COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: KFaDF/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 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:

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: 31.08.2017

Approved: Guaranteeprof. RNDr. Martin Bačkor, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ BFR/14	**Course name:** Botany and Plant Physiology

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

Number of credits: 4

Recommended semester/trimester of the course:

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Course assessment
Total number of assessed students: 19

A	B	C	D	E	FX
47.37	21.05	21.05	5.26	5.26	0.0

Provides:

Date of last modification: 23.02.2018

Approved: Guaranteeprof. RNDr. Martin Bačkor, DrSc.

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 credits: 3

Recommended semester/trimester of the course:

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:

Course assessment
Total number of assessed students: 386

A	B	C	D	E	FX	N	P
96.63	0.0	0.0	0.0	0.0	0.0	0.0	3.37

Provides: prof. RNDr. Martin Bačkor, DrSc.

Date of last modification: 23.02.2018

Approved: Guaranteeprof. RNDr. Martin Bačkor, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ BTR1/06	**Course name:** Plant Biotechnology

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

Number of credits: 6

Recommended semester/trimester of the course:

Course level: I., II., III.

Prerequisities:

Conditions for course completion:
Active participation at the practicals, written test, protocols,
oral examination

Learning outcomes:
To gain theoretical and practical knowledge on plant tissue culture in vitro.

Brief outline of the course:
History of plant tissue culture. Genetics and physiology of plant cell and tissue culture, protoplasts, embryoids and organs cultured in vitro under sterile conditions. Use of the tissue culture in research and praxis. Cryopreservation of plant cells and tissues. Immobilised plant systems. Genetic transformation of plants and expression of foreign genes.

Recommended literature:
Slater A. et al.: Plant Biotechnology. Oxford University Press 2008, 376 pp.
Wink M. (Ed.): An Introduction to Molecular Biotechnology. Willey-Blackwell, 2011, 601 pp.
Periodicals and Internet sources

Course language:

Course assessment
Total number of assessed students: 144

A	B	C	D	E	FX	N	P
38.19	18.75	14.58	8.33	11.81	3.47	0.0	4.86

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

Date of last modification: 23.02.2018

Approved: Guaranteeprof. RNDr. Martin Bačkor, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ CK1/03

Course name: Cytogenetics and Karyology

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

Number of credits: 4

Recommended semester/trimester of the course:

Course level: II., III.

Prerequisities:

Conditions for course completion:
written tests,
protocols,
oral examination

Learning outcomes:
To gain knowledge and experience in genetic processes at the cell level using the newest scientific findings of cytogenetics and moleculoar cytology. To get acquainted in detail with the results comming from human genome mapping.

Brief outline of the course:
Organisation of eukaryotic genome. Nuclear skeleton. Nucleolus, nucleolar skeleton. Chromatin structure and changes of chromatin. Levels of DNA organisation in cell nucleus. Chromosomes. Polythene chromosomes. Cell cycle. Genetic regulation of a cell cycle. Genetic regulation of cell differentiation. Apoptosis. Telomeres and function of telomerase. Molecular cytology. Basic characteristics of the Human genom project - what we can learn from it?

Recommended literature:
Russel, J.P.: Genetics, Third Edition, Harper Collins Publisher,
New York 1992
Periodicals
Internet sources

Course language:

Course assessment
Total number of assessed students: 1207

A	B	C	D	E	FX	N	P
24.86	14.66	15.49	14.83	17.4	11.76	0.0	0.99

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

Date of last modification: 23.02.2018

Approved: Guaranteeprof. RNDr. Martin Bačkor, DrSc.

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 credits: 5

Recommended semester/trimester of the course:

Course level: II., III.

Prerequisities:

Conditions for course completion:
Oral examination.

Learning outcomes:
To outline the problematics of the time organisation of biological processes and their significance in evolution of living organisms

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:

Course assessment
Total number of assessed students: 86

A	B	C	D	E	FX	N	P
22.09	22.09	29.07	11.63	4.65	0.0	0.0	10.47

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

Date of last modification: 23.02.2018

Approved: Guaranteeprof. RNDr. Martin Bačkor, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of credits: 4

Recommended semester/trimester of the course:

Course level: I., II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Course assessment
Total number of assessed students: 738

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

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

Date of last modification: 31.08.2017

Approved: Guaranteeprof. RNDr. Martin Bačkor, DrSc.

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 credits: 5

Recommended semester/trimester of the course:

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:

Course assessment
Total number of assessed students: 58

A	B	C	D	E	FX
63.79	17.24	8.62	10.34	0.0	0.0

Provides: doc. RNDr. Sergej Mochnacký, CSc., Ing. Peter Kelbel, Dr.

Date of last modification: 23.02.2018

Approved: Guaranteeprof. RNDr. Martin Bačkor, DrSc.

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 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:

Course assessment
Total number of assessed students: 148

A	B	C	D	E	FX
56.08	29.05	9.46	3.38	2.03	0.0

Provides:

Date of last modification: 23.02.2018

Approved: Guaranteeprof. RNDr. Martin Bačkor, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ EB1/99	**Course name:** Evolutionary Biology

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

Number of credits: 3

Recommended semester/trimester of the course: 3.

Course level: II.

Prerequisities:

Conditions for course completion:
written test

Learning outcomes:
To understand the fundamentals of the theory of evolution, the evidence supporting contemporary views on the origin and evolution of living organisms on Earth and the mechanisms of evolution.

Brief outline of the course:
Historical overview of evolutionary theories. The origin of life. Elements of evolution: mutations, population waves, and isolation. Natural selection. Molecular evolution. Adaptations and their classification. Concept of species. Macroevolution. Evolution of functions and organs, evolution of onthogeny. Phylogeny of animals. Evolutionary progress. Anthropogenesis. Plant diversity. Primary and secondary speciation of plants. Reproduction-isolation mechanisms. Hybridisation and introgression of plants. Polyploidy. Reproductive systems in plants.

Recommended literature:
Futuyama, D.J.: Evolutionary biology, Sinauer Associates, Sunderland, 3rd ed., 1997.
Dobzhansky T. et al.: Evolution. San Francisco 1977.

Course language:

Course assessment
Total number of assessed students: 535

A	B	C	D	E	FX
11.4	24.3	23.93	24.67	13.83	1.87

Provides: prof. RNDr. Pavol Mártonfi, PhD., prof. RNDr. Beňadik Šmajda, CSc., prof. RNDr. Eva Čellárová, DrSc.

Date of last modification: 23.02.2018

Approved: Guaranteeprof. RNDr. Martin Bačkor, DrSc.

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 credits: 6

Recommended semester/trimester of the course:

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:

Course assessment
Total number of assessed students: 399

A	B	C	D	E	FX
14.29	23.06	22.06	22.81	16.54	1.25

Provides: doc. RNDr. Bianka Bojková, PhD.

Date of last modification: 23.02.2018

Approved: Guaranteeprof. RNDr. Martin Bačkor, DrSc.

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 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:

Course assessment
Total number of assessed students: 239

A	B	C	D	E	FX
72.8	16.74	6.28	2.51	1.67	0.0

Provides: prof. RNDr. Martin Bačkor, DrSc.

Date of last modification: 23.02.2018

Approved: Guaranteeprof. RNDr. Martin Bačkor, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ ER1/01	**Course name:** Plant Embryology

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

Number of credits: 3

Recommended semester/trimester of the course:

Course level: II.

Prerequisities:

Conditions for course completion:
Oral examination/ recognition

Learning outcomes:
To provide the students with the general principles of embryogenesis of the seed plants

Brief outline of the course:
Life cycle of a typical angiosperms plants. Sporophyte and gametophyte. Development of female gametophyte. Ovule, nucellus and integuments. Megasporogenesis. Embryo sac. Egg, synergids, antipodals and polar nuclei. Types the embryo sacs. Development of male gametophyte. Microsporogenesis. Pollen grain. Generative and tube nucleus. Pollen tube. Pollination and fertilization. Double fertilization. Endosperm. Embryogenesis (mono- and dicotyledonous plants). Plumule, cotyledones, radicel. Development of the seed. Apomixis. Development the embryoids in vitro.

Recommended literature:
Johri, B.M. (1984)Plant embryology:Embryogeny of Angiosperms. Springer-Verlag, Berlin, Heidelberg. Raven, P.H., Evert, R.F. and Eichhorn S.E. (2003) Biology of Plants. W.H.Freeman and Company, New York

Course language:

Course assessment
Total number of assessed students: 122

A	B	C	D	E	FX
46.72	29.51	13.93	5.74	4.1	0.0

Provides: RNDr. Lenka Martonfiová

Date of last modification: 23.02.2018

Approved: Guaranteeprof. RNDr. Martin Bačkor, DrSc.

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 credits: 6

Recommended semester/trimester of the course:

Course level: II.

Prerequisities:

Conditions for course completion:
Recognition.
Written 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:

Course assessment
Total number of assessed students: 930

A	B	C	D	E	FX
39.68	24.73	25.7	7.96	1.83	0.11

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

Date of last modification: 23.02.2018

Approved: Guaranteeprof. RNDr. Martin Bačkor, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ FG/14	**Course name:** Functional genomics

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

Number of credits: 5

Recommended semester/trimester of the course: 2.

Course level: II., III.

Prerequisities:

Conditions for course completion:
Active participation in practical and theoretical courses

Learning outcomes:
Functional genomics attempts to answer questions about the function of DNA at the levels of genes, RNA transcripts, and proteins. A key characteristic of functional genomics studies is their genome-wide approach to these questions, generally involving high-throughput methods rather than a more traditional "gene-by-gene" approach. The outcome of this course will be understanding of the approaches and methods used in functional genomics and their application in research as well as in practice.

Brief outline of the course:
• Introduction to functional genomics
• Genome and functional genomics: sequenced model organisms, conceptual and methodological input of genome sequencing, structural vs. functional genome annotation
• Genome-wide reverse genetics: techniques to create collections of genome-wide mutants and their use in functional genomics
• Transcriptomics: methods to obtain transcriptome data, data analysis, data mining
• Proteomics: methods to obtain proteome data, quantitative vs. qualitative proteomics, data analysis, data mining
• Metabolomics: methods to obtain metabolomic data, quantitative vs. qualitative metabolomics, data analysis, data mining
* Interactomics - protein networks, methods in interactome and signalome studies, data analysis, practical use of the acquired knowledge on interactome and signalome
• Biological databases and other resources for functional genome analysis
• A real-case applications of the functional genomics

Recommended literature:
Internet sources, PowerPoint Presentation

Course language:
English

Course assessment
Total number of assessed students: 91

A	B	C	D	E	FX	N	P
25.27	25.27	25.27	6.59	12.09	2.2	0.0	3.3

Provides: RNDr. Katarína Bruňáková, PhD., RNDr. Andrea Kimáková, PhD., RNDr. Katarína Nigutová, PhD., RNDr. Linda Petijová, PhD., RNDr. Andrea Schreiberová, PhD.

Date of last modification: 23.02.2018

Approved: Guaranteeprof. RNDr. Martin Bačkor, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of credits: 5

Recommended semester/trimester of the course:

Course level: I., II.

Prerequisities:

Conditions for course completion:
Written work.
Exam.

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

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

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

Course language:

Course assessment
Total number of assessed students: 349

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

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

Date of last modification: 23.02.2018

Approved: Guaranteeprof. RNDr. Martin Bačkor, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ FRV1/03	**Course name:** Physiology of Plant Growth and Development

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

Number of credits: 6

Recommended semester/trimester of the course: 2.

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:
To learn about basic methods and approaches in physiology of plant growth and development

Brief outline of the course:
Growth and morphogenesis: phases and kinetics; differentiation. Hormones: metabolism and transport, physiological and developmental effects; auxin, gibberellins, cytokinnins, ethylene and abscisic acid. Photomorphogenesis and etiolation. Phytochrome: properties, physiology, ecological functions, molecular mechanisms. Blue-light responses. Rhythms. Germination and dormancy. Regulation of flowering. Senescence and programmed cell death. Orientation in space: phototropism, gravitropism and nastic movements. Stress physiology.

Recommended literature:
Taiz L., Zeiger E., Plant physiology. Fifth edition. Sinauer ass., Sunderland 2010

Course language:

Course assessment
Total number of assessed students: 104

A	B	C	D	E	FX
36.54	21.15	17.31	13.46	8.65	2.88

Provides: Ing. Robert Gregorek, RNDr. Michaela Bačovčinová

Date of last modification: 23.02.2018

Approved: Guaranteeprof. RNDr. Martin Bačkor, DrSc.

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 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:

Course assessment
Total number of assessed students: 49

A	B	C	D	E	FX
46.94	22.45	16.33	8.16	6.12	0.0

Provides: doc. RNDr. Sergej Mochnacký, CSc.

Date of last modification: 23.02.2018

Approved: Guaranteeprof. RNDr. Martin Bačkor, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚGE/ GDPZ/18	**Course name:** Geographical Information Systems and 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 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:

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. Mgr. Michal Gallay, PhD., prof. Mgr. Jaroslav Hofierka, PhD., doc. RNDr. Ján Kaňuk, PhD.

Date of last modification: 22.02.2018

Approved: Guaranteeprof. RNDr. Martin Bačkor, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: KFaDF/ 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 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:	

Course assessment

Total number of assessed students: 8

A	B	C	D	E	FX
87.5	12.5	0.0	0.0	0.0	0.0

Provides: Doc. PhDr. Peter Nezník, CSc.
Date of last modification: 31.08.2017
Approved: Guaranteeprof. RNDr. Martin Bačkor, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ IMU1/03	**Course name:** Immunology

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

Number of credits: 3

Recommended semester/trimester of the course: 1.

Course level: II.

Prerequisities:

Conditions for course completion:
Recognition.
Oral examination.

Learning outcomes:
This course introduces the students to the basic concepts of immunology as well as highlights the role and importance of immunology in various human diseases. The aim of Immunology lessons is the presentation of the organization and function of the immune system, as well as the comprehension of complex molecular and cellular interactions during the induction of immune responses.

Brief outline of the course:
Basic immunology: Lymphatic System Anatomy, The Innate Immune System, The Induced Responses of Innate Immunity, The Adaptive Immune Response, Antigens and Antibodies, Antigen Recognition by B-cell and T-cell Receptors, Antigen Presentation to T-lymphocytes, Complement, Clinical immunology: Allergy and other Hypersensitivities, Autoimmunity and Transplantation, Tumor Immunology, Disorders of The Immune System.

Recommended literature:
Janeway Ch. A., Travers P., Walport M., Schlomchik M.: Immunobiology. Garland Science, 2004
Murphy, K. (2012): Jeneway's Immunobiology. 8th ed. Garland Science
Delves, P.J. et al. (2011): Roitt's essential immunology 12th ed Wiley-Blackwell

Course language:

Course assessment
Total number of assessed students: 866

A	B	C	D	E	FX
38.68	24.13	25.17	6.93	1.73	3.35

Provides: RNDr. Vlasta Demečková, PhD.

Date of last modification: 23.02.2018

Approved: Guaranteeprof. RNDr. Martin Bačkor, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ IOR/09	**Course name:** Plant Protection

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

Number of credits: 4

Recommended semester/trimester of the course:

Course level: I., II.

Prerequisities: ÚBEV/VEK1/03

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Course assessment
Total number of assessed students: 44

A	B	C	D	E	FX
4.55	27.27	25.0	18.18	25.0	0.0

Provides: prof. RNDr. Martin Bačkor, DrSc., Ing. Martin Suvák, PhD.

Date of last modification: 23.02.2018

Approved: Guaranteeprof. RNDr. Martin Bačkor, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: KFaDF/ KDF/05	**Course name:** Chapters from History of Philosophy of 19th and 20th Centuries (General Introduction)

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

Number of credits: 2

Recommended semester/trimester of the course: 2.

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Course assessment
Total number of assessed students: 10

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

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

Date of last modification: 31.08.2017

Approved: Guaranteeprof. RNDr. Martin Bačkor, DrSc.

COURSE INFORMATION LETTER

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

Course assessment

Total number of assessed students: 281

abs	n	z
98.22	1.78	0.0

Provides: Mgr. Ondrej Kalina, PhD., Mgr. Lucia Hricová, PhD.
Date of last modification: 21.08.2017
Approved: Guaranteeprof. RNDr. Martin Bačkor, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of credits: 2

Recommended semester/trimester of the course:

Course level: I., II.

Prerequisities:

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

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

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

Recommended literature:

Course language:

Course assessment
Total number of assessed students: 365

abs	n
44.38	55.62

Provides: MUDr. Peter Dombrovský, Mgr. Marek Valanský
Date of last modification: 18.08.2017
Approved: Guaranteeprof. RNDr. Martin Bačkor, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚTVŠ/ LKSp/13

Course name: Summer Course-Rafting of TISA River

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

Number of credits: 2

Recommended semester/trimester of the course:

Course level: I., II.

Prerequisities:

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

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

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

Recommended literature:

Course language:

Course assessment
Total number of assessed students: 142

abs	n
41.55	58.45

Provides: Mgr. Peter Bakalár, PhD.
Date of last modification: 18.08.2017
Approved: Guaranteeprof. RNDr. Martin Bačkor, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ LR1/03	**Course name:** Healing Plants

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

Number of credits: 3

Recommended semester/trimester of the course:

Course level: I., II.

Prerequisities:

Conditions for course completion:

Learning outcomes:
To provide the students with healing principles of plants and production of drug.

Brief outline of the course:
Medicinal Plants, impprtance, collection. basic terms. Drugs and their effects of drug. Active substances Alcaloids, Glycosides, Flavonoids, Hormons, Enzymes, Essential oils. Centers of origin of medicinal plants. Cultivation and and post-harvest technology of Medicinal Plants, storage. Overview of selected representatives of medicinal plants of the families Papaveraceae, Droseraceae, Hypericaceae, Rosaceae, Malvaceae, Ericaceae, Scrophulariaceae, Plantaginaceae, Lamiaceae, Caprifoliaceae, Apiaceae, Valerianaceae, Asteraceae, Equisetaceae, Ginkgoaceae. Toxic plants.

Recommended literature:
Pahlow M.: Healing plants. New York 1993

Course language:

Course assessment
Total number of assessed students: 358

A	B	C	D	E	FX
25.14	22.63	21.23	12.29	9.78	8.94

Provides: RNDr. Matej Dudáš, PhD.

Date of last modification: 23.02.2018

Approved: Guaranteeprof. RNDr. Martin Bačkor, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/MR1/03	**Course name:** Plant Metabolism

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

Number of credits: 6

Recommended semester/trimester of the course: 1.

Course level: II.

Prerequisities:

Conditions for course completion:
Examen

Learning outcomes:
To provide the students with pathways of biosynthesis in plant and functions of primary and secondary metabolites

Brief outline of the course:
Photosynthesis: structure of photosynthetic apparatus, light absorption, electron and proton transport, photophosphorylation. Calvin cycle, rubisco and photorespiration. C4 and CAM plants. Synthesis of starch and sucrose. Respiration: glycolysis, citric acid cycle, electron transport and ATP synthesis. Lipid biosynthesis and convertion into carbohydrates. Polyacetylenes. Nitrogen metabolism: fixation, nitrate assimilation, ammonium conversion to amino acids. Sulfur assimilation and metabolism. Terpenes: biosynthesis and functions. Phenolic compounds: pathways of biosynthesis, phenylpropanes, flavonoids and lignins. Alkaloids. Mechanisms of plant defense.

Recommended literature:
Lawlor D. W. Photosynthesis. Third edition. BIOS, Oxford 2001; Taiz L., Zeiger E., Plant physiology. Fifth edition. Sinauer ass., Sunderland 2010

Course language:

Course assessment
Total number of assessed students: 106

A	B	C	D	E	FX
26.42	16.04	17.92	16.98	19.81	2.83

Provides: doc. RNDr. Peter Paľove-Balang, PhD.

Date of last modification: 23.02.2018

Approved: Guaranteeprof. RNDr. Martin Bačkor, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ MVR/03	**Course name:** Mineral Nutrition

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

Number of credits: 6

Recommended semester/trimester of the course: 1.

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:
Increase of knowledge about plant-soil interactions, nutrient uptake and the role of individual nutrients in plants.

Brief outline of the course:
Soil environment, effect of soil on plant growth and development. Nutrient uptake by plant roots. Symbiosis in plant nutrition. Macroelements, microelements and their role in plants. Transport and assimilation of nitrogen, sulphur and phosphate. The importance of other mineral nutrients.

Recommended literature:
Marschner H.: Mineral Nutrition of Higher Plants. 2nd ed. Academic Press, London 1995.
Rowell D.L.: Soil Science : Methods and applications. Longman Scientific  Technical, Harlow, UK, 1994.

Course language:

Course assessment
Total number of assessed students: 53

A	B	C	D	E	FX
50.94	26.42	18.87	0.0	1.89	1.89

Provides: doc. RNDr. Peter Paľove-Balang, PhD.

Date of last modification: 23.02.2018

Approved: Guaranteeprof. RNDr. Martin Bačkor, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: Dek. PF UPJŠ/PPZ/13	**Course name:** Personality Development and Key Competences for Success on a Labour Market

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

Number of credits: 2

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

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Course assessment
Total number of assessed students: 39

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

Provides: RNDr. Peter Stefányi, PhD.

Date of last modification: 19.02.2018

Approved: Guaranteeprof. RNDr. Martin Bačkor, DrSc.

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 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:

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 Hricová, PhD.

Date of last modification: 21.08.2017

Approved: Guaranteeprof. RNDr. Martin Bačkor, DrSc.

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 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:	
Course assessment Total number of assessed students: 150	

abs	n
100.0	0.0

Provides:
Date of last modification: 23.02.2018
Approved: Guaranteeprof. RNDr. Martin Bačkor, DrSc.

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 credits: 4	
Recommended semester/trimester of the course: 2.	
Course level: II.	
Prerequisities:	
Conditions for course completion:	
Learning outcomes:	
Brief outline of the course:	
Recommended literature:	
Course language:	
Course assessment Total number of assessed students: 112	

abs	n
100.0	0.0

Provides:	
Date of last modification: 23.02.2018	
Approved: Guaranteeprof. RNDr. Martin Bačkor, DrSc.	

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 credits: 4	
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:	
Course assessment Total number of assessed students: 110	

abs	n
100.0	0.0

Provides:	
Date of last modification: 23.02.2018	
Approved: Guaranteeprof. RNDr. Martin Bačkor, DrSc.	

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 credits: 4

Recommended semester/trimester of the course: 4.

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Course assessment
Total number of assessed students: 108

A	B	C	D	E	FX
87.04	6.48	3.7	0.93	1.85	0.0

Provides:

Date of last modification: 23.02.2018

Approved: Guaranteeprof. RNDr. Martin Bačkor, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ SFR/04	**Course name:** Seminar from Plant Physiology

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

Number of credits: 2

Recommended semester/trimester of the course:

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:
Literature search training, interpretation of actual news in plant physiology, abbility to present scientific results. Increase of ability to constructively discuss scientific topics.

Brief outline of the course:
Metodology, etics and legal aspects of scientific works. Databases of search in literature, databases for full access to scientific journals. Scientific importance of publications (CC articles, citations, impact factor). Presentation and discussion in actual topics in plant science.

Recommended literature:

Course language:

Course assessment
Total number of assessed students: 22

A	B	C	D	E	FX
90.91	9.09	0.0	0.0	0.0	0.0

Provides: Mgr. Silvia Gajdošová, Ph.D.

Date of last modification: 23.02.2018

Approved: Guaranteeprof. RNDr. Martin Bačkor, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: KPPaPZ/SPVKE/07	**Course name:** Social-Psychological Training of Coping with Critical Life Situations
Course type, scope and the method: **Course type:** Practice **Recommended course-load (hours):** **Per week:** 2 **Per study period:** 28 **Course method:** present	
Number of credits: 2	
Recommended semester/trimester of the course: 2.	
Course level: II.	
Prerequisities:	
Conditions for course completion:	
Learning outcomes:	
Brief outline of the course:	
Recommended literature:	
Course language:	
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: 21.08.2017
Approved: Guaranteeprof. RNDr. Martin Bačkor, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ STFR/09	**Course name:** Plant stress 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 credits: 3

Recommended semester/trimester of the course:

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:
Course shall introduce basic plant stress conditions to the students and elucidate phytohormonal regulation of specific plant defence mechanisms.

Brief outline of the course:
Causes, types and symptoms of stress. General mechanisms of stress reactions in living organisms. Plant stress reactions – synthesis of plant hormones (auxins, cytokinins, ethylene, jasmonic acid, salicylic acid, abscisic acid, NO and others), proteins, metabolites and other compounds related to stress response. Examples of known plant stress signalling cascades starting from signal perception, its processing and subsequent physiological changes leading to execution of growth and developmental reaction to the stress condition.
Practicals (): cultivation of experimental plants under stress conditions, their analysis and evaluation of results.

Recommended literature:
Taiz L, Zeiger E, Plant physiology. 4th editon. Sinauer ass., Sunderland 2006.
Hirt H.: Plant stress biology. Wiley-Blackwell, 2009.

Course language:

Course assessment
Total number of assessed students: 11

A	B	C	D	E	FX
63.64	18.18	9.09	0.0	0.0	9.09

Provides: Mgr. Silvia Gajdošová, Ph.D.

Date of last modification: 23.02.2018

Approved: Guaranteeprof. RNDr. Martin Bačkor, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of credits: 4

Recommended semester/trimester of the course:

Course level: I., II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Course assessment
Total number of assessed students: 258

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

Provides:

Date of last modification: 23.02.2018

Approved: Guaranteeprof. RNDr. Martin Bačkor, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ TR1/99	**Course name:** Plant Taxonomy

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

Number of credits: 5

Recommended semester/trimester of the course: 1.

Course level: II.

Prerequisities:

Conditions for course completion:
Information on selected taxonomic work.
Exam.

Learning outcomes:
To learn about basic methods and approaches in plant taxonomy.

Brief outline of the course:
Plant taxonomy. Approaches to biological classification. Source of informationa and taxonomic data. Variation in plants and their study. Numerical taxonomy (phenetics). Cladistics and their utilization in taxonomy. Molecular data as important data of recent systematics. Overview of phylogeny of tracheophytes according to the newest data. Evolution in populations, principles of plant evolutions, primary and secondary speciation. Basics of botanical nomenclature. International Code of botanical nomenclature.

Recommended literature:
Briggs D., Walters S. M.: Proměnlivost a evoluce rostlin. - Univerzita Palackého, Olomouc, 2001.
Stuessy T. F.: Plant Taxonomy. - New York, Oxford 1990.
Judd W. S., Campbell Ch. S., Kellogg E. A., Stevens P. F., Donoghue M. J.: Plant Systematics. A Phylogenetic Approach, 2nd ed. - Sinauer Associates, Sunderland, 2002.
Greuter W. et al. (Eds.): Medzinárodný kód botanickej nomenklatúry (Saint Louis Code). - Praha, Bratislava, 2000.

Course language:

Course assessment
Total number of assessed students: 120

A	B	C	D	E	FX
40.83	20.83	17.5	10.83	6.67	3.33

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

Date of last modification: 23.02.2018

Approved: Guaranteeprof. RNDr. Martin Bačkor, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of credits: 2

Recommended semester/trimester of the course: 1.

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

Prerequisities:

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

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

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

Recommended literature:

Course language:

Course assessment
Total number of assessed students: 11672

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

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

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of credits: 2

Recommended semester/trimester of the course: 2.

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

Prerequisities:

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

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

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

Recommended literature:

Course language:

Course assessment
Total number of assessed students: 10971

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

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

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of credits: 2

Recommended semester/trimester of the course: 3.

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

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Course assessment
Total number of assessed students: 6910

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

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

Date of last modification: 18.08.2017

Approved: Guaranteeprof. RNDr. Martin Bačkor, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of credits: 2

Recommended semester/trimester of the course: 4.

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

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Course assessment
Total number of assessed students: 5045

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

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

Date of last modification: 18.08.2017

Approved: Guaranteeprof. RNDr. Martin Bačkor, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ UGM1/03

Course name: Introduction to Gene Manipulations

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

Number of credits: 6

Recommended semester/trimester of the course:

Course level: II.

Prerequisities:

Conditions for course completion:
Oral examination.

Learning outcomes:
To provide the students with the principles of preparation and application of techniques of recombinant DNA.

Brief outline of the course:
Isolation of nucleic acids. Restriction endonucleases. Digestion and ligation of DNA.Other enzymes used for DNA manipulation. Labeling of DNA. Nucleic acid hybridization. PCR. Preparation of recombinant DNA. Recombinant vectors. Selection markers. Transfer of recombinant DNA to the cells. Selection of recombinants.Expression of heterologous genes in E. coli. DNA sequencing.

Recommended literature:
Old, R.W., Primrose, S. B.: Principles of Genetic Manipulation. An Introduction to Genetic Engineering. Blackwell Scientific Publication, London, 1992
Fitzgerald-Hayes, M and Reichsman, F: DNA and Biotechnology. Academic Press, 2009. Third edition. ISBN 9780080916354

Course language:

Course assessment
Total number of assessed students: 224

A	B	C	D	E	FX
59.82	27.68	8.93	2.68	0.45	0.45

Provides: RNDr. Mariana Kolesárová, PhD.

Date of last modification: 23.02.2018

Approved: Guaranteeprof. RNDr. Martin Bačkor, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: KPPaPZ/UPR/03	**Course name:** The Art of Aiding by Verbal Exchange

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

Number of credits: 2

Recommended semester/trimester of the course: 4.

Course level: II.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Course assessment
Total number of assessed students: 49

A	B	C	D	E	FX
85.71	4.08	2.04	2.04	2.04	4.08

Provides: Mgr. Ondrej Kalina, PhD.

Date of last modification: 21.08.2017

Approved: Guaranteeprof. RNDr. Martin Bačkor, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ZOG1/03

Course name: Zoogeography

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

Number of credits: 6

Recommended semester/trimester of the course:

Course level: I., II.

Prerequisities:

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

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

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

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

Course language:

Course assessment
Total number of assessed students: 877

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

Provides: prof. RNDr. Ľubomír Kováč, CSc.

Date of last modification: 23.02.2018
Approved: Guaranteeprof. RNDr. Martin Bačkor, DrSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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

Number of credits: 2

Recommended semester/trimester of the course:

Course level: I., II.

Prerequisities:

Conditions for course completion:
Conditions for course completion:
Attendance

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

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

Recommended literature:

Course language:

Course assessment
Total number of assessed students: 33

abs	n
12.12	87.88

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

Date of last modification: 18.08.2017

Approved: Guaranteeprof. RNDr. Martin Bačkor, DrSc.