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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> ÚBEV/ ACM/12		<b>Course name:</b> Analytical 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> 4.							
<b>Course level:</b> II., III.							
<b>Prerequisites:</b>							
<b>Conditions for course completion:</b>							
<b>Learning outcomes:</b> The goal of the course is to teach the students fundamental theoretical and practical aspects of analytical cytometry. The course covers multiple areas of methods in microscopy with special focus on fluorescence and its application in confocal microscopy, morphometric measurements and their applications in cytology, determination of vital parameters and live cell imaging, basic methods for sample preparation etc.							
<b>Brief outline of the course:</b> Fundamentals of fluorescent methods, principles of fluorescence. Principles of confocal microscopy Analyses on living cells – principles, hardware requirements, methods for vital parameters analyses, imaging methods with regard to lipids, cytoskeleton dynamics or cell division. Fluorescent dyes and their applications in analytical cytometry – nucleic acid, lipid, proteins, cytoskeleton stainings, visualization of cell organelles, vital stainings, membrane transport, reactive oxygen and nitrogen species (ROS, NOS), membrane potential, pH etc.							
<b>Recommended literature:</b> 1. R.D. Goldman a kol.: Live Cell Imaging – A Laboratory Manual, Cold Spring Harbour Laboratory Press, 2010 2. J.B. Pawley a kol.: Handbook of Biological Confocal Microscopy, Springer, 2006 3. D. Anselmetti a kol.: Single Cell Analysis, Wiley-Blackwell, 2009 4. A. Hibbs a kol.: Confocal Microscopy for Biologists, Kluwer Academic/Plenum Publishers, 2004							
<b>Course language:</b>							
<b>Notes:</b>							
<b>Course assessment</b> Total number of assessed students: 34							
A	B	C	D	E	FX	N	P
2.94	0.0	0.0	0.0	0.0	0.0	0.0	97.06

<b>Provides:</b> RNDr. Rastislav Jendželovský, PhD.
<b>Date of last modification:</b> 29.01.2020
<b>Approved:</b> prof. RNDr. Eva Čellárová, DrSc.

## 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:</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: 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> 17.09.2020					
<b>Approved:</b> prof. RNDr. Eva Čellárová, DrSc.					

## 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> Seminar. Test.					
<b>Learning outcomes:</b> The aim of lectures is to provide students with knowledge of adaptations to environmental factors and extreme environments effects.					
<b>Brief outline of the course:</b> Environmental factors, reaction, adaptation, deformation. Biological rhythms. Stress reaction - general adaptation syndrom. Physiology and pathology of adaptation mechanisms - fever, pain, inflammation, apoptosis, necrosis. Aging. Regulation of food intake. Food adaptations, fasting, starvation, overfeeding. Thermoregulation. Hibernation, estivation, diapause. Adaptations to hypobarica and hyperbarica. Adaptations to hypergravity and microgravity. Electromagnetic fields. Biotransformation. Xenobiotics in air, water and soil. Drugs of abuse. Carcinogenesis, oncogenes, tumor suppressor genes. Cancer prevention. Prions.					
<b>Recommended literature:</b> 1. Wilmer P and co.: Environmental Physiology of Animals. Blackwell Publishing Inc., 2004 2. Chown SL, Nicolson SW: Insect Physiological Ecology. Oxford University Press 2004					
<b>Course language:</b>					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 422					
A	B	C	D	E	FX
13.51	22.75	23.22	22.99	16.35	1.18
<b>Provides:</b> doc. RNDr. Bianka Bojková, PhD.					
<b>Date of last modification:</b> 03.05.2015					
<b>Approved:</b> prof. RNDr. Eva Čellárová, DrSc.					

## 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> Aplikovaná mikrobiológia					
<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> 4.							
<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 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: 14							
A	B	C	D	E	FX	N	P
50.0	14.29	21.43	7.14	0.0	0.0	0.0	7.14
<b>Provides:</b> doc. RNDr. Peter Pristaš, CSc., prof. RNDr. Jana Sedláková, PhD., RNDr. Lenka Maliničová, PhD.							
<b>Date of last modification:</b> 13.01.2021							
<b>Approved:</b> prof. RNDr. Eva Čellárová, DrSc.							

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> ÚBEV/ BIONF/16		<b>Course name:</b> Bioinformatika			
<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> 1., 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: 31					
A	B	C	D	E	FX
93.55	6.45	0.0	0.0	0.0	0.0
<b>Provides:</b> doc. RNDr. Peter Pristaš, CSc., RNDr. Jana Kisková, PhD.					
<b>Date of last modification:</b> 13.01.2021					
<b>Approved:</b> prof. RNDr. Eva Čellárová, DrSc.					



## 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> 3.					
<b>Course level:</b> II.					
<b>Prerequisites:</b>					
<b>Conditions for course completion:</b> Recognition. 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: 203					
A	B	C	D	E	FX
33.5	24.14	17.73	13.3	7.39	3.94
<b>Provides:</b> doc. RNDr. Monika Kassayová, CSc.					
<b>Date of last modification:</b> 03.05.2015					
<b>Approved:</b> prof. RNDr. Eva Čellárová, DrSc.					

## 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> doc. PhDr. Pavol Tholt, PhD., mim. prof.					
<b>Date of last modification:</b> 03.05.2015					
<b>Approved:</b> prof. RNDr. Eva Čellárová, DrSc.					

## 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>		
<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: 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> 16.02.2021		
<b>Approved:</b> prof. RNDr. Eva Čellárová, DrSc.		

## 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> 2.							
<b>Course level:</b> II., III.							
<b>Prerequisites:</b>							
<b>Conditions for course completion:</b> written tests, oral examination Practicals: The protocols and worksheets will be evaluated in case of the practical activities and the distance method of education, respectively. The e-learning course UBEV/Cytogenetika a karyológia in the Moodle is used.							
<b>Learning outcomes:</b> To gain knowledge and experience in genetic processes at the cell level using the newest scientific findings of cytogenetics and molecular cytology. To get acquainted in detail with the results coming from human genome mapping.							
<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> Russel, J.P.: Genetics, Third Edition, Harper Collins Publisher, New York 1992 Periodicals Internet sources							
<b>Course language:</b>							
<b>Notes:</b>							
<b>Course assessment</b> Total number of assessed students: 1389							
A	B	C	D	E	FX	N	P
24.55	15.05	15.84	14.04	17.93	11.74	0.0	0.86
<b>Provides:</b> prof. RNDr. Eva Čellárová, DrSc., RNDr. Katarína Bruňáková, PhD.							

**Date of last modification:** 20.02.2021

**Approved:** prof. RNDr. Eva Čellárová, DrSc.

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice							
<b>Faculty:</b> Faculty of Science							
<b>Course ID:</b> ÚBEV/ CTP1/01		<b>Course name:</b> Cytopathology					
<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> 2.							
<b>Course level:</b> II., III.							
<b>Prerequisites:</b>							
<b>Conditions for course completion:</b> Oral examination							
<b>Learning outcomes:</b> To provide the students with a knowledge of basic biological principles of carcinogenesis.							
<b>Brief outline of the course:</b> Tumor development. Tumor growth and metastatic potential. Cell cycle regulation and pathogenesis of cancer. Apoptosis in tumor growth and metastasis. Oncogenes and cancer. Tumor suppressor genes. Metastasis suppressor genes. Angiogenesis in cancer. Cell surface glycoproteins and their receptors. Proteinases and their inhibitors in cancer invasion. Radio-, chemo- and immunotherapy.							
<b>Recommended literature:</b> Sherbet, G.V., Lakshmi, M. S.: The Genetics of Cancer. Genes Associated with Cancer Invasion, Metastasis and Cell Proliferation. Academic Press, London, 1997 Shebert, G. V.: The biology of tumor malignancy. Academic Press, London, 1982							
<b>Course language:</b>							
<b>Notes:</b>							
<b>Course assessment</b> Total number of assessed students: 323							
A	B	C	D	E	FX	N	P
39.94	21.67	20.74	8.98	5.26	2.17	0.0	1.24
<b>Provides:</b> prof. RNDr. Peter Fedoročko, CSc.							
<b>Date of last modification:</b> 03.05.2015							
<b>Approved:</b> prof. RNDr. Eva Čellárová, DrSc.							

## 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: 201	
abs	n
100.0	0.0
<b>Provides:</b>	
<b>Date of last modification:</b> 03.05.2015	
<b>Approved:</b> prof. RNDr. Eva Čellárová, DrSc.	

## 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: 146	
abs	n
100.0	0.0
<b>Provides:</b>	
<b>Date of last modification:</b> 03.05.2015	
<b>Approved:</b> prof. RNDr. Eva Čellárová, DrSc.	



## 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: 166	
abs	n
100.0	0.0
<b>Provides:</b>	
<b>Date of last modification:</b> 03.05.2015	
<b>Approved:</b> prof. RNDr. Eva Čellárová, DrSc.	

## 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: 137					
A	B	C	D	E	FX
87.59	7.3	2.92	0.73	1.46	0.0
<b>Provides:</b>					
<b>Date of last modification:</b> 03.05.2015					
<b>Approved:</b> prof. RNDr. Eva Čellárová, DrSc.					

## 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: 176					
A	B	C	D	E	FX
56.82	26.7	10.8	3.41	2.27	0.0
<b>Provides:</b>					
<b>Date of last modification:</b> 03.05.2015					
<b>Approved:</b> prof. RNDr. Eva Čellárová, DrSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice							
<b>Faculty:</b> Faculty of Science							
<b>Course ID:</b> ÚBEV/ EMK/15		<b>Course name:</b> Environmentálna mikrobiológia					
<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> 1.							
<b>Course level:</b> II., III.							
<b>Prerequisites:</b>							
<b>Conditions for course completion:</b> Attendance of practicals (at least 90%), final oral examination							
<b>Learning outcomes:</b> To provide students data on participation of microorganisms in biosphere processes, characteristics of most frequently occurring microbial communities and interactions of microorganisms with other organisms.							
<b>Brief outline of the course:</b> Evolution and biodiversity of microorganisms, microorganisms in environment, the influence of abiotic factors on microorganisms, biogeochemical cycles, interactions between microorganisms and other organisms							
<b>Recommended literature:</b>							
<b>Course language:</b>							
<b>Notes:</b>							
<b>Course assessment</b> Total number of assessed students: 62							
A	B	C	D	E	FX	N	P
51.61	24.19	1.61	0.0	3.23	0.0	0.0	19.35
<b>Provides:</b> doc. RNDr. Peter Pristaš, CSc., prof. RNDr. Jana Sedláková, PhD., RNDr. Lenka Maliničová, PhD.							
<b>Date of last modification:</b> 03.05.2015							
<b>Approved:</b> prof. RNDr. Eva Čellárová, DrSc.							

## 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> Recognition. Written 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: 999					
A	B	C	D	E	FX
40.54	24.72	24.72	8.21	1.7	0.1
<b>Provides:</b> RNDr. Igor Majláth, PhD., RNDr. Natália Pipová, PhD., RNDr. Terézia Kisková, PhD.					
<b>Date of last modification:</b> 03.05.2015					
<b>Approved:</b> prof. RNDr. Eva Čellárová, DrSc.					

## 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> written test					
<b>Learning outcomes:</b> To understand the fundamentals of the theory of evolution, the evidence supporting contemporary views on the origin and evolution of living organisms on Earth and the mechanisms of evolution.					
<b>Brief outline of the course:</b> Historical overview of evolutionary theories. The origin of life. Elements of evolution: mutations, population waves, and isolation. Natural selection. Molecular evolution. Adaptations and their classification. Concept of species. Macroevolution. Evolution of functions and organs, evolution of ontogeny. Phylogeny of animals. Evolutionary progress. Anthropogenesis. Plant diversity. Primary and secondary speciation of plants. Reproduction-isolation mechanisms. Hybridisation and introgression of plants. Polyploidy. Reproductive systems in plants.					
<b>Recommended literature:</b> Futuyama, D.J.: Evolutionary biology, Sinauer Associates, Sunderland, 3rd ed., 1997. Dobzhansky T. et al.: Evolution. San Francisco 1977.					
<b>Course language:</b>					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 589					
A	B	C	D	E	FX
12.56	23.6	24.28	24.45	13.41	1.7
<b>Provides:</b> prof. RNDr. Pavol Mártonfi, PhD., prof. RNDr. Beňadik Šmajda, CSc., prof. RNDr. Eva Čellárová, DrSc.					
<b>Date of last modification:</b> 03.05.2015					
<b>Approved:</b> prof. RNDr. Eva Čellárová, DrSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> ÚBEV/ EH1/01		<b>Course name:</b> Experimental Hematology			
<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.					
<b>Prerequisites:</b>					
<b>Conditions for course completion:</b> Oral examination.					
<b>Learning outcomes:</b> To provide the students with a knowledge of experimental hematology.					
<b>Brief outline of the course:</b> Ontogeny of hematopoietic stem cells. Characterisation of hematopoietic stem cells (HSC). Hematopoietic growth factors and cytokines. Differentiation and self renewal. Mobilisation of hematopoietic stem cells. Barriers to transplantation. Genes affecting formation or differentiation of HSC.					
<b>Recommended literature:</b> Simmons, A.: Hematology. A Combined Theoretical & Technical Approach, W.B.Saunders Company, Philadelphia, 1989					
<b>Course language:</b>					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 298					
A	B	C	D	E	FX
38.26	28.52	20.13	9.06	2.68	1.34
<b>Provides:</b> prof. RNDr. Peter Fedoročko, CSc.					
<b>Date of last modification:</b> 03.05.2015					
<b>Approved:</b> prof. RNDr. Eva Čellárová, DrSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice	
<b>Faculty:</b> Faculty of Science	
<b>Course ID:</b> ÚBEV/ FG/14	<b>Course name:</b> Functional genomics
<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., III.	
<b>Prerequisites:</b>	
<b>Conditions for course completion:</b> Practical courses protocols, Written exam	
<b>Learning outcomes:</b> Functional genomics attempts to answer questions about the function of DNA at the levels of genes, RNA transcripts, and proteins. A key characteristic of functional genomics studies is their genome-wide approach to these questions, generally involving high-throughput methods rather than a more traditional “gene-by-gene” approach. The outcome of this course will be understanding of the approaches and methods used in functional genomics and their application in research as well as in practice.	
<b>Brief outline of the course:</b> <ul style="list-style-type: none"> <li>• Introduction to functional genomics, Biological databases and other resources for functional genome analysis, A real-case applications of the functional genomics</li> <li>• Genome and functional genomics: sequenced model organisms, conceptual and methodological input of genome sequencing, structural vs. functional genome annotation</li> <li>• Genome-wide reverse genetics: techniques to create collections of genome-wide mutants and their use in functional genomics</li> <li>• Transcriptomics: methods to obtain transcriptome data, in silico processing of transcriptomic data, differential expression</li> <li>• Proteomics: methods to obtain proteome data, quantitative vs. qualitative proteomics, data analysis, data mining</li> <li>• Metabolomics: methods to obtain metabolomic data, quantitative vs. qualitative metabolomics, data analysis, data mining</li> <li>* Interactomics - protein networks, methods in interactome and signalome studies, data analysis, practical use of the acquired knowledge on interactome and signalome</li> </ul>	
<b>Recommended literature:</b> J. Pevsner: Bioinformatics and Functional Genomics, 3rd Edition, ISBN: 978-1-118-58178-0 Internet sources	
<b>Course language:</b> English	



<b>Notes:</b>							
<b>Course assessment</b>							
Total number of assessed students: 112							
A	B	C	D	E	FX	N	P
24.11	30.36	23.21	6.25	11.61	1.79	0.0	2.68
<b>Provides:</b> RNDr. Katarína Bruňáková, PhD., RNDr. Andrea Kimáková, PhD., RNDr. Katarína Nigutová, PhD., RNDr. Linda Petijová, PhD., RNDr. Andrea Schreiberová, PhD.							
<b>Date of last modification:</b> 17.02.2021							
<b>Approved:</b> prof. RNDr. Eva Čellárová, DrSc.							

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice							
<b>Faculty:</b> Faculty of Science							
<b>Course ID:</b> ÚBEV/ GM1/03		<b>Course name:</b> Gene Manipulations					
<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> ÚBEV/UGM1/03							
<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: 179							
A	B	C	D	E	FX	N	P
48.04	26.26	10.06	4.47	2.23	0.56	0.0	8.38
<b>Provides:</b> doc. RNDr. Peter Pristaš, CSc., RNDr. Mariana Kolesárová, PhD.							
<b>Date of last modification:</b> 06.02.2021							
<b>Approved:</b> prof. RNDr. Eva Čellárová, DrSc.							

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> ÚBEV/ GMC/15		<b>Course name:</b> Genetika a molekulárna cytológia			
<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/GEP/12, ÚBEV/MOG/03, ÚBEV/FG/14					
<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: 43					
A	B	C	D	E	FX
37.21	16.28	13.95	13.95	16.28	2.33
<b>Provides:</b>					
<b>Date of last modification:</b> 16.05.2018					
<b>Approved:</b> prof. RNDr. Eva Čellárová, DrSc.					

## 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>					
<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: 739					
A	B	C	D	E	FX
60.89	13.8	12.58	8.66	3.38	0.68
<b>Provides:</b> Doc. PhDr. Peter Nezník, CSc.					
<b>Date of last modification:</b> 25.03.2020					
<b>Approved:</b> prof. RNDr. Eva Čellárová, DrSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice							
<b>Faculty:</b> Faculty of Science							
<b>Course ID:</b> ÚBEV/ GC1/01		<b>Course name:</b> Human Genetics					
<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., III.							
<b>Prerequisites:</b>							
<b>Conditions for course completion:</b> Active participation in practicals, written exam.							
<b>Learning outcomes:</b> To provide students with a basics of human genetics, with the role of genetic factors in pathologic processes, with the inheritance, diagnostics and treatment of genetic disorders.							
<b>Brief outline of the course:</b> The genetic basics of physiological variability and pathological traits of individuals; human population genetics; immunological variability; the patterns of inheritance and pedigree problem solving; the basic methods used in human genetics - genealogy, linkage analysis and the gene mapping, cytogenetic analysis and karyotyping, the DNA diagnosis of pathological traits; the treatment of genetic disorders.							
<b>Recommended literature:</b> Lewis R.: Human Genetics: Concepts and Applications, 9th Edition. McGraw-Hill, New York, 2010 Passarge E.: Genetics, 3rd Edition, Thieme, 2007							
<b>Course language:</b> slovak and english							
<b>Notes:</b>							
<b>Course assessment</b> Total number of assessed students: 1293							
A	B	C	D	E	FX	N	P
24.83	14.77	16.4	13.77	17.87	11.91	0.0	0.46
<b>Provides:</b> RNDr. Katarína Bruňáková, PhD.							
<b>Date of last modification:</b> 09.02.2021							
<b>Approved:</b> prof. RNDr. Eva Čellárová, DrSc.							

## 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>					
<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
88.89	11.11	0.0	0.0	0.0	0.0
<b>Provides:</b> Doc. PhDr. Peter Nezník, CSc.					
<b>Date of last modification:</b> 12.02.2021					
<b>Approved:</b> prof. RNDr. Eva Čellárová, DrSc.					

## 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: 950					
A	B	C	D	E	FX
39.68	23.68	24.42	7.05	1.79	3.37
<b>Provides:</b> RNDr. Vlasta Demečková, PhD.					
<b>Date of last modification:</b> 03.05.2015					

**Approved:** prof. RNDr. Eva Čellárová, DrSc.



## 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., 3.							
<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. and III. stage some theoretical and practical aspects of analytical cytometry with special focus on 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> Fluorescence: physical bases, detection, various designs of instruments exploiting fluorescence detection, fluorescent dyes, fluorescently labeled antibodies Flow cytometry: principle of hydrodynamic focusing, signal detection, analog and digital data processing, data plotting, gating. Various types of analyses, basic applications, summary of commercial hardware and software. Cell sorting: physical principles of cell sorting – advantages and disadvantages, sorting strategies, summary of applications and commercial hardware and software. Practical software data analyses.							
<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, Wiley-VCH, 2007, (ISBN: 978-3-527-31487-4)							
<b>Course language:</b>							
<b>Notes:</b>							
<b>Course assessment</b> Total number of assessed students: 164							
A	B	C	D	E	FX	N	P
66.46	3.66	6.1	2.44	1.83	0.0	0.0	19.51
<b>Provides:</b> RNDr. Rastislav Jendželovský, PhD.							

**Date of last modification:** 02.09.2015

**Approved:** prof. RNDr. Eva Čellárová, DrSc.

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> ÚBEV/ UGM1/03		<b>Course name:</b> Introduction to Gene Manipulations			
<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 the principles of preparation and application of techniques of recombinant DNA.					
<b>Brief outline of the course:</b> Isolation of nucleic acids. Restriction endonucleases. Digestion and ligation of DNA. Other enzymes used for DNA manipulation. Labeling of DNA. Nucleic acid hybridization. PCR. Preparation of recombinant DNA. Recombinant vectors. Selection markers. Transfer of recombinant DNA to the cells. Selection of recombinants. Expression of heterologous genes in E. coli. DNA sequencing.					
<b>Recommended literature:</b> Old, R.W., Primrose, S. B.: Principles of Genetic Manipulation. An Introduction to Genetic Engineering. Blackwell Scientific Publication, London, 1992 Fitzgerald-Hayes, M and Reichsman, F: DNA and Biotechnology. Academic Press, 2009. Third edition. ISBN 9780080916354					
<b>Course language:</b>					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 254					
A	B	C	D	E	FX
61.42	27.17	8.27	2.36	0.39	0.39
<b>Provides:</b> RNDr. Mariana Kolesárová, PhD.					
<b>Date of last modification:</b> 07.10.2015					
<b>Approved:</b> prof. RNDr. Eva Čellárová, DrSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> ÚBEV/ LDM/16		<b>Course name:</b> Laboratórna diagnostika v mikrobiológii			
<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> 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: 40					
A	B	C	D	E	FX
50.0	32.5	10.0	2.5	5.0	0.0
<b>Provides:</b> prof. RNDr. Jana Sedláková, PhD., RNDr. Lenka Maliničová, PhD., RNDr. Mariana Kolesárová, PhD.					
<b>Date of last modification:</b> 15.01.2021					
<b>Approved:</b> prof. RNDr. Eva Čellárová, DrSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> ÚBEV/ MEM1/99		<b>Course name:</b> Light and Electron Microscopy techniques			
<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> 3.					
<b>Course level:</b> II.					
<b>Prerequisites:</b>					
<b>Conditions for course completion:</b> Recognition.					
<b>Learning outcomes:</b> To provide the students with the methods of light and electron microscopy.					
<b>Brief outline of the course:</b> Light microscope. Electron microscope; transmission and scanning electron microscope. Specimen preparation for microscopy. Fixation. Embedding. Sectioning. Staining. Special histochemical methods.					
<b>Recommended literature:</b> Bancroft, J. D., Steven, A.: Theory and practice of Histological Techniques. Churchill Livingstone, 1977 Wischnitzer, S.: Introduction to Electron microscopy. Cambridge University Press, 1982 Internet sources					
<b>Course language:</b>					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 99					
A	B	C	D	E	FX
100.0	0.0	0.0	0.0	0.0	0.0
<b>Provides:</b> doc. RNDr. Zuzana Daxnerová, CSc., RNDr. Anna Alexovič Matiašová, PhD.					
<b>Date of last modification:</b> 16.02.2021					
<b>Approved:</b> prof. RNDr. Eva Čellárová, DrSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice	
<b>Faculty:</b> Faculty of Science	
<b>Course ID:</b> ÚBEV/ MOG/03	<b>Course name:</b> Model Organisms in Genetics
<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., III.	
<b>Prerequisites:</b>	
<b>Conditions for course completion:</b> protocols, participation at a mini conference: Model organism for my diploma thesis, oral examination	
<b>Learning outcomes:</b> To provide the students with an information on model systems of prokaryotic and eukaryotic organisms used in genetic research.	
<b>Brief outline of the course:</b> Basic properties of model organisms used in genetics. Viral models in genetics (Tobacco mosaic virus, Lambda phage, PhiX174 phage). Prokaryotic model systems (Escherichia coli, Diplococcus pneumoniae, Agrobacterium tumefaciens and A. rhizogenes). Another prokaryotic models (Bacillus subtilis, Caulobacter crescentus, Mycoplasma genitalium, Synechocystis sp.), Model systems of simple eukaryotic organisms (Saccharomyces cerevisiae, Neurospora crassa, Aspergillus nidulans, Dictiostelium discoideum). Animal model systems (Drosophila melanogaster, Caenorhabditis elegans, Danio rerio, Mus musculus). Another animal models (Xenopus laevis, Ambystoma mexicanum, Chrysemys picta, Anolis carolinensis, Fugu rubripes, Gallus gallus, Heterocephalus glaber). Plant model organisms (Pisum sativum, Arabidopsis thaliana, Nicotiana tabacum, Zea mays, Selaginella moellendorffii, Brachypodium distachyon, Lotus japonicus, Populus trichocarpa). Mendel's laws. Morgan's rules. Genetic databases. Model organisms and their role in the treatment of human genetic disorders.	
<b>Recommended literature:</b> Snustad, P.D., Simmons, M.J.: Genetika. Nakladatelství Masarykovy univerzity, Brno, 2009, 871 str., Genetic periodicals, Internet sources	
<b>Course language:</b>	
<b>Notes:</b>	

<b>Course assessment</b>							
Total number of assessed students: 1371							
A	B	C	D	E	FX	N	P
24.07	15.1	15.83	13.86	18.38	11.89	0.0	0.88
<b>Provides:</b> prof. RNDr. Eva Čellárová, DrSc., RNDr. Andrea Kimáková, PhD., RNDr. Katarína Nígutová, PhD.							
<b>Date of last modification:</b> 20.02.2021							
<b>Approved:</b> prof. RNDr. Eva Čellárová, DrSc.							

## 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: 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., III.							
<b>Prerequisites:</b>							
<b>Conditions for course completion:</b> Oral examination.							
<b>Learning outcomes:</b> Acquiring of basic knowledge of principles and molecular-biological mechanisms of ontogenetic development of animal and plant organisms.							
<b>Brief outline of the course:</b> Regulation of the ontogenetic development in eukaryotic organisms. Program of the ontogenetic development. Cell determination and differentiation. Molecular mechanisms of formation of specialised cell types. Epigenetic mechanisms of cellular memory. Imprinting. Combinatory control of eukaryotic genes. Regulatory genes. Establishment of cell position. Formation of the embryonic body plan. Establishment of the main axis of body. Shape formation. Cloning of multicellular organisms.							
<b>Recommended literature:</b> Gerhard,J.,Kirschener,M.: Cells, Embryos and Evolution. Blacwell Science Inc., Massachusett,Oxford,London,1997							
<b>Course language:</b>							
<b>Notes:</b>							
<b>Course assessment</b> Total number of assessed students: 386							
A	B	C	D	E	FX	N	P
36.27	21.24	11.66	15.03	8.81	5.7	0.0	1.3
<b>Provides:</b> prof. RNDr. Eva Mišúrová, CSc., RNDr. Zuzana Jendželovská, PhD.							
<b>Date of last modification:</b> 03.05.2015							
<b>Approved:</b> prof. RNDr. Eva Čellárová, DrSc.							



## 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>					
<b>Learning outcomes:</b> To provide the students with basic knowledge, principles and function of human nervous system.					
<b>Brief outline of the course:</b> Introduction to neuroanatomy, development, classification of the Nervous System, dividing of the Nervous System (CNS and PNS), Spinal Cord and Spinal Nerves (structure, reflexes, gray matters and intrinsic pathways, Ascending, Descending Tracts), Brain Stem and Cranial Nerves, Cerebellum, Diencephalon, Telencephalon, Limbic System, Cerebrospinal Fluid System, Vegetative Nervous System, Functional Systems (Motor systems - pyramidal tract, extrapyramidal Motor System, motor pathway), (Sensory system - pathway of Epicritic Sensibility, Pathway of Protopathic Sensibility, Optic Pathway, Auditory Tract, Vestibular Tract)					
<b>Recommended literature:</b> Kahle W., Leonhardt H., Platzer W.: Color Atlas and Textbook of Human Anatomy, Volume 3. Nervous System and Sensory Organs, 1993 Georg Thieme Verlag Stuttgart, New York Hendelman W.J.: Atlas of functional neuroanatomy CRC Press LLC, 2000 Kopf-Mäier P.: Wolf-Heideggers Atlas of Human Anatomy Karger, 2000 Miklošová M.: Anatómia PF, UPJŠ, 2011, Equilibria Haines, D.E.: Neuroanatomy, Lippincott Williams, Wilkins, 2011					
<b>Course language:</b>					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 101					
A	B	C	D	E	FX
10.89	12.87	21.78	18.81	18.81	16.83
<b>Provides:</b> RNDr. Juraj Ševc, PhD., Mgr. René Šebeňa, PhD.					
<b>Date of last modification:</b> 03.05.2015					

**Approved:** prof. RNDr. Eva Čellárová, DrSc.

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> ÚBEV/ FRV1/03		<b>Course name:</b> Physiology of Plant Growth and Development			
<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>					
<b>Learning outcomes:</b> To learn about basic methods and approaches in physiology of plant growth and development					
<b>Brief outline of the course:</b> Growth and morphogenesis: phases and kinetics; differentiation. Hormones: metabolism and transport, physiological and developmental effects; auxin, gibberellins, cytokinins, ethylene and abscisic acid. Photomorphogenesis and etiolation. Phytochrome: properties, physiology, ecological functions, molecular mechanisms. Blue-light responses. Rhythms. Germination and dormancy. Regulation of flowering. Senescence and programmed cell death. Orientation in space: phototropism, gravitropism and nastic movements. Stress physiology.					
<b>Recommended literature:</b> Taiz L., Zeiger E., Plant physiology. Fifth edition. Sinauer ass., Sunderland 2010					
<b>Course language:</b>					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 108					
A	B	C	D	E	FX
35.19	21.3	18.52	13.89	8.33	2.78
<b>Provides:</b> Ing. Robert Gregorek, RNDr. Michaela Bačovčinová, PhD.					
<b>Date of last modification:</b> 03.05.2015					
<b>Approved:</b> prof. RNDr. Eva Čellárová, DrSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice							
<b>Faculty:</b> Faculty of Science							
<b>Course ID:</b> ÚBEV/ BTR1/06		<b>Course name:</b> Plant Biotechnology					
<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 / 3 <b>Per study period:</b> 28 / 42 <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., III.							
<b>Prerequisites:</b>							
<b>Conditions for course completion:</b> Active participation at the practicals, protocols, oral examination							
<b>Learning outcomes:</b> To gain theoretical and practical knowledge on plant tissue culture in vitro.							
<b>Brief outline of the course:</b> Definition and history of plant biotechnology. Aseptic techniques, culture conditions. Micropropagation, types of plant explant cultures used in biotechnology. Somatic hybridization and embryogenesis, direct and indirect organogenesis. Somaclonal variation. Secondary metabolites production, bioreactors, biotransformation, immobilization and elicitation. Genetic transformation, direct and indirect methods of transformation. Types of vectors, promoters, selection markers and reporter genes used in plant transformation. Germplasm storage, gene banks. Cryopreservation and slow growth method. Genetically modified organisms - metabolic engineering, genetic engineering, plants resistant to biotic and abiotic stresses, molecular farming, the role of tissue and organ specific plant promoters, plastome engineering, plant-based edible vaccines. RNA silencing, the application of microRNAs in plant biotechnology.							
<b>Recommended literature:</b> Abdin M.Z., Kiran U., Kamaluddin M., Ali A. (eds.): Plant Biotechnology: Principles and Applications. 2017, Springer Nature Singapore Pte Ltd., Singapore Chawla H.S.: Introduction to Plant Biotechnology. 2009, third edition, Science Publisher, Enfield, USA Periodicals and Internet sources							
<b>Course language:</b>							
<b>Notes:</b>							
<b>Course assessment</b> Total number of assessed students: 167							
A	B	C	D	E	FX	N	P
40.72	18.56	13.17	8.98	10.78	2.99	0.0	4.79

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

**Date of last modification:** 02.02.2021

**Approved:** prof. RNDr. Eva Čellárová, DrSc.

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> ÚBEV/ ER1/01		<b>Course name:</b> Plant Embryology			
<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> II.					
<b>Prerequisites:</b>					
<b>Conditions for course completion:</b> Oral examination/ recognition					
<b>Learning outcomes:</b> To provide the students with the general principles of embryogenesis of the seed plants					
<b>Brief outline of the course:</b> Life cycle of a typical angiosperms plants. Sporophyte and gametophyte. Development of female gametophyte. Ovule, nucellus and integuments. Megasporogenesis. Embryo sac. Egg, synergids, antipodals and polar nuclei. Types the embryo sacs. Development of male gametophyte. Microsporogenesis. Pollen grain. Generative and tube nucleus. Pollen tube. Pollination and fertilization. Double fertilization. Endosperm. Embryogenesis (mono- and dicotyledonous plants). Plumule, cotyledones, radicle. Development of the seed. Apomixis. Development the embryoids in vitro.					
<b>Recommended literature:</b> Johri, B.M. (1984) Plant embryology: Embryogeny of Angiosperms. Springer-Verlag, Berlin, Heidelberg. Raven, P.H., Evert, R.F. and Eichhorn S.E. (2003) Biology of Plants. W.H. Freeman and Company, New York					
<b>Course language:</b>					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 127					
A	B	C	D	E	FX
45.67	28.35	14.96	7.09	3.94	0.0
<b>Provides:</b> RNDr. Lenka Martonfiová					
<b>Date of last modification:</b> 03.05.2015					
<b>Approved:</b> prof. RNDr. Eva Čellárová, DrSc.					

## 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> Examen					
<b>Learning outcomes:</b> To provide the students with pathways of biosynthesis in plant and functions of primary and secondary metabolites					
<b>Brief outline of the course:</b> Photosynthesis: structure of photosynthetic apparatus, light absorption, electron and proton transport, photophosphorylation. Calvin cycle, rubisco and photorespiration. C4 and CAM plants. Synthesis of starch and sucrose. Respiration: glycolysis, citric acid cycle, electron transport and ATP synthesis. Lipid biosynthesis and conversion into carbohydrates. Polyacetylenes. Nitrogen metabolism: fixation, nitrate assimilation, ammonium conversion to amino acids. Sulfur assimilation and metabolism. Terpenes: biosynthesis and functions. Phenolic compounds: pathways of biosynthesis, phenylpropanes, flavonoids and lignins. Alkaloids. Mechanisms of plant defense.					
<b>Recommended literature:</b> Lawlor D. W. Photosynthesis. Third edition. BIOS, Oxford 2001; Taiz L., Zeiger E., Plant physiology. Fifth edition. Sinauer ass., Sunderland 2010					
<b>Course language:</b>					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 108					
A	B	C	D	E	FX
25.93	16.67	18.52	16.67	19.44	2.78
<b>Provides:</b> doc. RNDr. Peter Paľove-Balang, PhD.					
<b>Date of last modification:</b> 21.02.2019					
<b>Approved:</b> prof. RNDr. Eva Čellárová, DrSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> ÚBEV/ TR1/99		<b>Course name:</b> Plant Taxonomy			
<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.					
<b>Prerequisites:</b>					
<b>Conditions for course completion:</b> Information on selected taxonomic work. Exam.					
<b>Learning outcomes:</b> To learn about basic methods and approaches in plant taxonomy.					
<b>Brief outline of the course:</b> Plant taxonomy. Approaches to biological classification. Source of informationa and taxonomic data. Variation in plants and their study. Numerical taxonomy (phenetics). Cladistics and their utilization in taxonomy. Molecular data as important data of recent systematics. Overview of phylogeny of tracheophytes according to the newest data. Evolution in populations, principles of plant evolutions, primary and secondary speciation. Basics of botanical nomenclature. International Code of botanical nomenclature.					
<b>Recommended literature:</b> Briggs D., Walters S. M.: Proměnlivost a evoluce rostlin. - Univerzita Palackého, Olomouc, 2001. Stuessy T. F.: Plant Taxonomy. - New York, Oxford 1990. Judd W. S., Campbell Ch. S., Kellogg E. A., Stevens P. F., Donoghue M. J.: Plant Systematics. A Phylogenetic Approach, 2nd ed. - Sinauer Associates, Sunderland, 2002. Greuter W. et al. (Eds.): Medzinárodný kód botanickej nomenklatúry (Saint Louis Code). - Praha, Bratislava, 2000.					
<b>Course language:</b>					
<b>Notes:</b>					
<b>Course assessment</b> Total number of assessed students: 127					
A	B	C	D	E	FX
39.37	21.26	18.9	11.02	6.3	3.15
<b>Provides:</b> prof. RNDr. Pavol Mártonfi, PhD., Mgr. Vladislav Kolarčík, PhD.					



**Date of last modification:** 03.05.2015

**Approved:** prof. RNDr. Eva Čellárová, DrSc.

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice							
<b>Faculty:</b> Faculty of Science							
<b>Course ID:</b> ÚBEV/ GEP/12		<b>Course name:</b> Population Genetics					
<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> 1.							
<b>Course level:</b> II., III.							
<b>Prerequisites:</b>							
<b>Conditions for course completion:</b> Active participation in seminars, Written exam.							
<b>Learning outcomes:</b> Acquire knowledge about genetic interactions in population. Describe the theoretical and historical ground of population genetics. Identify, characterize and compare fundamental mechanisms (mutation, selection, migration, genetic drift). Interactions leading to intra- and interpopulation variability in population structure. Genetic diversity analysis.							
<b>Brief outline of the course:</b> Factors affecting populations. Genetic variability in populations. Polymorphism, heterozygosity. Fundamental models in population genetics. Hardy-Weinberg theorem for 2, 3 and n alleles. Special cases of random mating (Bruce's genotype ratios, Sex-linked genes). Population genetics and mutations. Assortative mating, calculation and interpretation of inbreeding coefficient. Genetic drift, fixation/elimination of alleles in small populations. One-way, two-way migration. Natural selection in haploid and diploid populations. Populations of plants, animals and human. Darwin's evolution theory, molecular evolution.							
<b>Recommended literature:</b> HALLIBURTON. R. (2004): Introduction to Population Genetics. Pearson Prentice Hall. HARTL, D. L. and CLARK, A. G. (2007): Principles of Population Genetics. 4th ed. Sinauer. RELICHOVÁ, J. (2001): Genetika populací. Masarykova univerzita Brno. Hedrick, P.W.: Genetics of Populations. Jones and Bartlett Publishers 2000.							
<b>Course language:</b>							
<b>Notes:</b>							
<b>Course assessment</b> Total number of assessed students: 1150							
A	B	C	D	E	FX	N	P
19.74	14.78	15.04	15.91	20.7	13.13	0.0	0.7
<b>Provides:</b> RNDr. Linda Petijová, PhD., RNDr. Katarína Bruňáková, PhD.							

**Date of last modification:** 04.02.2021

**Approved:** prof. RNDr. Eva Čellárová, DrSc.

## 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> Practical 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: 308					
A	B	C	D	E	FX
69.48	18.83	11.04	0.32	0.0	0.32
<b>Provides:</b> RNDr. Vlasta Demečková, PhD.					
<b>Date of last modification:</b> 03.05.2015					
<b>Approved:</b> prof. RNDr. Eva Čellárová, DrSc.					

## 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> a) Active work during the whole semester (according to the ongoing instructions of the lecturer and instructors); continuous control of study results at seminars during the teaching part of the semester in the range of maximum 5 points. Preparation, presentation and discussion on a selected topic - max. 15 points. A maximum of 2 absences are allowed. b) Written examination of the topics of lectures in the 9th week of the semester at the time and place of the lecture. The written examination will consist of 10 questions of a factual nature (1 question / 3 points) with a maximum of 30 points. Conditions for admission to the exam: completion of seminars and obtaining at least 25 points. c) Exam: written form (50 points / 10 questions of factual-evaluation character of 5 points each) You need to get at least half of the 50 points. <b>Rating:</b> 65 and less FX; 66 - 72 E; 73 - 79 D; 80 - 86 C; 87 - 93 B; 94 - 100 A. The final evaluation reflects the results obtained during the semester and in the exam: A more detailed explanation of the assignment and the work schedule of students will be the subject of an agreement for the 1st exercise of the semester. Any modifications to the implementation of the course in connection with the current order of the Rector are listed in the electronic board of the course.	
<b>Learning outcomes:</b> Students will be able to orient themselves in the basic concepts and theories of health psychology, which will be given an interesting and engaging explanation, accompanied by many examples from life. They will gain orientation in current topics, which are the content of health psychology or they are closely related to the issues not only of this discipline, but also of other psychological disciplines such as educational psychology, personality psychology and the like. Within the course, students are allowed to communicate freely with the teacher and discuss the topics with other classmates.	

Students can practically apply the knowledge from the subject especially in the field of prevention of burnout syndrome and support of mental health in the work of a teacher.

**Brief outline of the course:**

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

**Recommended literature:**

Křivohlavý, J.: Psychologie zdraví. Portál, Praha 2001.  
Křivohlavý, J.: Psychologie nemoci. Grada, Praha, 2002.  
Křivohlavý, J.: Psychologie moudrosti a dobrého života. Grada, Praha, 2009.  
Kebza, V.: Psychosociální determinanty zdraví. Academia, Praha 2005.  
Kahneman, D., Diener, E., Schwarz, N.(Eds), Well-Being. The Foundations of Hedonic Psychology. New York, Russell Sage Foundation, 2003.  
Kaplan, R. M.: Zdravie a správanie človeka. SPN, Bratislava 1996.  
Sarafino, E. P.: Health Psychology. Biopsychosocial interactions. John Wiley and sons 1994.  
Baštecký, J., Šavlík, J., Šimek, J. 1993. Psychosomatická medicína. Praha: Grada  
Tress, W., Krusse, J., Ott, J.: Základní psychosomatická péče. Portál, Praha 2008.

**Course language:**

slovak

**Notes:**

**Course assessment**

Total number of assessed students: 226

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

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

**Date of last modification:** 16.02.2021

**Approved:** prof. RNDr. Eva Čellárová, DrSc.

## 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: Per study period:</b> 36s <b>Course method:</b> combined, 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> Conditions for course completion: Attendance	
<b>Learning outcomes:</b> Learning outcomes: Students will be provided an overview of possibilities how to spend leisure time in seaside conditions actively and their skills in work and communication with clients will be improved. Students will acquire practical experience in organising the cultural and art-oriented events, with the aim to improve the stay and to create positive experiences for visitors.	
<b>Brief outline of the course:</b> Brief outline of the course: 1. Basics of seaside aerobics 2. Morning exercises 3. Pilates and its application in seaside conditions 4. Exercises for the spine 5. Yoga basics 6. Sport as a part of leisure time 7. Application of projects of productive spending of leisure time for different age and social groups (children, young people, elderly) 8. Application of seaside cultural and art-oriented activities in leisure time	
<b>Recommended literature:</b>	
<b>Course language:</b>	
<b>Notes:</b>	
<b>Course assessment</b>	
Total number of assessed students: 41	
abs	n
12.2	87.8

<b>Provides:</b> Mgr. Agata Horbacz, PhD.
<b>Date of last modification:</b> 15.03.2019
<b>Approved:</b> prof. RNDr. Eva Čellárová, DrSc.



## 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: 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>		
<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> 11.02.2021		
<b>Approved:</b> prof. RNDr. Eva Čellárová, DrSc.		

## 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: 2 Per study period: 28</b> <b>Course method:</b> combined, 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> Conditions for course completion: Min. 80% of active participation in classes.	
<b>Learning outcomes:</b> Learning outcomes: Increasing physical condition and performance within individual sports. Strengthening the relationship of students to the selected sports activity and its continual improvement.	
<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, basketball, badminton, floorball, yoga, pilates, swimming, body-building, indoor football, self-defence and karate, table tennis, sports for unfit persons, streetball, tennis, and volleyball. In the first two semesters of the first level of education students will master basic characteristics and particularities of individual sports, motor skills, game activities, they will improve level of their physical condition, coordination abilities, physical performance, and motor performance fitness. Last but not least, the important role of sports activities is to eliminate swimming illiteracy and by means of a special program of medical physical education to influence and mitigate unfitnes. 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>	
<b>Course language:</b>	
<b>Notes:</b>	

<b>Course assessment</b>							
Total number of assessed students: 14050							
abs	abs-A	abs-B	abs-C	abs-D	abs-E	n	neabs
88.48	0.07	0.0	0.0	0.0	0.04	7.51	3.9
<b>Provides:</b> Mgr. Dana Dračková, PhD., Mgr. Agata Horbacz, PhD., Mgr. Dávid Kaško, PhD., Mgr. Zuzana Küchelová, PhD., doc. PaedDr. Ivan Uher, PhD., Mgr. Marek Valanský, prof. RNDr. Stanislav Vokál, DrSc., Mgr. Marcel Čurgali, Mgr. Patrik Berta, Mgr. Ladislav Kručanica, PhD.							
<b>Date of last modification:</b> 18.03.2019							
<b>Approved:</b> prof. RNDr. Eva Čellárová, DrSc.							

## 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> combined, 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> Conditions for course completion: Final assessment and active participation in classes - min. 75%.	
<b>Learning outcomes:</b> Learning outcomes: Increasing physical condition and performance within individual sports. Strengthening the relationship of students to the selected sports activity and its continual improvement.	
<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, basketball, badminton, floorball, yoga, pilates, swimming, body-building, indoor football, self-defence and karate, table tennis, sports for unfit persons, streetball, tennis, and volleyball. In the first two semesters of the first level of education students will master basic characteristics and particularities of individual sports, motor skills, game activities, they will improve level of their physical condition, coordination abilities, physical performance, and motor performance fitness. Last but not least, the important role of sports activities is to eliminate swimming illiteracy and by means of a special program of medical physical education to influence and mitigate unfitnes. 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>	
<b>Course language:</b>	
<b>Notes:</b>	

<b>Course assessment</b>							
Total number of assessed students: 11330							
abs	abs-A	abs-B	abs-C	abs-D	abs-E	n	neabs
85.75	0.56	0.02	0.0	0.0	0.05	9.87	3.75
<b>Provides:</b> Mgr. Dana Dračková, PhD., Mgr. Agata Horbacz, PhD., Mgr. Dávid Kaško, PhD., Mgr. Zuzana Küchelová, PhD., doc. PaedDr. Ivan Uher, PhD., Mgr. Marek Valanský, prof. RNDr. Stanislav Vokál, DrSc., Mgr. Marcel Čurgali, Mgr. Patrik Berta, Mgr. Ladislav Kručanica, PhD.							
<b>Date of last modification:</b> 18.03.2019							
<b>Approved:</b> prof. RNDr. Eva Čellárová, DrSc.							

## 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> combined, 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>							
<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: 8383							
abs	abs-A	abs-B	abs-C	abs-D	abs-E	n	neabs
90.11	0.05	0.01	0.0	0.0	0.02	4.04	5.76
<b>Provides:</b> Mgr. Marcel Čurgali, Mgr. Dana Dračková, PhD., Mgr. Agata Horbacz, PhD., Mgr. Dávid Kaško, PhD., Mgr. Zuzana Küchelová, PhD., doc. PaedDr. Ivan Uher, PhD., Mgr. Marek Valanský, prof. RNDr. Stanislav Vokál, DrSc., Mgr. Patrik Berta, Mgr. Ladislav Kručanica, PhD.							
<b>Date of last modification:</b> 03.05.2015							
<b>Approved:</b> prof. RNDr. Eva Čellárová, DrSc.							

## 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> combined, 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>							
<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: 5101							
abs	abs-A	abs-B	abs-C	abs-D	abs-E	n	neabs
85.2	0.29	0.04	0.0	0.0	0.0	6.76	7.7
<b>Provides:</b> Mgr. Marcel Čurgali, Mgr. Dana Dračková, PhD., Mgr. Agata Horbacz, PhD., Mgr. Dávid Kaško, PhD., Mgr. Zuzana Küchelová, PhD., doc. PaedDr. Ivan Uher, PhD., Mgr. Marek Valanský, prof. RNDr. Stanislav Vokál, DrSc., Mgr. Patrik Berta, Mgr. Ladislav Kručanica, PhD.							
<b>Date of last modification:</b> 03.05.2015							
<b>Approved:</b> prof. RNDr. Eva Čellárová, DrSc.							

## 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> 2.					
<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: 277					
A	B	C	D	E	FX
100.0	0.0	0.0	0.0	0.0	0.0
<b>Provides:</b>					
<b>Date of last modification:</b> 03.05.2015					
<b>Approved:</b> prof. RNDr. Eva Čellárová, DrSc.					



## 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: Per study period:</b> 36s <b>Course method:</b> combined, 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> Conditions for course completion: Attendance Final assessment: Raft control on the waterway (attended/not attended)	
<b>Learning outcomes:</b> Learning outcomes: Students have knowledge of rafts (canoe) and their control on waterway.	
<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>	
<b>Course language:</b>	
<b>Notes:</b>	

<b>Course assessment</b>	
Total number of assessed students: 153	
abs	n
45.75	54.25
<b>Provides:</b> Mgr. Dávid Kaško, PhD.	
<b>Date of last modification:</b> 18.03.2019	
<b>Approved:</b> prof. RNDr. Eva Čellárová, DrSc.	

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice	
<b>Faculty:</b> Faculty of Science	
<b>Course ID:</b> ÚTVŠ/ KP/12	<b>Course name:</b> Survival Course
<b>Course type, scope and the method:</b> <b>Course type:</b> Practice <b>Recommended course-load (hours):</b> <b>Per week: Per study period:</b> 36s <b>Course method:</b> combined, 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> Conditions for course completion: Attendance Final assessment: continuous fulfilment of all tasks within the course	
<b>Learning outcomes:</b> Learning outcomes: Students will be familiarized with principles of safe stay and movement in extreme natural conditions as they will obtain theoretical knowledge and practical skills to solve the extraordinary and demanding situations connected with survival and minimization of damage to health. The course develops team work and students will learn how to manage and face the situations that require overcoming of obstacles.	
<b>Brief outline of the course:</b> Brief outline of the course: Lectures: 1. Principles of behaviour and safety for movement and stay in unknown mountains 2. Preparation and leadership of tour 3. Objective and subjective danger in mountains 4. Principles of hygiene and prevention of damage to health in extreme conditions Exercises: 1. Movement in terrain, orientation and navigation in terrain (compasses, GPS) 2. Preparation of improvised overnight stay 3. Water treatment and food preparation.	
<b>Recommended literature:</b>	
<b>Course language:</b>	
<b>Notes:</b>	

<b>Course assessment</b>	
Total number of assessed students: 393	
abs	n
44.53	55.47
<b>Provides:</b> MUDr. Peter Dombrovský, Mgr. Marek Valanský	
<b>Date of last modification:</b> 15.03.2019	
<b>Approved:</b> prof. RNDr. Eva Čellárová, DrSc.	

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice					
<b>Faculty:</b> Faculty of Science					
<b>Course ID:</b> KPPaPZ/UPR/03		<b>Course name:</b> The Art of Aiding by Verbal Exchange			
<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> 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: 49					
A	B	C	D	E	FX
85.71	4.08	2.04	2.04	2.04	4.08
<b>Provides:</b> Mgr. Ondrej Kalina, PhD.					
<b>Date of last modification:</b> 18.03.2019					
<b>Approved:</b> prof. RNDr. Eva Čellárová, DrSc.					

## COURSE INFORMATION LETTER

<b>University:</b> P. J. Šafárik University in Košice							
<b>Faculty:</b> Faculty of Science							
<b>Course ID:</b> ÚBEV/ EMZ1/00		<b>Course name:</b> Vertebrate Embryology					
<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., III.							
<b>Prerequisites:</b>							
<b>Conditions for course completion:</b> Oral examination.							
<b>Learning outcomes:</b> To provide the students with the basic facts on normal development of animals.							
<b>Brief outline of the course:</b> History of embryology. Asexual and sexual reproduction. Gametogenesis. Conversion of germ cells into female and male gametes, sexual hormones. Fertilization. Development of the embryo. Cleavage of the zygote. The main concepts of embryonic development of amphioxus: Blastulation, gastrulation, germ layers formation, throughout organogenesis. Cleavage, blastulation, gastrulation and notogenese of the amphibians. Cleavage, blastulation, gastrulation and notogenese of the reptiles. Cleavage, blastulation, gastrulation and notogenese of the aves. Cleavage, blastulation, gastrulation and notogenese of the mammals. Development of the foetal membranes. Implantation. Placentation in mammals. Organogenesis. Muscular and skeletal systems. Digestive system. Cardiovascular system Respiratory system. Urinary system. Male and female reproductive systems. Nervous system. Eye and ear.							
<b>Recommended literature:</b> Langman, J.: Medical Embryology. Williams & Wilkins, Baltimore, London, 1981 Moore, K. L., Persaud, T. V. N.: Before we are born. W.B. Saunders Company Philadelphia, 1993							
<b>Course language:</b>							
<b>Notes:</b>							
<b>Course assessment</b> Total number of assessed students: 158							
A	B	C	D	E	FX	N	P
63.92	17.72	10.13	2.53	2.53	0.63	0.0	2.53
<b>Provides:</b> doc. RNDr. Zuzana Daxnerová, CSc.							
<b>Date of last modification:</b> 16.02.2021							

**Approved:** prof. RNDr. Eva Čellárová, DrSc.

## 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>	
<b>Course level:</b> I., II.	
<b>Prerequisites:</b>	
<b>Conditions for course completion:</b> Active participation in seminars. Preparation of oral presentation to selected topic. Semestral written test. 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: 944					
A	B	C	D	E	FX
24.05	23.41	24.36	18.43	7.94	1.8
<b>Provides:</b> prof. RNDr. Ľubomír Kováč, CSc.					
<b>Date of last modification:</b> 05.10.2017					
<b>Approved:</b> prof. RNDr. Eva Čellárová, DrSc.					