľga Orosová, CSc., PhDr. Anna Janovská, PhD., Mgr. Jozef Benka, PhD. et PhD.

Date of last modification: 21.08.2017

Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/SCHM/14	**Course name:** Chemistry

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

Number of credits: 1

Recommended semester/trimester of the course:

Course level: I.

Prerequisities: (ÚCHV/VCHU/10 or ÚCHV/VCHU/14 or ÚCHV/VCHU/15) and ÚCHV/ACHU/03 and ÚCHV/BCHU/03 and ÚCHV/FCHU/10 and ÚCHV/ANCHU/03 and ÚCHV/OCHU/03

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Course assessment
Total number of assessed students: 86

A	B	C	D	E	FX
23.26	38.37	22.09	10.47	5.81	0.0

Provides:

Date of last modification: 26.02.2018

Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of credits: 2

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

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Course assessment
Total number of assessed students: 11

A	B	C	D	E	FX
9.09	0.0	45.45	36.36	9.09	0.0

Provides: Dr.h.c. prof. PhDr. Marcela Gbúrová, CSc.

Date of last modification: 23.08.2017

Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/SVK/01	**Course name:** Student Scientific Conference

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

Number of credits: 4

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

Course level: I., II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Course assessment
Total number of assessed students: 258

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

Provides:

Date of last modification: 23.02.2018

Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ SVK/00	**Course name:** Students Scientific Conference (Presentation)

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:

Course level: I., II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Course assessment
Total number of assessed students: 35

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

Provides:

Date of last modification: 26.02.2018

Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

Course type, scope and the method:
Course type: Practice
Recommended course-load (hours):
Per week: Per study period: 5d
Course method: present

Number of credits: 2

Recommended semester/trimester of the course: 2.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:
Study of methods for identification and determination of common central-europaean plants.

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

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

Course language:

Course assessment
Total number of assessed students: 1090

abs	n
99.91	0.09

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

Date of last modification: 23.02.2018

Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

Course type, scope and the method:
Course type: Practice
Recommended course-load (hours):
Per week: Per study period: 5d
Course method: present

Number of credits: 2

Recommended semester/trimester of the course: 4.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:
Practical observation of morphology of vertebrates.

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

Recommended literature:

Course language:

Course assessment
Total number of assessed students: 790

abs	n
99.24	0.76

Provides: RNDr. Peter Ľuptáčik, PhD., doc. RNDr. Ľubomír Panigaj, CSc., RNDr. Andrej Mock, PhD.

Date of last modification: 23.02.2018

Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: KPE/ TVE/08	**Course name:** Theory of Education

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

Number of credits: 2

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

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Course assessment
Total number of assessed students: 378

A	B	C	D	E	FX
27.25	36.77	23.81	7.41	1.85	2.91

Provides: Mgr. Katarína Petríková, PhD.

Date of last modification: 23.08.2017

Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

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

Learning outcomes:
Learning outcomes:
Increasing physical condition and performance within individual sports. Strengthening the relationship of students to the selected sports activity and its continual improvement.

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

Recommended literature:

Course language:

Course assessment
Total number of assessed students: 11672

abs	abs-A	abs-B	abs-C	abs-D	abs-E	n	neabs
88.42	0.01	0.0	0.0	0.0	0.03	7.59	3.96

Provides: Mgr. Peter Bakalár, PhD., Mgr. Dana Dračková, PhD., Mgr. Agata Horbacz, PhD., Mgr. Dávid Kaško, Mgr. Zuzana Küchelová, PhD., doc. PaedDr. Ivan Uher, PhD., Mgr. Marek Valanský, prof. RNDr. Stanislav Vokál, DrSc., Mgr. Marcel Čurgali, Ing. Iveta Cimboláková, PhD.
Date of last modification: 18.08.2017
Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

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:
Conditions for course completion:
Final assessment and active participation in classes - min. 75%.

Learning outcomes:
Learning outcomes:
Increasing physical condition and performance within individual sports. Strengthening the relationship of students to the selected sports activity and its continual improvement.

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

Recommended literature:

Course language:

Course assessment
Total number of assessed students: 10971

abs	abs-A	abs-B	abs-C	abs-D	abs-E	n	neabs
85.37	0.57	0.02	0.0	0.0	0.05	10.13	3.86

Provides: Mgr. Peter Bakalár, PhD., Mgr. Dana Dračková, PhD., Mgr. Agata Horbacz, PhD., Mgr. Dávid Kaško, Mgr. Zuzana Küchelová, PhD., doc. PaedDr. Ivan Uher, PhD., Mgr. Marek Valanský, prof. RNDr. Stanislav Vokál, DrSc., Mgr. Marcel Čurgali, Ing. Iveta Cimboláková, PhD.
Date of last modification: 18.08.2017
Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

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:

Course assessment
Total number of assessed students: 6910

abs	abs-A	abs-B	abs-C	abs-D	abs-E	n	neabs
89.84	0.04	0.0	0.0	0.0	0.03	4.23	5.86

Provides: Mgr. Marcel Čurgali, Mgr. Peter Bakalár, PhD., Mgr. Dana Dračková, PhD., Mgr. Agata Horbacz, PhD., Mgr. Dávid Kaško, Mgr. Zuzana Küchelová, PhD., doc. PaedDr. Ivan Uher, PhD., Mgr. Marek Valanský, prof. RNDr. Stanislav Vokál, DrSc., Ing. Iveta Cimboláková, PhD.

Date of last modification: 18.08.2017

Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

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:

Course assessment
Total number of assessed students: 5045

abs	abs-A	abs-B	abs-C	abs-D	abs-E	n	neabs
85.09	0.3	0.04	0.0	0.0	0.0	6.82	7.75

Provides: Mgr. Marcel Čurgali, Mgr. Peter Bakalár, PhD., Mgr. Dana Dračková, PhD., Mgr. Agata Horbacz, PhD., Mgr. Dávid Kaško, Mgr. Zuzana Küchelová, PhD., doc. PaedDr. Ivan Uher, PhD., Mgr. Marek Valanský, prof. RNDr. Stanislav Vokál, DrSc., Ing. Iveta Cimboláková, PhD.

Date of last modification: 18.08.2017

Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

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: 3.

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:

Course assessment
Total number of assessed students: 209

A	B	C	D	E	FX
48.8	20.57	15.79	8.61	6.22	0.0
Provides: doc. RNDr. Andrea Straková Fedorková, PhD.					
Date of last modification: 21.09.2017					
Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.					

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: Dek. PF UPJŠ/USPV/13	**Course name:** Introduction to Study of Sciences
Course type, scope and the method: **Course type:** Lecture / Practice **Recommended course-load (hours):** **Per week: Per study period:** 12s / 3d **Course method:** present	
Number of credits: 2	
Recommended semester/trimester of the course: 1.	
Course level: I.	
Prerequisities:	
Conditions for course completion:	
Learning outcomes:	
Brief outline of the course:	
Recommended literature:	
Course language:	
Course assessment Total number of assessed students: 1356	

abs	n
88.86	11.14

Provides:
Date of last modification: 19.02.2018
Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of credits: 6

Recommended semester/trimester of the course: 2.

Course level: I.

Prerequisities: ÚBEV/CYT1/02 or ÚBEV/CYT1/15

Conditions for course completion:

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

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

Recommended literature:

Course language:

Course assessment
Total number of assessed students: 1777

A	B	C	D	E	FX
18.91	22.62	27.41	18.01	9.23	3.83

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

Date of last modification: 23.02.2018

Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

Course type, scope and the method:
Course type: Lecture / Practice
Recommended course-load (hours):
Per week: 4 / 2 **Per study period:** 56 / 28
Course method: present

Number of credits: 7

Recommended semester/trimester of the course: 1.

Course level: I.

Prerequisities: ÚCHV/CHV1/99

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

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

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

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

Course language:

Course assessment
Total number of assessed students: 150

A	B	C	D	E	FX
16.0	24.0	39.33	12.67	8.0	0.0

Provides: prof. RNDr. Vladimír Zeleňák, PhD.

Date of last modification: 26.02.2018

Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of credits: 3

Recommended semester/trimester of the course:

Course level: I., II.

Prerequisities:

Conditions for course completion:

Learning outcomes:
Fundamental parameters and relations in ecological science.

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

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

Course language:

Course assessment
Total number of assessed students: 1522

A	B	C	D	E	FX
19.58	15.37	24.9	18.46	12.75	8.94

Provides: RNDr. Natália Raschmanová, PhD.

Date of last modification: 23.02.2018

Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: KFaDF/ VKFV/07	**Course name:** Selected Topics in Philosophy of Education (General Introduction)
Course type, scope and the method: **Course type:** **Recommended course-load (hours):** **Per week: Per study period:** **Course method:** present	
Number of credits: 2	
Recommended semester/trimester of the course: 3., 5.	
Course level: I.	
Prerequisities: KFaDF/DF1/05	
Conditions for course completion:	
Learning outcomes:	
Brief outline of the course:	
Recommended literature:	
Course language:	

Course assessment

Total number of assessed students: 0

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

Provides: doc. PhDr. Pavol Tholt, PhD., mim. prof.
Date of last modification: 23.08.2017
Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ZO1/03	**Course name:** Zoology I

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

Number of credits: 5

Recommended semester/trimester of the course: 3.

Course level: I.

Prerequisities: ÚBEV/PMZ/10

Conditions for course completion:

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

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

Recommended literature:

Course language:

Course assessment
Total number of assessed students: 1043

A	B	C	D	E	FX
7.96	15.34	21.67	20.42	25.02	9.59

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

Date of last modification: 23.02.2018

Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ ZO1/15	**Course name:** Zoology I

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

Number of credits: 4

Recommended semester/trimester of the course: 3.

Course level: I.

Prerequisities: ÚBEV/PMZ/10

Conditions for course completion:

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

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

Recommended literature:

Course language:

Course assessment
Total number of assessed students: 208

A	B	C	D	E	FX
6.73	19.23	20.19	26.44	19.71	7.69

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

Date of last modification: 23.02.2018

Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ ZOG1/03	**Course name:** Zoogeography

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

Number of credits: 6

Recommended semester/trimester of the course:

Course level: I., II.

Prerequisities:

Conditions for course completion:
Active participation in seminars.
Preparation of oral presentation to selected topic.
Semestral written test.
Oral examination.

Learning outcomes:
The main goal of the subject is to get knowledge on the basic reasons of recent distribution of the animals on the Earth, zoogeographic regionalization of the Earth´s surface and human influence on the faunal distribution in the history.

Brief outline of the course:
This course will review our current understanding of the patterns of animal distribution and the processes that influence distributions of species and their attributes. Zoogeography will integrate information on the historical and current ecology, genetics, and physiology of animals and their interaction with environmental processes (continental drift, climate) in regulating geographic distributions. The course will emphasize descriptive and analytical approaches useful in hypothesis testing in zoogeography and will illustrate applied aspects of zoogeography (e.g. refuge design in conservation).

Recommended literature:
Buchar, J., 1983: Zoogeografie. SPN Praha
Darlington, P.J., 1998: Zoogeography: The geographical distribution of animals. Krieger, USA
Lomolino M.V., Brown J.H., Riddle B. R., 2005: Biogeography. Sinauer Associates, 1-845
Plesník, P., Zatkalík, F., 1996: Biogeografia. Vysokoškolské skriptá, PríFUK Bratislava

Course language:

Course assessment
Total number of assessed students: 877

A	B	C	D	E	FX
23.26	23.6	25.31	17.9	7.98	1.94

Provides: prof. RNDr. Ľubomír Kováč, CSc.

Date of last modification: 23.02.2018
Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of credits: 5

Recommended semester/trimester of the course: 4.

Course level: I.

Prerequisities: ÚBEV/PMZ/10

Conditions for course completion:

Learning outcomes:
Fundamental information on taxonomy and morphology of vertebrates

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

Recommended literature:

Course language:

Course assessment
Total number of assessed students: 910

A	B	C	D	E	FX
22.75	27.36	19.23	16.48	10.11	4.07

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

Date of last modification: 23.02.2018

Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of credits: 4

Recommended semester/trimester of the course: 4.

Course level: I.

Prerequisities: ÚBEV/PMZ/10

Conditions for course completion:

Learning outcomes:
Fundamental information on taxonomy and morphology of vertebrates

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

Recommended literature:

Course language:

Course assessment
Total number of assessed students: 142

A	B	C	D	E	FX
0.7	19.72	17.61	21.13	26.06	14.79

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

Date of last modification: 23.02.2018

Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of credits: 2

Recommended semester/trimester of the course:

Course level: I., II.

Prerequisities:

Conditions for course completion:
Conditions for course completion:
Attendance

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

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

Recommended literature:

Course language:

Course assessment
Total number of assessed students: 33

abs	n
12.12	87.88

Provides: Mgr. Alena Buková, PhD., Mgr. Agata Horbacz, PhD.

Date of last modification: 18.08.2017

Approved: Guaranteeprof. RNDr. Pavol Mártonfi, PhD.Guaranteeprof. RNDr. Vladimír Zeleňák, PhD.