CONTENT

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚMV/ PMB/10	**Course name:** Advanced biometric methods

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

Number of ECTS credits: 5

Recommended semester/trimester of the course: 1.

Course level: II.

Prerequisities:

Conditions for course completion:
Tests during the semester.
Given at the basis of partial examination and final test.

Learning outcomes:
To learn to use the most widely used multivariate methods of data processing practically.

Brief outline of the course:
Multivariate data. Dependence measures. Contingency tables. Regression analysis. Logistic regression. Analysis of variance. Basics of time series. Cluster analysis.

Recommended literature:
Ho, R.: Handbook of univariate and multivariate data analysis and interpretation in SPSS, Chapman & Hall/CRC, 2006
Garson, D.: PA 765 Statnotes: An Online Textbook (electronic textbook, http://www2.chass.ncsu.edu/garson/pa765/statnote.htm), North Carolina State University, 1998
Electronic textbook: http://ucebnice.euromise.cz/index.php?conn=0&section=biostat1

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 73

A	B	C	D	E	FX
2.74	4.11	24.66	28.77	39.73	0.0

Provides: RNDr. Daniel Klein, PhD.

Date of last modification: 03.05.2015

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ AOL1/06	**Course name:** Analysis of Organic Substances

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

Number of ECTS credits: 6

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

Course level: II.

Prerequisities:

Conditions for course completion:
Examination.

Learning outcomes:
Methods of analysis of organic substances.

Brief outline of the course:
Characteristics, objectives, methods and basic procedures in qualitative and quantitative analysis of organic compounds (AOC). Evidence and identification, molecular, elemental and structural-analytical methods in AOC. Groups solubility, color and precipitation reactions, identification and determination of functional groups. Optical, electrochemical, separation and other methods used in analysis of organic compounds. Some examples of the use of knowledge for the purposes of research and practice.

Recommended literature:
1. Jerry R. Mohrig et al. Organic Qualitative Analysis, W. H. Freeman and Company, 2003
2. H.T. Openshaw, A Laboratory Manual of Qualitative Organic Analysis, CUP Archive, 1976
3. Oliver Kamm, Qualitative organic analysis, John Wiley & Sons, 1923, Open Library

Course language:

Notes:

Course assessment
Total number of assessed students: 32

A	B	C	D	E	FX
71.88	21.88	3.13	3.13	0.0	0.0

Provides: doc. RNDr. Katarína Reiffová, PhD.

Date of last modification: 03.05.2015

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: KF/ AFS/05	**Course name:** Ancient Philosophy and Present Times

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

Number of ECTS credits: 2

Recommended semester/trimester of the course: 2.

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 31

A	B	C	D	E	FX
80.65	6.45	6.45	0.0	6.45	0.0

Provides: Doc. PhDr. Peter Nezník, CSc.

Date of last modification: 17.09.2020

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ EFZ1/03	**Course name:** Animal and human ecophysiology

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

Number of ECTS credits: 6

Recommended semester/trimester of the course: 1.

Course level: II.

Prerequisities:

Conditions for course completion:
Seminar.
Test.

Learning outcomes:
The aim of lectures is to provide students with knowledge of adaptations to environmental factors and extreme environments effects.

Brief outline of the course:
Environmental factors, reaction, adaptation, deformation. Biological rhythms. Stress reaction - general adaptation syndrom. Physiology and pathology of adaptation mechanisms - fever, pain, inflammation, apoptosis, necrosis. Aging. Regulation of food intake. Food adapations, fasting, starvation, overfeeding. Thermoregulation. Hibernation, estivation, diapause. Adaptations to hypobaria and hyperbaria. Adaptations to hypergravity and microgravity. Electromagnetic fields. Biotransformation. Xenobiotics in air, water and soil. Drugs of abuse. Carcinogenesis, oncogenes, tumor supressor genes. Cancer prevention. Prions.

Recommended literature:
1. Wilmer P and co.: Environmental Physiology of Animals. Blackwell Publishing Inc., 2004
2. Chown SL, Nicolson SW: Insect Physiological Ecology. Oxford University Press 2004

Course language:

Notes:

Course assessment
Total number of assessed students: 422

A	B	C	D	E	FX
13.51	22.75	23.22	22.99	16.35	1.18

Provides: doc. RNDr. Bianka Bojková, PhD.

Date of last modification: 12.05.2021

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ AMK/15	**Course name:** Aplikovaná mikrobiológia

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

Number of ECTS credits: 5

Recommended semester/trimester of the course: 4.

Course level: II., III.

Prerequisities:

Conditions for course completion:
Attendance of practicals (at least 90%), final examination

Learning outcomes:
The students acquire in-depth knowledge on the important role of microoganisms in different fields like food (production of beer, wine, milk products, probiotics), chemical and pharmaceutical industry (production of vitamins, hormones, amino acids, enzymes, comodity chemicals), vaccines and their production, wastewater treatment, as well as microbial bioremediation, biofuels and biomining.

Brief outline of the course:
Application of bacteria in industrial processes, biochemicals production. Application of recombinant DNA techniques in industry. Lactic acid bacteria and its application in food industry. Microbiology in food quality control. Application of microorganisms in environment protection – wastewater treatment, bioremediation, biofuels, microbiology of biogas plants.

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 28

A	B	C	D	E	FX	N	P
35.71	28.57	17.86	7.14	0.0	0.0	0.0	10.71

Provides: doc. RNDr. Peter Pristaš, CSc., RNDr. Lenka Maliničová, PhD., RNDr. Mária Piknová, PhD., RNDr. Jana Kisková, PhD.

Date of last modification: 13.01.2021

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ AEN1/03	**Course name:** Applied entomology

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

Number of ECTS credits: 5

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

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 125

A	B	C	D	E	FX
51.2	37.6	8.8	0.8	1.6	0.0

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

Date of last modification: 03.05.2015

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ AAS1/03	**Course name:** Atomic Spectrochemistry

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

Number of ECTS credits: 6

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

Course level: II.

Prerequisities:

Conditions for course completion:
On the basis of the practical results and seminary works.
On the basis of continuous assessment and oral examination.

Learning outcomes:
Theoretical information and practical experience with atomic absorption and emission methods used in analytical chemistry.

Brief outline of the course:
Information and the role of atomic absorption and emission spectroscopy in analytical chemistry. History of the development of spectral methods.
Theoretical foundations, principles and classification of optical methods. Experimental foundations of spectral methods. Atomic absorption spectrometry. Atomic emission spectrometry.
Atomic fluorescence spectrometry. X-ray spectrometry. Absorption spectroscopy in the visible, ultraviolet and near-infrared region and its analytical applications.

Recommended literature:
I.Němcová, L. Čermáková, P. Rychlovský: Spektrometrické analytické metódy. Karolinum , Praha, 1997.
D. A. Skoog, J. J. Leary: Instrumental Analytics. Springer, Berlin, 1996.
B. Welz, M. Sperling: Atomic Absorption Spectrometry,Wiley-VCH, Weinheim, 1998.
H. Günzler, A. Wiliams: Handbook of Analytical Techniques. Wiley-VCH, Weinheim, 2001.
G. Gauglitz, T. Vo-Dinh: Handbook of Spectroscopy. Wiley-VCH, Weinheim, 2003.

Course language:

Notes:

Course assessment
Total number of assessed students: 93

A	B	C	D	E	FX
38.71	23.66	20.43	12.9	4.3	0.0

Provides: doc. Ing. Viera Vojteková, PhD.

Date of last modification: 03.05.2015
Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ ZTOX/04	**Course name:** Basic Toxicology

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

Number of ECTS credits: 5

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

Course level: II.

Prerequisities:

Conditions for course completion:

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

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

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

Course language:

Notes:

Course assessment
Total number of assessed students: 320

A	B	C	D	E	FX
21.25	27.5	25.0	17.5	7.5	1.25

Provides: RNDr. Miroslava Matiková Maľarová, PhD.

Date of last modification: 03.05.2015

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ ZCHI2/11	**Course name:** Basic chiropterology

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

Number of ECTS credits: 3

Recommended semester/trimester of the course:

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:
Comprehensive review of scientific knowledge on bats. Review on methods of bat research in conditions of the temperate zone.

Brief outline of the course:
Bat systematics. Species diversity, bats of the Palaearctic. Morphology, anatomy, physiology. Echolocation. Ecology: roosts, diet, hibernations, migration. Social structure, mating systams, population ecology. Research methods.

Recommended literature:
Kunz T. H. & Fenton M. B. (eds), 2003: Bat ecology. The University of Chicago Press, Chicago and London, 779 pp.

Course language:

Notes:

Course assessment
Total number of assessed students: 76

abs	n
98.68	1.32

Provides: doc. RNDr. Marcel Uhrin, PhD.

Date of last modification: 03.05.2015

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ MMZ/20	**Course name:** Basic molecular methods in Zoology and Animal Physiology

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

Number of ECTS credits: 3

Recommended semester/trimester of the course: 1.

Course level: II.

Prerequisities:

Conditions for course completion:
Ongoing evaluation: active participation on practical exercises
Final evaluation: fulfilling the practical task

Learning outcomes:
Practical skills in the following techniques:
- Pipetting methods,
- DNA/RNA extraction,
- PCR methods (PCR, RT-PCR, qRT-PCR) + electrophoretic visualization
- database NCBI (GenBank, BOLD)
- basic instructions in using of phylogenetic program Mega: sequences trimming, construction of phylogenetic trees

Brief outline of the course:
The aim of the subject is to introduce the methods of molecular biology as the tools used to solve problems of zoological, ecological and physiological studies, in both theoretical but first of all in practical form.
The course focuses on basic molecular methods used in studies of taxonomy, ecology and physiology of animals (invertebrates and vertebrates). The main task is to provide not only theoretical knowledge, but in the form of practical exercises, mainly skills usable in practice (especially in the solution of future bachelor and master theses).

Recommended literature:
Šmarda a kol. 2005. Metody molekulární biologie. Masarykova univerzita, Brno.
Weaver, R.F. 2002. Molecular biology. University of Kansas
Pastoráková A. & Petrovič, R. 2016. Molekulárne metódy aktuálne používané v klinickej genetike. Univerzita Komenského v Bratislave, Lekárska fakulta

Course language:
Slovak or English language

Notes:

Course assessment
Total number of assessed students: 2

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

Provides: RNDr. Andrea Parimuchová, PhD., RNDr. Terézia Kisková, PhD.

Date of last modification: 14.05.2021

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ BACH1/03	**Course name:** Bioanalytical Chemistry

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

Number of ECTS credits: 5

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

Course level: II.

Prerequisities:

Conditions for course completion:
Written test
Oral examination

Learning outcomes:
Theoretical knowledge and practical experience regarding application of analytical chemistry and analytical methods to laboratory medicine.

Brief outline of the course:
Introduction to Bioanalytical Chemistry, biological samples classification. Factors affecting analytes in biological samples. Collection, transport and storage of biological samples. Selected procedures of sample pretreatment Control and management of quality in clinical laboratory. Enzymes in bioanalysis. Mechanism of enzyme catalysis. Enzymes like analytes and analytical reagents. Moderators of enzyme activity. Introduction to Immunochemical methods, Precipitation and Aglutination methods. Immunodiffusional methods. Radioimmunoanalytic methods (RIA). Nonisotopic methods (EIA, ELISA, LIA, FIA). Investigative procedures in medical microbiology. Principles miniaturization of analytical procedures in clinical chemistry, microchips, nanochips, sensors and biosensors.

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. Suelter, C. H., Kricka, L. J.: Methods of Biochemical Analysis, Vol.37, Bioanalytical Instrumentation, Wiley, 1994.
4. Rodriguez-Diaz, R., Wehr, T., Tuck, S.: Analytical Techniques for Biopharmaceutical Development, Marcell Dekker, 2005.

Course language:

Notes:

Course assessment
Total number of assessed students: 100

A	B	C	D	E	FX
34.0	37.0	19.0	9.0	1.0	0.0

Provides: doc. RNDr. Katarína Reiffová, PhD.

Date of last modification: 03.05.2015

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ BRS1/03	**Course name:** Biology of Plant Symbioses

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

Number of ECTS credits: 3

Recommended semester/trimester of the course: 2.

Course level: II., III.

Prerequisities:

Conditions for course completion:

Learning outcomes:
Introduction to biology and ecology of plant symbioses.

Brief outline of the course:
Morphological, cytological, physiological and biochemical aspects of the best known examples of plant symbioses. Lichens, mycorrhiza, symbiosis of flowering plants with nitrogen fixing bacteria, coral reefs symbioses and endosymbioses.

Recommended literature:
Van den Hoek, C. a kol. 1995: Algae, an introduction to phycology,
Deacon, J.W. 1997: Modern Mycology

Course language:

Notes:

Course assessment
Total number of assessed students: 401

A	B	C	D	E	FX	N	P
96.01	0.0	0.0	0.0	0.0	0.0	0.0	3.99

Provides: prof. RNDr. Martin Bačkor, DrSc.

Date of last modification: 03.05.2015

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ BFA1/03	**Course name:** Biopharmacology

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

Number of ECTS credits: 5

Recommended semester/trimester of the course: 2.

Course level: II.

Prerequisities:

Conditions for course completion:
Written test.
Oral exmanitation.

Learning outcomes:
To provide the students with basic knowledge on the classification and mechanism of action of the most important pharmaceuticals

Brief outline of the course:
Pharmaceutical principles. Classification of drugs. Absorption, biotransformation and excretion of drugs from the organism. Pharmacogenetics. Molecular mechanisms of drug effects. Drug-receptor interactions. Chronic administration of drugs. Teratogenity and cancerogenity of drugs. Development and introduction of drugs for clinical use. Principle of chronopharmacology

Recommended literature:
Clark, W. G., Braber, D.C., Johnen, A.R.: Goth‘s medical pharmacology. Mosby Year Book, 1992

Course language:

Notes:

Course assessment
Total number of assessed students: 243

A	B	C	D	E	FX
14.81	25.51	23.87	16.46	17.28	2.06

Provides: doc. RNDr. Monika Kassayová, CSc.

Date of last modification: 03.05.2015

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ BSP/04	**Course name:** Biospeleology

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

Number of ECTS credits: 4

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

Course level: II.

Prerequisities:

Conditions for course completion:
active participation on the seminars and field trips
preparation of oral presentation to the selected topic
semestral written test
oral examination

Learning outcomes:
The main goal of the subject is to get basic knowledge on the diversity of the cave biota, relationships and adaptations to the specific environment, its role in the cave system and protection of the cave biota.

Brief outline of the course:
The subject covers morphology and systematics of the cave fauna and microflora, their adaptations to this specific habitat type, geographic distribution, functioning of the cave system and interactions between its components, human influence and protection of the cave biota.

Recommended literature:
Culver D. C., 1982: Cave life – evolution and ecology. Harvard University Press, Cambridge, Massachusetts and London
Culver D.C., White W.B., 2005: Encyclopedia of caves. Elsevier, 1-654
Vandel A., 1965: Biospeleology - the biology of cavernicolous animals. Pergamon Press, Oxford
Wilkens H., Culver D.C., Humphreys W.F., 2000: Subterranean Ecosystems. Ecosystems of the World, vol. 30. Elsevier, 1-791

Course language:

Notes:

Course assessment
Total number of assessed students: 76

A	B	C	D	E	FX
96.05	0.0	2.63	1.32	0.0	0.0

Provides: prof. RNDr. Ľubomír Kováč, CSc.

Date of last modification: 03.05.2015
Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of ECTS credits: 2

Recommended semester/trimester of the course: 2.

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 10

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

Provides: PhDr. Dušan Hruška, PhD.

Date of last modification: 03.05.2015

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ ACM1/06	**Course name:** Chemometrics

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

Number of ECTS credits: 6

Recommended semester/trimester of the course: 2.

Course level: II.

Prerequisities:

Conditions for course completion:
On the basis of the tests and seminary works
On the basis of the continuous assesment and examination.

Learning outcomes:
Knowledge about the correct and theoretically based evaluation of analytical results and methods.
Knowledge about the methods of validation and accreditation of laboratories.
Knowledge about the result uncertainties and methods of decision statistics.

Brief outline of the course:
The principles of the mathematic- statistical methods used in analytical chemistry. Probability distribution of the measuring results. Classic and robust estimation of the mean value and variance. Statistical tests and their application. Accuracy, precision, and reliability of the results. Uncertainity of the results. Calibration in the analytical chemistry, linear and nonlinear models.
Evaluation of the analytical methods, the chosen optimization approaches. Solving of the typical examples in the frame of the practical lectures.

Recommended literature:
R. G. Brereton: Chemometrics., Wiley, Chichester, 2003
M. Meloun, J. Militký: Kompendium statistického zpracování dat., Academia, Praha 2006

Course language:

Notes:

Course assessment
Total number of assessed students: 96

A	B	C	D	E	FX
37.5	26.04	25.0	6.25	5.21	0.0

Provides: doc. Ing. Viera Vojteková, PhD.

Date of last modification: 03.05.2015

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ CHRA1/03	**Course name:** Chromatographic Analysis

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

Number of ECTS credits: 5

Recommended semester/trimester of the course: 1.

Course level: II.

Prerequisities:

Conditions for course completion:
Examination.

Learning outcomes:

Brief outline of the course:
General characteristics of chromatographic system and chromatographic separation. Analyte retention in chromatography, retention indices. Models used for chromatographic system description. Parameters affecting quality of chromatographic separation. Sensitivity, separated analytes, separation time, optimisation of chromatographic process. General equation of chromatography.
Evaluation of retention and selectivity of chromatographic process. Stationary phase. Qualitative chromatographic analysis. Quantitative analysis methods, sample preparation. System of analyte separation. Identification in chromatographic analysis.

Recommended literature:
D. A. Skoog, J. J. Leary: Principles of Instrumental Analysis, Saunders, 1992.

Course language:

Notes:

Course assessment
Total number of assessed students: 59

A	B	C	D	E	FX
83.05	6.78	6.78	0.0	3.39	0.0

Provides: prof. RNDr. Andrej Oriňak, PhD.

Date of last modification: 03.05.2015

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ CRO1/03	**Course name:** Chronophysiology

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

Number of ECTS credits: 5

Recommended semester/trimester of the course: 1.

Course level: II., III.

Prerequisities:

Conditions for course completion:
Oral examination.

Learning outcomes:
To outline the problematics of the time organization of biological processes and their significance in evolution of living organisms and for the adaptation to regular changes in their environment.

Brief outline of the course:
Time structure of physiological variables in animals and man. Basic notions and categories of biological rhythms. The significance of biological rhythms in the evolution of living things. The genetic basis and molecular mechanisms of biological clocks in animals. The endogenous character of biological rhythms. The multioscillatory system of the organism. The significance of circadian and seasonal rhthms for the animal and human life. The application of chrono-physiological principles.

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 89

A	B	C	D	E	FX	N	P
21.35	21.35	29.21	12.36	4.49	0.0	0.0	11.24

Provides: prof. RNDr. Beňadik Šmajda, CSc., RNDr. Natália Pipová, PhD.

Date of last modification: 29.06.2021

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ FKC1/03	**Course name:** Colloid Chemistry

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

Number of ECTS credits: 5

Recommended semester/trimester of the course: 2.

Course level: II.

Prerequisities:

Conditions for course completion:
Approved calculation exercises tests and an approved written examination
Examination

Learning outcomes:
To clarify basic physicochemical principles of colloid disperse systems (size of dispersed particles is from 1 nanometre to 1 micrometre) to understand several important problems of technology and nature.

Brief outline of the course:
Classification and characterization of dispersed systems. Heterogeneity of colloidal systems. Optical properties of colloids. Theory of light scattering. Molecular-kinetic properties. Brownian motion, diffusion, osmosis, and sedimentation. Adsorption-basic concepts. Electrokinetic phenomena and their application. Structure, stability and coagulation of colloids. Rheology of dispersed systems. Gels. Aerosols. Solid dispersions, emulsions and foams. The theory is applied during laboratory and calculation exercises.

Recommended literature:
W.J. Moore: Physical Chemistry, Longman, London 1972
P.C. Hiemenz: Principles of Colloid and Surface Chemistry, M. Dekker, New York 1986
P.W. Atkins: Physical Chemistry, Oxford University Press, Oxford, New York 2002

Course language:

Notes:

Course assessment
Total number of assessed students: 34

A	B	C	D	E	FX
91.18	2.94	5.88	0.0	0.0	0.0

Provides: prof. RNDr. Andrej Oriňak, PhD., prof. RNDr. Renáta Oriňaková, DrSc.

Date of last modification: 26.09.2017

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/FKC/00	**Course name:** Colloid Chemistry Practicals

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

Number of ECTS credits: 3

Recommended semester/trimester of the course: 2.

Course level: II.

Prerequisities:

Conditions for course completion:
Approved laboratory reports
Assessment

Learning outcomes:
To give an introduction to technically important applications of colloid and surface chemistry.

Brief outline of the course:
Surface effects. Adsorption at interface of solid and liquid phases, determination of surface nature. Electrical properties. Stability and coagulation of colloids. Structure-mechanical properties of colloids. Properties and aggregation of surfactants and micelles. Rheological properties.

Recommended literature:
B.P. Levitt: Findlay´s Practical Physical Chemistry, Longman, London 1973
Internal textbooks

Course language:

Notes:

Course assessment
Total number of assessed students: 12

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

Provides: RNDr. František Kaľavský, prof. RNDr. Renáta Oriňaková, DrSc.

Date of last modification: 12.05.2021

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: KPPaPZ/KK/07	**Course name:** Communication and Cooperation
Course type, scope and the method: **Course type:** Practice **Recommended course-load (hours):** **Per week:** 2 **Per study period:** 28 **Course method:** present	
Number of ECTS credits: 2	
Recommended semester/trimester of the course: 3.	
Course level: II.	
Prerequisities:	
Conditions for course completion:	
Learning outcomes:	
Brief outline of the course:	
Recommended literature:	
Course language:	
Notes:	

Course assessment
Total number of assessed students: 281

abs	n	z
98.22	1.78	0.0

Provides: Mgr. Ondrej Kalina, PhD., Mgr. Lucia Barbierik, PhD.
Date of last modification: 24.06.2021
Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/DNR/06	**Course name:** Dendrology

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

Number of ECTS credits: 5

Recommended semester/trimester of the course: 2.

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:
Basic knowledge on autochthonous and allochthonous woody plants. Morphological signs of woody plants, ecological requirements, geographic distribution. Intraspecific variability, growth forms and their use. Selected chapters from seed production and tree nursery of woody plants. Application of woody plants in garden and landscape architecture in urban environment. Protected and memorial trees, databasis of occurrence, measures of protection and treating. Manifestations of expansion and invasion of woody plants.

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 68

A	B	C	D	E	FX
69.12	14.71	7.35	8.82	0.0	0.0

Provides: Ing. Peter Kelbel, Dr.

Date of last modification: 03.05.2015

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚBEV/ SDPa/15	**Course name:** Diploma Thesis Seminar
Course type, scope and the method: **Course type:** **Recommended course-load (hours):** **Per week: Per study period:** **Course method:** present	
Number of ECTS credits: 4	
Recommended semester/trimester of the course:	
Course level: II.	
Prerequisities:	
Conditions for course completion:	
Learning outcomes:	
Brief outline of the course:	
Recommended literature:	
Course language:	
Notes:	

Course assessment

Total number of assessed students: 206

abs	n
100.0	0.0

Provides:
Date of last modification: 03.05.2015
Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚBEV/ SDPb/15	**Course name:** Diploma Thesis Seminar
Course type, scope and the method: **Course type:** **Recommended course-load (hours):** **Per week: Per study period:** **Course method:** present	
Number of ECTS credits: 4	
Recommended semester/trimester of the course:	
Course level: II.	
Prerequisities:	
Conditions for course completion:	
Learning outcomes:	
Brief outline of the course:	
Recommended literature:	
Course language:	
Notes:	

Course assessment
Total number of assessed students: 168

abs	n
100.0	0.0

Provides:
Date of last modification: 03.05.2015
Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ SDPc/15	**Course name:** Diploma Thesis Seminar

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

Number of ECTS credits: 4

Recommended semester/trimester of the course:

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 169

abs	n
100.0	0.0

Provides:

Date of last modification: 03.05.2015

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ SDPd/15	**Course name:** Diploma Thesis Seminar

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

Number of ECTS credits: 4

Recommended semester/trimester of the course:

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 166

A	B	C	D	E	FX
86.75	9.04	2.41	0.6	1.2	0.0

Provides:

Date of last modification: 03.05.2015

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ DPO/14	**Course name:** Diploma Thesis and its Defence

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

Number of ECTS credits: 20

Recommended semester/trimester of the course:

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 205

A	B	C	D	E	FX
57.56	24.88	10.24	5.37	1.95	0.0

Provides:

Date of last modification: 03.05.2015

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ EET1/03	**Course name:** Ecological ethology

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

Number of ECTS credits: 6

Recommended semester/trimester of the course: 2.

Course level: II., III.

Prerequisities: ÚBEV/ETO1/03

Conditions for course completion:
Field excursion
Oral examination.

Learning outcomes:
To analyze and comprehend to priciples of behavioral strategies in a given ecosystem from the point of view of sociobiology

Brief outline of the course:
The topic of sociobiology and its relations to other disciplines. The evolution of social behavior in animals and in man. Strategies of social interactions and formation of groups in relation to the ecosystem. The choice of appropriate social arrangement, sexual partner, reproductional and parental strategy. Competition among indiviuals and sexes.

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 202

A	B	C	D	E	FX	N	P
87.62	3.96	5.45	0.5	0.0	0.0	0.0	2.48

Provides: RNDr. Igor Majláth, PhD.

Date of last modification: 16.05.2021

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/EKO/20	**Course name:** Ecology of Amphibians

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

Number of ECTS credits: 2

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

Course level: II.

Prerequisities:

Conditions for course completion:
Ongoing evaluation: active participation on practical exercises.
Final evaluation: fulfilling the practical task.

Learning outcomes:

Brief outline of the course:
Presenting the basic knowledge of the most threatened class of vertebrates - amphibians, and various methods used in their research. This subject will contain theoretical and practical part, which will take place directly in the field with the main aim to show students how to observe and catch amphibians, handling, obtaining of biological material and its storage. In addition, students will be involved in activities related to the protection of amphibians in selected locations in eastern Slovakia (building of protection barriers, transferring of amphibians during their spring migration).

Recommended literature:
Dodd Jr C.K., 2010. Amphibian ecology and conservation: a handbook of techniques. New York: Oxford University Press.
Hillman S. S., Wothers P. C., Drewes R. C. & Hillyard S. D., 2009: Ecological and environmental physiology of amphibians. New York: Oxford University Press.

Course language:
Slovak or English language.

Notes:

Course assessment
Total number of assessed students: 11

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

Provides: RNDr. Monika Balogová, PhD., RNDr. Natália Pipová, PhD.

Date of last modification: 21.02.2020

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ EKV1/03	**Course name:** Ecology of Birds

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

Number of ECTS credits: 5

Recommended semester/trimester of the course: 2.

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 230

A	B	C	D	E	FX
74.35	14.78	9.13	0.43	1.3	0.0

Provides: Mgr. Peter Kaňuch, PhD.

Date of last modification: 03.05.2015

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ ECE/15	**Course name:** Ecology of Ecosystems

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

Number of ECTS credits: 4

Recommended semester/trimester of the course:

Course level: II.

Prerequisities:

Conditions for course completion:
lectures and excursions
presentation of own project
oral examination

Learning outcomes:
Deepening of the knowledge on the ecology of ecosystems in global with accent on the nature of the Central Europe (typology, location, genesis and dynamics and protection of ecosystems) is done. Theoretical part will be completed by excursions directed to the important ecosystems presented in the Slovak Republic.

Brief outline of the course:
The students obtain basis of modern ecology of ecosystems analysed the processes in world biomes and in local scale: the ecosystems in our country (in context of the Central Europe): classification of ecosystems Slovak Carpathians and forelands of the Pannonian Lowland, their Quarternary history, dynamics, human influences leading to agricultural and urbanised ecosystems, problems with conservancy and optimalisation of the relations men-nature, with emphasis on field excursions to the characeristic habitats.

Recommended literature:
Anděra, M., 2003: Encyklopédia európskej prírody. Slov. preklad D. Šubová, Slovart, Bratislava, 240 s.
Chapin III FS, Matson PA, Vitousek PM, 2012: Principless of Terrestrial Ecosystems Ecology. 2nd Edition. Springer, 529 s.
Jørgensen S.E, 2009: Ecosystem Ecology. Academic Press, 521 s.
Kuras, T., 2013: Ekologie společenstev a ekosystémů. Palackého Univerzita v Olomouci. Skripta, 140 s.
Loreau, M., Naeem, S., Inchausti, P. (eds.), 2009: Biodiversity and Ecosystem Functioning. Synthesis and Perspective. Oxford University Press, 294 s.
Prach, K., Štech, M., Říha, P., 2009: Ekologie a rozšíření biomů na Zemi. Scientia, Praha, 152 s. +obr. príl.
Wilkinson, D.M., 2006: Fundamental Processes in Ecology and Earth System approach- Oxford, Oxford University Press, 182 s,

Course language:
angličtiny

Notes:

Course assessment
Total number of assessed students: 25

A	B	C	D	E	FX
80.0	12.0	8.0	0.0	0.0	0.0

Provides: doc. RNDr. Andrej Mock, PhD., doc. RNDr. Marcel Uhrin, PhD.

Date of last modification: 03.05.2015

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ EPZ1/03	**Course name:** Ecology of Soil Animals

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

Number of ECTS credits: 6

Recommended semester/trimester of the course: 2.

Course level: II.

Prerequisities:

Conditions for course completion:
active participation in seminars
preparation of the presentation to the given topic
semestral written test
oral examination

Learning outcomes:
The main goal of the subject is to gain basic knowledge on the functioning of the soil system with the special reference to dominant systematic groups of the soil fauna, their ecology and taxonomic identification.

Brief outline of the course:
The subject deals with the soil as an ecological system and type of environment It is concentrated to the ecological factors ruling the life in soil, soil-dwelling animals and their adaptations to this specific habitat. Functioning of the soil system and understanding of the principal interactions of soil fauna with plant rhizosphere and soil microflora are among the main goals of the discipline.

Recommended literature:
Coleman, D.C., Crossley, D. A., 1996: Fundamentals of Soil Ecology. Academic Press, London, 1-205
Eisenbeis, G., Wichard, W., 1987: Atlas on the Biology of Soil Arthropods. Springer- Verlag Berlin, Germany, 1-437
Schaller, F. 1968: Soil Animals. The University of Michigan Press, United States of America, 1-144
Wallwork, J. A., 1970: Ecology of Soil Animals. McGraw- Hill, England, 1-283
Wallwork, J. A., 1976: The distribution and Diversity of Soil Fauna. Academis Press, London, 1-355

Course language:

Notes:

Course assessment
Total number of assessed students: 149

A	B	C	D	E	FX
49.66	23.49	18.12	6.04	2.68	0.0

Provides: RNDr. Natália Raschmanová, PhD.

Date of last modification: 03.05.2015

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ EVZ1/03	**Course name:** Ecology of Water Animals

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

Number of ECTS credits: 6

Recommended semester/trimester of the course: 2.

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:
Ecological characteristic of freshwater groups and prevalent species - only Invertebrata.

Brief outline of the course:
Biology of the most common representatives and groups of freshwater animals of Central Europe temperate region. Mohological adaptations, taxanomical characters, water communities.

Recommended literature:
Fryer, G., Murphy, S.: A natural history of the lakes, tarns and streams of the English Lake District. Freshw. Biol. Association Cumbria, 1991
Bronsmark, Ch., Hannsson, L. A.: The biology of Lakes and ponds. Biol. Of Habitats Ser, 1998

Course language:

Notes:

Course assessment
Total number of assessed students: 178

A	B	C	D	E	FX
29.78	15.73	17.42	35.39	1.69	0.0

Provides: doc. RNDr. Andrej Mock, PhD.

Date of last modification: 03.05.2015

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ EKC1/00	**Course name:** Ecology of mammals

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

Number of ECTS credits: 3

Recommended semester/trimester of the course: 2.

Course level: II., III.

Prerequisities:

Conditions for course completion:

Learning outcomes:
To understand a) ekological position of mammal groups in ecosystems and their importance in ecological networks; b) anthropogenic impacts on mammals and their coenoses; c) population ecology of some mammal groups

Brief outline of the course:
Factors of environment. Temperature. Water. Snow. Light. Adaptations. Hypothermy. Hibernation, aestivation, letargy. Reseources. Food. Food strategies and specialistaions. Habitat and nika. Interactions. Komensalism. Mutualism. Kooperation. Competion. Predator and prey. Mammals and plants. Food webs. Teritoriality. Home range. Lek. Metapopulations. Reproduction. Mating systems. Oestrus. r- and K- strategy. Monogamy, polygamy. Dispersion. Migration. Habitat selection. Individual. Population. Natality, mortality. Kohorts. Population dynamics and cycles. Gradations. Mammal diversity. Island biogeografy. Macroecology. Gradients. Long-term studies. Habitat fragmentations. Synanthropy. Conservation of mammals. Wind energy. Mammal introductions. Repatriations, reintroductions. Expansions. Global climate changes and mammals. Protected areas. Vulneralble species. Minimal viable population.

Recommended literature:
Feldhamer G., Drickamer L., Vessey SH., Merritt JF., 2000. Mammalogy: Adaptation, Diversity and Ecology. McGraw Hill Hardback, 563 pp.
Vlasák P., 1986. Ekologie cicavcu. Academia, Praha, 292 pp.

Course language:

Notes:

Course assessment
Total number of assessed students: 251

A	B	C	D	E	FX	N	P
64.14	17.53	11.95	2.39	2.39	0.0	0.0	1.59

Provides: doc. RNDr. Marcel Uhrin, PhD.

Date of last modification: 03.05.2015
Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/EP/14	**Course name:** Ekológia populácií

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

Number of ECTS credits: 3

Recommended semester/trimester of the course:

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:
Population ecology includes study of the structure and dynamics of populations (chose population characteristics such as density/abundance, distribution/population dispersion patterns, natality, mortality) interactions between populations of organisms and environmental factors based on mathematical models, theories, and population methods applied in various ecosystems. Population ecology elucidates growth models and changes in populations.

Recommended literature:
Rockwood Larry L., 2006: Introduction to population ecology, 339 pp., Malden, Mass.: Blackwell

Course language:

Notes:

Course assessment
Total number of assessed students: 27

A	B	C	D	E	FX
48.15	7.41	37.04	7.41	0.0	0.0

Provides: RNDr. Natália Raschmanová, PhD.

Date of last modification: 03.05.2015

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ FEM1/03	**Course name:** Electroanalytical Methods

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

Number of ECTS credits: 5

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

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:
Survey on principles, theoretical background and practical applications of modern electroanalytical methods.

Brief outline of the course:
Importance of electroanalytical methods for environmental control and protection, requirements of practice, electrochemical cells, electrode potential, mass transfer by convection, migration and diffusion, Cottrell equation, direct current voltametry and polarography(principle, theoretical backround, examples of practical application). TAST polarography and voltametry, staircase voltammetry, pulse techniques: normal pulse and differential pulse voltammetry and polarography, square - wave voltammetry and polarography, AC polarography and voltammetry, anodic stripping voltammetry, adsorptive(or accumulation) voltammetry (applications in clinical and environmental analysis), working electrodes in voltammetry: stationary mercury electrode, mercury film electrode, glassy carbon electrode, carbon paste electrode,metallic electrodes, rotating disk electrode, rotating ring-disk electrode, ultramicroelectrodes, chemically modified electrodes, potentiometry, principles of ion selective electrodes, glass electrodes, ISE with solid and liquid membranes, biocatalytic membrane electrodes, chronopotentiometry, potentiometric stripping analysis, electroanalytical detectors in flow systems, amperometric titrations, biamperometric and bipotentiometric titrations, potentiostatic and galvanostatic coulometry.

Recommended literature:
F. Scholtz: Electroanalytical Methods, Springer Vrlg., Heidelberg 2002, ISBN 3-540-42449-3
J. Wang: Analytical Electrochemistry, VCH Publ., New York 1994,2000 R. Kalvoda (Ed.): Electroanalytical Methods in Chemical and Environmental Analysis, Plenum Publ. Corp., New York 1987
A.J. Bard, L.R. Faulkner: Electrochemical Methods, Jofn Wiley and Sons, New York 1980
T. Riley, A. Watson: Polarography and Other Voltametric Methods, John Wiley and Sons, Chichester 1987
J. Wang: Stripping Analysis, VCH Publ. Inc., Deerfield Beach 1985

Course language:

Notes:

Course assessment
Total number of assessed students: 32

A	B	C	D	E	FX
62.5	18.75	9.38	6.25	3.13	0.0

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

Date of last modification: 20.09.2017

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ETS1/03	**Course name:** Entomocenoses of Slovakia

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

Number of ECTS credits: 5

Recommended semester/trimester of the course: 2.

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 101

A	B	C	D	E	FX
60.4	23.76	12.87	0.99	0.0	1.98

Provides: doc. RNDr. Ľubomír Panigaj, CSc.

Date of last modification: 03.05.2015

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ EECH/03	**Course name:** Environmental Chemistry

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

Number of ECTS credits: 5

Recommended semester/trimester of the course: 2.

Course level: II., III.

Prerequisities:

Conditions for course completion:
Examination.

Learning outcomes:

Brief outline of the course:
The subject of environmental chemistry. Matter cycles on Earth. Geochemical cycles. Carbon, nitrogen, sulphur, phospohorous cycles. Metals and environment. Special cycles. Earth atmosphere composition, functions of atmosphere. Physical and chemical processes in atmosphere. Atmospheric photochemistry. Pollutants in atmosphere and greenhouse effect. Models of greenhouse effects. Principles of air quality control. Energetic Earth balance. Water environment and pollutants monitored. Classification of pollutants and ways of elimination. Waste water cleaning processes. Analytical methods in environmental chemistry, applications. Soil analysis, biogeochemical processes. Acid rain, metal ions in soil. Environmental analysis, strategy and concepts.

Recommended literature:
1. G. Schwedt: The Essential Guide to Environmental Chemistry, Wiley and Sons, London 2001
2. R.N. Reeve, J.D. Barnes: General Environmental Chemistry, Wiley, London 1994

Course language:

Notes:

Course assessment
Total number of assessed students: 113

A	B	C	D	E	FX	N	P
49.56	19.47	15.93	2.65	3.54	0.0	0.0	8.85

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

Date of last modification: 20.09.2017

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ EMK/15	**Course name:** Environmentálna mikrobiológia

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

Number of ECTS credits: 5

Recommended semester/trimester of the course: 1.

Course level: II., III.

Prerequisities:

Conditions for course completion:
Attendance of practicals (at least 90%), final oral examination

Learning outcomes:
To provide students data on participation of microorganisms in biosphere processes, characteristics of most frequently occuring microbial communities and interactions ofmicroorganisms with other organisms.

Brief outline of the course:
Evolution and biodiversity of microorganisms, microorganisms in environment, the influence of abiotic factors on microorganisms, biogeochemical cycles, interactions between microorganisms and other organisms

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 62

A	B	C	D	E	FX	N	P
51.61	24.19	1.61	0.0	3.23	0.0	0.0	19.35

Provides: doc. RNDr. Peter Pristaš, CSc., prof. RNDr. Jana Sedláková, PhD., RNDr. Lenka Maliničová, PhD.

Date of last modification: 03.05.2015

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ ENVB/16	**Course name:** Environmentálne biotechnológie

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

Number of ECTS credits: 4

Recommended semester/trimester of the course: 1.

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 3

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

Provides: prof. RNDr. Jana Sedláková, PhD., RNDr. Lenka Maliničová, PhD.

Date of last modification:

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ETO1/03	**Course name:** Ethology

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

Number of ECTS credits: 6

Recommended semester/trimester of the course: 1.

Course level: II.

Prerequisities:

Conditions for course completion:
Thematical presentations
Oral examination.

Learning outcomes:
To teach the students to know and to be aware of the importance of the behavioural aspect in biological sciences

Brief outline of the course:
History and development of ethology. Ethological methods. The innate forms of behaviour. The simplest forms of learning – conditioning and instrumental learning. Higher form of learning. Social behaviour. Sexual behaviour. Play behaviour. Biological rhythms. Orientation in space and animal migrations. Communication systems of animals. Emotions. Aggression in animal and human behaviour. Abnormal forms of behaviour

Recommended literature:
Franck, D.: Verhaltensbiologie. Einfuhrung in die Ethologie. Georg Thieme-Verlag, 1993
Manning, A., Dawkins, M. S.: An introduction to animal behaviour. Cambridge University Press, 1992

Course language:

Notes:

Course assessment
Total number of assessed students: 1000

A	B	C	D	E	FX
40.5	24.8	24.7	8.2	1.7	0.1

Provides: RNDr. Igor Majláth, PhD., RNDr. Natália Pipová, PhD., RNDr. Terézia Kisková, PhD.

Date of last modification: 16.05.2021

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ TCE/02	**Course name:** Field Course of Ecology

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

Number of ECTS credits: 3

Recommended semester/trimester of the course: 2.

Course level: II.

Prerequisities:

Conditions for course completion:
5-10 min. presentation of own results and their interpretation

Learning outcomes:
Fundamental methods of ecological research in field. The influence of abiotic factors on zoocenoses, practical demecology and quantitative characteristics of zoocenoses.

Brief outline of the course:
Verification of theoretical knowledge oriented on animal ecology in the field.

Recommended literature:
Begon M., Harper J.L., Townsend C.R., 1990: Ecology - individuals, populations and communities. Blackwell, New York, 1-945

Course language:

Notes:

Course assessment
Total number of assessed students: 9

abs	n
100.0	0.0

Provides: prof. RNDr. Ľubomír Kováč, CSc., doc. RNDr. Andrej Mock, PhD.

Date of last modification: 03.05.2015

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ SKACH1/06	**Course name:** Forensic and Clinical 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 ECTS credits: 5

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

Course level: II.

Prerequisities:

Conditions for course completion:
Examination.

Learning outcomes:
Application of analytical methods in forensic medicine.

Brief outline of the course:
Basic principles and definition of subject. Basic criminalistic categories. Criminalistic track. Criminalistic technology. Criminalistic methods, resources, procedures and operations. Introduction to forensic chemistry. Chemical, physical and physicochemical methods of research tracks and material evidence. Fingerprints. Forensic biology. Forensic toxicology.

Recommended literature:
1.A. Mozayani, C.Noziglia: The Forensic Laboratory Handbook. Procedures and Practice, Springer, 2006
2.H.Duffus, H.G.J.Worth: Fundamental Toxicology, Springer, 2006
3.R.Bertholf, R.Winecker: Chromatographic Methods in Clinical Chemistry and Toxicology, Wiley. 2007

Course language:

Notes:

Course assessment
Total number of assessed students: 56

A	B	C	D	E	FX
60.71	26.79	12.5	0.0	0.0	0.0

Provides: doc. RNDr. Katarína Reiffová, PhD.

Date of last modification: 03.05.2015

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/VEEKO/14	**Course name:** General Ecology

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

Number of ECTS credits: 4

Recommended semester/trimester of the course:

Course level: II.

Prerequisities: (ÚBEV/ECE/15,ÚBEV/EP/14),(ÚBEV/FG1/03 and leboÚBEV/ZOG1/03)

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 17

A	B	C	D	E	FX
47.06	29.41	17.65	5.88	0.0	0.0

Provides:

Date of last modification: 03.05.2015

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚBEV/VEENV/14	**Course name:** General Ecology

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

Number of ECTS credits: 4

Recommended semester/trimester of the course:

Course level: II.

Prerequisities: (ÚBEV/ECE/15,ÚBEV/EP/14),(ÚGE/PAM/12 and leboÚGE/DPZ/15)

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 0

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

Provides:

Date of last modification: 03.05.2015

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/GB1/03	**Course name:** Geobotany

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

Number of ECTS credits: 4

Recommended semester/trimester of the course: 1.

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 37

A	B	C	D	E	FX
56.76	24.32	18.92	0.0	0.0	0.0

Provides: Ing. Richard Hrivnák, PhD.

Date of last modification: 21.02.2019

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚGE/ GNS/15	**Course name:** Global Navigation Satellite Systems

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

Number of ECTS credits: 5

Recommended semester/trimester of the course:

Course level: II.

Prerequisities:

Conditions for course completion:
The evaluation is based on a combination of the continuous control at the exercises and final exam. The continuous control is carried out during the exercises teaching in the form of tasks on the individual work with a share of 30 % of the final evaluation. To the final exam can sign student who obtained the evaluation at the minimum level of 16 % in the exercise. The resultant rating is a weighted average of the evaluation from the continuous control (maximum 30 %) and final exam (maximum 70 %). The credits will be awarded only to student who achieves rating at least at the grade level of E, i.e. he achieves the raiting of at least 51 %. achieves the evaluation at the minimum level of 51 % in the final evaluation.

Learning outcomes:
To acquire basic theoretical knowledge and practical experience of the global navigation satellite systems (GNSS) for a data collection methodology for geoinformatics.

Brief outline of the course:
GNSS in the context of geography and geoinformatics. GNSS, their nature and division. GPS - operating principle, the principles and characteristics; structure of GPS and its applications; surveying GPS technology, GPS instrumentation, data collection and transmission observed GPS data. The European satellite navigation system Galileo; positioning, navigation and timing services of the system Galileo; Galileo infrastructure; structure and applications of Galileo. Overview of other GNSS (GLONASS, BNSS, EGNOS, WAAS, MSAS, QZSS, IRNSS etc.).

Recommended literature:
DODEL, H., H. HÄUPLER, H., 2009. Satellitennavigation. 1st edition. Heidelberg-Dordecht-London-New York: Springer, 548p. ISBN 978-3-540-79446-1.
KAPLAN, E.D., HEGARTY, Ch.J., 2017. Understanding GPS/GNSS. 3rd ed. Boston/London: Artech House. 993p. ISBN 978-1-63081-058-0.
GROVES, P., 2008. Principles of GNSS: Inertial and Multisensor Integrated Navigation Systems. London: Artech House, 536p. ISBN 9781580532556.
HOFMANN-WELLENHOF, B., H. LICHTENEGGER and E. WASLE, 2008. GNSS – Global Navigation Satellite Systems: GPS, GLONASS, Galileo, and more. Wien: Springer-Verlag, 518p. eBook ISBN 978-3-211-73017-1, Softcover ISBN 978-3-211-73012-6.

LEICK, A., 1995: GPS Satellite Surveying. 2nd ed. New York: John Wiley & Sons, Inc., 560p. ISBN 0-471-30626-6.
LEICK, A., L. RAPOPORT, D. TATARNIKOV, 2015. GPS Satellite Surveying. 4th ed. 840p., Hoboken: John Wiley & Sons. ISBN 978-1-118-67557-1.
SEDLÁK, V., P. LOŠONCZI a I. PODLESNÁ, 2009: Družicové navigačné systémy. (in Slovak). [Satellite navigation systems]. Košice: VŠBM Košice, 75p. ISBN 978-80-89282-31-9.
SEDLÁK, V . a P. Lošonczi, 2011. Družicové navigačné systémy a ich bezpečnostné aplikácie. (in Slovak) [Satellite navigation systems and their security applications]. Košice: VŠBM Košice, 120p. ISBN 978-80-89282-66-1.
SEDLÁK, V., 2012. Globálne navigačné satelitné systémy pre bezpečnostný manažment. (in Slovak) [Satellite navigation systems for security management]. Košice: VŠBM Košice, 126p. ISBN 978-80-89282-83-8.
SEDLÁK, V., 2017. Globálne navigačné satelitné systémy. (in Slovak) [Global navigation satellite systems]. Košice: Univerzita Pavla Jozefa Šafárika v Košiciach, 157p. ISBN 978-80-8152-554-4. Available at: https://unibook.upjs.sk/sk/geografia/899-globalne-navigacne-satelitne-systemy;
http://geografia.science.upjs.sk/index.php/study/ucebnice-skripta-studijne-materialy
SEDLÁK, V., 2019. Globálne navigačné satelitné systémy pre geoinformatiku. (in Slovak) [Global navigation satellite systems for geoinformatics]. Košice: Univerzita P. J. Šafárika v Košiciach, ISBN 978-80-8152-770-8.
TEUNISSEN, P.J.G., O. MONTENBRUCK, 2017. Handbook of Global Navigation Satellite Systems. 1328p., Cham: Springer. ISBN 978-3-319-42926-7.
GEO INFORMATICS Journal, Vol. 2008-present.

Course language:
Slovak

Notes:
without notes

Course assessment
Total number of assessed students: 86

A	B	C	D	E	FX
76.74	16.28	5.81	1.16	0.0	0.0

Provides: prof. Ing. Vladimír Sedlák, PhD., Mgr. Štefan Kolečanský, doc. RNDr. Ján Kaňuk, PhD.

Date of last modification: 19.08.2020

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: KF/ 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 ECTS credits: 4

Recommended semester/trimester of the course:

Course level: I., II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 742

A	B	C	D	E	FX
60.78	13.88	12.67	8.63	3.37	0.67

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

Date of last modification: 25.03.2020

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ HDR1/99	**Course name:** Hydrobiology

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

Number of ECTS credits: 3

Recommended semester/trimester of the course: 1.

Course level: I., II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:
Abiotic and biotic factors of water environment; typology and characteristics of freshwater habitats; eutrophycation, pollution saprobity and evaluation of habitats with relation to abiotic factors.

Recommended literature:
Horn, A., Goldman, C.: Limnology. Mc Graw Hill. 2nd Edition, 1994
Wetzel, R.G.: Limnological analyses. Springer Verl., 3rd Edition, 2000

Course language:

Notes:

Course assessment
Total number of assessed students: 212

A	B	C	D	E	FX
39.62	21.23	18.4	19.34	1.42	0.0

Provides: doc. RNDr. Andrej Mock, PhD.

Date of last modification: 03.05.2015

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ CHHS/07	**Course name:** Hydrochemistry

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

Number of ECTS credits: 6

Recommended semester/trimester of the course: 1.

Course level: II.

Prerequisities:

Conditions for course completion:
Test / Exam

Learning outcomes:
Getting knowledge about the hydrochemistry.

Brief outline of the course:
Types of natural waters and their properties. Chemical content and properties of nature water. Surface waters. Chemical content and properties of surface waters. Fundamentals of aquatic chemistry. The hydrologic cycle. Mineral waters, their classification. Chemical content and properties of mineral waters. Underground water. Processes influencing the content of underground water. Sea water. Waste water. Content and properties of waste water. Basic strages of water analysis. Sampling. Physical properties of water. Methods of analysis of water chemical content. Biochemical oxygen demand. Dissolved oxygen. Distributing diagrams. Interaction of content of water and sediments. Test-methods in water analysis. Automatic monitoring stations. Sensor systems. Requirements for water quality.

Recommended literature:
1. Handbook of Water and Wastewater Treatment Technologies. Ed. By Nicholas P Cheremisinoff, Butterworth Heinemann, 2001. 576 p.
2. Principles of Water Quality Control, Ed. by Thy Tebbutt, Butterworth Heinemann, 1997. 288 p.
3. Water Technology. Ed. by N. F. Gray, Butterworth Heinemann, 2005. 600 p.

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 126

A	B	C	D	E	FX
29.37	18.25	15.87	18.25	18.25	0.0

Provides: prof. Mgr. Vasiľ Andruch, DSc., RNDr. Rastislav Serbin, PhD., RNDr. Lívia Kocúrová, PhD.
Date of last modification: 31.01.2020
Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: KF/ IH2/03	**Course name:** Idea Humanitas 2 (General Introduction)

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

Number of ECTS credits: 2

Recommended semester/trimester of the course: 3.

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 10

A	B	C	D	E	FX
90.0	10.0	0.0	0.0	0.0	0.0

Provides: Doc. PhDr. Peter Nezník, CSc.

Date of last modification: 12.02.2021

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ ACPE1/03	**Course name:** Industrial Ecology

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

Number of ECTS credits: 5

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

Course level: I., II.

Prerequisities:

Conditions for course completion:
On the basis of the written tests and seminary work.
On the basis of the continuous assessment and examination.

Learning outcomes:
The concept of industrial ecology in the frame of environmental chemistry.

Brief outline of the course:
The concept of industrial ecology.
Selected topics of environmental chemistry in the context of industrial ecology.
Selected topics of industrial, clinical toxicology and ecotoxicology.

Recommended literature:
S. E. Manahan: Industrial Ecology., CRC Press, New York, 1999.
S. E. Manahan: Environmental Chemistry. , CRC Press, New York, 2005.

Course language:

Notes:

Course assessment
Total number of assessed students: 158

A	B	C	D	E	FX
25.95	19.62	25.32	15.82	12.66	0.63

Provides: doc. Ing. Viera Vojteková, PhD.

Date of last modification: 01.02.2020

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚGE/ ISU/12	**Course name:** Information systems on territory

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

Number of ECTS credits: 4

Recommended semester/trimester of the course:

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 243

A	B	C	D	E	FX
62.14	21.4	7.0	7.82	1.65	0.0

Provides: prof. Mgr. Jaroslav Hofierka, PhD., Mgr. Ondrej Tokarčík

Date of last modification: 20.09.2020

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ MMU/03	**Course name:** Macromolecular Chemistry

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

Number of ECTS credits: 4

Recommended semester/trimester of the course: 1.

Course level: II.

Prerequisities:

Conditions for course completion:
Test.
Presentation.
Examination

Learning outcomes:
To make students familiar with available structures of polymers and their synthesis methods as well as with structure reflection in their properties.

Brief outline of the course:
Fundamental aspects of chemical composition of polymers-monomers, shape and the relationship between structure and properties. Primary, secondary, tertiary and quaternary structures. Thermal transition. Chain polyreactions. Step polyreactions. Synthetic methods of functional polymers and their characterisation. Naturally occurring polymers, their properties. Degradation of polymers. Molecular mass distributions. Determination of molecular mass of macromolecules. Polymers and environment.

Recommended literature:
H.-G Elias: Macromolecules, Volume 1 (Structure and Properties); Volume 2 (Synthesis, Materials, and Technology), Plenum Press, New York 1984
W.J. Moore: Physical Chemistry, Longman, London 1972
P. Munk: Introduction to Macromolecular Science, John Wiley & Sons, New York 1989
P.W. Atkins: Physical Chemistry, Oxford University Press, Oxford, New York 2002

Course language:

Notes:

Course assessment
Total number of assessed students: 24

A	B	C	D	E	FX
58.33	16.67	16.67	8.33	0.0	0.0

Provides: RNDr. Andrea Morovská Turoňová, PhD., prof. RNDr. Renáta Oriňaková, DrSc.

Date of last modification: 29.03.2021
Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ MCV1/03	**Course name:** Methods of Chemical Research

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

Number of ECTS credits: 5

Recommended semester/trimester of the course: 2.

Course level: II., III.

Prerequisities:

Conditions for course completion:
The students are expected to actively participate in seminars by demonstrating solutions to selected problems (a presentation of a real problem) in front of their course-fellows.
Examination

Learning outcomes:
To make students known with the physicochemical parameters´means of measurement, evaluation, and interpretation for the study of the process, i.e. the rate of reaction, mechanism, intermediates and final products in both homogeneous and heterogeneous systems.

Brief outline of the course:
Overview of basic principles of the determination of physicochemical quantities (dissociation constant, activity coefficient, solubility product, stability constant of complex, diffusion coefficient). Calorimetry and its utilisation. Experimental methods in kinetics. The Butler-Volmer equation. Survey of selected key topics in colloid chemistry. Adsorption-BET equation. Determination of molecular mass of macromolecules. A discussion of topics selected from active research fields.

Recommended literature:
W.J. Moore: Physical Chemistry, Longman Group Limited, London 1972
H. H. Willard et al.: Instrumental Methods of Analysis, Wadsworth, Belmont 1988
J. Koryta, J. Dvořák, L. Kavan: Principles of Electrochemistry, John Wiley & Sons, New York 1993
P.W. Atkins: Physical Chemistry, Oxford University Press, Oxford, New York 2002
D. Kladeková: Supportive Textbooks in Course: Methods of Chemical Research, The ESF project no. SOP HR 2005/NP1-051 11230100466, Košice 2008

Course language:

Notes:

Course assessment
Total number of assessed students: 42

A	B	C	D	E	FX	N	P
52.38	28.57	2.38	4.76	0.0	0.0	0.0	11.9

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

Date of last modification: 20.09.2017

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/MECV/16	**Course name:** Metódy ekologického výskumu cicavcov

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

Number of ECTS credits: 3

Recommended semester/trimester of the course: 2.

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 0

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

Provides: doc. RNDr. Marcel Uhrin, PhD.

Date of last modification: 09.11.2016

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚGE/OPS/15	**Course name:** Open Source GIS

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

Number of ECTS credits: 3

Recommended semester/trimester of the course:

Course level: II.

Prerequisities:

Conditions for course completion:
During the semester, students will need to hand in the outputs of the practicals. The resulting assessment is based on the final practical skills verification and delivery of the outputs of practicals. From the practical skills verification, students must obtain at least 90 points to get the A mark, at least 80 points to get B, at least 70 points to get C, at least 60 points to get D, at least 50 points to get E. The credits shall not be granted to a student who does not hand in one or more outputs of the practicals or he/she will get less than 50 points out of 100.

Learning outcomes:
The main learning outcomes include practical skills in advanced geodata processing in open source GIS software. In particular, the skills involve data edtiting and advanced raster analyses with digital terrain models.

Brief outline of the course:
Key concepts and historical background of the open source idea, terminology and definitions. Input and graphics of a data layer, selection of the features within the data layer, creation of a new layer in Quantum GIS. Editing of the attribute table and joining external tables, cartogram and cartodiagram in Quantum GIS. Quantum GIS plug-ins, WMS and map composer. Installation and data import in GRASS GIS, generating map layouts. Basic operations with vector data in GRASS GIS. Basic operations with raster data sets in GRASS GIS. Digital terrain modelling in GRASS GIS, geomorphometric analysis. Map algebra, water flow modelling, watershed modelling. 3-D/4-D visualisation in GRASS GIS.

Recommended literature:
NETELER, M., MITASOVA, H. 2008:Open Source GIS: A GRASS GIS Approach. New York(Springer Verlag).
SHERMAN, G.E. 2008: Desktop GIS: Mapping the Planet with Open Source Tools. Raleigh, NC, USA (Pragmatic Bookshelf).
QGIS 2013: QGIS Documentation. http://www.qgis.org/en/docs/index.html
GRASS GIS 2013: GRASS Wiki. http://grass.osgeo.org/wiki/GRASS-Wiki

Course language:

Notes:

Course assessment
Total number of assessed students: 65

A	B	C	D	E	FX
81.54	9.23	0.0	0.0	9.23	0.0

Provides: doc. Mgr. Michal Gallay, PhD., doc. RNDr. Ján Kaňuk, PhD., Mgr. Ján Šašak, PhD.

Date of last modification: 03.05.2015

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/PAR1/03	**Course name:** Parasitology 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 ECTS credits: 6

Recommended semester/trimester of the course: 1.

Course level: I., II., III.

Prerequisities: ÚBEV/ZOM/04 and leboÚBEV/ZO1/03 and leboÚBEV/ZO1/04

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 441

A	B	C	D	E	FX	N	P
51.93	19.95	12.7	10.43	3.17	0.68	0.0	1.13

Provides: RNDr. Viktória Majláthová, PhD., RNDr. Igor Majláth, PhD.

Date of last modification: 05.07.2021

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ PAR2/03	**Course name:** Parasitology II

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

Number of ECTS credits: 3

Recommended semester/trimester of the course: 2.

Course level: II., III.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 62

A	B	C	D	E	FX	N	P
77.42	9.68	6.45	1.61	0.0	1.61	0.0	3.23

Provides: RNDr. Viktória Majláthová, PhD.

Date of last modification: 14.05.2021

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚGE/FYG1/03	**Course name:** Physical geography 1

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

Number of ECTS credits: 5

Recommended semester/trimester of the course: 1.

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:
Hydrology of the running water, genesis and development of river basins, measuring of water and its flow. Genesis and the main types of lakes, temperatures, water movements. Sea and water currents, its chemical properties, relief of the sea-floor. Subsurface waters, glaciers.
In the section of soil science and soil geography, physical and chemical nature of soils will be treated as well as actual and presently used systens of the soil classification. Distribution of different soil types in the world and Slovakia, principles of the soil zonality.

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 660

A	B	C	D	E	FX
2.42	4.7	18.64	28.33	38.48	7.42

Provides: RNDr. Dušan Barabas, CSc., RNDr. Alena Gessert, PhD.

Date of last modification: 16.09.2017

Approved:

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 ECTS credits: 5

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

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:

Notes:

Course assessment
Total number of assessed students: 374

A	B	C	D	E	FX
39.04	22.46	21.12	8.29	8.29	0.8

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

Date of last modification: 03.05.2015

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/EKR1/03	**Course name:** Plant Ecology

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

Number of ECTS credits: 6

Recommended semester/trimester of the course: 2.

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:
Introduction to Plant Ecology.

Brief outline of the course:
Basic problems of plant integration in the environment, ecology of plant populations, interactions between individuals and population, dynamics of the populations. Interactions between productivity of populations and synecology. Ecology of communities and ecosystems.

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 252

A	B	C	D	E	FX
73.81	16.27	5.95	2.38	1.59	0.0

Provides: prof. RNDr. Martin Bačkor, DrSc.

Date of last modification: 03.05.2015

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/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 ECTS credits: 4

Recommended semester/trimester of the course: 1.

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:

Notes:

Course assessment
Total number of assessed students: 351

A	B	C	D	E	FX
73.5	21.08	4.56	0.57	0.28	0.0

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

Date of last modification: 12.05.2021

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/PEE/15	**Course name:** Praktikum z evolučnej ekológie

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 ECTS credits: 2

Recommended semester/trimester of the course: 1.

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 3

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

Provides: Mgr. Peter Kaňuch, PhD.

Date of last modification: 03.05.2015

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: KPPaPZ/PPZMg/12	**Course name:** Psychology and Health Psychology (Master´s Study)

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

Number of ECTS credits: 4

Recommended semester/trimester of the course:

Course level: II.

Prerequisities:

Conditions for course completion:
Conditions for the continuous assessment during the semester:
Active work (maximum 5 points, 2 absences are allowed).
Preparation, presentation and discussion on a selected topic - max. 15 points.
Written examination (maximum 30 points).
Conditions for admission to the exam: min. 25 points.
Conditions for the final assessment:
Exam: written form (max. 50 points, min. 25 points)
Conditions for successful completion of the course: participation in lessons, fulfillment of assignments and at least 66 points from the overall evaluation.
Detailed information in the electronic bulletin board of the course in AIS2. The teaching of the subject will be realized by a combined method.

Learning outcomes:
The student will understand the basic concepts and theories of health psychology, can explain salutogenic factors as well as the consequences of risk behavior related to health. He is able to apply the knowledge especially in the field of prevention of burnout syndrome and support of mental health in the work of a teacher.

Brief outline of the course:
1 Introduction to health psychology
2 Psychoimmunology
3 Personality factors and health
4 Social support as a protective factor in relation to health
5 Subjective well-being
6 Stress and stressful situations and ways to manage them
7 Burnout syndrome
8 Health-promoting behavior, mental hygiene
9 Health risk behavior
10 School as an important factor of health

Recommended literature:
Křivohlavý, J.: Psychologie zdraví. Portál, Praha 2001.

Křivohlavý, J.: Psychologie nemoci. Grada, Praha, 2002.
Křivohlavý, J.: Psychologie moudrosti a dobrého života. Grada, Praha, 2009.
Kebza, V.: Psychosociální determinanty zdraví. Academia, Praha 2005.
Kahneman, D., Diener, E., Schwarz, N.(Eds), Well-Being. The Foundations of Hedonic Psychology. New York, Russell Sage Foundation, 2003.
Kaplan, R. M.: Zdravie a správanie človeka. SPN, Bratislava 1996.
Sarafino, E. P.: Health Psychology. Biopsychosocial interactions. John Wiley and sons 1994.
Baštecký, J., Šavlík, J., Šimek, J. 1993. Psychosomatická medicína. Praha: Grada
Tress, W., Krusse, J., Ott,J.: Základní psychosomatická péče. Portál, Praha 2008.

Course language:
slovak

Notes:

Course assessment
Total number of assessed students: 226

A	B	C	D	E	FX
19.47	25.22	25.66	13.27	15.93	0.44

Provides: PhDr. Anna Janovská, PhD., Mgr. Lucia Barbierik, PhD.

Date of last modification: 07.07.2021

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/REK1/01	**Course name:** Radiation 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 ECTS credits: 3

Recommended semester/trimester of the course: 3.

Course level: II.

Prerequisities:

Conditions for course completion:
Oral examination.

Learning outcomes:
To provide the students with a basic knowledge about the effects of ionizing radiation on living systems.

Brief outline of the course:
Biologicaly important radionuclides. Natural sources of ionizing radiation. Artificial radioisotopes and the paths of thier entrance into the biosphere. Radioactive compounds in the food chains. Entrance, cummulation and excretion of radioactive substances in animals. Biological effects of ionizing radiation.

Recommended literature:
Coggle, J.E.: Biological Effects of Radiation. Taylor and Francis LTD, London, 1983
Hall, E.J.: Radiobiology for the Radiologist. J.B. Lippincott Company, Philadelphia, 1988

Course language:

Notes:

Course assessment
Total number of assessed students: 17

A	B	C	D	E	FX
29.41	29.41	35.29	5.88	0.0	0.0

Provides: prof. RNDr. Beňadik Šmajda, CSc.

Date of last modification: 03.05.2015

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚGE/ DPZ/15	**Course name:** Remote Sensing

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

Number of ECTS credits: 6

Recommended semester/trimester of the course:

Course level: II.

Prerequisities:

Conditions for course completion:
During the semester, students will need to hand in the outputs of the practicals. The resulting assessment is based on the final exam, which the student can undertake if he/she handed in all the required outputs of the practical according to the given criteria. The final exam is a combination of a written test and an oral examination. The student must obtain at least 90 points to get the A mark, at least 80 points to get B, at least 70 points to get C, at least 60 points to get D, at least 50 points to get E. The credits shall not be granted to a student who does not hand in one or more outputs of the practicals or he/she will get less than 50 points out of 100.

Learning outcomes:
The learning outcomes comprise knowledge on remote sensing methods, ability to judge appropriatness of particular remote sensing methods for geographical applications, skills of processing the remote sensing data and their interpretation.

Brief outline of the course:
Lectures:
Introduction, key concepts, historical background of remote sensing methods. Physical principles –electromagnetic energy (EME), its properties and spectral characteristics. Interaction of EME – scattering, spectral behaviour, absorption. Spectral, temporal, spatial and radiometric resolution. Analogue image interpretation. Global navigation satellite systems. Phtogrammetry. Multispectral scanning. Active systems. Airborne laser scanning. Terrestrial laser scanning. Radar remote sensing.
Practicals:
Web-based data sources of remotely sensed data. Physical properties of the EME. Spectral behaviours of particular objects. Geometric parameters of aerial imagery. Planning an airborne photogrammetric and laser scanning mission. Image adjustment and false colour composite imagery. Supervised and unsupervised image classification. The work on practicals expects basic GIS skills.

Recommended literature:
ŽELEZNÝ, M. (2012): Dálkový průzkum Země (skriptá), Západočeská univerzita v Plzni, Katedra kybernetiky. 93 s. URL: http://www.kky.zcu.cz/uploads/courses/dpz/DPZ-prednasky.pdf

CANADIAN CENTRE FOR REMOTE SENSING (2012): Fundamentals of Remoste Sensing (učebný text v angličtine, in English), 256 s. URL: http://www.nrcan.gc.ca/earth-sciences/geography-boundary/remote-sensing/fundamentals/1430.
BITTERER, L. (2005): Fotogrametria. Interné učebné texty z geodézie, fotogrametrie, katastrálneho mapovania. URL: http://svf.uniza.sk/kgd/literatura.html
HALOUNOVÁ L., PAVELKA K. (2005): Dálkový průzkum Země. Skriptá, ČVUT Praha, ISBN 80-01-03124-1. 192 s.
ŽÍHLAVNÍK, Š., SCHEER, Ľ., 2001: Diaľkový prieskum Zeme v lesníctve. TU Zvolen, 289 s.
KOLÁŘ J., HALOUNOVÁ L., Pavelka K. (1997): Dálkový průzkum Země. Skriptá, ČVUT Praha, 164 s.
DOBROVOLNÝ, P. (1998). Dálkový průzkum Země. Digitální zpracování obrazu. Masarykova Univerzita, Brno.
LILLESAND, T.M., KIEFER, R.W., CHIPMAN, J.W. (2015). Remote Sensing and Image Interpretation. 7. Vydanie, New York, USA (Wiley),756 s.
JENSEN, R. J. (2006): Remote Sensing: An Earth Resource Perspective. 2. vydanie, New Jersey, USA (Prentice Hall), 608 s.
CAMPBELL, J.B., WYNNE, R.H. (2011). Introduction to Remote Sensing. New York, USA (Guilford), 667 s.

Course language:
Slovak, Czech, English

Notes:

Course assessment
Total number of assessed students: 157

A	B	C	D	E	FX
22.93	26.11	34.39	10.83	5.1	0.64

Provides: doc. Mgr. Michal Gallay, PhD., Mgr. Katarína Onačillová, PhD., Mgr. Daniela Laubertová

Date of last modification: 16.09.2017

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚGE/ RUR/15	**Course name:** Rural Geography

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

Number of ECTS credits: 4

Recommended semester/trimester of the course:

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 359

A	B	C	D	E	FX
39.55	32.87	18.11	6.69	2.23	0.56

Provides: Mgr. Marián Kulla, PhD., doc. Mgr. Ladislav Novotný, PhD., doc. RNDr. Ján Kaňuk, PhD., Mgr. Jozef Bogľarský

Date of last modification: 01.04.2020

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ AVZ1/02	**Course name:** Sampling of Analytical Samples

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

Number of ECTS credits: 5

Recommended semester/trimester of the course: 2.

Course level: II.

Prerequisities:

Conditions for course completion:
Examination.

Learning outcomes:

Brief outline of the course:
Analytical sample, characterisation. Sampling and norms effecting sampling process. Quantity, number of samples. Sampling techniques. Sampling laboratory equipment. Sampling techniques. Sample pre-concentration. Sample storing and conservation. Matrix simplifying, specific analysis. Chromatographic sample pre-treatment.

Recommended literature:
O. Stoeppler: Sampling and Sample Preparation Practical Guide for Analytical Chemists. Academic Press, London, 2002.
E. P. Popek: Sampling and Analysis of Environmental Chemical Pollutants. Elsevier Science, San Diego, 2003.

Course language:

Notes:

Course assessment
Total number of assessed students: 195

A	B	C	D	E	FX
60.51	21.54	12.82	4.1	1.03	0.0

Provides: prof. RNDr. Andrej Oriňak, PhD., Mgr. Mária Sabalová, PhD.

Date of last modification: 26.09.2017

Approved:

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: combined, present

Number of ECTS 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:

Notes:

Course assessment
Total number of assessed students: 41

abs	n
12.2	87.8

Provides: Mgr. Agata Horbacz, PhD.
Date of last modification: 15.03.2019
Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ VKH1/03	**Course name:** Selected topics in herpetology

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

Number of ECTS credits: 4

Recommended semester/trimester of the course: 2.

Course level: II., III.

Prerequisities:

Conditions for course completion:
Field excursion
Oral examination.

Learning outcomes:
To broaden the knowledge of students on evolution, taxonomy, morphology, ecology and ecology of reptiles aquired before in the subject Zoology.

Brief outline of the course:
Systematical overview of amphibia and reptilia with a classification on species level. Phylogenetical development of amphibia and reptilia. Charcteristics of morphological and ecophysiological adaptations. Adaptaions on the significant abiotic and biotic factors (food, tepmerature,substrate, humidity, etc.). Selected aspects of population dynamics of some groups. Behavioral manifestations of amphibia and reptilia from a comparative aspect.

Recommended literature:
1. BARUŠ V. a kol.: Reptiles-Reptilia (Fauna of the ČSFR),Prague, 1992 (in Czech)
2. BARUŠ V. a kol.: Amphibia (Fauna of the ČSFR). Prague,1992. (in Czech)
3. OLIVA O., HRABĚ S., LÁC J. : Vertebrates of Slovakia I. Bratislava, 1968 (in Slovak
4. ROČEK Z.: Studies in Herpetology. Praha, 1986.
5. ZWACH I. : Our species of amphibia and reptilia on the photograph. Prague,1990.
6. DIESENER G., REICHHOLF J.: Amphibia and reptilia. Bratislava,1997

Course language:

Notes:

Course assessment
Total number of assessed students: 147

A	B	C	D	E	FX	N	P
90.48	4.76	2.72	0.0	0.0	0.0	0.0	2.04

Provides: RNDr. Igor Majláth, PhD., RNDr. Natália Pipová, PhD.

Date of last modification: 16.05.2021

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ SDP/03	**Course name:** Seminar to Diploma Thesis

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

Number of ECTS credits: 2

Recommended semester/trimester of the course: 4.

Course level: II.

Prerequisities:

Conditions for course completion:
Consultations, discussions and presentations.
Assessment of student's work during the semester by supervisor.

Learning outcomes:
Teach the student to prepare presentation of his own results, critical acceptation of information, participate in scientific discussion and formal requirements of written diploma work.

Brief outline of the course:
Presentation of literature information and own experimental results, scientific discussions and writing of scientific text.

Recommended literature:
According to the field of diploma work.

Course language:

Notes:

Course assessment
Total number of assessed students: 329

A	B	C	D	E	FX
95.74	2.13	1.22	0.3	0.3	0.3

Provides: RNDr. Martin Vavra, PhD., doc. RNDr. Andrea Straková Fedorková, PhD., prof. RNDr. Mária Kožurková, CSc., prof. RNDr. Juraj Černák, DrSc., prof. Dr. Yaroslav Bazeľ, DrSc., prof. RNDr. Andrej Oriňak, PhD., prof. RNDr. Vladimír Zeleňák, DrSc., doc. RNDr. Zuzana Vargová, Ph.D., doc. RNDr. Ivan Potočňák, PhD., doc. RNDr. Taťána Gondová, CSc., doc. RNDr. Katarína Reiffová, PhD., prof. Mgr. Vasiľ Andruch, DSc., prof. RNDr. Renáta Oriňaková, DrSc., RNDr. Miroslava Matiková Maľarová, PhD., doc. RNDr. Juraj Kuchár, PhD., RNDr. Andrea Morovská Turoňová, PhD., RNDr. Lívia Kocúrová, PhD., doc. RNDr. Miroslav Almáši, PhD.

Date of last modification: 20.09.2017

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: KPPaPZ/SPVKE/07	**Course name:** Social-Psychological Training of Coping with Critical Life Situations

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

Number of ECTS credits: 2

Recommended semester/trimester of the course: 2.

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 126

abs	n	z
97.62	2.38	0.0

Provides: Mgr. Ondrej Kalina, PhD.

Date of last modification: 11.02.2021

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ EKP1/04	**Course name:** Soil Ecology

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

Number of ECTS credits: 5

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

Course level: II.

Prerequisities:

Conditions for course completion:
active participation in the seminars
preparation of oral presentation to the selected topic
semestral written test

Learning outcomes:
The main goal of the subject is to understand soil as a heterogenous substrate and environment for the organisms with special emphasis to the mineral and organic components of the soil essential for existence and development of populations of the living biota.

Brief outline of the course:
The subject covers characterization of components of the soil environment, microclimate, nutrient cycling and energy flow. It deals with soil-forming factors and processes, soil organisms microbial communities, plant roots, invertebrate communities) and functioning of the soil system (decomposition, litter system, rhizosphere, drillosphere, termitosphere).

Recommended literature:
Coleman D. C., Crossley D. A. jr.: Fundamentals of soil ecology. Academic Press, 1995
Dunger W., Fiedler H. J.: Methoden in Bodenbiologie. VEB Gustav Fischer Verlag, Jena, 1989
Lavelle P. Spain A. V.: Soil ecology. Kluwer Academic Publishers. Dordrecht-Boston-London, 2001

Course language:

Notes:

Course assessment
Total number of assessed students: 163

A	B	C	D	E	FX
55.83	31.29	9.82	1.84	1.23	0.0

Provides: RNDr. Peter Ľuptáčik, PhD.

Date of last modification: 03.05.2015

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚGE/ PAM/12	**Course name:** Spatial analyses and modelling

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

Number of ECTS credits: 4

Recommended semester/trimester of the course: 1.

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 186

A	B	C	D	E	FX
37.1	28.49	19.89	9.14	4.84	0.54

Provides: prof. Mgr. Jaroslav Hofierka, PhD., Mgr. Jozef Šupinský, PhD.

Date of last modification: 03.05.2015

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ VSE1a/04	**Course name:** Special Seminar

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

Number of ECTS credits: 2

Recommended semester/trimester of the course: 1.

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:
Actual problems of physical and analytical chemistry which are connected with the solution of the students theses.

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 48

A	B	C	D	E	FX
89.58	4.17	2.08	2.08	2.08	0.0

Provides: prof. Dr. Yaroslav Bazeľ, DrSc., doc. RNDr. Katarína Reiffová, PhD., doc. RNDr. Taťána Gondová, CSc., doc. Ing. Viera Vojteková, PhD., prof. Mgr. Vasiľ Andruch, DSc., doc. RNDr. Andrea Straková Fedorková, PhD., prof. RNDr. Andrej Oriňak, PhD., prof. RNDr. Renáta Oriňaková, DrSc., RNDr. Andrea Morovská Turoňová, PhD., RNDr. Rastislav Serbin, PhD.

Date of last modification: 03.05.2015

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ VSE1b/04	**Course name:** Special Seminar

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

Number of ECTS credits: 2

Recommended semester/trimester of the course: 2.

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:
Actual problems of physical and analytical chemistry which are connected with the solution of the students theses.

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 46

A	B	C	D	E	FX
91.3	2.17	4.35	2.17	0.0	0.0

Provides: prof. Dr. Yaroslav Bazeľ, DrSc., doc. RNDr. Andrea Straková Fedorková, PhD., prof. RNDr. Andrej Oriňak, PhD., doc. Ing. Viera Vojteková, PhD., doc. RNDr. Katarína Reiffová, PhD., prof. RNDr. Renáta Oriňaková, DrSc., doc. RNDr. Taťána Gondová, CSc., prof. Mgr. Vasiľ Andruch, DSc., RNDr. Andrea Morovská Turoňová, PhD., RNDr. Rastislav Serbin, PhD., RNDr. Jana Šandrejová, PhD.

Date of last modification: 03.05.2015

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: 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: combined, present

Number of ECTS credits: 2

Recommended semester/trimester of the course: 1.

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

Prerequisities:

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

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

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

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 12859

abs	abs-A	abs-B	abs-C	abs-D	abs-E	n	neabs
87.01	0.08	0.0	0.0	0.0	0.04	8.1	4.77

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

Date of last modification: 13.05.2021

Approved:

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: combined, present

Number of ECTS credits: 2

Recommended semester/trimester of the course: 2.

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

Prerequisities:

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

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

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

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 11675

abs	abs-A	abs-B	abs-C	abs-D	abs-E	n	neabs
84.52	0.56	0.02	0.0	0.0	0.05	10.63	4.22

Provides: Mgr. Agata Horbacz, PhD., Mgr. Dávid Kaško, PhD., Mgr. Zuzana Küchelová, PhD., doc. PaedDr. Ivan Uher, PhD., prof. RNDr. Stanislav Vokál, DrSc., Mgr. Marcel Čurgali, Mgr. Patrik Berta, Mgr. Ladislav Kručanica, PhD., Bc. Richard Melichar, Mgr. Petra Tomková, PhD.
Date of last modification: 13.05.2021
Approved:

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: combined, present

Number of ECTS credits: 2

Recommended semester/trimester of the course: 3.

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

Prerequisities:

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

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

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

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 7873

abs	abs-A	abs-B	abs-C	abs-D	abs-E	n	neabs
88.8	0.05	0.01	0.0	0.0	0.03	4.08	7.04

Provides: Mgr. Marcel Čurgali, Mgr. Agata Horbacz, PhD., Mgr. Dávid Kaško, PhD., Mgr. Zuzana Küchelová, PhD., doc. PaedDr. Ivan Uher, PhD., prof. RNDr. Stanislav Vokál, DrSc., Mgr. Patrik Berta, Mgr. Ladislav Kručanica, PhD., Bc. Richard Melichar, Mgr. Petra Tomková, PhD.
Date of last modification: 13.05.2021
Approved:

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: combined, present

Number of ECTS credits: 2

Recommended semester/trimester of the course: 4.

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

Prerequisities:

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

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

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

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 5125

abs	abs-A	abs-B	abs-C	abs-D	abs-E	n	neabs
83.14	0.31	0.04	0.0	0.0	0.0	7.75	8.76

Provides: Mgr. Marcel Čurgali, Mgr. Agata Horbacz, PhD., Mgr. Dávid Kaško, PhD., Mgr. Zuzana Küchelová, PhD., doc. PaedDr. Ivan Uher, PhD., prof. RNDr. Stanislav Vokál, DrSc., Mgr. Patrik Berta, Mgr. Ladislav Kručanica, PhD., Bc. Richard Melichar, Mgr. Petra Tomková, PhD.
Date of last modification: 13.05.2021
Approved:

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 ECTS credits: 4

Recommended semester/trimester of the course: 2.

Course level: I., II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 289

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

Provides:

Date of last modification: 03.05.2015

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/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 ECTS credits: 4

Recommended semester/trimester of the course: 2.

Course level: I., II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 36

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

Provides:

Date of last modification: 03.05.2015

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: 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 ECTS 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:	
Notes:	

Course assessment Total number of assessed students: 153	
abs	n
45.75	54.25
Provides: Mgr. Dávid Kaško, PhD.	
Date of last modification: 18.03.2019	
Approved:	

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:** combined, present	
Number of ECTS 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:	
Notes:	

Course assessment Total number of assessed students: 393	
abs	n
44.53	55.47
Provides: MUDr. Peter Dombrovský, Mgr. Ladislav Kručanica, PhD.	
Date of last modification: 15.03.2019	
Approved:	

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/UK/17	**Course name:** Urbánna ekológia

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

Number of ECTS credits: 3

Recommended semester/trimester of the course: 2.

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 21

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

Provides: doc. RNDr. Marcel Uhrin, PhD.

Date of last modification: 27.02.2017

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ MSO1/03	**Course name:** Wastes Treatment Methods

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

Number of ECTS credits: 4

Recommended semester/trimester of the course: 1.

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:
Wastes clasiffication, wastes separation. Re-cycling of wastes, methods of wastes elimination and re-finishing. Pyrolysis, degradation of wastes by pyrolysis, process optimization.Analytical methods for wastes analysis. Monitoring of wastes degradation pollutants, toxicity of wastes and degradation products.

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 70

A	B	C	D	E	FX
71.43	25.71	2.86	0.0	0.0	0.0

Provides: prof. RNDr. Andrej Oriňak, PhD., Mgr. Mária Sabalová, PhD., Mgr. Ján Macko, PhD.

Date of last modification: 26.09.2017

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ ATV1/04	**Course name:** Water Pretreatment

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

Number of ECTS credits: 6

Recommended semester/trimester of the course: 2.

Course level: II.

Prerequisities:

Conditions for course completion:
Test / Exam

Learning outcomes:
Getting a knowledge about the methods of water pretreatment.

Brief outline of the course:
Disinfection of drinking water. Fluoridation of drinking water. Water softening and demineralisation. Waste water. Neutralization of wastewater. Oxidation of wastewater. Physico–chemical methods of waste water treatment. Biological treatment of wastewater.

Recommended literature:
1. Handbook of Water and Wastewater Treatment Technologies. Ed. By Nicholas P Cheremisinoff, Butterworth Heinemann, 2001. 576 p.
2. Principles of Water Quality Control, Ed. by Thy Tebbutt, Butterworth Heinemann, 1997. 288 p.
3. Water Technology. Ed. by N. F. Gray, Butterworth Heinemann, 2005. 600 p.

Course language:
Slovak

Notes:

Course assessment
Total number of assessed students: 178

A	B	C	D	E	FX
37.64	15.73	17.42	17.42	11.8	0.0

Provides: prof. Mgr. Vasiľ Andruch, DSc.

Date of last modification: 31.01.2020

Approved:

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 ECTS credits: 6

Recommended semester/trimester of the course: 1.

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:

Notes:

Course assessment
Total number of assessed students: 948

A	B	C	D	E	FX
23.95	23.31	24.26	18.78	7.91	1.79

Provides: prof. RNDr. Ľubomír Kováč, CSc.

Date of last modification: 05.10.2017

Approved:

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ZOO1/11	**Course name:** Zoológia II (pre magisterské štúdium)

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

Number of ECTS credits: 5

Recommended semester/trimester of the course:

Course level: II.

Prerequisities: ÚBEV/ZO1/04

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment
Total number of assessed students: 61

A	B	C	D	E	FX
24.59	32.79	19.67	9.84	13.11	0.0

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

Date of last modification: 03.05.2015

Approved: