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## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> KF/AFS/05		<b>Course name:</b> Ancient Philosophy and Present Times			
<b>Course type, scope and the method:</b> <b>Course type:</b> Practice <b>Recommended course-load (hours):</b> <b>Per week: 2 Per study period: 28</b> <b>Course method:</b> present					
<b>Number of ECTS credits:</b> 2					
<b>Recommended semester/trimester of the course:</b> 2.					
<b>Course level:</b> II.					
<b>Prerequisites:</b>					
<b>Conditions for course completion:</b> When implementing the subject in the classical - face-to-face - form of teaching: 40% - continuous assessment of student activity at seminars, partial seminar work - assignment. 60% - final test, or seminar paper in the range of 10 A4 standard pages (with compliance with the KF citation standard for seminar and qualification papers. In the case of a transition to distance education, students will be assigned sub-tasks for studying philosophical texts and processing the task in written form, which must be submitted by the set deadline, will be assigned points (partial assessment) and at the end will prepare a seminar paper to the same extent as in the face-to-face form teaching.					
<b>Learning outcomes:</b>					
<b>Brief outline of the course:</b> Point out the roots of Western civilization that go back to the Greeks. The ancient Greeks, as one of the 3 pillars of European culture, reveal the origins of democracy and critical thinking. Emphasizing the interconnectedness of ancient philosophy and EPISTEME will enable a better understanding of the issues of thought formation, the relationship between philosophy and science, and modern society, where the emergence of mathematical natural science in the 17th century is the pillar on which Europe and European humanity stand. The student will be able to understand the questions and problems of today if he discovers the foundations and contexts leading to serious questions of today's form of society, thinking, science and culture.					
<b>Recommended literature:</b>					
<b>Course language:</b>					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 31					
A	B	C	D	E	FX
80.65	6.45	6.45	0.0	6.45	0.0
<b>Provides:</b> doc. PhDr. Peter Nezník, CSc.					

<b>Date of last modification:</b> 24.08.2022
<b>Approved:</b> prof. RNDr. Ľubomír Kováč, CSc.

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice	
<b>Faculty:</b> Faculty of Science	
<b>Course ID:</b> ÚBEV/ EFZ1/03	<b>Course name:</b> Animal and Human Ecophysiology
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture / Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 2 / 2 <b>Per study period:</b> 28 / 28 <b>Course method:</b> present	
<b>Number of ECTS credits:</b> 6	
<b>Recommended semester/trimester of the course:</b> 1.	
<b>Course level:</b> II.	
<b>Prerequisites:</b>	
<b>Conditions for course completion:</b> Elaboration of semestral thesis.	
<b>Learning outcomes:</b> To understand the basic mechanisms of adaptations to environmental factors in animals and humans.	
<b>Brief outline of the course:</b> <ol style="list-style-type: none"> <li>1. Definition of the subject. External environment characteristics. Environmental factors, classification, time factor. Reaction, adaptation, deformation. Classification of adaptations. Stress reaction, general adaptation syndrome.</li> <li>2. Pathological reaction, pathological state, disease. General characteristics of disease – pain, fever, inflammation.</li> <li>3. Ageing, theories, physiological changes in ageing. Death of organism. Adaptations to food intake changes and food composition. Food intake regulation.</li> <li>4. Caloric restriction, starving, increased caloric intake, obesity. Time factor in food intake.</li> <li>5. Thermoregulation, heat and cold adaptations. Hibernation, diapause.</li> <li>6. Altitude and hyperbaric adaptations. Osmoregulation.</li> <li>7. The effects of hypergravity and microgravity, physiological changes during space flight. Sound, ultrasound, infrasound effects.</li> <li>8. Electromagnetic fields. Effects of electric current. Infrared, visible, ultraviolet radiation and their significance for organisms. Microwaves. Laser.</li> <li>9. Ionising radiation, classification, sources. The effects of ionising radiation.</li> <li>10. Xenobiotics, biotransformation. Air, water, and soil pollutants.</li> <li>11. Drug abuse, mechanism of drug action. The effects of opioids and CNS depressants – sedatives, hypnotics, and alcohol.</li> <li>12. The effects of CNS stimulants – amphetamines, cocaine, methylxanthines, nicotine. The effects of hallucinogens and solvents.</li> <li>13. Carcinogenesis, chemical, physical, and biological carcinogens. Oncogenes, tumour suppressor genes. Prevention of carcinogenesis. Prions.</li> </ol>	
<b>Recommended literature:</b> <ol style="list-style-type: none"> <li>1. Piantadosi C.A. Biology of Human Survival: Life and Death in Extreme Environments. Oxford Press 2003.</li> </ol>	

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

**Course language:**

**Notes:**

**Course assessment**

Total number of assessed students: 434

A	B	C	D	E	FX
14.29	22.58	22.81	22.81	16.36	1.15

**Provides:** doc. RNDr. Bianka Bojková, PhD.

**Date of last modification:** 14.07.2022

**Approved:** prof. RNDr. Lubomír Kováč, CSc.

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice							
<b>Faculty:</b> Faculty of Science							
<b>Course ID:</b> ÚBEV/ AMK/15		<b>Course name:</b> Applied Microbiology					
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture / Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 2 / 2 <b>Per study period:</b> 28 / 28 <b>Course method:</b> present							
<b>Number of ECTS credits:</b> 5							
<b>Recommended semester/trimester of the course:</b>							
<b>Course level:</b> II., III.							
<b>Prerequisites:</b>							
<b>Conditions for course completion:</b> Attendance of practicals (at least 90%), final examination							
<b>Learning outcomes:</b> The students will acquire in-depth knowledge on the important role of microorganisms in different fields like food (production of beer, wine, milk products, probiotics), chemical and pharmaceutical industry (production of vitamins, hormones, amino acids, enzymes, commodity chemicals), vaccines and their production, wastewater treatment, as well as microbial bioremediation, biofuels and biomining.							
<b>Brief outline of the course:</b> 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.							
<b>Recommended literature:</b>							
<b>Course language:</b>							
<b>Notes:</b>							
<b>Course assessment</b> Total number of assessed students: 41							
A	B	C	D	E	FX	N	P
53.66	19.51	12.2	4.88	0.0	0.0	0.0	9.76
<b>Provides:</b> doc. RNDr. Peter Pristaš, CSc., RNDr. Lenka Maliničová, PhD., RNDr. Jana Kisková, PhD.							
<b>Date of last modification:</b> 23.06.2022							
<b>Approved:</b> prof. RNDr. Ľubomír Kováč, CSc.							

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice	
<b>Faculty:</b> Faculty of Science	
<b>Course ID:</b> ÚBEV/ ZCHI2/11	<b>Course name:</b> Basic chiropterology
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture / Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 1 / 2 <b>Per study period:</b> 14 / 28 <b>Course method:</b> present	
<b>Number of ECTS credits:</b> 3	
<b>Recommended semester/trimester of the course:</b> 1.	
<b>Course level:</b> II.	
<b>Prerequisites:</b>	
<b>Conditions for course completion:</b>	
<b>Learning outcomes:</b> Comprehensive review of scientific knowledge on bats. Review on methods of bat research in conditions of the temperate zone.	
<b>Brief outline of the course:</b> 1. Bat systematics. 2. Species diversity, bats of the Palaearctic. 3. Morphology, anatomy. 4. Physiology. 5. Echolocation. 6. Ecology: roosts, diet, hibernations, migration. 7. Social structure, mating systems. 8. Population ecology. 9. Research methods. 10. Students' presentations. 11. Practical. 12. Field excursion. 13. Field excursion.	
<b>Recommended literature:</b> Kunz T. H. & Fenton M. B. (eds), 2003: Bat ecology. The University of Chicago Press, Chicago and London, 779 pp.	
<b>Course language:</b>	
<b>Notes:</b>	
<b>Course assessment</b> Total number of assessed students: 87	
abs	n
98.85	1.15
<b>Provides:</b> doc. RNDr. Marcel Uhrin, PhD.	
<b>Date of last modification:</b> 20.09.2021	
<b>Approved:</b> prof. RNDr. Ľubomír Kováč, CSc.	



## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice	
<b>Faculty:</b> Faculty of Science	
<b>Course ID:</b> ÚBEV/MMZ/20	<b>Course name:</b> Basic molecular methods in Zoology and Animal Physiology
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture / Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 1 / 2 <b>Per study period:</b> 14 / 28 <b>Course method:</b> present	
<b>Number of ECTS credits:</b> 3	
<b>Recommended semester/trimester of the course:</b> 1., 3.	
<b>Course level:</b> II.	
<b>Prerequisites:</b>	
<b>Conditions for course completion:</b> Ongoing evaluation: active participation on practical exercises Final evaluation: fulfilling the practical task	
<b>Learning outcomes:</b> Practical skills in the following techniques: <ul style="list-style-type: none"> <li>- Pipetting methods,</li> <li>- DNA/RNA extraction,</li> <li>- PCR methods (PCR, RT-PCR, qRT-PCR) + electrophoretic visualization</li> <li>- database NCBI (GenBank, BOLD)</li> <li>- basic instructions in using of phylogenetic program Mega: sequences trimming, construction of phylogenetic trees</li> </ul>	
<b>Brief outline of the course:</b> 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).	
<b>Recommended literature:</b> 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	
<b>Course language:</b> Slovak or English language	
<b>Notes:</b>	

<b>Course assessment</b>					
Total number of assessed students: 18					
A	B	C	D	E	FX
22.22	38.89	16.67	22.22	0.0	0.0
<b>Provides:</b> RNDr. Andrea Parimuchová, PhD., RNDr. Terézia Kisková, PhD.					
<b>Date of last modification:</b> 14.05.2021					
<b>Approved:</b> prof. RNDr. Ľubomír Kováč, CSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice	
<b>Faculty:</b> Faculty of Science	
<b>Course ID:</b> ÚBEV/ ZNFYZ/15	<b>Course name:</b> Basics of Neurophysiology
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture / Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 2 / 1 <b>Per study period:</b> 28 / 14 <b>Course method:</b> present	
<b>Number of ECTS credits:</b> 4	
<b>Recommended semester/trimester of the course:</b>	
<b>Course level:</b> II.	
<b>Prerequisites:</b>	
<b>Conditions for course completion:</b> Regular attendance at classes. Active participation in practices. Elaboration of assigned tasks. Successful completion of the oral exam.	
<b>Learning outcomes:</b> Students will learn the principles of nervous system functioning from the level of individual neurons (membrane potential, action potential, synaptic transmission), through simple neural circuits (reflexes, ...) to the description of complex functional parts of the nervous system (brain, spinal cord, peripheral nervous system) .	
<b>Brief outline of the course:</b> <ol style="list-style-type: none"> <li>1. Neurophysiology as a part of neurosciences</li> <li>2. Nervous system - basic structures and functions (CNS, PNS).</li> <li>3. Neuron as a basic functional unit of the nervous system - structure, function, structural and functional classification</li> <li>4. Glial cells - role and functional classification</li> <li>5. Electrochemical basis of membrane potential; ion channels, ion currents</li> <li>6. Origin and propagation of action potential, phases, parameters and types of action potential. Nerve fibers, myelin, rate of propagation of arousal, etc....</li> <li>7. Principle of synapse, chemical and electrical synapse, synaptic excitation and inhibition. Synaptic potentials, temporal and spatial summation, excitation threshold.</li> <li>8. Neurotransmitters and receptors. Receptor classification, mechanism of action.</li> <li>9. Spinal cord - basic structures and functions. Spinal reflexes. Basic sensory and motor pathways in the spinal cord.</li> <li>10. Brain - basic parts, their origin and function.</li> <li>11. Neurophysiology of the senses - sight, hearing, smell, taste and touch.</li> <li>12. Peripheral nervous system. Autonomic nervous system - sympathetic and parasympathetic.</li> <li>13. Bioelectrical manifestations of the nervous system. Clinical and experimental research methods.</li> </ol>	
<b>Recommended literature:</b>	

Brain Facts, a primer on the brain and nervous system, published by the Society for Neuroscience, 2018  
Myslivoček, J., Myslivečková-Hassmannová, J.: Nervová soustava. Funkce, struktura a poruchy činnosti. Avicenum, Praha, 1989.  
Schmidt, R., F.: Fundamentals of Neurophysiology. Springer Verlag, New York, Berlin, Heidelberg, 1985.  
Greenstein, B., Greenstein, A.: Color Atlas of Neuroscience. Thieme. Stuttgart, New York, 2000.

**Course language:**

Slovak

**Notes:**

**Course assessment**

Total number of assessed students: 37

A	B	C	D	E	FX
83.78	10.81	5.41	0.0	0.0	0.0

**Provides:** RNDr. Ján Gálik, CSc., prof. RNDr. Beňadik Šmajda, CSc.

**Date of last modification:** 13.10.2021

**Approved:** prof. RNDr. Ľubomír Kováč, CSc.

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> ÚBEV/ BFA1/03		<b>Course name:</b> Biopharmacology			
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture / Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 2 / 2 <b>Per study period:</b> 28 / 28 <b>Course method:</b> present					
<b>Number of ECTS credits:</b> 5					
<b>Recommended semester/trimester of the course:</b> 2.					
<b>Course level:</b> II.					
<b>Prerequisites:</b>					
<b>Conditions for course completion:</b> Written test.					
<b>Learning outcomes:</b> To provide the students with basic knowledge on the classification and mechanism of action of the most important pharmaceuticals					
<b>Brief outline of the course:</b> 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. Teratogenicity and cancerogenicity of drugs. Development and introduction of drugs for clinical use. Principle of chronopharmacology					
<b>Recommended literature:</b> Clark, W. G., Braber, D.C., Johnen, A.R.: Goth's medical pharmacology. Mosby Year Book, 1992					
<b>Course language:</b>					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 243					
A	B	C	D	E	FX
14.81	25.51	23.87	16.46	17.28	2.06
<b>Provides:</b> doc. RNDr. Monika Kassayová, CSc.					
<b>Date of last modification:</b> 23.11.2021					
<b>Approved:</b> prof. RNDr. Ľubomír Kováč, CSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice							
<b>Faculty:</b> Faculty of Science							
<b>Course ID:</b> ÚBEV/ BSP/04		<b>Course name:</b> Biospeleology					
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture / Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 1 / 1 <b>Per study period:</b> 14 / 14 <b>Course method:</b> present							
<b>Number of ECTS credits:</b> 4							
<b>Recommended semester/trimester of the course:</b> 2.							
<b>Course level:</b> II., III.							
<b>Prerequisites:</b>							
<b>Conditions for course completion:</b> Active participation in seminars and field trips, preparation of oral presentation to a selected topic, completion of semestral written examination, final oral examination.							
<b>Learning outcomes:</b> 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.							
<b>Brief outline of the course:</b> 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.							
<b>Recommended literature:</b> 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							
<b>Course language:</b>							
<b>Notes:</b>							
<b>Course assessment</b> Total number of assessed students: 84							
A	B	C	D	E	FX	N	P
92.86	0.0	2.38	1.19	0.0	0.0	0.0	3.57
<b>Provides:</b> prof. RNDr. Ľubomír Kováč, CSc.							
<b>Date of last modification:</b> 10.12.2021							

**Approved:** prof. RNDr. Lubomír Kováč, CSc.

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> ÚBEV/ MEB1/03		<b>Course name:</b> Cell metabolism			
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture / Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 2 / 2 <b>Per study period:</b> 28 / 28 <b>Course method:</b> present					
<b>Number of ECTS credits:</b> 6					
<b>Recommended semester/trimester of the course:</b> 1.					
<b>Course level:</b> II.					
<b>Prerequisites:</b>					
<b>Conditions for course completion:</b> Oral examination.					
<b>Learning outcomes:</b> To provide the students with knowledge about the principal metabolic processes in living cells.					
<b>Brief outline of the course:</b> Carbohydrates – significance and role in animal organisms. Inborn errors of carbohydrate and lipid metabolism in humans. Lipid metabolism. Role of the liver and adipose tissue in lipid metabolism. Plasma lipoproteins – metabolism and disorders. Cholesterol and atherosclerosis. Protein metabolism and its inborn errors. Water and solute metabolism. Physiology and regulatory mechanisms of water-base balance in animal organisms. Metabolic regulation. Topochemistry of metabolic processes					
<b>Recommended literature:</b> 1. Murray, R. K., Grammer, D. K., Mayes, P. A., Rodwell, V.W.: Harper's Biochemistry. Prentice-Hall, Appleton & Lange, 1993 2. Vasudevan D.M. and co.: Textbook of Biochemistry for Medical Students. Jaypee Brothers Medical Publishers 2011					
<b>Course language:</b>					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 228					
A	B	C	D	E	FX
31.14	23.68	19.3	14.04	7.46	4.39
<b>Provides:</b> doc. RNDr. Monika Kassayová, CSc.					
<b>Date of last modification:</b> 23.09.2021					
<b>Approved:</b> prof. RNDr. Ľubomír Kováč, CSc.					



## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> KF/KDF/05		<b>Course name:</b> Chapters from History of Philosophy of 19th and 20th Centuries (General Introduction)			
<b>Course type, scope and the method:</b> <b>Course type:</b> Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 2 <b>Per study period:</b> 28 <b>Course method:</b> present					
<b>Number of ECTS credits:</b> 2					
<b>Recommended semester/trimester of the course:</b> 2.					
<b>Course level:</b> II.					
<b>Prerequisites:</b>					
<b>Conditions for course completion:</b>					
<b>Learning outcomes:</b>					
<b>Brief outline of the course:</b>					
<b>Recommended literature:</b>					
<b>Course language:</b>					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 10					
A	B	C	D	E	FX
50.0	20.0	10.0	0.0	10.0	10.0
<b>Provides:</b> PhDr. Dušan Hruška, PhD.					
<b>Date of last modification:</b> 03.05.2015					
<b>Approved:</b> prof. RNDr. Ľubomír Kováč, CSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice	
<b>Faculty:</b> Faculty of Science	
<b>Course ID:</b> ÚBEV/ CRO1/03	<b>Course name:</b> Chronophysiology
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture / Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 2 / 1 <b>Per study period:</b> 28 / 14 <b>Course method:</b> present	
<b>Number of ECTS credits:</b> 5	
<b>Recommended semester/trimester of the course:</b> 1.	
<b>Course level:</b> II., III.	
<b>Prerequisites:</b>	
<b>Conditions for course completion:</b> Active participation on practicals. Passing of the final oral examination.	
<b>Learning outcomes:</b> To outline the problematics of the time organization of biological processes and their significance in evolution of living organisms. To understand the mechanisms, ensuring the adaptation to regular changes in their environment with various periodicity, as well as of the common action of external and internal factors in control of the biological rhythms..	
<b>Brief outline of the course:</b> 1. Time structure of the physiological variables in animals. 2. Overview of the history of chronobiology. 3. Basic notions and division of biological rhythms. 4. Genetic basis and molecular mechanisms of the biological rhythms in animals. 5. Endogenous character of the biological rhythms. Localization of the biological clock. 6. Synchronisation of rhythms. Multioscillatory system of the body. 7. Model animals in study of biological rhythms. 8. Ultradian rhythms. 9. Circaannual (seasonal) rhythms. 10. Application of chronobiological principles in medicine. 11. Disturbations of the biological rhythms. The jet-lag syndrome. 12. Biological rhythms in shift-work. 13. The significance of biological rhythms in the evolution of living organisms.	
<b>Recommended literature:</b>	
<b>Course language:</b>	
<b>Notes:</b>	

<b>Course assessment</b>							
Total number of assessed students: 98							
A	B	C	D	E	FX	N	P
21.43	20.41	27.55	11.22	4.08	0.0	0.0	15.31
<b>Provides:</b> prof. RNDr. Beňadik Šmajda, CSc., RNDr. Natália Pipová, PhD.							
<b>Date of last modification:</b> 21.09.2021							
<b>Approved:</b> prof. RNDr. Ľubomír Kováč, CSc.							

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice	
<b>Faculty:</b> Faculty of Science	
<b>Course ID:</b> KPPaPZ/KK/07	<b>Course name:</b> Communication and Cooperation
<b>Course type, scope and the method:</b> <b>Course type:</b> Practice <b>Recommended course-load (hours):</b> <b>Per week: 2 Per study period: 28</b> <b>Course method:</b> present	
<b>Number of ECTS credits:</b> 2	
<b>Recommended semester/trimester of the course:</b> 3.	
<b>Course level:</b> II.	
<b>Prerequisites:</b>	
<b>Conditions for course completion:</b> Evaluation: A condition for student evaluation is his active participation in the seminar. It is expected that the student will actively participate in the discussions and will express their positions and possible solutions. The output for evaluation will be the development of a project in the form of a Power Point presentation or a video on a selected communication topic.	
<b>Learning outcomes:</b> The goal of the subject Communication, cooperation is the formation and development of students' language and communication skills through experiential activities. The student can demonstrate an understanding of individual behavior in various communication contexts. The student can describe, explain and evaluate communication techniques (cooperation, assertiveness, empathy, negotiation, persuasion) in practical contexts. The student can apply these techniques in common communication schemes.	
<b>Brief outline of the course:</b> Communication Communication theory Non-verbal communication and its means Verbal communication (basic components of communication, language means of communication) about active listening Empathy Short conversation and effective communication (principles and principles of effective communication) Cooperation About the basics of cooperation About types, signs, types and factors of cooperation Characteristics of the team (positions in the team) Small social group (structure, development, characteristics of a small social group, position of the individual in the group)	

About leadership (characteristics of the leader, management, leadership styles)		
<b>Recommended literature:</b>		
<b>Course language:</b>		
<b>Notes:</b>		
<b>Course assessment</b>		
Total number of assessed students: 281		
abs	n	z
98.22	1.78	0.0
<b>Provides:</b> Mgr. Ondrej Kalina, PhD., Mgr. Lucia Barbierik, PhD.		
<b>Date of last modification:</b> 31.07.2022		
<b>Approved:</b> prof. RNDr. Ľubomír Kováč, CSc.		

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice	
<b>Faculty:</b> Faculty of Science	
<b>Course ID:</b> ÚBEV/ PFYZ/15	<b>Course name:</b> Comparative animal physiology
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture <b>Recommended course-load (hours):</b> <b>Per week: 2 Per study period: 28</b> <b>Course method:</b> present	
<b>Number of ECTS credits:</b> 3	
<b>Recommended semester/trimester of the course:</b> 1., 3.	
<b>Course level:</b> II., III.	
<b>Prerequisites:</b>	
<b>Conditions for course completion:</b> Working out the given themes of the report. Passing the final oral examination.	
<b>Learning outcomes:</b> The students receive an overview on the significance of physiological adaptational mechanisms to the various life conditions on the individual levels of the phylogenesis.	
<b>Brief outline of the course:</b> <ol style="list-style-type: none"> <li>1. Phylogeny of food acquisition, processing and utilization in animals.</li> <li>2. Energy metabolism (factors influencing the metabolic rate; physiology of physical work; principles of aerobic performance in various species).</li> <li>3. Thermal housekeeping (poikilothermic and homoiothermic strategies.</li> <li>4. Life in cool environment).</li> <li>5. The phylogenetic development of the nervous system.</li> <li>6. Sensory abilities of the animals.</li> <li>7. Evolution of the brain. Endocrinal and neuroendocrinal regulation of body functions in evertebrates and vertebrates.</li> <li>8. Reproductive systems of the animals.</li> <li>9. Navigation in animals. Motoric basics of animal behaviour.</li> <li>10. The mechanisms of the exchange of respiratory gases in a phylogenetic view.</li> <li>11. Comparison of circulatory systems in animals.</li> <li>12. Water- and mineral housekeeping in terrestrial and aquatic animals.</li> <li>13. Excretory systems of the animals.</li> </ol>	
<b>Recommended literature:</b>	
<b>Course language:</b>	
<b>Notes:</b>	

<b>Course assessment</b>							
Total number of assessed students: 23							
A	B	C	D	E	FX	N	P
39.13	21.74	0.0	8.7	4.35	0.0	0.0	26.09
<b>Provides:</b> prof. RNDr. Beňadik Šmajda, CSc.							
<b>Date of last modification:</b> 21.09.2021							
<b>Approved:</b> prof. RNDr. Lubomír Kováč, CSc.							

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice							
<b>Faculty:</b> Faculty of Science							
<b>Course ID:</b> ÚBEV/CK1/03		<b>Course name:</b> Cytogenetics and Karyology					
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture / Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 1 / 2 <b>Per study period:</b> 14 / 28 <b>Course method:</b> present							
<b>Number of ECTS credits:</b> 4							
<b>Recommended semester/trimester of the course:</b>							
<b>Course level:</b> II., III.							
<b>Prerequisites:</b>							
<b>Conditions for course completion:</b> written tests, oral examination; Practicals: The protocols and worksheets from the practical activities or distance learning are required. The e-learning course UBEV/Cytogenetika a karyológia is available in Moodle.							
<b>Learning outcomes:</b> To gain knowledge and experience on genetic processes at the cell level using the newest scientific findings of cytogenetics. To get acquainted in detail with the results and significance of human genome mapping (HUGO project).							
<b>Brief outline of the course:</b> 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?							
<b>Recommended literature:</b> Snustad, P.D., Simmons, M.J.: Principles of Genetics. John Wiley and Sons, 5th edition 2009, 871 pp. Periodicals Internet sources							
<b>Course language:</b>							
<b>Notes:</b>							
<b>Course assessment</b> Total number of assessed students: 1582							
A	B	C	D	E	FX	N	P
25.22	14.85	15.74	14.22	18.33	10.75	0.0	0.88
<b>Provides:</b> prof. RNDr. Eva Čellárová, DrSc., doc. RNDr. Katarína Bruňáková, PhD.							
<b>Date of last modification:</b> 26.07.2021							



**Approved:** prof. RNDr. Lubomír Kováč, CSc.

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice	
<b>Faculty:</b> Faculty of Science	
<b>Course ID:</b> ÚBEV/ SDPa/15	<b>Course name:</b> Diploma Thesis Seminar
<b>Course type, scope and the method:</b> <b>Course type:</b> <b>Recommended course-load (hours):</b> <b>Per week: Per study period:</b> <b>Course method:</b> present	
<b>Number of ECTS credits:</b> 4	
<b>Recommended semester/trimester of the course:</b> 1.	
<b>Course level:</b> II.	
<b>Prerequisites:</b>	
<b>Conditions for course completion:</b>	
<b>Learning outcomes:</b>	
<b>Brief outline of the course:</b>	
<b>Recommended literature:</b>	
<b>Course language:</b>	
<b>Notes:</b>	
<b>Course assessment</b> Total number of assessed students: 254	
abs	n
100.0	0.0
<b>Provides:</b>	
<b>Date of last modification:</b> 03.05.2015	
<b>Approved:</b> prof. RNDr. Ľubomír Kováč, CSc.	

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice	
<b>Faculty:</b> Faculty of Science	
<b>Course ID:</b> ÚBEV/ SDPb/15	<b>Course name:</b> Diploma Thesis Seminar
<b>Course type, scope and the method:</b> <b>Course type:</b> <b>Recommended course-load (hours):</b> <b>Per week: Per study period:</b> <b>Course method:</b> present	
<b>Number of ECTS credits:</b> 4	
<b>Recommended semester/trimester of the course:</b> 2.	
<b>Course level:</b> II.	
<b>Prerequisites:</b>	
<b>Conditions for course completion:</b>	
<b>Learning outcomes:</b>	
<b>Brief outline of the course:</b>	
<b>Recommended literature:</b>	
<b>Course language:</b>	
<b>Notes:</b>	
<b>Course assessment</b> Total number of assessed students: 215	
abs	n
100.0	0.0
<b>Provides:</b>	
<b>Date of last modification:</b> 03.05.2015	
<b>Approved:</b> prof. RNDr. Ľubomír Kováč, CSc.	

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice	
<b>Faculty:</b> Faculty of Science	
<b>Course ID:</b> ÚBEV/ SDPc/15	<b>Course name:</b> Diploma Thesis Seminar
<b>Course type, scope and the method:</b> <b>Course type:</b> <b>Recommended course-load (hours):</b> <b>Per week: Per study period:</b> <b>Course method:</b> present	
<b>Number of ECTS credits:</b> 4	
<b>Recommended semester/trimester of the course:</b> 3.	
<b>Course level:</b> II.	
<b>Prerequisites:</b>	
<b>Conditions for course completion:</b>	
<b>Learning outcomes:</b>	
<b>Brief outline of the course:</b>	
<b>Recommended literature:</b>	
<b>Course language:</b>	
<b>Notes:</b>	
<b>Course assessment</b> Total number of assessed students: 218	
abs	n
100.0	0.0
<b>Provides:</b>	
<b>Date of last modification:</b> 03.05.2015	
<b>Approved:</b> prof. RNDr. Ľubomír Kováč, CSc.	

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> ÚBEV/ SDPd/15		<b>Course name:</b> Diploma Thesis Seminar			
<b>Course type, scope and the method:</b> <b>Course type:</b> <b>Recommended course-load (hours):</b> <b>Per week: Per study period:</b> <b>Course method:</b> present					
<b>Number of ECTS credits:</b> 4					
<b>Recommended semester/trimester of the course:</b> 4.					
<b>Course level:</b> II.					
<b>Prerequisites:</b>					
<b>Conditions for course completion:</b>					
<b>Learning outcomes:</b>					
<b>Brief outline of the course:</b>					
<b>Recommended literature:</b>					
<b>Course language:</b>					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 216					
A	B	C	D	E	FX
85.19	10.65	2.78	0.46	0.93	0.0
<b>Provides:</b>					
<b>Date of last modification:</b> 03.05.2015					
<b>Approved:</b> prof. RNDr. Ľubomír Kováč, CSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> ÚBEV/ DPO/14		<b>Course name:</b> Diploma Thesis and its Defence			
<b>Course type, scope and the method:</b> <b>Course type:</b> <b>Recommended course-load (hours):</b> <b>Per week: Per study period:</b> <b>Course method:</b> present					
<b>Number of ECTS credits:</b> 20					
<b>Recommended semester/trimester of the course:</b>					
<b>Course level:</b> II.					
<b>Prerequisites:</b>					
<b>Conditions for course completion:</b>					
<b>Learning outcomes:</b>					
<b>Brief outline of the course:</b>					
<b>Recommended literature:</b>					
<b>Course language:</b>					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 230					
A	B	C	D	E	FX
58.7	24.78	10.0	4.78	1.74	0.0
<b>Provides:</b>					
<b>Date of last modification:</b> 17.02.2022					
<b>Approved:</b> prof. RNDr. Ľubomír Kováč, CSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice							
<b>Faculty:</b> Faculty of Science							
<b>Course ID:</b> ÚBEV/ EET1/03		<b>Course name:</b> Ecological ethology					
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture / Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 2 / 2 <b>Per study period:</b> 28 / 28 <b>Course method:</b> present							
<b>Number of ECTS credits:</b> 6							
<b>Recommended semester/trimester of the course:</b> 2.							
<b>Course level:</b> II., III.							
<b>Prerequisites:</b>							
<b>Conditions for course completion:</b> Field excursion Oral examination.							
<b>Learning outcomes:</b> To analyze and comprehend to principles of behavioral strategies in a given ecosystem from the point of view of sociobiology							
<b>Brief outline of the course:</b> 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 individuals and sexes.							
<b>Recommended literature:</b>							
<b>Course language:</b>							
<b>Notes:</b>							
<b>Course assessment</b> Total number of assessed students: 214							
A	B	C	D	E	FX	N	P
87.38	3.74	5.14	0.47	0.0	0.0	0.0	3.27
<b>Provides:</b> RNDr. Igor Majláth, PhD.							
<b>Date of last modification:</b> 16.05.2021							
<b>Approved:</b> prof. RNDr. Ľubomír Kováč, CSc.							

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> ÚBEV/ EKO/20		<b>Course name:</b> Ecology of Amphibians			
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture / Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 1 / 1 <b>Per study period:</b> 14 / 14 <b>Course method:</b> present					
<b>Number of ECTS credits:</b> 2					
<b>Recommended semester/trimester of the course:</b> 2.					
<b>Course level:</b> II.					
<b>Prerequisites:</b>					
<b>Conditions for course completion:</b> Ongoing evaluation: active participation on practical exercises. Final evaluation: fulfilling the practical task.					
<b>Learning outcomes:</b>					
<b>Brief outline of the course:</b> 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).					
<b>Recommended literature:</b> 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.					
<b>Course language:</b> Slovak or English language.					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 21					
A	B	C	D	E	FX
100.0	0.0	0.0	0.0	0.0	0.0
<b>Provides:</b> RNDr. Monika Balogová, PhD., RNDr. Natália Pipová, PhD.					
<b>Date of last modification:</b> 19.02.2022					
<b>Approved:</b> prof. RNDr. Ľubomír Kováč, CSc.					



## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice	
<b>Faculty:</b> Faculty of Science	
<b>Course ID:</b> ÚBEV/ EKV1/03	<b>Course name:</b> Ecology of Birds
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture / Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 2 / 1 <b>Per study period:</b> 28 / 14 <b>Course method:</b> present	
<b>Number of ECTS credits:</b> 5	
<b>Recommended semester/trimester of the course:</b> 2.	
<b>Course level:</b> II.	
<b>Prerequisites:</b>	
<b>Conditions for course completion:</b>	
<b>Learning outcomes:</b>	
<b>Brief outline of the course:</b> <ol style="list-style-type: none"> <li>1. Anatomy and morphological characteristics of birds (brain, senses, navigation, physiology of flying, plumage, annual and circadian rhythms, reproduction)</li> <li>2. Evolution, speciation, biogeography (species diversity, hybrid zones, differences between tropical and temperate areas)</li> <li>3. Visual and acoustic communication (importance of colour, evolution of social signals, individual discrimination, variability of singing, learning)</li> <li>4. Behaviour (individual and social behaviour, personality, territorial and dominant behaviour, flock behaviour)</li> <li>5. Foraging ecology and migration (foraging guilds, strategies and adaptations, the importance of birds in ecosystem, ornithochory, evolution of migratory behaviour, phenology, types of migrants)</li> <li>6. Mating systems (types, pair formation, extra-pair copulations, sperm competition, lek system)</li> <li>7. Breeding biology (nest construction and protection, microclimate, variability in clutch size, incubation, rearing of young, parental care, colonies, nest parasitism)</li> <li>8. Populations and communities (population structure, survival and mortality, demography, geographical variability, gene flow, competition, communities of different habitats)</li> <li>9. Disease transmission (zoonoses, viruses)</li> <li>10. Threats and species protection (birds in the country, threat factors, fragmentation of populations, legal system)</li> </ol>	
<b>Recommended literature:</b>	
<b>Course language:</b>	
<b>Notes:</b>	

<b>Course assessment</b>					
Total number of assessed students: 237					
A	B	C	D	E	FX
75.11	14.35	8.86	0.42	1.27	0.0
<b>Provides:</b> Mgr. Peter Kaňuch, PhD.					
<b>Date of last modification:</b> 21.02.2022					
<b>Approved:</b> prof. RNDr. Lubomír Kováč, CSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice	
<b>Faculty:</b> Faculty of Science	
<b>Course ID:</b> ÚBEV/ EPZ1/03	<b>Course name:</b> Ecology of Soil Animals
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture / Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 2 / 2 <b>Per study period:</b> 28 / 28 <b>Course method:</b> present	
<b>Number of ECTS credits:</b> 6	
<b>Recommended semester/trimester of the course:</b> 2.	
<b>Course level:</b> II.	
<b>Prerequisites:</b>	
<b>Conditions for course completion:</b> active (100%) participation in seminars and lectures preparation of the presentation to the given topic preparation of calculation protocol practical and oral examination	
<b>Learning outcomes:</b> 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.	
<b>Brief outline of the course:</b> 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. <ol style="list-style-type: none"> <li>1. Soil physical and soil-chemical characteristics.</li> <li>2. Ecological characteristics of dominant groups of soil fauna - Protozoa, Nematoda.</li> <li>3. Ecological characteristics of dominant groups of soil fauna - Annelida, Tardigrada</li> <li>4. Ecological characteristics of dominant groups of soil fauna - Aranea, Pseudoscorpiones, Opiliones</li> <li>5. Ecological characteristics of dominant groups of soil fauna - Acari, Isopoda</li> <li>6. Ecological characteristics of dominant groups of soil fauna - Myriapoda - Pauropoda, Symphyla, Diplopoda, Chilopoda</li> <li>7. Ecological characteristics of dominant groups of soil fauna - Apterygota - Diplura, Protura, Collembola, Thysanura</li> <li>8. Ecological characteristics of dominant groups of soil fauna - Coleoptera - Carabidae, Staphylinidae, Elateridae, Diptera</li> <li>9. Ecological characteristics of dominant groups of soil fauna - Vertebrata-Insektivora</li> <li>10. Methodological approaches, soil sampling.</li> <li>11. Identification of soil fauna-keys as taxonomic tool.</li> <li>12. Identification of soil fauna - morphological differences in males, females, adults, juveniles.</li> </ol>	

13. Open, forest ecosystems and agricultural soils and their fauna.					
<b>Recommended literature:</b> 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. Academic Press, London, 1-355					
<b>Course language:</b>					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 159					
A	B	C	D	E	FX
52.83	22.01	16.98	5.66	2.52	0.0
<b>Provides:</b> RNDr. Natália Raschmanová, PhD.					
<b>Date of last modification:</b> 12.10.2021					
<b>Approved:</b> prof. RNDr. Ľubomír Kováč, CSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> ÚBEV/ EVZ1/03		<b>Course name:</b> Ecology of Water Animals			
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture / Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 2 / 2 <b>Per study period:</b> 28 / 28 <b>Course method:</b> present					
<b>Number of ECTS credits:</b> 6					
<b>Recommended semester/trimester of the course:</b> 2.					
<b>Course level:</b> II.					
<b>Prerequisites:</b>					
<b>Conditions for course completion:</b>					
<b>Learning outcomes:</b> Ecological characteristic of freshwater groups and prevalent species (invertebrates, vertebrates), characteristic for habitat type and water condition (bioindication).					
<b>Brief outline of the course:</b> Biology of the most common representatives and groups of freshwater animals of Central Europe temperate region. Morphological adaptations, taxonomical characters, water communities.					
<b>Recommended literature:</b> Bronsmark, Ch., Hannsson, L. A.: The biology of Lakes and ponds. Biol. Of Habitats Ser, 1998 Fryer, G., Murphy, S. A natural history of the lakes, tarns and streams of the English Lake District. Freshw. Biol. Association Cumbria, 1991					
<b>Course language:</b>					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 188					
A	B	C	D	E	FX
33.51	14.89	16.49	33.51	1.6	0.0
<b>Provides:</b> doc. RNDr. Andrej Mock, PhD.					
<b>Date of last modification:</b> 19.10.2021					
<b>Approved:</b> prof. RNDr. Ľubomír Kováč, CSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice							
<b>Faculty:</b> Faculty of Science							
<b>Course ID:</b> ÚBEV/ EKC1/00		<b>Course name:</b> Ecology of mammals					
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture / Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 1 / 1 <b>Per study period:</b> 14 / 14 <b>Course method:</b> present							
<b>Number of ECTS credits:</b> 3							
<b>Recommended semester/trimester of the course:</b> 4.							
<b>Course level:</b> II., III.							
<b>Prerequisites:</b>							
<b>Conditions for course completion:</b>							
<b>Learning outcomes:</b> To understand a) ecological 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							
<b>Brief outline of the course:</b> 1. Factors of environment. Temperature. Water. Snow. Light. Adaptations. Hypothermy. Hibernation, aestivation, letargy. 2. Reseources. Food. Food strategies and specialistaions. 3. Habitat and nika. Interactions. 4. Komensalism. Mutualism. Kooperation. Competition. Predator and prey. 5. Mammals and plants. Food webs. 6. Teritoriality. Home range. Lek. Metapopulations. 7. Reproduction. Mating systems. Oestrus. r- and K- strategy. Monogamy, polygamy. 8. Dispersion. Migration. Habitat selection. Individual. Population. Natality, mortality. Kohorts. Population dynamics and cycles. Gradations. 9. Mammal diversity. Island biogeografy. Macroecology. Gradients. Long-term studies. 10. Habitat fragmentations. Synanthropy. 11. Conservation of mammals. Wind energy. Mammal introductions. Repatriations, reintroductions. Expansions. 12. Global climate changes and mammals. Protected areas. 13. Vulneralble species. Minimal viable population.							
<b>Recommended literature:</b> 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.							
<b>Course language:</b>							
<b>Notes:</b>							
<b>Course assessment</b> Total number of assessed students: 261							
A	B	C	D	E	FX	N	P
64.37	16.86	11.49	2.3	2.3	0.0	0.0	2.68

<b>Provides:</b> doc. RNDr. Marcel Uhrin, PhD.
<b>Date of last modification:</b> 20.09.2021
<b>Approved:</b> prof. RNDr. Ľubomír Kováč, CSc.

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> ÚBEV/ ETO1/03		<b>Course name:</b> Ethology			
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture / Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 2 / 2 <b>Per study period:</b> 28 / 28 <b>Course method:</b> present					
<b>Number of ECTS credits:</b> 6					
<b>Recommended semester/trimester of the course:</b> 1.					
<b>Course level:</b> II.					
<b>Prerequisites:</b>					
<b>Conditions for course completion:</b> Thematical presentations Oral examination.					
<b>Learning outcomes:</b> To teach the students to know and to be aware of the importance of the behavioural aspect in biological sciences					
<b>Brief outline of the course:</b> 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					
<b>Recommended literature:</b> Franck, D.: Verhaltensbiologie. Einführung in die Ethologie. Georg Thieme-Verlag, 1993 Manning, A., Dawkins, M. S.: An introduction to animal behaviour. Cambridge University Press, 1992					
<b>Course language:</b>					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 1092					
A	B	C	D	E	FX
42.12	24.63	23.35	8.15	1.65	0.09
<b>Provides:</b> RNDr. Igor Majláth, PhD., RNDr. Natália Pipová, PhD.					
<b>Date of last modification:</b> 16.05.2021					
<b>Approved:</b> prof. RNDr. Ľubomír Kováč, CSc.					



## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice	
<b>Faculty:</b> Faculty of Science	
<b>Course ID:</b> ÚBEV/ EB1/99	<b>Course name:</b> Evolutionary Biology
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture <b>Recommended course-load (hours):</b> <b>Per week:</b> 2 <b>Per study period:</b> 28 <b>Course method:</b> present	
<b>Number of ECTS credits:</b> 3	
<b>Recommended semester/trimester of the course:</b> 3.	
<b>Course level:</b> II.	
<b>Prerequisites:</b>	
<b>Conditions for course completion:</b> In the written exam, the student must demonstrate, in addition to knowledge in the field of evolutionary biology, knowledge of analytical and synthetic thinking when solving the answers to problem-formulated questions, while using knowledge from the entire bachelor's and master's studies of his field.	
<b>Learning outcomes:</b> Graduates of the course will gain an overview of evolutionary theories in the past and today, and based on the most modern scientific knowledge about macro- and microevolutionary processes in living nature at various levels of investigation and knowledge, they should be able to analytically solve scientific, but also philosophical questions in the field of evolutionary theory. He is able to argue and critically evaluate different views on evolution and apply his knowledge in different types of work tasks not only in an academic environment, but also in practice, e.g. in agriculture, ecology, environmental protection and the like.	
<b>Brief outline of the course:</b> 1. Introduction to evolutionary biology. Historical development of ideas about the evolution of life. Evidence of the theory of evolution. 2. The origin and evolution of the first forms of life on Earth. 3. Theory of natural selection. 4. Molecular evolution I: Evolutionary processes at the gene level. Molecular evolution. 5. Molecular evolution II: Evolutionary processes at the level of species and populations. 6. Molecular evolution III: Evolution of genetic systems. 7. Reproductive strategies of plants, sexuality, asexuality and evolution. 8. Macroevolution and microevolution. Types of speciation. Evolutionary trends of green plants. 9. Extinction - a sad but natural part of evolution. 10. Overview of animal evolution. 11. Origin and development of man I. 12. Origin and development of man II.	
<b>Recommended literature:</b> Mayr, E.: Co je evoluce. Aktuální pohled na evoluční biologii. Academia Praha, 2009. Flegr, J.: Evoluční biologie. Academia Praha 2005	

Kejnovský, E., Hobza, R.: Evoluční genomika. (<http://www.evolucnigenomika.cz/Skripta/Evolucni%20genomika%20skripta%202008.pdf>) 2009  
 Futuyma, D.J.: Evolution. Sinauer Associates, Sunderland, 2005.  
 Briggs D., Walters S. M.: Proměnlivost a evoluce rostlin. Univerzita Palackého, Olomouc, 2001.  
 Dobzhansky T. et al.: Evolution. San Francisco 1977.  
 E.J.Larson : Evolúcia. Neobyčajná história jednej vedeckej teórie. Slovart, 2006.

**Course language:**

**Notes:**

**Course assessment**

Total number of assessed students: 644

A	B	C	D	E	FX
12.11	22.36	25.47	23.76	14.75	1.55

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

**Date of last modification:** 24.07.2022

**Approved:** prof. RNDr. Ľubomír Kováč, CSc.

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> CIB/ EVČ/21		<b>Course name:</b> Evolúcia človeka			
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture / Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 2 / 0 <b>Per study period:</b> 28 / 0 <b>Course method:</b> present					
<b>Number of ECTS credits:</b> 4					
<b>Recommended semester/trimester of the course:</b>					
<b>Course level:</b> II.					
<b>Prerequisites:</b>					
<b>Conditions for course completion:</b>					
<b>Learning outcomes:</b>					
<b>Brief outline of the course:</b>					
<b>Recommended literature:</b>					
<b>Course language:</b>					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 0					
A	B	C	D	E	FX
0.0	0.0	0.0	0.0	0.0	0.0
<b>Provides:</b> doc. RNDr. Martin Kunderát, Ph.D.					
<b>Date of last modification:</b> 09.02.2021					
<b>Approved:</b> prof. RNDr. Ľubomír Kováč, CSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice	
<b>Faculty:</b> Faculty of Science	
<b>Course ID:</b> KF/DF2p/03	<b>Course name:</b> History of Philosophy 2 (General Introduction)
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture / Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 2 / 1 <b>Per study period:</b> 28 / 14 <b>Course method:</b> present	
<b>Number of ECTS credits:</b> 4	
<b>Recommended semester/trimester of the course:</b>	
<b>Course level:</b> I., II.	
<b>Prerequisites:</b>	
<b>Conditions for course completion:</b> The condition for awarding the evaluation will be the active approach of students to fulfilling their study obligations, independent work with selected philosophical texts in the library, active participation and creative work in seminars. In connection with the possibility of interrupting face-to-face teaching, there will be greater demands on the student's independent study and the processing of professional literature, which will be continuously evaluated, using e-mail to communicate with the teacher, at the end of the semester, preparing and handing in the semester's seminar work by the set date, or also passing a knowledge test - about which the students will be informed in advance in sufficient time.	
<b>Learning outcomes:</b> Deepening knowledge about the development of spiritual culture in the European spiritual space and pointing out the most important sources of this development: (1) ancient philosophy and science, (2) Christianity as the second pillar of Europe, (3) the Renaissance and the emergence of modern science (mathematical natural science ) as the third pillar of European development. Development of critical thinking skills, active position in professional (ethics of science), public and private life (ethics of responsibility). Transcending narrowly specialized views of the world.	
<b>Brief outline of the course:</b>	
<b>Recommended literature:</b> Antológia z diel filozofov. Predsokratovci a Platon. Zost. J. Martinka. Bratislava: Nakladateľstvo EPOCHA 1970; Antológia z diel filozofov. Od Aristotela po Plotina. Zost. J. Martinka. Bratislava: Nakladateľstvo Pravda 1972. Predsokratovci a Platon. Antológia z diel filozofov. Zost. J. Martinka. Bratislava: Vydavateľstvo Iris 1998. Od Aristotela po Plotina. Antológia z diel filozofov. Zost. J. Martinka. Bratislava: Vydavateľstvo IRIS 2006. Anzenbacher, A.: Úvod do filozofie. Prel. K. Šprunk. Praha: SPN 1990. Barthes, R.: Mytologie. Prel. J. Fulka. Praha: Dokořán 2004. Bělohradský, V.: Společnost nevolnosti. Eseje z pozdější doby. Praha: SLON 2009. Benjamin, W.: Iluminácie. Prel. A. Bžoch; J. Truhlářová. Bratislava: Kalligram 1999. Borges, J. L.: Borges ústne. Prednášky a eseje. Prel. P. Šišmišová. Bratislava: Kalligram 2005. Cassirer, E.: Esej o člověku. Prel. J. Piaček. Bratislava: Nakladateľstvo Pravda 1977. Debord, G.: Společnost spektaklu. Prel. J. Fulka; P. Siostrzonek. Praha: Nakladatelství :intu: 2007. Farkašová, E.: Na rube plátna. Bratislava: Vydavateľstvo Spolku slovenských spisovateľov 2013.	

Feyerabend, P.: Věda jako umění. Prel. P. Kurka. Praha: JEŽEK 2004. Freud, S.: Nepokojenost v kultuře. Prel. L. Hošek. Praha: Hynek 1998. Hadot, P.: Co je antická filosofie. Prel. M. Křížová. Praha: Vyšehrad 2017. Hippokratés: Vybrané spisy. Prel. H. Bartoš; J. Černá; J. Daneš; S. Fischerová. Praha: OIKOYMENH 2012. Husserl, E.: Filosofie jako přísná věda. Prel. A. Novák. Praha: Togga 2013. Kuhn, T. S.: Štruktúra vedeckých revolúcií. Prel. J. Viceník. Bratislava: Nakladateľstvo Pravda 1981. Leško, V., Mihina, F. a kol.: Dejiny filozofie. Bratislava. Iris 1993. Leško, V.: Dejiny filozofie I. Od Tálesa po Galileiho. Prešov: v. n. 2004, 2007. Leško, V.: Dejiny filozofie II. Od Bacona po Nietzscheho. Prešov: v. n. 2008. McLuhan, M.: Jak rozumět médiím. Extenze člověka. Prel. M. Calda. Praha: Mladá fronta 2011. Patočka, J.: Duchovní člověk a intelektuál. In: Patočka, J.: Péče o duši III. Praha: OIKOYMENH 2002, s. 355 - 371. Popper, K. R.: Otevřená společnost a její nepřátelé I. Platónovo zařikávání. Prel. M. Calda; J. Moural. Praha: OIKOYMENH 2011. Sloterdijk, P.: Kritika cynického rozumu. Prel. M. Szabó. Bratislava: Kalligram 2013. Störig, H. J.: Malé dějiny filozofie. Prel. P. Rezek. Praha: Zvon 1991. Wittgenstein, L.: Filozofické skúmania. Prel. F. Novosád. Bratislava: Nakladateľstvo Pravda 1979. Wright von, H. G.: Humanizmus ako životný postoj. Prel. M. Žitný. Kalligram 2001. Žižek, S.: Mor fantázií. Prel. M. Gálisová; V. Gális. Bratislava: Kalligram 1998.

**Course language:**

**Notes:**

**Course assessment**

Total number of assessed students: 746

A	B	C	D	E	FX
60.59	14.21	12.6	8.58	3.35	0.67

**Provides:** doc. PhDr. Peter Nezník, CSc.

**Date of last modification:** 11.07.2022

**Approved:** prof. RNDr. Ľubomír Kováč, CSc.

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> ÚBEV/ HDR1/99		<b>Course name:</b> Hydrobiology			
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture / Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 1 / 1 <b>Per study period:</b> 14 / 14 <b>Course method:</b> present					
<b>Number of ECTS credits:</b> 3					
<b>Recommended semester/trimester of the course:</b> 1.					
<b>Course level:</b> I., II.					
<b>Prerequisites:</b>					
<b>Conditions for course completion:</b>					
<b>Learning outcomes:</b>					
<b>Brief outline of the course:</b> The transfer of knowledge of hydrobiology takes place in the form of lectures, seminars, field trips and independent work of students in the field according to the instructions of the teacher. Teaching is focused on understanding the basic dynamics of abiotic and biotic relationships, conditions and interactions in different types of freshwater environments. It notes current issues such as biodiversity loss, degradation of aquatic habitats and drinking water sources, water loss in the country of pollution, historical degradation of watercourses by regulations, migration barriers and pollution, wetland extinction, acquaints students with the starting points of renaturalization and ecosystem revitalization. Water is the key to understanding the functioning of the landscape, living organisms are an indispensable part of the self-cleaning, productive and other properties of water, on which life depends on our planet. The climate crisis is opening up these problems with new urgency.					
<b>Recommended literature:</b> Dobson, M., Frid, C. Ecology of Aquatic Systems. Oxford University Press, 2009 Wetzel, R.G.: Limnology. Academic Press. 3rd Edition, 2001 Wetzel, R.G.: Limnological analyses. Springer Verl., 3rd Edition, 2000					
<b>Course language:</b>					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 222					
A	B	C	D	E	FX
40.99	21.62	17.57	18.47	1.35	0.0
<b>Provides:</b> doc. RNDr. Andrej Mock, PhD.					
<b>Date of last modification:</b> 18.10.2021					

**Approved:** prof. RNDr. Lubomír Kováč, CSc.

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice	
<b>Faculty:</b> Faculty of Science	
<b>Course ID:</b> KF/IH2/03	<b>Course name:</b> Idea Humanitas 2 (General Introduction)
<b>Course type, scope and the method:</b> <b>Course type:</b> Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 2 <b>Per study period:</b> 28 <b>Course method:</b> present	
<b>Number of ECTS credits:</b> 2	
<b>Recommended semester/trimester of the course:</b> 3.	
<b>Course level:</b> II.	
<b>Prerequisites:</b>	
<b>Conditions for course completion:</b> 100% graded credit: 40% (evaluated participation in seminars, processing of partial seminar work - separate assignment) 60% (final seminar work - student project). In the case of implementation of the classical form of teaching - face-to-face - active participation of the student in the seminar; study and reflection of assigned philosophical texts, attempt to interpret them. In the case of the introduction of distance education (as was the case due to Covid-19), the student will have to actively fulfill tasks of a partial nature, where increased demands will be placed on the student and his independent work with philosophical texts and literature. Tasks will be assigned to the students by the teacher on an ongoing basis. The student must study the assigned philosophical texts, think through and process them, submit them as a seminar paper, i.e. in written form. In both cases, the study of literature is necessary to pass the subject. The conclusion of the subject is the preparation of a seminar paper - the final seminar paper - in the range of at least 10 - 12 pages of A4 (with compliance with the bibliographic standard of the Department of Philosophy (KF) for seminar and qualification papers).	
<b>Learning outcomes:</b> To supplement and expand the interest of natural science students in social science issues related to the issues of the development of philosophy, science and human leadership, which are manifested in the urgent problems of today's world and society. Special emphasis is placed on the formation of humanistic ideas, their origin, transformation and possible pitfalls and risks. In addition to thinking about serious questions of the past and present, it also includes thinking about the present and the current contexts of major topics in philosophy and Western culture in particular. Therefore, the preparation and implementation of a program aimed at cooperation with alternative directions of pedagogy in the conditions of our transforming education system is understood as a practical output.	
<b>Brief outline of the course:</b> The age of the image of the world. Doubt as a principle of philosophy. The emergence of the image of the world (Weltbild); the differences of ancient theoria, medieval scientia, the emergence of mathematical natural science. Science as an operation (Betrieb); institutionalization of science. Philosophy, science and the modern world. The movement of human life: acceptance, defense, freedom as struggle, submission to finitude. The modern world and the search for meaning. Bureaucracy, impersonality, predominance of technocratic approaches. Fatigue as a modern threat	



to Europe. The paths to freedom lead through the rediscovery of one's own Self and creativity. The basic condition for the educability of any education is the care of the soul. The crisis of European humanity. Antiquity. Philosophy - the emergence of a special community of people, the beginnings of education - paideia. The winding road of leadership. The origin and birthplace of calculating thinking. Europe and the post-European era. Care of the soul as a basic idea of Patočka's philosophy. The difference in the position of Plato and Democritus in understanding the care of the soul. The idea of caring for the soul and Aristotle.

**Recommended literature:**

Hadot, P.: What is ancient philosophy. Transl. M. Křížová. Prague: Vyšehrad 2017. Hegel, G. W. F.: Phenomenology of Spirit. Prague: NČSAV 1960 Husserl, E.: The Crisis of European Humanity and Philosophy. In: Crisis of European sciences and transcendental phenomenology. Prague: Akademie 1996. Mokrejš, A.: Eros as a Theme of Greek Thought. Prague: Triton 2009. Patočka, J.: Péče o duši I. Prague. OIKOYMENH 1996. Patočka, J.: Care of the soul II. Prague. OIKOYMENH 1999. Vernant, J.-P.: The beginnings of Greek thought. Prague: OIKOYMENH 1995. Wright von, G.H.: Humanism as a life attitude. Bratislava: Kalligram 2001.

**Course language:**

**Notes:**

**Course assessment**

Total number of assessed students: 12

A	B	C	D	E	FX
91.67	8.33	0.0	0.0	0.0	0.0

**Provides:** doc. PhDr. Peter Nezník, CSc.

**Date of last modification:** 24.08.2022

**Approved:** prof. RNDr. Lubomír Kováč, CSc.

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> ÚBEV/IMU1/03		<b>Course name:</b> Immunology			
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture <b>Recommended course-load (hours):</b> <b>Per week: 2 Per study period: 28</b> <b>Course method:</b> present					
<b>Number of ECTS credits:</b> 3					
<b>Recommended semester/trimester of the course:</b> 1.					
<b>Course level:</b> II.					
<b>Prerequisites:</b>					
<b>Conditions for course completion:</b> Recognition. Oral examination.					
<b>Learning outcomes:</b> 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.					
<b>Brief outline of the course:</b> 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.					
<b>Recommended literature:</b> Janeway Ch. A., Travers P., Walport M., Schlomchik M.: Immunobiology. Garland Science, 2004 Murphy, K. (2012): Janeway's Immunobiology. 8th ed. Garland Science Delves, P.J. et al. (2011): Roitt's essential immunology 12th ed Wiley-Blackwell					
<b>Course language:</b>					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 1017					
A	B	C	D	E	FX
39.82	23.3	24.09	7.08	2.06	3.64
<b>Provides:</b> RNDr. Vlasta Demečková, PhD.					
<b>Date of last modification:</b> 13.05.2021					

**Approved:** prof. RNDr. Lubomír Kováč, CSc.

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice							
<b>Faculty:</b> Faculty of Science							
<b>Course ID:</b> ÚBEV/ UFCM/10		<b>Course name:</b> Introduction to Flow Cytometry					
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture / Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 1 / 2 <b>Per study period:</b> 14 / 28 <b>Course method:</b> present							
<b>Number of ECTS credits:</b> 4							
<b>Recommended semester/trimester of the course:</b> 1.							
<b>Course level:</b> II., III.							
<b>Prerequisites:</b>							
<b>Conditions for course completion:</b>							
<b>Learning outcomes:</b> The goal is to teach the students on II. stage some theoretical and practical aspects of flow cytometry. The course will cover theoretical bases of fluorescence, its detection, multiparametric analyses and practical applications in clinical diagnosis and scientific research.							
<b>Brief outline of the course:</b> 1.) Conditions for completing the course, completing training in health and safety regulations. 2.) Fluorescence, types of fluorescent devices, flow cytometer. 3.) Principle of flow cytometry, data presentation, gating strategy. 4.) Particles size in flow cytometry, flow cytometry in cell biology, zoology and microbiology. 5.) Cell sorting. 6.) Cell cycle analysis. 7.) Detection of phosphatidylserine translocation and viability. 8.) Compensation, spectraviewer. 9.) Analysis of mitochondrial membrane potential and activation of caspases. 10.) Detection of stem cells. 11.) Immunophenotyping. 12.) Flow cytometry in botany. 13.) DNA content and genome size. Data evaluation strategies, FlowJo software.							
<b>Recommended literature:</b> 1. H.M. Shapiro: Practical Flow Cytometry, WILEY-LISS, 2003. (ISBN:0-471-41125-6) 2. A.L. Givan: Flow Cytometry: First principles, WILEY-LISS, 2001, (ISBN 0-471-22394-8) 3. J. Dolezel a kol.: Flow Cytometry with Plant Cells, Willey-VCH, 2007, (ISBN: 978-3-527-31487-4)							
<b>Course language:</b>							
<b>Notes:</b>							
<b>Course assessment</b> Total number of assessed students: 187							
A	B	C	D	E	FX	N	P
64.71	7.49	5.35	2.14	1.6	0.0	0.0	18.72
<b>Provides:</b> doc. RNDr. Rastislav Jendželovský, PhD., RNDr. Jana Vargová, PhD., Mgr. Vladislav Kolarčík, PhD.							

<b>Date of last modification:</b> 08.09.2021
<b>Approved:</b> prof. RNDr. Ľubomír Kováč, CSc.

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> ÚBEV/ MECV/16		<b>Course name:</b> Metódy ekologického výskumu cicavcov			
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture / Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 1 / 2 <b>Per study period:</b> 14 / 28 <b>Course method:</b> present					
<b>Number of ECTS credits:</b> 3					
<b>Recommended semester/trimester of the course:</b> 2.					
<b>Course level:</b> II.					
<b>Prerequisites:</b>					
<b>Conditions for course completion:</b>					
<b>Learning outcomes:</b>					
<b>Brief outline of the course:</b>					
<b>Recommended literature:</b>					
<b>Course language:</b>					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 9					
A	B	C	D	E	FX
100.0	0.0	0.0	0.0	0.0	0.0
<b>Provides:</b> doc. RNDr. Marcel Uhrin, PhD.					
<b>Date of last modification:</b> 20.09.2021					
<b>Approved:</b> prof. RNDr. Ľubomír Kováč, CSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice	
<b>Faculty:</b> Faculty of Science	
<b>Course ID:</b> ÚBEV/MZO1/03	<b>Course name:</b> Molecular Basis of Ontogenetic Development
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture <b>Recommended course-load (hours):</b> <b>Per week:</b> 2 <b>Per study period:</b> 28 <b>Course method:</b> present	
<b>Number of ECTS credits:</b> 3	
<b>Recommended semester/trimester of the course:</b>	
<b>Course level:</b> II., III.	
<b>Prerequisites:</b>	
<b>Conditions for course completion:</b> written examination (pass three tests)	
<b>Learning outcomes:</b> Acquiring of basic knowledge about molecular and regulatory mechanisms of ontogenetic development of multicellular organisms (animal and plant organisms).	
<b>Brief outline of the course:</b> Molecular and regulatory basis of ontogenesis: 1) Totipotency of zygote and genomic equivalence as general pre-requisite for ontogenetic development. Cell adhesion and migration, positional information, developmental signals and morphogens. 2) Induction, determination and differentiation. Selective gene expression, combinatory control of gene expression, lateral inhibition. 3) Mechanisms of epigenetic memory. DNA methylation, genomic imprinting, X-chromosome inactivation. Morphogenesis (asymmetry and polarity of cells, reorganization of cytoskeleton, embryonic folding and flexion). 4) Genes controlling development (selector genes, regulators and super-regulators, homeotic genes). Programmed cell death (apoptosis autophagy). 5) 1st test. Ontogenetic development of drosophila: 6) Oogenesis. Specification and polarization of oocyte, determination of oocyte axes. Fertilization, cleavage and early embryogenesis. 7) Early embryo polarization and determination of embryo axes. Specification of body segments, segmentation genes. 8) Gastrulation (germ layers formation, neurulation). Morphogenesis and cell rearrangements. Development of some organs and organ systems. Pupation and metamorphosis. 9) 2nd test. Ontogenetic development of mammals: 10) Fertilization. Cleavage and early embryogenesis (blastulation, gastrulation, neurulation). 11) Early embryo polarization and determination of embryo axes. Induction of primitive streak and germ layers formation. Specification and development of CNS. Somitogenesis, myogenesis. 12) Development of some organs and organ systems. 13) 3rd test.	
<b>Recommended literature:</b> S.F. Gilbert, M.J.F. Barresi: Developmental Biology, 11th edition, Sinauer Associates, Inc., 2016	
<b>Course language:</b>	

<b>Notes:</b>							
<b>Course assessment</b> Total number of assessed students: 418							
A	B	C	D	E	FX	N	P
37.56	20.57	11.96	15.07	8.13	5.26	0.0	1.44
<b>Provides:</b> RNDr. Zuzana Jendželovská, PhD.							
<b>Date of last modification:</b> 09.09.2021							
<b>Approved:</b> prof. RNDr. Ľubomír Kováč, CSc.							



## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice	
<b>Faculty:</b> Faculty of Science	
<b>Course ID:</b> ÚBEV/ NATM/15	<b>Course name:</b> Neuroanatomy
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture / Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 2 / 2 <b>Per study period:</b> 28 / 28 <b>Course method:</b> present	
<b>Number of ECTS credits:</b> 5	
<b>Recommended semester/trimester of the course:</b> 2.	
<b>Course level:</b> I., II.	
<b>Prerequisites:</b>	
<b>Conditions for course completion:</b> 1. compulsory participation on Anatomy lectures and exercises, max. 3 absences per semester. If the number of absences exceeds three, every other absence results in the loss of one point from the earned points. 2. one written exam (max. 50 points) during semester 3. written exam (test, 50 points max.) during summer exam period. Final grade will be calculated based on the total sum of earned points from written exam (50 points) and test (50 points). Grading scale: A (100-91 points), B (90.5-81), C (80.5-71), D (70.5-61), E (60.5-51), FX (50.5 and less)	
<b>Learning outcomes:</b> After successful completion of the lectures, student masters the knowledge on anatomy and organization of central and peripheral nervous system. Student understands the particular functions of nervous system in homeostasis, sensory perception, motor functions, as well as in processing of signal at various levels of nervous system. Successful completion of the lectures prepare students for further study of various psychological disciplines.	
<b>Brief outline of the course:</b> 1. introduction to neuroanatomy, basic principles of functional neuroanatomy, classification of the nervous system, dividing of the Nervous System (CNS, PNS, autonomous NS, somatic NS), 2. the spinal cord and nervous tracts 3. the brainstem: medulla oblongata, pons, mesencephalon 4. peripheral nervous system: spinal and cranial nerves 5. the cerebellum 6. the diencephalon 7. the telencephalon, cerebral cortex (paleopallium, archipallium, neopallium) and basal ganglia 8. ventricular system of the brain, meninges and blood supply, 9. autonomic nervous system: symphatetic and parasymphathetic 10. functional systems I: motor systems 11. functional systems II: sensory systems, perception 12. functional systems III: limbic system, emotions, memory 13. functional systems IV: higher cognitive functions, motivation	
<b>Recommended literature:</b>	

Lovásová, K., Kluchová, D., Boleková, A.: Neuroanatómia pre psychológov, Košice, Equilibria, UPJŠ 2015  
 Miklošová M.: Anatómia, Košice, Equilibria, UPJŠ 2011  
 Druga R., Grim M., Dubový P.: Anatomie centrálního nervového systému Galén Karolinum, 2011  
 Ševc, J., Mochnacký, F.: Anatomické termíny pre jednoodborové a medziodborové štúdium biológie, UPJŠ, e-book (<https://unibook.upjs.sk/sk>), 2020

**Course language:**

**Notes:**

**Course assessment**

Total number of assessed students: 289

A	B	C	D	E	FX
13.84	9.34	18.69	17.3	23.18	17.65

**Provides:** doc. RNDr. Juraj Ševc, PhD.

**Date of last modification:** 07.09.2021

**Approved:** prof. RNDr. Ľubomír Kováč, CSc.

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> CIB/ PZ/21		<b>Course name:</b> Paleozoológia			
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture / Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 2 / 1 <b>Per study period:</b> 28 / 14 <b>Course method:</b> present					
<b>Number of ECTS credits:</b> 4					
<b>Recommended semester/trimester of the course:</b> 2.					
<b>Course level:</b> II.					
<b>Prerequisites:</b>					
<b>Conditions for course completion:</b>					
<b>Learning outcomes:</b>					
<b>Brief outline of the course:</b>					
<b>Recommended literature:</b>					
<b>Course language:</b>					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 0					
A	B	C	D	E	FX
0.0	0.0	0.0	0.0	0.0	0.0
<b>Provides:</b> doc. RNDr. Martin Kunderát, Ph.D.					
<b>Date of last modification:</b> 09.02.2021					
<b>Approved:</b> prof. RNDr. Ľubomír Kováč, CSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice	
<b>Faculty:</b> Faculty of Science	
<b>Course ID:</b> ÚBEV/ PAR2/03	<b>Course name:</b> Parasitology II
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture / Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 1 / 1 <b>Per study period:</b> 14 / 14 <b>Course method:</b> present	
<b>Number of ECTS credits:</b> 3	
<b>Recommended semester/trimester of the course:</b> 2.	
<b>Course level:</b> II., III.	
<b>Prerequisites:</b>	
<b>Conditions for course completion:</b> active participation in practical exercises presentation of seminar work continuous written examinations oral examination	
<b>Learning outcomes:</b> After completing the course Parasitology II. students will demonstrate - knowledge of diagnostic methods commonly used in parasitology - practical use of methods commonly used in parasitology - evaluate the method of detection and identification on the basis of knowledge of parasite life cycles	
<b>Brief outline of the course:</b> The course builds on the knowledge acquired in the Parasitology I. course, expands them and includes vectors transmitted organisms. It focuses on mastering the methods used in parasitology. <b>Syllabus:</b> Week 1: Parasitic adaptations Week 2: Parasite-host interactions Week 3: Behavioral strategies of parasites Week 4: Effect of the parasite on host behavior Week 5: Vector-borne viruses Week 6: Vector-borne bacteria Week 7: Vector-borne parasites Week 8: Laboratory diagnostic methods Week 9: Flotation and serological methods Week 10: Molecular detection and identification Week 11: Methods of capturing vertebrates for parasitological purposes Week 12: Methods of capturing invertebrates for parasitological purposes Week 13: Parasitological autopsy	
<b>Recommended literature:</b> 1. Roberts, Janovy Jr. Nadler, Foundations of Parasitology, 9th edition, 2012 McGraw-Hill Education, 701pp.	

2. Loker, Parasitology: A Conceptual Approach, 2015, Garland Science, 560 pp.							
<b>Course language:</b> slovak, english							
<b>Notes:</b>							
<b>Course assessment</b> Total number of assessed students: 73							
A	B	C	D	E	FX	N	P
75.34	8.22	5.48	1.37	1.37	1.37	0.0	6.85
<b>Provides:</b> RNDr. Viktória Majláthová, PhD., RNDr. Mikuláš Oros, PhD.							
<b>Date of last modification:</b> 17.09.2021							
<b>Approved:</b> prof. RNDr. Ľubomír Kováč, CSc.							

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice	
<b>Faculty:</b> Faculty of Science	
<b>Course ID:</b> ÚBEV/MR1/03	<b>Course name:</b> Plant Metabolism
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture / Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 2 / 2 <b>Per study period:</b> 28 / 28 <b>Course method:</b> present	
<b>Number of ECTS credits:</b> 6	
<b>Recommended semester/trimester of the course:</b>	
<b>Course level:</b> II.	
<b>Prerequisites:</b>	
<b>Conditions for course completion:</b> 1. Active participation in laboratory practicals. Reasoned absence can be justified by the teacher for a maximum of 4 hours (one two-hour course) without the need for replacement. In the case of a longer justified absence, the teacher will determine an alternative form of mastering the missed teaching. 2. Before the practicals, students have to study the main theses of the task that will be realized. Students will receive an exact schedule of tasks according to individual lessons at the beginning of the semester. 3. Students make a written record of the practicals. Students will evaluate the results from and draw a conclusion. The form in which this activity will be checked is determined by the teacher at the beginning of the semester. After this check the task is considered validly completed. 4. Whole practicals are considered to be finally completed upon valid completion of all tasks. The exception is the justified non-participation (point 1). Completion of practicals is obligatory before the exam. 5. The exam of the subject takes place orally. Students ask two questions and have a max. 30 minutes to prepare. Any changes or modifications to the conditions for completing the course due to the COVID19 pandemic, or other serious reasons, are continuously published on the electronic bulletin board of the course.	
<b>Learning outcomes:</b> The subject significantly deepens knowledge from the bachelor's degree. The student should gain an overview of the basic biochemical processes in plants. Emphasis is placed on understanding the principles of their functioning and their significance for plants. Acquaintance of students with basic biochemical research methods of plant metabolism within the practical part. The result of education is also the ability to process and express own results.	
<b>Brief outline of the course:</b>	
<b>Recommended literature:</b> Masarovičová E., Repčák M. et al. Fyziológia rastlín. 2. dopl. vydanie. Vyd. UK Bratislava 2008; Taiz L. et al. Plant Physiology and Development. Sixth editon. Sinauer ass., Sunderland 2014; Repčák M. et al. Návodý na cvičenia z fyziológie rastlín. 4. preprac. vyd. UPJŠ	

Košice 2014 Bhatla S.C., Lal M.A. Plant Physiology, development and metabolism. Springer Nature Singapore Pte Ltd. 2018					
<b>Course language:</b>					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 122					
A	B	C	D	E	FX
22.95	18.85	19.67	15.57	20.49	2.46
<b>Provides:</b> doc. RNDr. Peter Paľove-Balang, PhD.					
<b>Date of last modification:</b> 31.07.2022					
<b>Approved:</b> prof. RNDr. Ľubomír Kováč, CSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> ÚBEV/IMUC1/03		<b>Course name:</b> Practicals in Immunology			
<b>Course type, scope and the method:</b> <b>Course type:</b> Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 3 <b>Per study period:</b> 42 <b>Course method:</b> present					
<b>Number of ECTS credits:</b> 3					
<b>Recommended semester/trimester of the course:</b> 1.					
<b>Course level:</b> II.					
<b>Prerequisites:</b> ÚBEV/IMU1/03					
<b>Conditions for course completion:</b> Recognition. Recognition.					
<b>Learning outcomes:</b> The practical course will focus on basic techniques and skills in immunology laboratories in order to have technical foundation to suggest experimental analysis of some immunological questions.					
<b>Brief outline of the course:</b> Special immunology practicals cover common immunological techniques as well as techniques relevant to the research projects at the department. The main aim is to understand the host immune response to infection. Practical also include a study of the histophysiology of animal immune organs. The students will learn to perform immunological experiments, including critical evaluation of the results.					
<b>Recommended literature:</b> Study materials provided by teacher.					
<b>Course language:</b>					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 347					
A	B	C	D	E	FX
69.74	19.6	9.8	0.58	0.0	0.29
<b>Provides:</b> RNDr. Vlasta Demečková, PhD.					
<b>Date of last modification:</b> 13.05.2021					
<b>Approved:</b> prof. RNDr. Ľubomír Kováč, CSc.					



## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice	
<b>Faculty:</b> Faculty of Science	
<b>Course ID:</b> KPPaPZ/PPZMg/12	<b>Course name:</b> Psychology and Health Psychology (Master's Study)
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture / Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 1 / 2 <b>Per study period:</b> 14 / 28 <b>Course method:</b> present	
<b>Number of ECTS credits:</b> 4	
<b>Recommended semester/trimester of the course:</b>	
<b>Course level:</b> II.	
<b>Prerequisites:</b>	
<b>Conditions for course completion:</b> 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.	
<b>Learning outcomes:</b> 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.	
<b>Brief outline of the course:</b> 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	
<b>Recommended literature:</b> 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:** prof. RNDr. Ľubomír Kováč, CSc.

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice	
<b>Faculty:</b> Faculty of Science	
<b>Course ID:</b> ÚTVŠ/ ÚTVŠ/CM/13	<b>Course name:</b> Seaside Aerobic Exercise
<b>Course type, scope and the method:</b> <b>Course type:</b> Practice <b>Recommended course-load (hours):</b> <b>Per week: 2 Per study period: 28</b> <b>Course method:</b> present	
<b>Number of ECTS credits:</b> 2	
<b>Recommended semester/trimester of the course:</b>	
<b>Course level:</b> I., II.	
<b>Prerequisites:</b>	
<b>Conditions for course completion:</b> Completion: passed Condition for successful course completion: - active participation in line with the study rule of procedure and course guidelines - effective performance of all tasks- aerobics, water exercise, yoga, Pilates and others	
<b>Learning outcomes:</b> Content standard: The student demonstrates relevant knowledge and skills in the field, which content is defined in the course syllabus and recommended literature. Performance standard: Upon completion of the course students are able to meet the performance standard and: - perform basic aerobics steps and basics of health exercises, - conduct verbal and non-verbal communication with clients during exercise, - organise and manage the process of physical recreation in leisure time	
<b>Brief outline of the course:</b> Brief outline of the course: 1. Basic aerobics – low impact aerobics, high impact aerobics, basic steps and cuing 2. Basics of aqua fitness 3. Basics of Pilates 4. Health exercises 5. Bodyweight exercises 6. Swimming 7. Relaxing yoga exercises 8. Power yoga 9. Yoga relaxation 10. Final assessment Students can engage in different sport activities offered by the sea resort – swimming, rafting, volleyball, football, table tennis, tennis and other water sports in particular.	
<b>Recommended literature:</b> 1. BUZKOVÁ, K. 2006. Fitness jóga. Praha: Grada. 167 s.	

2. ČECHOVSKÁ, I., MILEROVÁ, H., NOVOTNÁ, V. Aqua-fitness. Praha: Grada. 136 s. 3. EVANS, M., HUDSON, J., TUCKER, P. 2001. Umění harmonie: meditace, jóga, tai-či, strečink. 192 s. 4. JARKOVSKÁ, H., JARKOVSKÁ, M. 2005. Posilování s vlastním tělem 417 krát jinak. Praha: Grada. 209 s. 5. KOVAŘÍKOVÁ, K. 2017. Aerobik a fitness. Karolium, 130 s.	
<b>Course language:</b> Slovak language	
<b>Notes:</b>	
<b>Course assessment</b> Total number of assessed students: 54	
abs	n
11.11	88.89
<b>Provides:</b> Mgr. Agata Dorota Horbacz, PhD.	
<b>Date of last modification:</b> 29.03.2022	
<b>Approved:</b> prof. RNDr. Lubomír Kováč, CSc.	

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice	
<b>Faculty:</b> Faculty of Science	
<b>Course ID:</b> ÚBEV/ UBEV/VKKI//15	<b>Course name:</b> Selected topics in clinical immunology
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture / Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 2 / 1 <b>Per study period:</b> 28 / 14 <b>Course method:</b> present	
<b>Number of ECTS credits:</b> 5	
<b>Recommended semester/trimester of the course:</b>	
<b>Course level:</b> II.	
<b>Prerequisites:</b>	
<b>Conditions for course completion:</b> oral exam, active participation on exercises	
<b>Learning outcomes:</b>	
<b>Brief outline of the course:</b> The aim is to underline the importance of basic immunology knowledge in clinical immunological practice. To understand the pathophysiology of selected diseases that are immunologically based, the signs, symptoms and possibilities of the investigation methods used in their detection. HYPERSENSITIVE REACTIONS: ALLERGY: Anaphylaxis, Atopy IMMUNITY AND MICROORGANISMS Defense against parasites Defense against bacteria Defense against the virus (HIV) TRANSPLANTATION Basic terms. Graft-versus-host (GvH) and host-versus-graft (HvG) reactions. IMMUNITY AND TUMORS Malignant Transformation Tumor antigens Effector mechanisms of antitumor immunity Escape mechanisms of tumor cells from immune surveillance Tumor immunotherapy	
<b>Recommended literature:</b> Masseyeff,R.F., Albert,W.H., Staines,N.A.: Methods of immnological analysis I - III., 1993. Robert R. Rich, Thomas A. Fleisher, Harry W. Schroeder Jr., Cornelia M. Weyand, David B. Corry, Jennifer M. Puck: Clinical Immunology - 6th Edition - Elsevier	
<b>Course language:</b> English	
<b>Notes:</b>	

<b>Course assessment</b>					
Total number of assessed students: 58					
A	B	C	D	E	FX
70.69	25.86	3.45	0.0	0.0	0.0
<b>Provides:</b> RNDr. Vlasta Demečková, PhD.					
<b>Date of last modification:</b> 11.07.2022					
<b>Approved:</b> prof. RNDr. Lubomír Kováč, CSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice							
<b>Faculty:</b> Faculty of Science							
<b>Course ID:</b> ÚBEV/ VKH1/03		<b>Course name:</b> Selected topics in herpetology					
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture / Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 2 / 1 <b>Per study period:</b> 28 / 14 <b>Course method:</b> present							
<b>Number of ECTS credits:</b> 4							
<b>Recommended semester/trimester of the course:</b> 2.							
<b>Course level:</b> II., III.							
<b>Prerequisites:</b>							
<b>Conditions for course completion:</b> Field excursion Oral examination.							
<b>Learning outcomes:</b> To broaden the knowledge of students on evolution, taxonomy, morphology, ecology and ecology of reptiles acquired before in the subject Zoology.							
<b>Brief outline of the course:</b> Systematical overview of amphibia and reptilia with a classification on species level. Phylogenetical development of amphibia and reptilia. Characteristics of morphological and ecophysiological adaptations. Adaptations on the significant abiotic and biotic factors (food, temperature, substrate, humidity, etc.). Selected aspects of population dynamics of some groups. Behavioral manifestations of amphibia and reptilia from a comparative aspect.							
<b>Recommended literature:</b> 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							
<b>Course language:</b>							
<b>Notes:</b>							
<b>Course assessment</b> Total number of assessed students: 161							
A	B	C	D	E	FX	N	P
89.44	4.35	2.48	0.0	0.0	0.0	0.0	3.73
<b>Provides:</b> RNDr. Igor Majláth, PhD.							
<b>Date of last modification:</b> 16.05.2021							

**Approved:** prof. RNDr. Lubomír Kováč, CSc.



## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice		
<b>Faculty:</b> Faculty of Science		
<b>Course ID:</b> KPPaPZ/SPVKE/07	<b>Course name:</b> Social-Psychological Training of Coping with Critical Life Situations	
<b>Course type, scope and the method:</b> <b>Course type:</b> Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 2 <b>Per study period:</b> 28 <b>Course method:</b> present		
<b>Number of ECTS credits:</b> 2		
<b>Recommended semester/trimester of the course:</b> 2.		
<b>Course level:</b> II.		
<b>Prerequisites:</b>		
<b>Conditions for course completion:</b>		
<b>Learning outcomes:</b>		
<b>Brief outline of the course:</b>		
<b>Recommended literature:</b>		
<b>Course language:</b>		
<b>Notes:</b>		
<b>Course assessment</b> Total number of assessed students: 126		
abs	n	z
97.62	2.38	0.0
<b>Provides:</b> Mgr. Ondrej Kalina, PhD.		
<b>Date of last modification:</b> 24.06.2022		
<b>Approved:</b> prof. RNDr. Ľubomír Kováč, CSc.		

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> ÚBEV/ EKP1/04		<b>Course name:</b> Soil Ecology			
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture / Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 2 / 1 <b>Per study period:</b> 28 / 14 <b>Course method:</b> present					
<b>Number of ECTS credits:</b> 5					
<b>Recommended semester/trimester of the course:</b> 1., 3.					
<b>Course level:</b> II.					
<b>Prerequisites:</b>					
<b>Conditions for course completion:</b> Successful completion of the course requires active participation in lectures, preparation and presentation of a PPT presentation on the assigned topic (short literature research), processing of the assigned task in practical exercises and presentation of the results of the task, passing the oral examination.					
<b>Learning outcomes:</b> The goal of the course is to understand soil as a heterogeneous substrate and environment for organisms, with an emphasis on the mineral and organic components of soil that are essential for the existence and development of populations of living organisms.					
<b>Brief outline of the course:</b> 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, drilosphere, termitosphere).					
<b>Recommended literature:</b> Coleman D. C., Crossley D. A. jr.: Fundamentals of soil ecology. Academic Press, 1995 Lavelle P., Spain A. V.: Soil ecology. Kluwer Academic Publishers. Dordrecht-Boston-London, 2001 Dunger W., Fiedler H. J.: Methoden in Bodenbiologie. VEB Gustav Fischer Verlag, Jena, 1989 Šantručková H., Kaštovská E., Bárta J., Miko L., Tajovský K.: Ekologie pudy. Episteme, 2018					
<b>Course language:</b>					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 170					
A	B	C	D	E	FX
55.29	31.18	10.59	1.76	1.18	0.0
<b>Provides:</b> RNDr. Peter Ľuptáčík, PhD.					

<b>Date of last modification:</b> 05.03.2023
<b>Approved:</b> prof. RNDr. Ľubomír Kováč, CSc.

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice	
<b>Faculty:</b> Faculty of Science	
<b>Course ID:</b> ÚTVŠ/ TVa/11	<b>Course name:</b> Sports Activities I.
<b>Course type, scope and the method:</b> <b>Course type:</b> Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 2 <b>Per study period:</b> 28 <b>Course method:</b> present	
<b>Number of ECTS credits:</b> 2	
<b>Recommended semester/trimester of the course:</b> 1.	
<b>Course level:</b> I., I.II., II.	
<b>Prerequisites:</b>	
<b>Conditions for course completion:</b> Min. 80% of active participation in classes.	
<b>Learning outcomes:</b> 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.	
<b>Brief outline of the course:</b> 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.	
<b>Recommended literature:</b> BENCE, M. et al. 2005. Plávanie. Banská Bystrica: FHV UMB. 198s. ISBN 80-8083-140-8. [online] Dostupné na: <a href="https://www.ff.umb.sk/app/cmsFile.php?disposition=a&amp;ID=571">https://www.ff.umb.sk/app/cmsFile.php?disposition=a&amp;ID=571</a> BUZKOVÁ, K. 2006. Fitness jóga, harmonické cvičení těla I duše. Praha: Grada. ISBN 8024715252. JARKOVSKÁ, H, JARKOVSKÁ, M. 2005. Posilování s vlastním tělem 417 krát jinak. Praha: Grada. ISBN 9788024757308. KAČÁNI, L. 2002. Futbal:Tréning hrou. Bratislava: Peter Mačura – PEEM. 278s. ISBN 8089197027.	

KRESTA, J. 2009. Futsal. Praha: Grada Publishing, a.s. 112s. ISBN 9788024725345.  
 LAWRENCE, G. 2019. Power jóga nejen pro sportovce. Brno: CPress. ISBN 9788026427902.  
 SNER, Wolfgang. 2004. Posilování ve fitness. České Budějovice: Kopp. ISBN 8072322141.  
 STACKEOVÁ, D. 2014. Fitness programy z pohledu kinantropologie. Praha: Galén. ISBN 9788074921155.  
 VOMÁČKO, S. BOŠTÍKOVÁ, S. 2003. Lezení na umělých stěnách. Praha: Grada. 129s. ISBN 8024721743.

**Course language:**

Slovak language

**Notes:**

**Course assessment**

Total number of assessed students: 14548

abs	abs-A	abs-B	abs-C	abs-D	abs-E	n	neabs
86.46	0.07	0.0	0.0	0.0	0.05	8.41	5.02

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

**Date of last modification:** 29.03.2022

**Approved:** prof. RNDr. Ľubomír Kováč, CSc.

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice	
<b>Faculty:</b> Faculty of Science	
<b>Course ID:</b> ÚTVŠ/ TVb/11	<b>Course name:</b> Sports Activities II.
<b>Course type, scope and the method:</b> <b>Course type:</b> Practice <b>Recommended course-load (hours):</b> <b>Per week: 2 Per study period: 28</b> <b>Course method:</b> present	
<b>Number of ECTS credits:</b> 2	
<b>Recommended semester/trimester of the course:</b> 2.	
<b>Course level:</b> I., I.II., II.	
<b>Prerequisites:</b>	
<b>Conditions for course completion:</b> active participation in classes - min. 80%.	
<b>Learning outcomes:</b> 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.	
<b>Brief outline of the course:</b> 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.	
<b>Recommended literature:</b> BENCE, M. et al. 2005. Plávanie. Banská Bystrica: FHV UMB. 198s. ISBN 80-8083-140-8. [online] Dostupné na: <a href="https://www.ff.umb.sk/app/cmsFile.php?disposition=a&amp;ID=571">https://www.ff.umb.sk/app/cmsFile.php?disposition=a&amp;ID=571</a> BUZKOVÁ, K. 2006. Fitness jóga, harmonické cvičení těla I duše. Praha: Grada. ISBN 8024715252. JARKOVSKÁ, H, JARKOVSKÁ, M. 2005. Posilování s vlastním tělem 417 krát jinak. Praha: Grada. ISBN 9788024757308. KAČÁNI, L. 2002. Futbal:Tréning hrou. Bratislava: Peter Mačura – PEEM. 278s. ISBN 8089197027. KRESTA, J. 2009. Futsal.Praha: Grada Publishing, a.s. 112s. ISBN 9788024725345.	

LAWRENCE, G. 2019. Power jóga nejen pro sportovce. Brno: CPress. ISBN 9788026427902.  
 SNER, Wolfgang. 2004. Posilování ve fitness. České Budějovice: Kopp. ISBN 8072322141.  
 STACKEOVÁ, D. 2014. Fitness programy z pohledu kinantropologie. Praha: Galén. ISBN 9788074921155.  
 VOMÁČKO, S. BOŠTÍKOVÁ, S. 2003. Lezení na umělých stěnách. Praha: Grada. 129s. ISBN 8024721743.

**Course language:**

Slovak language

**Notes:**

**Course assessment**

Total number of assessed students: 13211

abs	abs-A	abs-B	abs-C	abs-D	abs-E	n	neabs
84.35	0.51	0.02	0.0	0.0	0.05	10.78	4.29

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

**Date of last modification:** 29.03.2022

**Approved:** prof. RNDr. Ľubomír Kováč, CSc.

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice	
<b>Faculty:</b> Faculty of Science	
<b>Course ID:</b> ÚTVŠ/ TVc/11	<b>Course name:</b> Sports Activities III.
<b>Course type, scope and the method:</b> <b>Course type:</b> Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 2 <b>Per study period:</b> 28 <b>Course method:</b> present	
<b>Number of ECTS credits:</b> 2	
<b>Recommended semester/trimester of the course:</b> 3.	
<b>Course level:</b> I., I.II., II.	
<b>Prerequisites:</b>	
<b>Conditions for course completion:</b> min. 80% of active participation in classes	
<b>Learning outcomes:</b> 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.	
<b>Brief outline of the course:</b> 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.	
<b>Recommended literature:</b> BENEC, M. et al. 2005. Plávanie. Banská Bystrica: FHV UMB. 198s. ISBN 80-8083-140-8. [online] Dostupné na: <a href="https://www.ff.umb.sk/app/cmsFile.php?disposition=a&amp;ID=571">https://www.ff.umb.sk/app/cmsFile.php?disposition=a&amp;ID=571</a> BUZKOVÁ, K. 2006. Fitness jóga, harmonické cvičení těla I duše. Praha: Grada. ISBN 8024715252. JARKOVSKÁ, H, JARKOVSKÁ, M. 2005. Posilování s vlastním tělem 417 krát jinak. Praha: Grada. ISBN 9788024757308. KAČÁNI, L. 2002. Futbal:Trénink hrou. Bratislava: Peter Mačura – PEEM. 278s. ISBN 8089197027. KRESTA, J. 2009. Futsal.Praha: Grada Publishing, a.s. 112s. ISBN 9788024725345.	



LAWRENCE, G. 2019. Power jóga nejen pro sportovce. Brno: CPress. ISBN 9788026427902.  
 SNER, Wolfgang. 2004. Posilování ve fitness. České Budějovice: Kopp. ISBN 8072322141.  
 STACKEOVÁ, D. 2014. Fitness programy z pohledu kinantropologie. Praha: Galén. ISBN 9788074921155.  
 VOMÁČKO, S. BOŠTÍKOVÁ, S. 2003. Lezení na umělých stěnách. Praha: Grada. 129s. ISBN 8024721743.

**Course language:**

Slovak language

**Notes:**

**Course assessment**

Total number of assessed students: 8879

abs	abs-A	abs-B	abs-C	abs-D	abs-E	n	neabs
88.62	0.07	0.01	0.0	0.0	0.02	4.25	7.03

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

**Date of last modification:** 29.03.2022

**Approved:** prof. RNDr. Ľubomír Kováč, CSc.

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice	
<b>Faculty:</b> Faculty of Science	
<b>Course ID:</b> ÚTVŠ/ TVd/11	<b>Course name:</b> Sports Activities IV.
<b>Course type, scope and the method:</b> <b>Course type:</b> Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 2 <b>Per study period:</b> 28 <b>Course method:</b> present	
<b>Number of ECTS credits:</b> 2	
<b>Recommended semester/trimester of the course:</b> 4.	
<b>Course level:</b> I., I.II., II.	
<b>Prerequisites:</b>	
<b>Conditions for course completion:</b> min. 80% of active participation in classes	
<b>Learning outcomes:</b> 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.	
<b>Brief outline of the course:</b> 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.	
<b>Recommended literature:</b> BENEC, M. et al. 2005. Plávanie. Banská Bystrica: FHV UMB. 198s. ISBN 80-8083-140-8. [online] Dostupné na: <a href="https://www.ff.umb.sk/app/cmsFile.php?disposition=a&amp;ID=571">https://www.ff.umb.sk/app/cmsFile.php?disposition=a&amp;ID=571</a> BUZKOVÁ, K. 2006. Fitness jóga, harmonické cvičení těla I duše. Praha: Grada. ISBN 8024715252. JARKOVSKÁ, H, JARKOVSKÁ, M. 2005. Posilování s vlastním tělem 417 krát jinak. Praha: Grada. ISBN 9788024757308. KAČÁNI, L. 2002. Futbal:Trénink hrou. Bratislava: Peter Mačura – PEEM. 278s. ISBN 8089197027. KRESTA, J. 2009. Futsal.Praha: Grada Publishing, a.s. 112s. ISBN 9788024725345.	

LAWRENCE, G. 2019. Power jóga nejen pro sportovce. Brno: CPress. ISBN 9788026427902.  
 SNER, Wolfgang. 2004. Posilování ve fitness. České Budějovice: Kopp. ISBN 8072322141.  
 STACKEOVÁ, D. 2014. Fitness programy z pohledu kinantropologie. Praha: Galén. ISBN 9788074921155.  
 VOMÁČKO, S. BOŠTÍKOVÁ, S. 2003. Lezení na umělých stěnách. Praha: Grada. 129s. ISBN 8024721743.

**Course language:**

Slovak language

**Notes:**

**Course assessment**

Total number of assessed students: 5628

abs	abs-A	abs-B	abs-C	abs-D	abs-E	n	neabs
82.66	0.28	0.04	0.0	0.0	0.0	8.05	8.97

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

**Date of last modification:** 29.03.2022

**Approved:** prof. RNDr. Ľubomír Kováč, CSc.

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice	
<b>Faculty:</b> Faculty of Science	
<b>Course ID:</b> ÚBEV/ BKB/20	<b>Course name:</b> Stem Cell Biology
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture <b>Recommended course-load (hours):</b> <b>Per week:</b> 2 <b>Per study period:</b> 28 <b>Course method:</b> present	
<b>Number of ECTS credits:</b> 4	
<b>Recommended semester/trimester of the course:</b> 1., 3.	
<b>Course level:</b> II.	
<b>Prerequisites:</b>	
<b>Conditions for course completion:</b>	
<b>Learning outcomes:</b> The aim of the course is to ground students with basic knowledge about biology of hematopoietic stem cells and about the embryonic, adult and cancer stem cells. The purpose of the course is to acquaint student with regulation of self-renewal, proliferation, differentiation and plasticity of stem cells, as well as the humoral factors involved in these processes. Moreover, the microenvironment of stem cells and clinical use of cytokines and hematopoietic stem cells will be discussed during the course, together with the induced pluripotent stem cells and potential usage of stem cells in regenerative medicine.	
<b>Brief outline of the course:</b> <ol style="list-style-type: none"> <li>1. Stem cell, the features of stem cells;</li> <li>2. Pluripotent/multipotent hematopoietic stem cells;</li> <li>3. The investigation methods of stem cells, the models of functional organization of population of hematopoietic stem cells, differentiation antigens;</li> <li>4. Myeloid hematopoietic stem cell;</li> <li>5. Megakaryocyte–erythroid progenitor cells;</li> <li>6. Common lymphoid progenitor;</li> <li>7. Microenvironment of stem cells, homing and mobilization of hematopoietic stem cells;</li> <li>8. Plasticity of stem cells and factors regulating self-renewal, proliferation and differentiation;</li> <li>9. Cytokines, hematopoietic growth factors and interleukins in hematopoiesis;</li> <li>10. Clinical use of cytokines and hematopoietic stem cells;</li> <li>11. Embryonic and induced pluripotent stem cells and their potential in regenerative medicine;</li> <li>12. Adult stem cells and their potential in regenerative medicine;</li> <li>13. Cancer stem-like cells.</li> </ol>	
<b>Recommended literature:</b> Farrar W.B.: Cancer Stem Cells. Cambridge University Press, 2010 Majumder S.: Stem Cells and Cancer. Springer Science+Business Media, LLC 2009 Scatena R., Mordente A., Giardina B.: Advances in Cancer Stem Cell Biology. Springer Science +Business Media, LLC 2012	

Simmons A.: Hematology. A Combined Theoretical & Technical Approach, W.B. Saunders Company, Philadelphia, 1989

Yu J.S.: Cancer Stem Cells. Methods and protocols. Humana Press, a part of Springer Science +Business Media, LLC 2009

Relevantné vedecké práce z uvedenej problematiky publikované v odborných časopisoch a dostupné v medzinárodných databázach (<https://www.ncbi.nlm.nih.gov/pubmed/>; <https://www.scopus.com/search/form.uri?display=basic>; <https://www.sciencedirect.com/>), napr. Zakrzewski a kol., Stem cells: past, present, and future. Stem Cell Research & Therapy (2019), 10:68: <https://doi.org/10.1186/s13287-019-1165-5>

Batlle – Clevers, Cancer stem cells revisited. Nature medicine (2017), 23 (10): doi:10.1038/nm.4409

Tweedel, The Adaptability of Somatic Stem Cells: A Review. Journal of Stem Cells and Regenerative Medicine (2017), 13(1)

Ferraro – Lo Celso. Adult stem cells and their niches. Adv Exp Med Biol. (2010), 695: 155–168. doi:10.1007/978-1-4419-7037-4\_11

**Course language:**

**Notes:**

**Course assessment**

Total number of assessed students: 30

A	B	C	D	E	FX
33.33	10.0	10.0	23.33	20.0	3.33

**Provides:** prof. RNDr. Peter Fedoročko, CSc., RNDr. Jana Vargová, PhD.

**Date of last modification:** 28.09.2021

**Approved:** prof. RNDr. Ľubomír Kováč, CSc.

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice	
<b>Faculty:</b> Faculty of Science	
<b>Course ID:</b> ÚBEV/ SVK/01	<b>Course name:</b> Student Scientific Conference
<b>Course type, scope and the method:</b> <b>Course type:</b> <b>Recommended course-load (hours):</b> <b>Per week: Per study period:</b> <b>Course method:</b> present	
<b>Number of ECTS credits:</b> 4	
<b>Recommended semester/trimester of the course:</b>	
<b>Course level:</b> I., II.	
<b>Prerequisites:</b>	
<b>Conditions for course completion:</b>	
<b>Learning outcomes:</b>	
<b>Brief outline of the course:</b>	
<b>Recommended literature:</b>	
<b>Course language:</b>	
<b>Notes:</b>	
<b>Course assessment</b> Total number of assessed students: 20	
abs	n
100.0	0.0
<b>Provides:</b>	
<b>Date of last modification:</b> 30.11.2021	
<b>Approved:</b> prof. RNDr. Ľubomír Kováč, CSc.	

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice	
<b>Faculty:</b> Faculty of Science	
<b>Course ID:</b> ÚTVŠ/ LKSp/13	<b>Course name:</b> Summer Course-Rafting of TISA River
<b>Course type, scope and the method:</b> <b>Course type:</b> Practice <b>Recommended course-load (hours):</b> <b>Per week: 2 Per study period: 28</b> <b>Course method:</b> present	
<b>Number of ECTS credits:</b> 2	
<b>Recommended semester/trimester of the course:</b>	
<b>Course level:</b> I., II.	
<b>Prerequisites:</b>	
<b>Conditions for course completion:</b> Completion: passed Condition for successful course completion: - active participation in line with the study rule of procedure and course guidelines - effective performance of all tasks: carrying a canoe, entering and exiting a canoe, righting a canoe, paddling	
<b>Learning outcomes:</b> Content standard: The student demonstrates relevant knowledge and skills in the field, which content is defined in the course syllabus and recommended literature. Performance standard: Upon completion of the course students are able to meet the performance standard and: - implement the acquired knowledge in different situations and practice, - implement basic skills to manipulate a canoe on a waterway, - determine the right spot for camping, - prepare a suitable material and equipment for camping.	
<b>Brief outline of the course:</b> 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	
<b>Recommended literature:</b> 1. JUNGER, J. et al. Turistika a športy v prírode. Prešov: FHPV PU v Prešove. 2002. ISBN 8080680973. Internetové zdroje: 1. STEJSKAL, T. Vodná turistika. Prešov: PU v Prešove. 1999. Dostupné na: <a href="https://ulozto.sk/tamhle/UkyxQ2lYF8qh/name/Nahrane-7-5-2021-v-14-46-39#!ZGDjBGR2AQtkAzVkAzLkLJWuLwWxZ2ukBRLjnGqSomICMmOyZN==">https://ulozto.sk/tamhle/UkyxQ2lYF8qh/name/Nahrane-7-5-2021-v-14-46-39#!ZGDjBGR2AQtkAzVkAzLkLJWuLwWxZ2ukBRLjnGqSomICMmOyZN==</a>	
<b>Course language:</b> Slovak language	
<b>Notes:</b>	
<b>Course assessment</b> Total number of assessed students: 209	
abs	n
37.32	62.68
<b>Provides:</b> Mgr. Dávid Kaško, PhD.	
<b>Date of last modification:</b> 29.03.2022	
<b>Approved:</b> prof. RNDr. Ľubomír Kováč, CSc.	



## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice							
<b>Faculty:</b> Faculty of Science							
<b>Course ID:</b> ÚBEV/ UK/17		<b>Course name:</b> Urbánna ekológia					
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture / Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 2 / 1 <b>Per study period:</b> 28 / 14 <b>Course method:</b> present							
<b>Number of ECTS credits:</b> 3							
<b>Recommended semester/trimester of the course:</b> 2.							
<b>Course level:</b> II., III.							
<b>Prerequisites:</b>							
<b>Conditions for course completion:</b>							
<b>Learning outcomes:</b>							
<b>Brief outline of the course:</b>							
<b>Recommended literature:</b>							
<b>Course language:</b>							
<b>Notes:</b>							
<b>Course assessment</b> Total number of assessed students: 31							
A	B	C	D	E	FX	N	P
87.1	0.0	0.0	0.0	0.0	0.0	0.0	12.9
<b>Provides:</b> doc. RNDr. Marcel Uhrin, PhD.							
<b>Date of last modification:</b> 20.09.2021							
<b>Approved:</b> prof. RNDr. Ľubomír Kováč, CSc.							

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> ÚBEV/ VMES/17		<b>Course name:</b> Vývinové a molekulárne mechanizmy v evolúcii stavovcov			
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture / Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 2 / 0 <b>Per study period:</b> 28 / 0 <b>Course method:</b> present					
<b>Number of ECTS credits:</b> 2					
<b>Recommended semester/trimester of the course:</b>					
<b>Course level:</b> II.					
<b>Prerequisites:</b>					
<b>Conditions for course completion:</b>					
<b>Learning outcomes:</b>					
<b>Brief outline of the course:</b>					
<b>Recommended literature:</b>					
<b>Course language:</b>					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 9					
A	B	C	D	E	FX
0.0	11.11	88.89	0.0	0.0	0.0
<b>Provides:</b> doc. RNDr. Martin Kunderát, Ph.D.					
<b>Date of last modification:</b> 23.02.2017					
<b>Approved:</b> prof. RNDr. Ľubomír Kováč, CSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice	
<b>Faculty:</b> Faculty of Science	
<b>Course ID:</b> ÚBEV/ ZOG1/03	<b>Course name:</b> Zoogeography
<b>Course type, scope and the method:</b> <b>Course type:</b> Lecture / Practice <b>Recommended course-load (hours):</b> <b>Per week:</b> 2 / 2 <b>Per study period:</b> 28 / 28 <b>Course method:</b> present	
<b>Number of ECTS credits:</b> 6	
<b>Recommended semester/trimester of the course:</b> 1.	
<b>Course level:</b> I., II.	
<b>Prerequisites:</b>	
<b>Conditions for course completion:</b> Active participation in seminars. Preparation of oral presentation to a selected topic. Completion of two semestral written examinations. Oral examination.	
<b>Learning outcomes:</b> 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.	
<b>Brief outline of the course:</b> 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).	
<b>Recommended literature:</b> 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	
<b>Course language:</b>	
<b>Notes:</b>	

<b>Course assessment</b>					
Total number of assessed students: 989					
A	B	C	D	E	FX
24.47	23.56	23.56	18.91	7.79	1.72
<b>Provides:</b> prof. RNDr. Ľubomír Kováč, CSc.					
<b>Date of last modification:</b> 10.12.2021					
<b>Approved:</b> prof. RNDr. Ľubomír Kováč, CSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> ÚBEV/ ZFZ/14		<b>Course name:</b> Zoology and Animal Physiology			
<b>Course type, scope and the method:</b> <b>Course type:</b> <b>Recommended course-load (hours):</b> <b>Per week: Per study period:</b> <b>Course method:</b> present					
<b>Number of ECTS credits:</b> 4					
<b>Recommended semester/trimester of the course:</b>					
<b>Course level:</b> II.					
<b>Prerequisites:</b> ÚBEV/EFZ1/03 and ÚBEV/MEB1/03 and ÚBEV/IMU1/03 and ÚBEV/ZOG1/03 and ÚBEV/EB1/99 and ÚBEV/ETO1/03					
<b>Conditions for course completion:</b>					
<b>Learning outcomes:</b>					
<b>Brief outline of the course:</b>					
<b>Recommended literature:</b>					
<b>Course language:</b>					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 71					
A	B	C	D	E	FX
30.99	30.99	22.54	11.27	0.0	4.23
<b>Provides:</b>					
<b>Date of last modification:</b> 19.02.2022					
<b>Approved:</b> prof. RNDr. Ľubomír Kováč, CSc.					