University: P. J. Šafá	rik University in Košice	
Faculty: Faculty of S	cience	
Course ID: ÚBEV/ ACM/12	Course name: Analytical Cytometry	
Course type, scope a Course type: Lectur Recommended cou Per week: 1 / 2 Per Course method: pre	re / Practice rse-load (hours): study period: 14 / 28	
Number of credits: 4	ł	
Recommended seme	ster/trimester of the course: 4.	
Course level: II., III.		
Prerequisities:		
Conditions for cours	se completion:	
T • 4		

Learning outcomes:

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 flurescence 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.

Brief outline of the course:

Fundamentals of fluorescent methods, principles of fluorescence and various fluorescent methods (FRET, FLIM, FLIM-FRET, FRAP etc.), utilization of flurescent and phusion proteins. Principles of confocal microscopy (spinning disc CM, laser scanning CM), principles of colocalisation studies, software image analysis. 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, cytosceleton stainings, visualization of cell organelles, vital stainings, membrane transport, reactive oxygen and nitrogen species (ROS, NOS), membrane potential, pH etc.

Recommended literature:

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

Course language:

Course assessment

Total number of assessed students: 30

А	В	С	D	Е	FX	Ν	Р
3.33	0.0	0.0	0.0	0.0	0.0	0.0	96.67

Provides: RNDr. Rastislav Jendželovský, PhD.

Date of last modification: 23.02.2018

Approved: Guaranteeprof. RNDr. Eva Čellárová, DrSc.

University: P. J. Ša	afárik Universit	y in Košice			
Faculty: Faculty o	f Science				
Course ID: KFaD AFS/05	F/ Course nat	ne: Ancient Ph	ilosophy and Pre	esent Times	
Course type, scop Course type: Prac Recommended co Per week: 2 Per s Course method:	ctice ourse-load (ho study period: 2	urs):			
Number of credits	s: 2				
Recommended ser	mester/trimest	er of the cours	e: 2.		
Course level: II.					
Prerequisities:					
Conditions for cou	urse completio	n:			
Learning outcome	25:				
Brief outline of th	e course:				
Recommended lite	erature:				
Course language:					
Course assessmen Total number of as	-	s: 31			
A	В	С	D	Е	FX
80.65	6.45	6.45	0.0	6.45	0.0
Provides: Doc. Ph	Dr. Peter Nezní	k, CSc.	1	J	
Date of last modif	ication: 31.08.	2017			
Approved: Guarar	nteeprof. RNDr	Eva Čellárová	. DrSc.		

Faculty: Fac	culty of Scie	ence					
Course ID: AMK/15	ÚBEV/ C	ourse name:	: Aplikovaná	mikrobiológ	gia		
	e: Lecture / ided course 2 / 2 Per stu	<pre>/ Practice e-load (hours udy period: 2</pre>	s):				
Number of c	credits: 5						
Recommend	led semeste	er/trimester	of the course	e: 2., 4.			
Course level	I: II., III.						
Prerequisitio	es:						
Conditions f Attendance		-	%), final exar	nination			
biochemikál	lií a o využi	tí rekombina	ikroorganizm ntných DNA ttériách a ich	techník v pr	riemysle. Ďa	lej získajú in	formácie o
biochemikál kyselinu mli mikroorgani biopalivá. Brief outline Application recombinant Microbiolog	lií a o využi iečnu produ izmov pri od e of the cou of bacter t DNA techn gy in food q	tí rekombina kujúcich bak chrane životn irse: ia in indus niques in ind uality contro	ntných DNA tériách a ich ného prostred trial process ustry. Lactic l. Application	techník v pr využití v po ia – čistenie ses, biocher acid bacteria n of microor	riemysle. Ďa travinárskon odpadových nicals prod a and its appl ganisms in e	lej získajú in n priemysle a vôd, biorem uction. Application in fo nvironment	iformácie o a o využití nediácia, plication o od industry
biochemikál kyselinu mli mikroorgani biopalivá. Brief outline Application recombinant Microbiolog	lií a o využi iečnu produ izmov pri od e of the cou of bacter t DNA techn gy in food q treatment, b	tí rekombina kujúcich bak chrane životn irse: ia in indus niques in ind uality contro vioremediatio	ntných DNA tériách a ich ného prostred trial process ustry. Lactic	techník v pr využití v po ia – čistenie ses, biocher acid bacteria n of microor	riemysle. Ďa travinárskon odpadových nicals prod a and its appl ganisms in e	lej získajú in n priemysle a vôd, biorem uction. Application in fo nvironment	iformácie o a o využití nediácia, plication o od industry
biochemikál kyselinu mli mikroorgani biopalivá. Brief outline Application recombinant Microbiolog wastewater t	lií a o využi iečnu produ izmov pri od e of the cou of bacter t DNA techn gy in food q treatment, b led literatu	tí rekombina kujúcich bak chrane životn irse: ia in indus niques in ind uality contro vioremediatio	ntných DNA tériách a ich ného prostred trial process ustry. Lactic l. Application	techník v pr využití v po ia – čistenie ses, biocher acid bacteria n of microor	riemysle. Ďa travinárskon odpadových nicals prod a and its appl ganisms in e	lej získajú in n priemysle a vôd, biorem uction. Application in fo nvironment	iformácie o a o využití nediácia, plication o od industry
biochemikál kyselinu mli mikroorgani biopalivá. Brief outline Application recombinant Microbiolog wastewater t Recommend Course lang Course asses	lií a o využi iečnu produ izmov pri od of bacter t DNA techn gy in food q treatment, b ded literatu guage: ssment	tí rekombina kujúcich bak chrane životn irse: ia in indus niques in ind uality contro vioremediatio	ntných DNA tériách a ich ného prostred trial process ustry. Lactic l. Application n, biofuels, n	techník v pr využití v po ia – čistenie ses, biocher acid bacteria n of microor	riemysle. Ďa travinárskon odpadových nicals prod a and its appl ganisms in e	lej získajú in n priemysle a vôd, biorem uction. Application in fo nvironment	iformácie o a o využití nediácia, plication o od industry
biochemikál kyselinu mli mikroorgani biopalivá. Brief outline Application recombinant Microbiolog wastewater t Recommend Course lang Course asses	lií a o využi iečnu produ izmov pri od of bacter t DNA techn gy in food q treatment, b ded literatu guage: ssment	tí rekombina kujúcich bak chrane životn irse: ia in indus niques in ind uality contro pioremediatio ire:	ntných DNA tériách a ich ného prostred trial process ustry. Lactic l. Application n, biofuels, n	techník v pr využití v po ia – čistenie ses, biocher acid bacteria n of microor	riemysle. Ďa travinárskon odpadových nicals prod a and its appl ganisms in e	lej získajú in n priemysle a vôd, biorem uction. Application in fo nvironment	iformácie o a o využití nediácia, plication o od industry
biochemikál kyselinu mli mikroorgani biopalivá. Brief outline Application recombinant Microbiolog wastewater t Recommend Course lang Course asses Total numbe	lií a o využi iečnu produ izmov pri od e of the cou of bacter t DNA techn gy in food q treatment, b led literatu guage: ssment er of assesse	tí rekombina kujúcich bak chrane životn irse: ia in indus niques in ind uality contro bioremediatio ire:	ntných DNA tériách a ich ného prostred trial process ustry. Lactic l. Application n, biofuels, n	techník v pr využití v po ia – čistenie ses, biocher acid bacteria n of microor nicrobiology	riemysle. Ďa travinárskon odpadových nicals prod a and its appl ganisms in e v of biogas pl	lej získajú in n priemysle a vôd, biorem uction. Application in fo nvironment lants.	iformácie o a o využití nediácia, plication o od industry protection -
biochemikál kyselinu mli mikroorgani biopalivá. Brief outline Application recombinant Microbiolog wastewater t Recommend Course lang Course asses Total numbe A	lií a o využi iečnu produ izmov pri od e of the cou of bacter t DNA techn gy in food qu treatment, b led literatu guage: ssment er of assesse B 14.29 pc. RNDr. P	tí rekombina kujúcich bak chrane životn irse: ia in indus niques in ind uality contro bioremediatio ire: ed students: 1 C 21.43	ntných DNA tériách a ich hého prostred trial process ustry. Lactic l. Application n, biofuels, n 4 D 7.14	techník v pr využití v po ia – čistenie ses, biocher acid bacteria n of microor nicrobiology E 0.0	riemysle. Ďa travinárskon odpadových nicals prod a and its appl ganisms in e v of biogas pl FX 0.0	lej získajú in n priemysle a vôd, biorem uction. Application in fo nvironment ants.	iformácie o a o využití nediácia, plication o ood industry protection - P P 7.14
piochemikál cyselinu mli nikroorgani piopalivá. Brief outline Application recombinant Microbiolog wastewater t Recommend Course lang Course asses Total numbe A 50.0 Provides: do	lií a o využi iečnu produ izmov pri od e of the cou of bacter t DNA techn gy in food qu treatment, b led literatu guage: ssment er of assesse B 14.29 pc. RNDr. P	tí rekombina kujúcich bak chrane životn irse: ia in indus niques in ind uality contro bioremediatio ire: ed students: 1 C 21.43	ntných DNA tériách a ich hého prostred trial process ustry. Lactic l. Application n, biofuels, n 4 D 7.14	techník v pr využití v po ia – čistenie ses, biocher acid bacteria n of microor nicrobiology E 0.0	riemysle. Ďa travinárskon odpadových nicals prod a and its appl ganisms in e v of biogas pl FX 0.0	lej získajú in n priemysle a vôd, biorem uction. Application in fo nvironment ants.	formácie o a o využití nediácia, plication od industr protection P 7.14

University: P. J. Šaf	ărik Universi	ty in Košice			
Faculty: Faculty of	Science				
Course ID: ÚBEV/ BIONF/16	Course na	me: Bioinforma	tika		
Course type, scope Course type: Lectu Recommended cou Per week: 2 / 1 Per Course method: pr	ure / Practice urse-load (ho r study perio	ours):			
Number of credits:	4				
Recommended sem	ester/trimes	ter of the cours	e: 1., 3.		
Course level: II.					
Prerequisities:					
Conditions for cour	se completio)n:			
Learning outcomes	:				
Brief outline of the	course:				
Recommended liter	ature:				
Course language:					
Course assessment Total number of ass	essed student	s: 9			
A	В	С	D	Е	FX
100.0	0.0	0.0	0.0	0.0	0.0
Provides: doc. RND	r. Peter Prist	aš, CSc., RNDr.	Jana Kisková, Pl	hD.	
Date of last modific	ation: 23.02	.2018			
Approved: Guarante	eeprof. RND	. Eva Čellárová	, DrSc.		

University:	P. J. Šafári	k University i	n Košice				
Faculty: Fa	culty of Sc	ience					
Course ID: BTR1/06	ÚBEV/	Course name:	Plant Biotec	chnology			
Course typ Recomment Per week:	pe: Lecture nded cours	se-load (hours tudy period: 2	s):				
Number of	credits: 6						
Recommen	ded semes	ter/trimester	of the cours	e: 1.			
Course leve	el: I., II., III	[.					
Prerequisit	ies:						
	icipation at	completion: the practicals,	, written test,	protocols,			
Learning o To gain the		l practical kno	wledge on pl	ant tissue cu	ulture in vitro		
embryoids research and	olant tissue and organs d praxis. Cr	urse: culture. Genet s cultured in yopreservation ts and express	vitro under n of plant cell	sterile cond	itions. Use a	of the tissue	e culture in
	al.: Plant E Ed.): An Int	Biotechnology. roduction to N		-	· •	-	601 pp.
Course lang	guage:						
Course asso Total numb		sed students: 1	44				
А	В	C	D	Е	FX	Ν	Р
20.10	18.75	14.58	8.33	11.81	3.47	0.0	4.86
38.19					l.		
	rof. RNDr.	Eva Čellárová	i, DrSc., RNI	Dr. Katarína	Nigutová, Pl	nD.	
Provides: p		Eva Čellárová ion: 23.02.201		Dr. Katarína	Nigutová, Pł	nD.	

University: P	. J. Šafáril	x University in	n Košice				
Faculty: Facu	ulty of Sci	ence					
Course ID: Ú CK1/03	JBEV/	Course name:	Cytogenetic	s and Karyo	ology		
	e: Lecture led cours / 2 Per st	/ Practice e-load (hours udy period: 1	s):				
Number of c	redits: 4						
Recommend	ed semest	er/trimester	of the course	e: 2.			
Course level:	II., III.						
Prerequisitie	s:						
Conditions fo written tests, protocols, oral examina							
-	vledge and lings of cy	l experience in togenetics an human genom	d moleculoa			-	
structure and Polythene ch cell different	of eukary changes romosom iation. Ap	otic genome. of chromatin.	Levels of D e. Genetic re neres and fu	NA organisa gulation of nction of tel	ation in cell r a cell cycle. lomerase. Mo	ucleus. Chi Genetic re	romosomes. egulation of
Recommender Russel, J.P.: (New York 19 Periodicals Internet source	Genetics, 7 92	ire: Third Edition,	Harper Coll	ins Publishe	r,		
Course langu	lage:						
Course asses		ed students: 1	207				
A	B	C C	D	Е	FX	N	Р
24.86	14.66	15.49	14.83	17.4	11.76	0.0	0.99
Provides: pro	of. RNDr. 1	Eva Čellárová	i, DrSc., RNI	Dr. Katarína	Bruňáková, I	PhD.	<u>I</u>
1		on: 23.02.201			,		
Approved: G				DrSc.			
fr thui o							

of cancer. Apoptosis in tumor growth and metastasis. Oncogenes and cancer. Tumor suppress genes. Metastasis suppressor genes. Angiogenesis in cancer. Cell surface glycoproteins and the receptors. Proteinases and their inhibitors in cancer invasion. Radio-, chemo- and immunotherap Recommended literature:	Course ID: UBEV/ CTP1/01 Course name: Cytopathology CTP1/01 Course type, scope and the method: Course type: Lecture Recommended course-load (hours): Per week: 2 Per study period: 28 Course method: present Number of credits: 3 Recommended semester/trimester of the course: 2. Course level: IL, III. Prerequisities: Conditions for course completion: Oral examination Learning outcomes: To provide the students with a knowledge of basic biological principles of carcinogenesis. Brief outline of the course: Tumor development. Tumor growth and metastatic potential. Cell cycle regulation and pathogenes of cancer. Apoptosis in tumor growth and metastasis. Oncogenes and cancer. Tumor suppress genes. Metastasis suppressor genes. Angiogenesis in cancer. Cell surface glycoproteins and the receptors. Proteinases and their inhibitors in cancer invasion. Radio-, chemo- and immunotherap Recommended literature: 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., Lakshmi, M. S.: The Genetics of Cancer. Genes Associated with Cancer Invasion Metastasis and Cell Proliferation. Academic Press, London, 1982 Course language: Course language: Course language: Course language: Course language: Course sassessment Total number of assessed students: 303 A B C D E FX N P 38.61 22.44 20.79 9.57 5.28 2.31 0.0 0.99		P. J. Salali	k University i	n Košice				
CTP1/01 Course type, scope and the method: Course type: Lecture Recommended course-load (hours): Per week: 2 Per study period: 28 Course method: Seconse method: present Number of credits: 3 Recommended semester/trimester of the course: 2. Course level: II., III. Prerequisities: Course type: course completion: Oral examination Course the students with a knowledge of basic biological principles of carcinogenesis. Brief outline of the course: Tumor development. Tumor growth and metastatic potential. Cell cycle regulation and pathogene of cancer. Apoptosis in tumor growth and metastasis. Oncogenes and cancer. Tumor suppress genes. Metastasis suppressor genes. Angiogenesis in cancer. Cell surface glycoproteins and the receptors. Proteinases and their inhibitors in cancer invasion. Radio-, chemo- and immunotheraj Recommended literature: Sherbet, G.V., Lakshmi, M. S.: The Genetics of Cancer. Genes Associated with Cancer Invasior Metastasis and Cell Proliferation. Academic Press, London, 1997 Shebert, G. V. The biology of tumor malignancy. Academic Press, London, 1982 Course language: Course assessment Total number of assessed students: 303 A B C D E FX N P 38.61 22.44 20.79 9.57 5.28 2.31 0.0	CTP1/01 Course type, scope and the method: Course type; Lecture Recommended course-load (hours): Per week: 2 Per study period: 28 Course method: present Number of credits: 3 Recommended semester/trimester of the course: 2. Course level: IL, III. Prerequisities: Conditions for course completion: Oral examination Learning outcomes: To provide the students with a knowledge of basic biological principles of carcinogenesis. Brief outline of the course: Tumor development. Tumor growth and metastatic potential. Cell cycle regulation and pathogenes of cancer. Apoptosis in tumor growth and metastasis. Oncogenes and cancer. Tumor suppress genes. Angiogenesis in cancer. Cell surface glycoproteins and the receptors. Proteinases and their inhibitors in cancer invasion. Radio-, chemo- and immunotherap Recommended literature: 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. atkshmi, M. S.: The Genetics of Cancer. Genes Associated with Cancer Invasion Metastasis and Cell Proliferation. Academic Press, London, 1982 Course language: Course assessment Total number of assessed students: 303 A A B C D E FX N P 38.61 22.44 20.79 9.57 <th>Faculty: Fa</th> <td>aculty of Sc</td> <td>ience</td> <td></td> <td></td> <td></td> <td></td> <td></td>	Faculty: Fa	aculty of Sc	ience					
Course type: Lecture Recommended course-load (hours): Per week: 2 Per study period: 28 Course method: present Number of credits: 3 Recommended semester/trimester of the course: 2. Course level: IL, III. Prerequisities: Conditions for course completion: Oral examination Learning outcomes: To provide the students with a knowledge of basic biological principles of carcinogenesis. Brief outline of the course: Tumor development. Tumor growth and metastatic potential. Cell cycle regulation and pathogene of cancer. Apoptosis in tumor growth and metastasis. Oncogenes and cancer. Tumor suppress genes. Metastasis suppressor genes. Angiogenesis in cancer. Cell surface glycoproteins and th receptors. Proteinases and their inhibitors in cancer invasion. Radio-, chemo- and immunotherap Recommended literature: Sherbet, G. V., Lakshmi, M. S.: The Genetics of Cancer. Genes Associated with Cancer Invasior Metastasis and Cell Proliferation. Academic Press, London, 1997 Shebert, G. V., Lakshmi, M. S.: The Genetics of Cancer. Genes Associated with Cancer Invasior Metastasis and Cell Proliferation. Academic Press, London, 1997 Shebert, G. V., Lakshmi, M. S.: The Genetics of Cancer. Genes Associated with Cancer Invasior Metastasis and Cell Proliferation. Academic Press, London, 1982 Course assessment Total number of assessed students: 303 A B C D <th< td=""><td>Course type: Lecture Recommended course-load (hours): Per week: 2 Per study period: 28 Course method: present Number of credits: 3 Recommended semester/trimester of the course: 2. Course level: II., III. Prerequisities: Conditions for course completion: Oral examination Learning outcomes: To provide the students with a knowledge of basic biological principles of carcinogenesis. Brief outline of the course: Tumor development. Tumor growth and metastatic potential. Cell cycle regulation and pathogeness of cancer. Apoptosis in tumor growth and metastasis. Oncogenes and cancer. Tumor suppresss, genes. Metastasis suppressor genes. Angiogenesis in cancer. Cell surface glycoproteins and the receptors. Proteinases and their inhibitors in cancer invasion. Radio-, chemo- and immunotherap Recommended literature: 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 Course language: Course assessment Total number of assessed students: 303 A B C D E FX N P 38.61 22.44 20.79 9.57 5.28 2.31 0.0 0.99 Provides: prof. RNDr. Peter Fedoročko, CSc. Date of last modification: 23.02.2018</td><th></th><td>ÚBEV/</td><td>Course name</td><td>: Cytopathol</td><td>ogy</td><td></td><td></td><td></td></th<>	Course type: Lecture Recommended course-load (hours): Per week: 2 Per study period: 28 Course method: present Number of credits: 3 Recommended semester/trimester of the course: 2. Course level: II., III. Prerequisities: Conditions for course completion: Oral examination Learning outcomes: To provide the students with a knowledge of basic biological principles of carcinogenesis. Brief outline of the course: Tumor development. Tumor growth and metastatic potential. Cell cycle regulation and pathogeness of cancer. Apoptosis in tumor growth and metastasis. Oncogenes and cancer. Tumor suppresss, genes. Metastasis suppressor genes. Angiogenesis in cancer. Cell surface glycoproteins and the receptors. Proteinases and their inhibitors in cancer invasion. Radio-, chemo- and immunotherap Recommended literature: 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 Course language: Course assessment Total number of assessed students: 303 A B C D E FX N P 38.61 22.44 20.79 9.57 5.28 2.31 0.0 0.99 Provides: prof. RNDr. Peter Fedoročko, CSc. Date of last modification: 23.02.2018		ÚBEV/	Course name	: Cytopathol	ogy			
Recommended semester/trimester of the course: 2. Course level: II., III. Prerequisities: Conditions for course completion: Oral examination Learning outcomes: To provide the students with a knowledge of basic biological principles of carcinogenesis. Brief outline of the course: Tumor development. Tumor growth and metastatic potential. Cell cycle regulation and pathogene of cancer. Apoptosis in tumor growth and metastasis. Oncogenes and cancer. Tumor suppress genes. Metastasis suppressor genes. Angiogenesis in cancer. Cell surface glycoproteins and th receptors. Proteinases and their inhibitors in cancer invasion. Radio-, chemo- and immunotherap Recommended literature: Sherbet, G.V., Lakshmi, M. S.: The Genetics of Cancer. Genes Associated with Cancer Invasior Metastasis and Cell Proliferation. Academic Press, London, 1997 Shebert, G. V.: The biology of tumor malignancy. Academic Press, London, 1982 Course language: Course assessment Total number of assessed students: 303 A B C D E FX N P 38.61 22.44 20.79 9.57 5.28 2.31 0.0 0.99 Provides: prof. RNDr. Peter Fedoročko, CSc.	Recommended semester/trimester of the course: 2. Course level: II., III. Prerequisities: Conditions for course completion: Oral examination Learning outcomes: To provide the students with a knowledge of basic biological principles of carcinogenesis. Brief outline of the course: Tumor development. Tumor growth and metastatic potential. Cell cycle regulation and pathogenes of cancer. Apoptosis in tumor growth and metastasis. Oncogenes and cancer. Tumor suppress genes. Metastasis suppressor genes. Angiogenesis in cancer. Cell surface glycoproteins and the receptors. Proteinases and their inhibitors in cancer invasion. Radio-, chemo- and immunotherap Recommended literature: 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 Course assessment Total number of assessed students: 303 A B C D E FX N P 38.61 22.44 20.79 9.57 5.28 2.31 0.0 0.99 Provides: prof. RNDr. Peter Fedoročko, CSc. Date of last modification: 23.02.2018	Course ty Recomme Per week:	pe: Lecture ended cours 2 Per stud	se-load (hour y period: 28					
Course level: II., III. Prerequisities: Conditions for course completion: Oral examination Learning outcomes: To provide the students with a knowledge of basic biological principles of carcinogenesis. Brief outline of the course: Tumor development. Tumor growth and metastatic potential. Cell cycle regulation and pathogene of cancer. Apoptosis in tumor growth and metastasis. Oncogenes and cancer. Tumor suppress genes. Metastasis suppressor genes. Angiogenesis in cancer. Cell surface glycoproteins and the receptors. Proteinases and their inhibitors in cancer invasion. Radio-, chemo- and immunotheraj Recommended literature: Sherbet, G.V., Lakshmi, M. S.: The Genetics of Cancer. Genes Associated with Cancer Invasior Metastasis and Cell Proliferation. Academic Press, London, 1997 Sherbet, G. V., Lakshmi, M. S.: The Genetics of Cancer. Genes Associated with Cancer Invasior Metastasis and Cell Proliferation. Academic Press, London, 1997 Sherbet, G. V.: The biology of tumor malignancy. Academic Press, London, 1982 Course assessment Total number of assessed students: 303 A B C D E FX N P 38.61 22.44 20.79 9.57 5.28 2.31 0.0 0.99 Provides: prof. RNDr. Peter Fedoročko, CSc.	Course level: II., III. Prerequisities: Conditions for course completion: Oral examination Oral examination Learning outcomes: To provide the students with a knowledge of basic biological principles of carcinogenesis. Brief outline of the course: Tumor development. Tumor growth and metastatic potential. Cell cycle regulation and pathogeness of cancer. Apoptosis in tumor growth and metastasis. Oncogenes and cancer. Tumor suppressor genes. Metastasis suppressor genes. Angiogenesis in cancer. Cell surface glycoproteins and the receptors. Proteinases and their inhibitors in cancer invasion. Radio-, chemo- and immunotherap Recommended literature: Shebet, G. V., Lakshmi, M. S.: The Genetics of Cancer. Genes Associated with Cancer Invasion Metastasis and Cell Proliferation. Academic Press, London, 1997 Shebett, G. V.: The biology of tumor malignancy. Academic Press, London, 1982 Course language: Course assessment Total number of assessed students: 303 A B C D E FX N P 38.61 22.44 20.79 9.57 5.28 2.31 0.0 0.99 Provides: prof. RNDr. Peter Fedoročko, CSc. Date of last modification: 23.02.2018	Number of	credits: 3						
Prerequisities: Conditions for course completion: Oral examination Learning outcomes: To provide the students with a knowledge of basic biological principles of carcinogenesis. Brief outline of the course: Tumor development. Tumor growth and metastatic potential. Cell cycle regulation and pathogene of cancer. Apoptosis in tumor growth and metastasis. Oncogenes and cancer. Tumor suppress genes. Metastasis suppressor genes. Angiogenesis in cancer. Cell surface glycoproteins and the receptors. Proteinases and their inhibitors in cancer invasion. Radio-, chemo- and immunotherap Recommended literature: 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 Course language: Course assessment Total number of assessed students: 303 A B C D E FX N P 38.61 22.44 20.79 9.57 5.28 2.31 0.0 0.99 Provides: prof. RNDr. Peter Fedoročko, CSc. E	Prerequisities: Conditions for course completion: Oral examination Learning outcomes: To provide the students with a knowledge of basic biological principles of carcinogenesis. Brief outline of the course: Tumor development. Tumor growth and metastatic potential. Cell cycle regulation and pathogenes of cancer. Apoptosis in tumor growth and metastasis. Oncogenes and cancer. Tumor suppress genes. Metastasis suppressor genes. Angiogenesis in cancer. Cell surface glycoproteins and the receptors. Proteinases and their inhibitors in cancer invasion. Radio-, chemo- and immunotherap Recommended literature: 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 Course language: Course language: Total number of assessed students: 303 A B C D E FX N P 38.61 22.44 20.79 9.57 5.28 2.31 0.0 0.99 Provides: prof. RNDr. Peter Fedoročko, CSc. Date of last modification: 23.02.2018 E E E	Recommen	ded semest	ter/trimester	of the cours	e: 2.			
Conditions for course completion: Oral examination Learning outcomes: To provide the students with a knowledge of basic biological principles of carcinogenesis. Brief outline of the course: Tumor development. Tumor growth and metastatic potential. Cell cycle regulation and pathogene of cancer. Apoptosis in tumor growth and metastasis. Oncogenes and cancer. Tumor suppress genes. Metastasis suppressor genes. Angiogenesis in cancer. Cell surface glycoproteins and the receptors. Proteinases and their inhibitors in cancer invasion. Radio-, chemo- and immunotheral Recommended literature: 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 Course language: Total number of assessed students: 303 A B C D E FX N P 38.61 22.44 20.79 9.57 5.28 2.31 0.0 0.99 Provides: prof. RNDr. Peter Fedoročko, CSc. E	Conditions for course completion: Oral examination Units of course: To provide the students with a knowledge of basic biological principles of carcinogenesis. Brief outline of the course: Tumor development. Tumor growth and metastatic potential. Cell cycle regulation and pathogeness of cancer. Apoptosis in tumor growth and metastasis. Oncogenes and cancer. Tumor suppresses genes. Metastasis suppressor genes. Angiogenesis in cancer. Cell surface glycoproteins and the receptors. Proteinases and their inhibitors in cancer invasion. Radio-, chemo- and immunotherap Recommended literature: 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 Course language: Course language: Course language: Course language: Total number of assessed students: 303 A B C D E FX N P 38.61 22.44 20.79 9.57 5.28 2.31 0.0 0.99 Provides: prof. RNDr. Peter Fedoročko, CSc. Date of last modification: 23.02.2018	Course leve	el: II., III.						
Oral examinationLearning outcomes:To provide the students with a knowledge of basic biological principles of carcinogenesis.Brief outline of the course:Tumor development. Tumor growth and metastatic potential. Cell cycle regulation and pathogene of cancer. Apoptosis in tumor growth and metastasis. Oncogenes and cancer. Tumor suppress genes. Metastasis suppressor genes. Angiogenesis in cancer. Cell surface glycoproteins and the receptors. Proteinases and their inhibitors in cancer invasion. Radio-, chemo- and immunotherap Recommended literature: Sherbet, G. V., Lakshmi, M. S.: The Genetics of Cancer. Genes Associated with Cancer Invasior Metastasis and Cell Proliferation. Academic Press, London, 1997 Shebert, G. V.: The biology of tumor malignancy. Academic Press, London, 1982Course language:Course assessment Total number of assessed students: 303 ABCDEFXNP 38.61 22.44 20.79 9.57 5.28 2.31 0.0 0.99 Provides: prof. RNDr. Peter Fedoročko, CSc.	Oral examination Learning outcomes: To provide the students with a knowledge of basic biological principles of carcinogenesis. Brief outline of the course: Tumor development. Tumor growth and metastatic potential. Cell cycle regulation and pathogeness of cancer. Apoptosis in tumor growth and metastasis. Oncogenes and cancer. Tumor suppressingenes. Metastasis suppressor genes. Angiogenesis in cancer. Cell surface glycoproteins and the receptors. Proteinases and their inhibitors in cancer invasion. Radio-, chemo- and immunotherap Recommended literature: 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 Course language: Course assessment Total number of assessed students: 303 A B C A B C A B C 38.61 22.44 20.79 9.57 38.61 22.44 20.79 9.57 Provides: prof. RNDr. Peter Fedoročko, CSc. Date of last modification: 23.02.2018	Prerequisit	ties:						
To provide the students with a knowledge of basic biological principles of carcinogenesis.Brief outline of the course:Tumor development. Tumor growth and metastatic potential. Cell cycle regulation and pathogene of cancer. Apoptosis in tumor growth and metastasis. Oncogenes and cancer. Tumor suppress genes. Metastasis suppressor genes. Angiogenesis in cancer. Cell surface glycoproteins and th receptors. Proteinases and their inhibitors in cancer invasion. Radio-, chemo- and immunotherap Recommended literature: Sherbet, G.V., Lakshmi, M. S.: The Genetics of Cancer. Genes Associated with Cancer Invasior Metastasis and Cell Proliferation. Academic Press, London, 1997 Shebert, G. V.: The biology of tumor malignancy. Academic Press, London, 1982Course language:Course assessment Total number of assessed students: 303ABCDEFXNP38.6122.4420.799.575.282.310.00.99Provides: prof. RNDr. Peter Fedoročko, CSc.	To provide the students with a knowledge of basic biological principles of carcinogenesis.Brief outline of the course:Tumor development. Tumor growth and metastatic potential. Cell cycle regulation and pathogeness of cancer. Apoptosis in tumor growth and metastasis. Oncogenes and cancer. Tumor suppresses genes. Metastasis suppressor genes. Angiogenesis in cancer. Cell surface glycoproteins and the receptors. Proteinases and their inhibitors in cancer invasion. Radio-, chemo- and immunotherap Recommended literature: 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, 1982Course language:Course language:Total number of assessed students: 303ABCDEFXNP38.6122.4420.799.575.282.310.00.99Provides: prof. RNDr. Peter Fedoročko, CSc.Date of last modification: 23.02.2018			completion:					
Tumor development. Tumor growth and metastatic potential. Cell cycle regulation and pathogener of cancer. Apoptosis in tumor growth and metastasis. Oncogenes and cancer. Tumor suppress genes. Metastasis suppressor genes. Angiogenesis in cancer. Cell surface glycoproteins and the receptors. Proteinases and their inhibitors in cancer invasion. Radio-, chemo- and immunotherap Recommended literature: 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 Course language: Course assessment Total number of assessed students: 303ABCDEFXNP38.6122.4420.799.575.282.310.00.99 Provides: prof. RNDr. Peter Fedoročko, CSc.	Tumor development. Tumor growth and metastatic potential. Cell cycle regulation and pathogeness of cancer. Apoptosis in tumor growth and metastasis. Oncogenes and cancer. Tumor suppress genes. Metastasis suppressor genes. Angiogenesis in cancer. Cell surface glycoproteins and the receptors. Proteinases and their inhibitors in cancer invasion. Radio-, chemo- and immunotherap Recommended literature: 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 Course language:Course assessment Total number of assessed students: 303ABCDEFXNP38.6122.4420.799.575.282.310.00.99 Provides: prof. RNDr. Peter Fedoročko, CSc. Date of last modification: 23.02.2018			s with a know	ledge of bas	ic biological	principles of	carcinogene	esis.
Shebert, G. V.: The biology of tumor malignancy. Academic Press, London, 1982Course language:Course assessment Total number of assessed students: 303ABCDEFXNP38.6122.4420.799.575.282.310.00.99Provides: prof. RNDr. Peter Fedoročko, CSc.	Shebert, G. V.: The biology of tumor malignancy. Academic Press, London, 1982Course language:Course assessment Total number of assessed students: 303ABCDEFXNP38.6122.4420.799.575.282.310.00.99Provides: prof. RNDr. Peter Fedoročko, CSc.Date of last modification: 23.02.2018	Brief Autlin	1e of the co	urse:					
Course assessment Total number of assessed students: 303 D E FX N P 38.61 22.44 20.79 9.57 5.28 2.31 0.0 0.99 Provides: prof. RNDr. Peter Fedoročko, CSc. CSc. CSc. CSc. CSc.	Course assessment Total number of assessed students: 303 A B C D E FX N P 38.61 22.44 20.79 9.57 5.28 2.31 0.0 0.99 Provides: prof. RNDr. Peter Fedoročko, CSc. Date of last modification: 23.02.2018 E FX N P	Tumor deve of cancer. A genes. Met receptors. I Recommen	elopment. T Apoptosis i astasis supp Proteinases aded literat	umor growth an tumor grow bressor genes. and their inhil	th and meta Angiogenes pitors in canc	stasis. Oncog is in cancer. eer invasion.	genes and ca Cell surface Radio-, chen	ncer. Tumor glycoprotein no- and imm	suppress ns and the unotherap
Total number of assessed students: 303 A B C D E FX N P 38.61 22.44 20.79 9.57 5.28 2.31 0.0 0.99 Provides: prof. RNDr. Peter Fedoročko, CSc.	Total number of assessed students: 303 A B C D E FX N P 38.61 22.44 20.79 9.57 5.28 2.31 0.0 0.99 Provides: prof. RNDr. Peter Fedoročko, CSc. Date of last modification: 23.02.2018 V V V	Tumor deve of cancer. A genes. Met receptors. I Recommen Sherbet, G. Metastasis	elopment. T Apoptosis i astasis supp Proteinases Ided literat .V., Lakshm and Cell Pr	umor growth a n tumor grow pressor genes. and their inhil ure: i, M. S.: The oliferation. A	th and meta Angiogenes pitors in canc Genetics of C cademic Pres	stasis. Oncog is in cancer. cer invasion. Cancer. Gene ss, London, 1	genes and ca Cell surface Radio-, chen s Associated 997	ncer. Tumor glycoprotein no- and imm	suppress ns and the unotherap
38.61 22.44 20.79 9.57 5.28 2.31 0.0 0.99 Provides: prof. RNDr. Peter Fedoročko, CSc.	38.61 22.44 20.79 9.57 5.28 2.31 0.0 0.99 Provides: prof. RNDr. Peter Fedoročko, CSc. Date of last modification: 23.02.2018	Tumor deve of cancer. A genes. Met receptors. I Recommen Sherbet, G. Metastasis Shebert, G.	elopment. T Apoptosis i astasis supp Proteinases ided literat .V., Lakshm and Cell Pr . V.: The bic	umor growth a n tumor grow pressor genes. and their inhil ure: i, M. S.: The oliferation. A	th and meta Angiogenes pitors in canc Genetics of C cademic Pres	stasis. Oncog is in cancer. cer invasion. Cancer. Gene ss, London, 1	genes and ca Cell surface Radio-, chen s Associated 997	ncer. Tumor glycoprotein no- and imm	suppress ns and the unotherap
Provides: prof. RNDr. Peter Fedoročko, CSc.	Provides: prof. RNDr. Peter Fedoročko, CSc. Date of last modification: 23.02.2018	Tumor deve of cancer. A genes. Met receptors. H Recommen Sherbet, G. Metastasis Shebert, G. Course lan	elopment. T Apoptosis i astasis supp Proteinases ided literat .V., Lakshm and Cell Pr . V.: The bio guage: essment	umor growth a n tumor grow pressor genes. and their inhil ure: i, M. S.: The oliferation. A blogy of tumo	th and meta Angiogenes bitors in cano Genetics of C cademic Pres r malignancy	stasis. Oncog is in cancer. cer invasion. Cancer. Gene ss, London, 1	genes and ca Cell surface Radio-, chen s Associated 997	ncer. Tumor glycoprotein no- and imm	suppress ns and the unotherap
	Date of last modification: 23.02.2018	Tumor deve of cancer. A genes. Met receptors. F Recommen Sherbet, G. Metastasis Shebert, G. Course lan Course asse Total numb	elopment. T Apoptosis i astasis supp Proteinases ided literat .V., Lakshm and Cell Pr . V.: The bio guage: essment ber of assess	umor growth a n tumor grow pressor genes. and their inhil ure: i, M. S.: The oliferation. A ology of tumo	th and meta Angiogenes bitors in cano Genetics of C cademic Pres r malignancy	stasis. Oncog is in cancer. cer invasion. Cancer. Gene ss, London, 1 2. Academic 1	genes and ca Cell surface Radio-, chen s Associated 997 Press, Londo	ncer. Tumor glycoprotein no- and imm with Cancer n, 1982	r Invasion
Date of last modification: 23.02.2018		Tumor deve of cancer. A genes. Met receptors. H Recommen Sherbet, G. Metastasis Shebert, G. Course lan Course asse Total numb A	elopment. T Apoptosis i astasis supp Proteinases ided literat .V., Lakshm and Cell Pr . V.: The bio guage: essment per of assess B	umor growth a n tumor grow pressor genes. and their inhil ure: i, M. S.: The oliferation. A ology of tumo	th and meta Angiogenes bitors in cano Genetics of C cademic Pres r malignancy	stasis. Oncog is in cancer. cer invasion. Cancer. Gene ss, London, 1 7. Academic 1 E	genes and ca Cell surface Radio-, chen s Associated 997 Press, Londo FX	ncer. Tumor glycoprotein no- and imm with Cancer n, 1982	r Invasion
	Approved: Guaranteeprof. RNDr. Eva Čellárová, DrSc.	Tumor deve of cancer. A genes. Met receptors. H Recommen Sherbet, G. Metastasis Shebert, G. Course lan Course asse Total numb A 38.61	elopment. T Apoptosis i astasis supp Proteinases ided literat .V., Lakshm and Cell Pr . V.: The bio guage: essment ber of assess B 22.44	and their inhile ure: and their inhile ure: and their inhile ure: and their inhile are: and their inhile are: and their inhile are: and their inhile are: and their inhile are: are: are: are: are: are: are: are	th and meta Angiogenes bitors in cano Genetics of C cademic Pres r malignancy 303 D 9.57	stasis. Oncog is in cancer. cer invasion. Cancer. Gene ss, London, 1 7. Academic 1 E	genes and ca Cell surface Radio-, chen s Associated 997 Press, Londo FX	ncer. Tumor glycoprotein no- and imm with Cancer n, 1982	r Invasion

University: P. J.	Safárik Univers	ity in Košice			
Faculty: Faculty	of Science				
Course ID: KFa DF2p/03	DF/ Course na	me: History of I	Philosophy 2 (Ge	eneral Introductio	on)
Recommended	Lecture / Practice l course-load (h Per study peri	ours):			
Number of cred	lits: 4				
Recommended	semester/trimes	ster of the cours	e:		
Course level: I.,	II.				
Prerequisities:					
Conditions for o	course completi	on:			
Learning outco	mes:				
Brief outline of	the course:				
Recommended	literature:				
Course languag	je:				
Course assessm Total number of	ent assessed studen	ts: 738			
А	В	С	D	Е	FX
60.84	13.82	12.6	8.67	3.39	0.68
Provides: doc. F Katarína Mayero		· · ·		Peter Nezník, CSo	c., PhDr.
Date of last mo	dification: 31.08	3.2017			
Annroved · Gua	ranteeprof RND	r. Eva Čellárová	DrSc		

University: P. J. Šaf	ärik Universi	ty in Košice			
Faculty: Faculty of	Science				
Course ID: ÚBEV/ DPO/14	Course na	me: Diploma Tl	hesis and its Defe	ence	
Course type, scope Course type: Recommended cou Per week: Per stu Course method: pr	urse-load (ho dy period:				
Number of credits:	20				
Recommended sem	ester/trimes	ter of the cours	e:		
Course level: II.					
Prerequisities:					
Conditions for cour	se completio	on:			
Learning outcomes	:				
Brief outline of the	course:				
Recommended liter	ature:				
Course language:					
Course assessment Total number of ass	essed student	s: 148			
A	В	С	D	Е	FX
56.08	29.05	9.46	3.38	2.03	0.0
Provides:				·	
Date of last modific	eation: 23.02	2018			
Approved: Guarante	eeprof. RND	. Eva Čellárová	, DrSc.		

	Šafárik Univers				
Faculty: Faculty					
Course ID: ÚB EB1/99	EV/ Course na	me: Evolutiona	ry Biology		
Course type: I Recommended	l course-load (h er study period:	ours):			
Number of crea	lits: 3				
Recommended	semester/trimes	ster of the cours	se: 3.		
Course level: II					
Prerequisities:					
Conditions for written test	course completi	on:			
	he fundamentals			vidence supportin nd the mechanism	
population wav classification. C of onthogeny. 1 Primary and sec	view of evolution res, and isolation Concept of specie Phylogeny of an	n. Natural select es. Macroevoluti imals. Evolution n of plants. Repr	ion. Molecular ion. Evolution of nary progress. A oduction-isolation	Elements of evolu evolution. Adapta f functions and on Anthropogenesis. on mechanisms. H ats.	ations and their rgans, evolution Plant diversity.
Recommended Futuyama, D.J.:	literature:	ology, Sinauer A	Associates, Sunde	erland, 3rd ed., 19	997.
Course languag	ge:				
Course assessm Total number of	ent f assessed studen	ts: 535			
А	В	С	D	Е	FX
11.4	24.3	23.93	24.67	13.83	1.87
Provides: prof.	RNDr. Pavol Má	rtonfi, PhD., pro	f. RNDr. Beňad	ik Šmajda, CSc.,	prof. RNDr. Ev
Čellárová, DrSc					F
Čellárová, DrSc		2.2018			r

University: P. J. Šafárik University in Košice Faculty: Faculty of Science Course ID: ÚBEV/ Course name: Animal and human ecophysiology EFZ1/03 Course name: Animal and human ecophysiology Course type, scope and the method: Course type; Lecture / Practice Recommended course-load (hours): Per week: 2 / 2 Per study period: 28 / 28 Course method: present Number of credits: 6 Recommended semester/trimester of the course: 1. Course level: II. Prerequisities: Conditions for course completion: Seminar. Test.	
Course ID: ÚBEV/ EFZ1/03Course name: Animal and human ecophysiologyCourse type, scope and the method: Course type: Lecture / Practice Recommended course-load (hours): Per week: 2 / 2 Per study period: 28 / 28 Course method: presentNumber of credits: 6Recommended semester/trimester of the course: 1.Course level: II.Prerequisities:Conditions for course completion: Seminar.	
EFZ1/03 Course type, scope and the method: Course type: Lecture / Practice Recommended course-load (hours): Per week: 2 / 2 Per study period: 28 / 28 Course method: present Number of credits: 6 Recommended semester/trimester of the course: 1. Course level: II. Prerequisities: Conditions for course completion: Seminar.	
Course type: Lecture / Practice Recommended course-load (hours): Per week: 2 / 2 Per study period: 28 / 28 Course method: present Number of credits: 6 Recommended semester/trimester of the course: 1. Course level: II. Prerequisities: Conditions for course completion: Seminar.	
Recommended semester/trimester of the course: 1. Course level: II. Prerequisities: Conditions for course completion: Seminar.	
Course level: II. Prerequisities: Conditions for course completion: Seminar.	
Prerequisities: Conditions for course completion: Seminar.	
Conditions for course completion: Seminar.	
Seminar.	
Learning outcomes: The aim of lectures is to provide students with knowledge of adaptations to and extreme environments effects.	o environmental factors
Brief outline of the course: Environmental factors, reaction, adaptation, deformation. Biological rh - general adaptation syndrom. Physiology and pathology of adaptation pain, inflammation, apoptosis, necrosis. Aging. Regulation of food in fasting, starvation, overfeeding. Thermoregulation. Hibernation, estivation to hypobaria and hyperbaria. Adaptations to hypergravity and microgravity. Biotransformation. Xenobiotics in air, water and soil. Drugs of abuse. Card tumor supressor genes. Cancer prevention. Prions.	n mechanisms - fever, take. Food adapations, n, diapause. Adaptations . Electromagnetic fields.
Recommended literature: 1. Wilmer P and co.: Environmental Physiology of Animals. Blackwell Pu 2. Chown SL, Nicolson SW: Insect Physiological Ecology. Oxford Univer	e ,
Course language:	
Course assessment Total number of assessed students: 399	
A B C D H	E FX
14.29 23.06 22.06 22.81 16.	.54 1.25
Provides: doc. RNDr. Bianka Bojková, PhD.	I
Date of last modification: 23.02.2018	
Approved: Guaranteeprof. RNDr. Eva Čellárová, DrSc.	

University: P. J.	Šafárik Univers	ity in Košice			
Faculty: Faculty	y of Science				
Course ID: ÚBI EH1/01	EV/ Course na	me: Experiment	al Haematology		
	Lecture l course-load (h er study period:	ours):			
Number of cred	lits: 3				
Recommended	semester/trimes	ster of the cours	e: 1., 3.		
Course level: II	•				
Prerequisities:					
Conditions for Oral examination	-	on:			
Learning outco To provide the s		nowledge of exp	erimental hemat	ology.	
Hematopoietic	ematopoietic sto growth factors a	and cytokines. D	oifferentiation an	nematopoietic ste nd self renewal. eting formation o	Mobilisation o
Recommended Simmons, A.: H Company, Phila	lematology. A C	ombined Theoret	ical & Technica	l Approach, W.B.	Saunders
Course languag	ge:				
Course assessm Total number of	ent assessed studen	ts: 283			
А	В	С	D	Е	FX
	28.62	20.14	8.48	2.83	1.41
38.52					
	RNDr. Peter Fed	oročko, CSc.		-	
38.52 Provides: prof. 1 Date of last mod		,		·	1

University:	P. J. Šafáril	k University i	n Košice				
Faculty: Fa	culty of Sci	ence					
Course ID: EMK/15	ÚBEV/	Course name:	: Environme	ntálna mikro	biológia		
Course typ Recomme Per week:	pe: Lecture nded cours	e-load (hours ady period: 2	5):				
Number of	credits: 5						
Recommen	ded semest	er/trimester	of the cours	se: 1., 3.			
Course leve	e l: II., III.						
Prerequisit	ies:						
		completion: ls (at least 909	%), final ora	l examination	n		
characterist	students dat ics of most	ta on participa frequently oc other organis	curing micro	-	-	-	
	and biodiver ors on micr	urse: rsity of micro roorganisms, l					
Recommen	ded literati	ure:					
Course lang	guage:						
Course asso Total numb		ed students: 4	4				
А	В	C	D	E	FX	N	Р
45.45	29.55	0.0	0.0	4.55	0.0	0.0	20.45
Provides: d Maliničová,		Peter Pristaš, (CSc., prof. F	RNDr. Jana S	edláková, Ph	D., RNDr. L	enka
Date of last	modificati	on: 23.02.201	18				
Ammunada	Cuerenteer	rof. RNDr. Ev	Čallánová	D.C.			

	University:	ΡJ	Šafárik	University	v in Košice
I	University.	1	Salarik	Oniversity	

Faculty: Faculty of Science

Course ID: ÚBEV/	Course name: Vertebrate Embryology
EMZ1/00	

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

Course method: present

Number of credits: 3

Recommended semester/trimester of the course: 1.

Course level: II., III.

Prerequisities:

Conditions for course completion:

Oral examination.

Learning outcomes:

To provide the students with the basic facts on normal development of animals.

Brief outline of the course:

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.

Recommended literature:

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

Course language:

Course ass	Course assessment											
Total numb	Total number of assessed students: 158											
А	A B C D E FX N P											
63.92	63.92 17.72 10.13 2.53 2.53 0.63 0.0 2.53											
Provides: d	oc. RNDr. Z	uzana Daxne	erová, CSc.									

Date of last modification: 23.02.2018

Approved: Guaranteeprof. RNDr. Eva Čellárová, DrSc.

University: P. J. Š	afárik Univers	ity in Košice			
Faculty: Faculty of	of Science				
Course ID: ÚBEV ER1/01	// Course na	me: Plant Embr	yology		
Course type, scop Course type: Lee Recommended o Per week: 1 / 1 H Course method:	cture / Practice course-load (he Per study perio	ours):			
Number of credit	s: 3				
Recommended se	mester/trimes	ter of the cours	e: 1.		
Course level: II.					
Prerequisities:					
Conditions for co Oral examination	-	on:			
Learning outcom To provide the stu		general principle	es of embryogen	esis of the seed p	olants
Life cycle of a female gametoph synergids, antipod Microsporogenesi fertilization. Doub Plumule, cotyledo in vitro.	yte. Ovule, nu lals and polar n s. Pollen grai ble fertilization	icellus and integ uclei. Types the n. Generative a . Endosperm. En	guments. Megas embryo sacs. De nd tube nucleus nbryogenesis (ma	porogenesis. En velopment of ma s. Pollen tube. ono- and dicotyle	hbryo sac. Egg, le gametophyte. Pollination and edonous plants).
Recommended life Johri, B.M. (1984 Heidelberg. Raver and Company, Ne)Plant embryol n, P.H., Evert, I				•·· ·
Course language:					
Course assessmen Total number of a		ts: 122			
A	В	С	D	Е	FX
46.72	29.51	13.93	5.74	4.1	0.0
Provides: RNDr. 1	Lenka Martonf	ĩová			
Date of last modi	fication: 23.02	.2018			
		r. Eva Čellárová,			

University: P. J.	. Šafárik Univers	ity in Košice			
Faculty: Faculty	y of Science				
Course ID: ÚB ETO1/03	EV/ Course na	me: Ethology			
Course type: I Recommended	ope and the met Lecture / Practice l course-load (h 2 Per study perio d: present	ours):			
Number of crea	lits: 6				
Recommended	semester/trimes	ter of the cours	e: 1.		
Course level: II					
Prerequisities:					
Conditions for Recognition. Written examin	course completi ation.	on:			
Learning outco To teach the stu biological scien	dents to know an	d to be aware of	the importance	of the behavioura	ll aspect in
simplest forms Social behaviou animal migratio	velopment of eth of learning – co Ir. Sexual behavio	onditioning and our. Play behavio on systems of an	instrumental lea our. Biological r	e innate forms of arning. Higher fo hythms. Orientati . Aggression in an	rm of learning.
Recommended Franck, D.: Ver	literature: haltensbiologie. l	Einfuhrung in di	•	org Thieme-Verlag our. Cambridge U	
Course languag	ge:				
Course access		ts: 930			
Course assessment Total number of	t assessed studen		1	1	
	B	С	D	E	FX
Total number of	i	C 25.7	D 7.96	E 1.83	FX 0.11
Total number of A 39.68	B 24.73	25.7	7.96		0.11
Total number of A 39.68 Provides: RND	B 24.73	25.7 hD., RNDr. Nata	7.96	1.83	0.11

FG/14 Course type, scope an Course type: Lecture Recommended course	Course name: Functional genomics
FG/14 Course type, scope an Course type: Lecture Recommended course	Course name: Functional genomics
Course type: Lecture Recommended cours	
Course method: pres	e / Practice se-load (hours): study period: 28 / 28
Number of credits: 5	
Recommended semes	ster/trimester of the course: 2.
Course level: II., III.	
Prerequisities:	
C onditions for course Active participation in	e completion: n practical and theoretical courses
genes, RNA transcript their genome-wide app rather than a more trac	attempts to answer questions about the function of DNA at the levels of ts, and proteins. A key characteristic of functional genomics studies is proach to these questions, generally involving high-throughput methods ditional "gene-by-gene" approach. The outcome of this course will be approaches and methods used in functional genomics and their application in practice.
 input of genome seque Genome-wide revers use in functional geno Transcriptomics: me Proteomics: method analysis, data mining Metabolomics: method data analysis, data mir Interactomics - proteorics Biological databases 	tional genomics onal genomics: sequenced model organisms, conceptual and methodologica encing, structural vs. functional genome annotation be genetics: techniques to create collections of genome-wide mutants and their omics othods to obtain transcriptome data, data analysis, data mining ds to obtain proteome data, quantitative vs. qualitative proteomics, data
Recommended literat Internet sources, Powe	
C ourse language: English	

A	В	С	D	Е	FX	N	Р			
25.27 25.27 25.27 6.59 12.09 2.2 0.0 3.3										
	Provides: RNDr. Katarína Bruňáková, PhD., RNDr. Andrea Kimáková, PhD., RNDr. Katarína Nigutová, PhD., RNDr. Linda Petijová, PhD., RNDr. Andrea Schreiberová, PhD.									
Date of last	modificatio	on: 23.02.201	18							
Approved:	Guaranteepr	of. RNDr. E	va Čellárová	, DrSc.						

Г

~

	Suluin enivers	ity in Košice			
Faculty: Faculty	of Science				
Course ID: ÚBE FRV1/03	EV/ Course na	me: Physiology	of Plant Growth	h and Developme	nt
Course type, sco Course type: L Recommended Per week: 2 / 2 Course method	ecture / Practice course-load (h Per study perio	ours):			
Number of cred	its: 6				
Recommended s	semester/trimes	ster of the cours	e:		
Course level: II.					
Prerequisities:					
Conditions for c	ourse completi	on:			
Learning outcor To learn about ba		d approaches in j	physiology of pl	lant growth and d	evelopment
transport, physic and abscisic ac ecological funct dormancy. Regu phototropism, gr	ological and de id. Photomorph ions, molecular lation of floweri ravitropism and	evelopmental eff nogenesis and e mechanisms. B ing. Senescence	ects; auxin, gil tiolation. Phyto lue-light respon and programmed	on. Hormones: 1 bberellins, cytoki ochrome: properti nses. Rhythms. G d cell death. Orien logy.	innins, ethylene ies, physiology, dermination and
Recommended I Taiz L., Zeiger F		ogy. Fifth edition	n. Sinauer ass., S	Sunderland 2010	
Course language	e:				
Course assessme Total number of		ts: 104			
A	В	С	D	E	FX
36.54	21.15	17.31	13.46	8.65	2.88
Provides: Ing. R	obert Gregorek,	RNDr. Michaela	a Bačovčinová	•	
Date of last mod	lification: 23.02	2.2018			

Faculty. F		k University i					
racuity. F	aculty of Sc	ience					
Course ID GC1/01	: ÚBEV/	Course name:	Human Ger	netics			
Course ty Recomme Per week	pe: Lecture ended cours	se-load (hours tudy period: 2	s):				
Number of	f credits: 5						
Recommen	nded semes	ter/trimester	of the cours	e: 2.			
Course lev	el: II., III.						
Prerequisi	ties:						
Condition	s for course	completion:					
processes,	e students with the inh	ith a basics of a basics, diag	-		-		pathologic
The genet population used in hu	genetics; the genetics genetics	urse: f physiologica ne patterns of rs - genealogy, DNA diagnosis	inheritance a linkage ana	and pedigree lysis and the	problem solv gene mappin	ving; the bas	sic method tic analysi
	· 1	son MW (200	1): Genetics	in Medicine	6/e. W.B.Sou	inders Comp	oany,
Philadelph Friedman	· •	Hayden MR,	McGillivray	BC (1996): 0	Genetics 2/e.	Williams &	
Philadelph Friedman	JM, Dill FJ, Maryland,	Hayden MR,	McGillivray	BC (1996): 0	Genetics 2/e.	Williams &	
Philadelph Friedman . Baltimore, Course lan	JM, Dill FJ, Maryland, Iguage: sessment	Hayden MR,		BC (1996): (Genetics 2/e.	Williams &	
Philadelph Friedman . Baltimore, Course lan Course ass	JM, Dill FJ, Maryland, Iguage: sessment	Hayden MR, USA		BC (1996): 0	Genetics 2/e.	Williams &	
Philadelph Friedman . Baltimore, Course lan Course ass Total numl	JM, Dill FJ, Maryland, iguage: sessment ber of assess	Hayden MR, USA sed students: 1	111				Wilkins,
Philadelph Friedman , Baltimore, Course lan Course ass Total num A 25.38	JM, Dill FJ, Maryland, iguage: sessment ber of assess B 14.31	Hayden MR, USA sed students: 1 C	111 D 14.22	E	FX	N	Wilkins,
Philadelph Friedman , Baltimore, Course lan Course ass Total num A 25.38 Provides: 1	JM, Dill FJ, Maryland, iguage: sessment ber of assess B 14.31 RNDr. Kata	Hayden MR, USA sed students: 1 C 16.29	111 D 14.22 á, PhD.	E	FX	N	Wilkins,

BEP/12 Course type, scope and the method: Course type: Locture / Practice Recommended course-load (hours): Per week: 2 / 1 Per study period: 28 / 14 Perweek: 2 / 1 Per study period: 28 / 14 Course method: present Sumber of credits: 4 Recommended semester/trimester of the course: 1. Sumber of credits: 4 Recommended semester/trimester of the course: 1. Sourse level: II., III. Prerequisities: Sourse level: II., III. Course level: II., III. Prerequisities: Conditions for course completion: Exam. carning outcomes: Acquire knowledge about genetic interactions in population. Describe the theoretical and nistorical 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. Prief outline of the course: Factors affecting populations. Genetic variability in populations. Polymorphism, heterozygosity. Fundamental models in population genetics. Parky - Weinberg theorem for 2, 3 and n alleles. Special cases of random mating. Calculation and interpretation of inbreeding coefficient. Genetic frift, fixation/elimination of alleles in small populations. One-way, two-way migration. Natural selection in haploid and diploid populations. Population Genetics. Pearson Prentice Hall. HALLIBURTON. R. (2004): Introduction to Population Genetics. Pearson		COUR	SE INFORM	IATION LI			
Ourse ID: ÚBEV/ JEP/12 Course name: Population Genetics Course type, scope and the method: Course type: Lecture / Practice Recommended course-load (hours): Per week: 2 / 1 Per study period: 28 / 14 Course method: present Vamber of credits: 4 Recommended semester/trimester of the course: 1. Course nethod: present Course type: Lecture / Practice Recommended semester/trimester of the course: 1. Course level: II., III. Prerequisities: Control of population genetic interactions in population. Describe the theoretical and nistorical 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. Strief outline of the course: 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 Hift, fixation/elimination of alleles in small populations. One-way, two-way migration. Natural selection in haploid and diploid populations. Population Genetics. Pearson Prentice Hall. HALLBURTON. R. (2004): Introduction to Population Genetics. Pearson Prentice Hall. HALLBURTON. R. (2004): Introduction to Population Genetics. Pearson Prentice Hall. HALLBURTON	University: P. J. Šafá	rik University i	n Košice				
BEP/12 Course type, scope and the method: Course type: Locture / Practice Recommended course-load (hours): Per week: 2 / 1 Per study period: 28 / 14 Perweek: 2 / 1 Per study period: 28 / 14 Course method: present Sumber of credits: 4 Recommended semester/trimester of the course: 1. Sumber of credits: 4 Recommended semester/trimester of the course: 1. Sourse level: II., III. Prerequisities: Sourse level: II., III. Course level: II., III. Prerequisities: Conditions for course completion: Exam. carning outcomes: Acquire knowledge about genetic interactions in population. Describe the theoretical and nistorical 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. Prief outline of the course: Factors affecting populations. Genetic variability in populations. Polymorphism, heterozygosity. Fundamental models in population genetics. Parky - Weinberg theorem for 2, 3 and n alleles. Special cases of random mating. Calculation and interpretation of inbreeding coefficient. Genetic frift, fixation/elimination of alleles in small populations. One-way, two-way migration. Natural selection in haploid and diploid populations. Population Genetics. Pearson Prentice Hall. HALLIBURTON. R. (2004): Introduction to Population Genetics. Pearson	Faculty: Faculty of S	cience					
Course Type: Lecture / Practice Recommended course-load (hours): Per week: 2 / 1 Per study period: 28 / 14 Course method: present Number of credits: 4 Recommended semester/trimester of the course: 1. Course level: II., III. Prerequisities: Conditions for course completion: Exam. Learning outcomes: Acquire knowledge about genetic interactions in population. Describe the theoretical and nistorical ground of population genetics. Identify, characterize and compare fundamental nechanisms (mutation, selection, migration, genetic drift). Interactions leading to intra- and interpopulation variability in population structure. Genetic diversity analysis. Brief outline of the course: Factors affecting populations. Genetic variability in populations. Polymorphism, heterozygosity. Fundamental models in population genetics. Hardy-Weinberg theorem for 2, 3 and n alleles. Special acases of random mating (Bruce's genotype ratios, Sex-linked genes). Population genetics and nutations. Assortative mating, calculation and interpretation of inbreeding coefficient. Genetic drift, intation/elimination of alleles in small populations of plants, animals and human. Darwin's evolution theory, molecular evolution. Recommended literature: HALLLBURTON. 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 pop	Course ID: ÚBEV/ GEP/12	Course name	: Population	Genetics			
Number of credits: 4 Recommended semester/trimester of the course: 1. Course level: IL, III. Prerequisities: Conditions for course completion: Exam. cearning outcomes: Acquire knowledge about genetic interactions in population. Describe the theoretical and nistorical 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. Srief outline of the course: Pactors 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 nutations. 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. Population Genetics. Pearson Prentice Hall. HARTL, D. L. and CLARK, A. G. (2007): Principles of Population Genetics. 4th ed. Sinauer. RELICHOVÁ, J. (2001): Genetika populaci. Masarykova univerzita Brno. Hedrick, P.W.: Genetics of Populations. Jones and Bartlett Publishers 2000. Course assessment Total number of assessed students: 955 A B C D	Course type: Lectu Recommended cou Per week: 2 / 1 Per	re / Practice rse-load (hour study period:	s):				
Course level: II., III. Prerequisities: Conditions for course completion: Exam. Learning outcomes: Acquire knowledge about genetic interactions in population. Describe the theoretical and nistorical 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. Strief outline of the course: 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 dirit, fixation/elimination of alleles in small populations. One-way, two-way migration. Natural selection in haploid and diploid populations. Population Genetics. Pearson Prentice Hall. 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 populaci. Masarykova univerzita Bruo. Hedrick, P.W.: Genetics of Populations. Jones and Bartlett Publishers 2000. Course assessment Course assessment Total number of assessed students: 955 A B	Number of credits: 4						
Prerequisities: Conditions for course completion: Exam. cearning outcomes: Acquire knowledge about genetic interactions in population. Describe the theoretical and nistorical 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. Brief outline of the course: Factors affecting populations. Genetic variability in populations. Polymorphism, heterozygosity. Fundamental models in population genetics. Hardy-Weinberg theorem for 2, 3 and n alleles. Special anutations. 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. Recommended literature: 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): Genetica populaci. Masarykova univerzita Brno. Hedrick, P.W.: Genetics of Populations. Jones and Bartlett Publishers 2000. Course assessment Total number of assessed students: 955 A B C D E FX N P <td< td=""><td>Recommended seme</td><td>ester/trimester</td><td>of the cours</td><td>e: 1.</td><td></td><td></td><td></td></td<>	Recommended seme	ester/trimester	of the cours	e: 1.			
Conditions for course completion: Exam. Acquire knowledge about genetic interactions in population. Describe the theoretical and nistorical 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. Strengt of the course: 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 nutations. Assortative mating, calculation and interpretation of inbreeding coefficient. Genetic drift, fixation/elimination of alleles in small populations of plants, animals and human. Darwin's evolution theory, molecular evolution. Recommended literature: HALLIBURTON. R. (2004): Introduction to Population Genetics. Pearson Prentice Hall. HALTIBURTON R. (2001): Genetika populaci. Masarykova univerzita Brno. Hedrick, P.W.: Genetics of Populations. Jones and Bartlett Publishers 2000. Course assessment Total number of assessed students: 955 A B C D E FX N P Provides: RNDr. Linda Petijová, PhD., RNDr. Katarína Bruň	Course level: II., III.						
Exam. cerning outcomes: Acquire knowledge about genetic interactions in population. Describe the theoretical and nistorical 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. Brief outline of the course: 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. Population Genetics. Pearson Prentice Hall. HARTL, D. L. and CLARK, A. G. (2007): Principles of Population Genetics. 4th ed. Sinauer. RELICHOVÁ, J. (2001): Genetika populaci. Masarykova univerzita Brno. Hedrick, P.W.: Genetics of Populations. Jones and Bartlett Publishers 2000. Course language: Course assessment Total number of assessed students: 955 A B C D E FX N P 19.16 14.87 14.66 16.54 20.21 13.72 0.0 0.84	Prerequisities:						
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. Brief outline of the course: 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. Population Genetics. Pearson Prentice Hall. 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 populaci. Masarykova univerzita Brno. Hedrick, P.W.: Genetics of Populations. Jones and Bartlett Publishers 2000. Course assessment Total number of assessed students: 955 A B C D E FX N P 19.16 14.87 14.66 16.54 20.21 13.72 0.0 0.84 Provides: RNDr. Linda Pe	Conditions for cour Exam.	se completion:					
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. Course language: Course assessment Total number of assessed students: 955 A B C D E FX N P 19.16 14.66 Provides: RNDr. Linda Petijová, PhD., RNDr. Katarína Bruňáková, PhD. Date of last modification: 23.02.2018	Acquire knowledge a historical ground of p mechanisms (mutation interpopulation varian Brief outline of the o Factors affecting pop Fundamental models cases of random ma mutations. Assortation drift, fixation/elimin selection in haploid a evolution theory, mo	population gene on, selection, m bility in popula course: pulations. Gene in population g atting (Bruce's g ve mating, calc attion of alleles and diploid pop lecular evolutio	tics. Identify igration, gene tion structure tic variability enetics. Hard genotype ration ulation and in small pop ulations. Pop	, characterize etic drift). In e. Genetic div y in populati y-Weinberg os, Sex-link interpretation pulations. Or	e and compar- teractions lea versity analys tons. Polymor theorem for 2 red genes). P n of inbreedi ne-way, two-v	e fundamen ding to intra sis. rphism, hete , 3 and n alle opulation g ng coefficie way migrati	tal a- and erozygosity. eles. Special genetics and ent. Genetic ion. Natural
Course assessment Total number of assessed students: 955 A B C D E FX N P 19.16 14.87 14.66 16.54 20.21 13.72 0.0 0.84 Provides: RNDr. Linda Petijová, PhD., RNDr. Katarína Bruňáková, PhD. Date of last modification: 23.02.2018 E	HALLIBURTON. R HARTL, D. L. and C RELICHOVÁ, J. (20	. (2004): Introdu CLARK, A. G. (001): Genetika p	2007): Princi populací. Ma	ples of Popu sarykova uni	llation Geneti verzita Brno.	cs. 4th ed. S	
Total number of assessed students: 955 A B C D E FX N P 19.16 14.87 14.66 16.54 20.21 13.72 0.0 0.84 Provides: RNDr. Linda Petijová, PhD., RNDr. Katarína Bruňáková, PhD. Date of last modification: 23.02.2018 23.02.2018	Course language:						
19.16 14.87 14.66 16.54 20.21 13.72 0.0 0.84 Provides: RNDr. Linda Petijová, PhD., RNDr. Katarína Bruňáková, PhD. Date of last modification: 23.02.2018	Course assessment Total number of asse	ssed students: 9	955				
Provides: RNDr. Linda Petijová, PhD., RNDr. Katarína Bruňáková, PhD. Date of last modification: 23.02.2018	A B	C	D	Е	FX	Ν	Р
Date of last modification: 23.02.2018	19.16 14.87	14.66	16.54	20.21	13.72	0.0	0.84
	Provides: RNDr. Lin	da Petijová, Ph	D., RNDr. Ka	atarína Bruňa	áková, PhD.		<u>.</u>
	Date of last modific:	ation: 23.02.20	18				
Approved: Guaranteeprof. RNDr. Eva Čellárová, DrSc.	Approved: Guarante	eprof. RNDr. E	va Čellárová.	DrSc.			

University: P. J.	Šafárik	University in	n Košice				
Faculty: Faculty	of Scie	nce					
Course ID: ÚBE GM1/03	\mathbf{C}	ourse name:	Gene Mani	pulations			
Course type, sco Course type: L Recommended Per week: 2 / 2 Course method	ecture / course Per stu : prese	Practice -load (hours idy period: 2	s):				
Number of cred							
Recommended s	semeste	r/trimester	of the cours	e: 2.			
Course level: II.							
Prerequisities: Ú	JBEV/U	JGM1/03					
Conditions for c	ourse c	completion:					
Learning outcor	nes:						
Brief outline of t	the cou	rse:					
Recommended l	iteratu	re:					
Course language	e:						
Course assessme Total number of		d students: 1	61				
A	В	С	D	Е	FX	Ν	Р
51.55 22	2.36	9.32	4.35	2.48	0.62	0.0	9.32
Provides: doc. R	NDr. Po	eter Pristaš, (CSc., RNDr.	Mariana Ko	lesárová, PhI).	
Date of last mod	ificatio	on: 23.02.201	8				
Approved: Guar	anteepr	of. RNDr. Ev	va Čellárová	DrSc.			

University: P. J. S	Šafárik Univers	ity in Košice			
Faculty: Faculty	of Science				
Course ID: ÚBE GMC/15	V/ Course na	me: Genetika a	molekulárna cyto	ológia	
Course type, sco Course type: Recommended Per week: Per s Course method	course-load (he study period: : present				
Number of credi					
Recommended se	emester/trimes	ter of the cours	e:		
Course level: II.					
Prerequisities: Ú	BEV/GEP/12 a	nd ÚBEV/MOG	/03 and ÚBEV/F	G/14	
Conditions for co	ourse completi	on:			
Learning outcom	nes:				
Brief outline of t	he course:				
Recommended li	iterature:				
Course language	:				
Course assessme Total number of a	-	ts: 24			
A	В	С	D	Е	FX
37.5	20.83	12.5	16.67	12.5	0.0
Provides:					
Date of last mod	ification: 23.02	.2018			
Approved: Guara	anteeprof. RND	r. Eva Čellárová,	DrSc.		

University: P. J. Ša	afárik Universi	ty in Košice			
Faculty: Faculty o	f Science				
Course ID: KFaD IH2/03	F/ Course na	me: Idea Huma	nitas 2 (General 1	Introduction)	
Course type, scop Course type: Pra Recommended co Per week: 2 Per s Course method:	ctice ourse-load (he study period: present	ours):			
Number of credits					
Recommended ser	mester/trimes	ter of the cours	e: 3.		
Course level: II.					
Prerequisities:					
Conditions for con	urse completion	on:			
Learning outcome	es:				
Brief outline of th	e course:				
Recommended lite	erature:				
Course language:					
Course assessmen Total number of as	-	ts: 8			
Α	В	С	D	Е	FX
87.5	12.5	0.0	0.0	0.0	0.0
Provides: Doc. Ph	Dr. Peter Nezn	ík, CSc.		·	
Date of last modif	ication: 31.08	.2017			
Approved: Guarar	nteeprof. RND	r. Eva Čellárová	, DrSc.		

University: P. J.	Šafárik Univers	ity in Košice			
Faculty: Faculty	of Science				
Course ID: ÚBI IMU1/03	EV/ Course na	ame: Immunolog	зу		
	ecture l course-load (h er study period:	ours):			
Number of cred	lits: 3				
Recommended	semester/trimes	ster of the cours	se: 1.		
Course level: II.					
Prerequisities:					
Conditions for o Recognition. Oral examinatio	-	on:			
lessons is the proceeding of the proceeding of the process. Brief outline of Basic immunology Responses of Immunology (1997) (19	esentation of the of complex mole the course: ogy: Lymphatic nate Immunity, T	e organization an ecular and cellul System Anato The Adaptive Imi	us human disease d function of the ar interactions du my, The Innate nune Response, <i>A</i> igen Presentation	immune system, aring the inductio Immune System Antigens and Anti	as well as the n of immune n, The Induced ibodies, Antiger
	ology: Allergy a	and other Hyper	sensitivities, Aut	• • •	· •
Recommended Janeway Ch. A. Murphy, K. (201	literature: , Travers P., Wal 12): Jeneway's I	port M., Schlom mmunobiology.	chik M.: Immund 8th ed. Garland S nology 12th ed W	Science	d Science, 2004
Course languag	je:				
Course assessm Total number of		ts: 866			
А	В	С	D	Е	FX
38.68	24.13	25.17	6.93	1.73	3.35
Provides: RNDr	: Vlasta Demečl	ková, PhD.			1
Provides: RNDr Date of last mod		,			1

University: P. J. S	Šafárik Univers	sity in Košice				
Faculty: Faculty	of Science					
Course ID: ÚBE IMUC1/03	EV/ Course name: Practical in immunology					
Course type, sco Course type: Pr Recommended Per week: 3 Per Course method	actice course-load (h • study period:	ours):				
Number of credi	ts: 3					
Recommended se	emester/trime	ster of the cours	e: 1.			
Course level: II.						
Prerequisities: Ú	BEV/IMU1/03					
Conditions for co Recognition. Recognition.	ourse completi	ion:				
Learning outcom The practical cou order to have tech questions.	rse will focus o	1		0,		
Brief outline of the Special immunol relevant to the response to infect organs. The stude of the results.	ogy practicals search projects ction. Practicals	at the departmen s also include a	t. The main aim study of the his	is to understand t stophysiology of	he host immune animal immune	
Recommended li						
Study materials p	provided by tea	cher.				
Course language	:					
Course assessme Total number of a		ts: 264				
Α	В	С	D	Е	FX	
69.32	17.8	12.12	0.38	0.0	0.38	
Provides: RNDr.	Vlasta Demečl	ková, PhD.		·	°	
Date of last modi	ification: 23.02	2.2018				

University: P. J. Š	Safárik Universit	y in Košice			
Faculty: Faculty	of Science				
Course ID: KFaE KDF/05		ne: Chapters fr General Introdu		nilosophy of 19th	and 20th
Course type, scop Course type: Pra Recommended Per week: 2 Per Course method:	actice course-load (ho study period: 2	urs):			
Number of credit	ts: 2				
Recommended se	emester/trimest	er of the cours	e: 2.		
Course level: II.					
Prerequisities:					
Conditions for co	ourse completio	n:			
Learning outcom	les:				
Brief outline of t	he course:				
Recommended li	terature:				
Course language	•				
Course assessme Total number of a	-	: 10			
A	В	С	D	Е	FX
50.0	20.0	10.0	0.0	10.0	10.0
Provides: doc. Ph	Dr. Pavol Tholt,	PhD., mim. pr	of.		
Date of last modi	fication: 31.08.2	2017			
Approved: Guara	nteeprof. RNDr.	Eva Čellárová	, DrSc.		

University: P. J. Ša	fárik University	in Košice					
Faculty: Faculty of	Science						
Course ID: KPPaPZ/KK/07	Course nam	Course name: Communication and Cooperation					
Course type, scope Course type: Prac Recommended co Per week: 2 Per s Course method: p	tice ourse-load (hou tudy period: 28	rs):					
Number of credits	: 2						
Recommended sen	nester/trimeste	r of the course: 3.					
Course level: II.							
Prerequisities:							
Conditions for cou	rse completion	:					
Learning outcome	s:						
Brief outline of the	e course:						
Recommended lite	rature:						
Course language:							
Course assessment Total number of ass		281					
abs		n	Z				
98.22		1.78	0.0				
Provides: Mgr. Ond	drej Kalina, PhI	D., Mgr. Lucia Hricová, PhD).				
Date of last modifi	cation: 21.08.2	017					
Approved: Guaran	teeprof. RNDr.	Eva Čellárová, DrSc.					

University: P. J. Safái	rik University in Košice					
Faculty: Faculty of S	cience					
Course ID: ÚTVŠ/ KP/12	VŠ/ Course name: Survival Course					
Course type, scope a Course type: Practic Recommended cour Per week: Per stud Course method: pre	ce r se-load (hours): y period: 36s					
Number of credits: 2	,					
Recommended seme	ster/trimester of the cours	e:				
Course level: I., II.						
Prerequisities:						
Conditions for cours Conditions for course Attendance Final assessment: cor	1	ks within the course				
conditions as they wi and demanding situat	Il obtain theoretical knowled ions connected with surviva work and students will lear	afe stay and movement in extreme natural dge and practical skills to solve the extraordinary and minimization of damage to health. The m how to manage and face the situations that				
Brief outline of the c Brief outline of the co Lectures: 1. Principles of behav	ourse:					
 Preparation and lea Objective and subj Principles of hygie Exercises: Movement in terra 	ective danger in mountains ne and prevention of damag in, orientation and navigatic rovised overnight stay	ent and stay in unknown mountains ge to health in extreme conditions on in terrain (compasses, GPS)				
 Preparation and lea Objective and subj Principles of hygie Exercises: Movement in terra Preparation of imp 	ective danger in mountains ne and prevention of damag in, orientation and navigatio rovised overnight stay d food preparation.	e to health in extreme conditions				
 Preparation and lea Objective and subj Principles of hygie Exercises: Movement in terra Preparation of imp Water treatment an 	ective danger in mountains ne and prevention of damag in, orientation and navigatio rovised overnight stay d food preparation.	e to health in extreme conditions				
 Preparation and lea Objective and subj Principles of hygie Exercises: Movement in terra Preparation of imp Water treatment an Recommended litera 	ective danger in mountains ne and prevention of damag in, orientation and navigatio rovised overnight stay d food preparation. ture:	e to health in extreme conditions				
 Preparation and lea Objective and subj Principles of hygie Exercises: Movement in terra Preparation of imp Water treatment an Recommended litera Course language: Course assessment 	ective danger in mountains ne and prevention of damag in, orientation and navigatic rovised overnight stay d food preparation. ture:	e to health in extreme conditions				

Provides: MUDr. Peter Dombrovský, Mgr. Marek Valanský

Date of last modification: 18.08.2017

Approved: Guaranteeprof. RNDr. Eva Čellárová, DrSc.

University: P. J. Š	afárik Univers	ity in Košice			
Faculty: Faculty	of Science				
Course ID: ÚBE LDM/16	V/ Course na	me: Laboratórn	a diagnostika v n	nikrobiológii	
Course type, scop Course type: Le Recommended o Per week: 2 / 2 1 Course method:	cture / Practice course-load (h Per study peri	ours):			
Number of credit	ts: 4				
Recommended se	emester/trimes	ster of the cours	e: 2.		
Course level: II.					
Prerequisities:					
Conditions for co	ourse completi	on:			
Learning outcom	les:				
Brief outline of tl	ne course:				
Recommended li	terature:				
Course language	:				
Course assessmen Total number of a	-	ts: 27			
A	В	С	D	Е	FX
59.26	22.22	11.11	3.7	3.7	0.0
Provides: prof. R Kolesárová, PhD.	NDr. Jana Sedl	áková, PhD., RN	IDr. Lenka Malir	ičová, PhD., RN	Dr. Mariana
Date of last modi	fication: 23.02	2.2018			
Approved: Guara	nteeprof. RND	r. Eva Čellárová	, DrSc.		

University: P. J. Šafá	rik University in Košice	
Faculty: Faculty of S	cience	
Course ID: ÚTVŠ/ LKSp/13	Course name: Summer Co	ourse-Rafting of TISA River
Course type, scope a Course type: Practic Recommended cour Per week: Per stud Course method: pre	ce rse-load (hours): l y period: 36s	
Number of credits: 2		
Recommended seme	ster/trimester of the cours	e:
Course level: I., II.		
Prerequisities:		
Conditions for course Conditions for course Attendance Final assessment: Ra	-	attended/not attended)
Learning outcomes: Learning outcomes: Students have knowle	edge of rafts (canoe) and the	eir control on waterway.
5. Canoe lifting and c	ourse: iculty of waterways iting ning using an empty canoe carrying n the water without a shore be out of the water	contact
Recommended litera	iture:	
Course language:		
Course assessment Total number of asses	ssed students: 142	
	abs	n
	41.55	58.45

Provides: Mgr. Peter Bakalár, PhD.

Date of last modification: 18.08.2017

Approved: Guaranteeprof. RNDr. Eva Čellárová, DrSc.

University: P. J. Ša	afárik Univers	ity in Košice			
Faculty: Faculty of	f Science				
Course ID: ÚBEV MEB1/03	Course na	me: Cell metabo	lism		
Course type, scope Course type: Lec Recommended co Per week: 2 / 2 Pe Course method: 1	ture / Practice ourse-load (h er study perio	ours):			
Number of credits	: 6				
Recommended ser	nester/trimes	ster of the course	e: 3.		
Course level: II.					
Prerequisities:					
Conditions for cou Recognition. Oral examination.	ırse completi	on:			
Learning outcome To provide the stud		owledge about the	e principal metal	polic processes ir	ı living cells.
Brief outline of the Carbohydrates – s lipid metabolism metabolism. Plasm Protein metabolism mechanisms of wa metabolic processe	ignificance and in humans. L na lipoprotein n and its inbou tter-base balan	ipid metabolism as – metabolism m errors. Water a	. Role of the li and disorders. nd solute metabo	iver and adipose Cholesterol and olism. Physiology	e tissue in lipid atherosclerosis. y and regulatory
Recommended lite 1. Murray, R. K., C Hall, Appleton & I 2. Vasudevan D.M Medical Publishers	Grammer, D. H Lange, 1993 . and co.: Tex			-	-
Course language:					
Course assessmen Total number of as		ts: 168			
A	В	С	D	Е	FX
36.31	24.4	17.26	10.12	7.74	4.17
Provides: doc. RN	Dr. Monika K	assayová, CSc.		1	1
Date of last modif	ication: 23.02	2.2018			
Approved: Guaran	teeprof. RND	r. Eva Čellárová.	DrSc.		

University: P. J.	Šafárik Univers	sity in Košice					
Faculty: Faculty	of Science						
Course ID: ÚB MEM1/99	EV/ Course na	V/ Course name: Light and Electron Microscopy techniques					
Recommended	Lecture / Practice I course-load (h 2 Per study peri	e ours):					
Number of cred	lits: 3						
Recommended	semester/trime	ster of the cours	e: 3.				
Course level: II							
Prerequisities:							
Conditions for or Recognition.	course completi	ion:					
Learning outco To provide the s		methods of light	and electron m	nicroscopy.			
	e. Electron micr	- ·		ng electron micros Staining. Specia			
Livingstone, 19	Steven, A.: Theo 77 Introduction to		-	Techniques. Churc e University Press			
Course languag	ge:						
Course assessm Total number of	ent f assessed studen	nts: 72					
	В	С	D	E	FX		
A		0.0	0.0				
A 100.0	0.0	0.0	0.0	0.0	0.0		
100.0				0.0 exovič Matiašová			
100.0	RNDr. Zuzana D	axnerová, CSc.,]					

	University:	ΡJ	Šafárik	University	in Košice
I	University.	1	Juliant	Oniversity	

Faculty: Faculty of Science

Course ID: ÚBEV/	Course name: Model Organisms in Genetics
MOG/03	

Course type, scope and the method:

Course type: Lecture / Practice

Recommended course-load (hours): Per week: 2 / 2 **Per study period:** 28 / 28

Course method: present

Number of credits: 5

Recommended semester/trimester of the course: 2.

Course level: II., III.

Prerequisities:

Conditions for course completion:

protocols,

participation at a mini conference: Model organism for my diploma thesis,

oral examination

Learning outcomes:

To provide the students with an information on model systems of prokaryotic and eukaryotic organisms used in genetic research.

Brief outline of the course:

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.

Recommended literature:

Snustad, P.D., Simmons, M.J.: Genetika. Nakladatelství Masarykovy univerzity, Brno, 2009, 871 str.,

Genetic periodicals,

Internet sources

Course language:

Course assessment

Total number of assessed students: 1190

A	В	С	D	Е	FX	N	Р
23.78	15.13	15.63	14.54	17.9	12.02	0.0	1.01
Provides: prof. RNDr. Eva Čellárová, DrSc., RNDr. Andrea Kimáková, PhD., RNDr. Katarína Nigutová, PhD.							
Date of last modification: 23.02.2018							
Approved: Guaranteeprof. RNDr. Eva Čellárová, DrSc.							

Faculty: Faculty					
Course ID: ÚBE MR1/03	EV/ Course name: Plant Metabolism				
Course type, sco Course type: L Recommended Per week: 2 / 2 Course method	ecture / Practic course-load (l Per study per	e hours):			
Number of cred	its: 6				
Recommended s	semester/trime	ester of the cours	e:		
Course level: II.					
Prerequisities:					
Conditions for c Examen	ourse complet	ion:			
Learning outcor To provide the st secondary metab	tudents with pa	thways of biosynt	thesis in plant an	d functions of pri	imary and
transport, photo plants. Synthesi transport and AT Nitrogen metabo assimilation and of biosynthesis,	structure of p phosphorylatio s of starch an P synthesis. Lip olism: fixation, metabolism. Te phenylpropanes	photosynthetic ap on. Calvin cycle, nd sucrose. Resp pid biosynthesis a nitrate assimilatio erpenes: biosynthe s, flavonoids and	rubisco and p piration: glycoly nd convertion int on, ammonium c esis and functions	photorespiration. vsis, citric acid to carbohydrates. onversion to ami s. Phenolic compo	C4 and CAN cycle, electron Polyacetylenes no acids. Sulfu punds: pathway
	otosynthesis. T	Third edition. BIC er ass., Sunderlar	, , , , , , , , , , , , , , , , , , , ,	Taiz L., Zeiger H	E., Plant
Course language	e:				
Course language Course assessme Total number of	ent	nts: 106			
Course assessme	ent	nts: 106 C	D	E	FX
Course assessme Total number of	ent assessed studer	T	D 16.98	E 19.81	FX 2.83
Course assessme Total number of A 26.42	ent assessed studen B 16.04	C	16.98	ļ	
Course assessme Total number of A 26.42	ent assessed studer B 16.04 NDr. Peter Pal ²	C 17.92 Pove-Balang, PhD	16.98	ļ	

•	: P. J. Šafáril	k University i	n Košice				
Faculty: Fa	aculty of Sci	ence					
Course ID: MZO1/03	Course ID: ÚBEV/Course name: Molecular basis of ontogenetic developmentMZO1/03						
Course ty Recomme Per week:	pe: Lecture ended cours	e-load (hours y period: 28					
Number of	f credits: 3						
Recommen	nded semest	er/trimester	of the cours	e: 1.			
Course lev	el: II., III.						
Prerequisit	ties:						
Conditions Oral exami		completion:					
	of basic kno	wledge of pri and plant org		nolecular-bi	ological mec	hanisms of o	ontogenetic
Regulation developme specialised of eukaryo body plan. organisms.	ent. Cell der cell types. E tic genes. Re Establishm	genetic devel termination a Epigenetic med egulatory gene ent of the ma	nd differenti chanisms of c es. Establishr	ation. Mole cellular mem nent of cell	ecular mecha ory. Imprintin position. Form	nisms of for ng. Combina nation of the	ormation o tory contro e embryoni
Regulation developme specialised of eukaryo body plan. organisms. Recommen Gerhard,J.,	of the onto ent. Cell det cell types. E tic genes. Re Establishm nded literate	genetic devel termination a Epigenetic med egulatory gene ent of the ma	nd differenti chanisms of c es. Establishr ain axis of b	ation. Mole cellular mem nent of cell j oody. Shape	ecular mecha ory. Imprintin position. Forn formation. C	nisms of fong. Combina nation of the Cloning of n	ormation o tory contro e embryonio
Regulation developme specialised of eukaryo body plan. organisms. Recommen Gerhard,J., Massachus	of the onto ent. Cell det cell types. E tic genes. Re Establishm ded literat Kirschener, eett,Oxford, I	genetic devel termination a Epigenetic med egulatory gene tent of the ma ure: M.: Cells, Em	nd differenti chanisms of c es. Establishr ain axis of b	ation. Mole cellular mem nent of cell j oody. Shape	ecular mecha ory. Imprintin position. Forn formation. C	nisms of fong. Combina nation of the Cloning of n	ormation o tory contro e embryonio
Regulation developme specialised of eukaryo body plan. organisms. Recommen Gerhard,J., Massachus Course lan	of the onto ent. Cell det cell types. E tic genes. Re Establishm nded literatu Kirschener, ett,Oxford, I guage: essment	genetic devel termination a Epigenetic med egulatory gene tent of the ma ure: M.: Cells, Em	nd differenti chanisms of c es. Establishr ain axis of b bryos and Ev	ation. Mole cellular mem nent of cell j oody. Shape	ecular mecha ory. Imprintin position. Forn formation. C	nisms of fong. Combina nation of the Cloning of n	ormation o tory contro e embryonio
Regulation developme specialised of eukaryo body plan. organisms. Recommen Gerhard,J., Massachus Course lan	of the onto ent. Cell det cell types. E tic genes. Re Establishm nded literatu Kirschener, ett,Oxford, I guage: essment	genetic devel termination a Epigenetic med egulatory gene ent of the ma ure: M.: Cells, Em London,1997	nd differenti chanisms of c es. Establishr ain axis of b bryos and Ev	ation. Mole cellular mem nent of cell j oody. Shape	ecular mecha ory. Imprintin position. Forn formation. C	nisms of fong. Combina nation of the Cloning of n	ormation o tory contro e embryonio
Regulation developme specialised of eukaryo body plan. organisms. Recommen Gerhard,J., Massachus Course lan Course ass Total numb	of the onto ent. Cell det cell types. E tic genes. Re Establishm Inded literatu Kirschener, J ett, Oxford, I iguage: essment per of assess	genetic devel termination a Epigenetic med egulatory gene ent of the ma ure: M.: Cells, Em London,1997 ed students: 3	nd differenti chanisms of c es. Establishr ain axis of b bryos and Ev	ation. Mole cellular mem nent of cell p oody. Shape volution. Bla	ecular mecha ory. Imprintin position. Forr formation. C	nisms of fong. Combina nation of the Cloning of n e Inc.,	ormation o tory contro e embryonio nulticellula
Regulation developme specialised of eukaryo body plan. organisms. Recommen Gerhard,J., Massachus Course lan Course lan A 35.82	of the onto ent. Cell det cell types. E tic genes. Re Establishm nded literatu Kirschener, J ett, Oxford, I nguage: essment ber of assess B 22.06	genetic devel termination a Epigenetic med egulatory gene tent of the ma ure: M.: Cells, Em London,1997 ed students: 3	nd differentichanisms of ces. Establishmain axis of bebryos and Eventse betryos and Ev	E E 8.6	Ecular mecha ory. Imprinting position. Formation. Contraction. Contraction Accessed FX 5.44	nisms of fong. Combina nation of the Cloning of n e Inc., N 0.0	P
Regulation developme specialised of eukaryo body plan. organisms. Recommen Gerhard,J., Massachus Course lan Course lan Course ass Total numb A 35.82 Provides: p	of the onto ent. Cell det cell types. E tic genes. Re Establishm nded literatu Kirschener, J ett, Oxford, I nguage: essment per of assess B 22.06 prof. RNDr.	genetic devel termination a Epigenetic med egulatory gene tent of the ma ure: M.: Cells, Em London,1997 ed students: 3 C 12.61	nd differentichanisms of ces. Establishmain axis of beat between the second sec	E E 8.6	Ecular mecha ory. Imprinting position. Formation. Contraction. Contraction Accessed FX 5.44	nisms of fong. Combina nation of the Cloning of n e Inc., N 0.0	P

University: P. J.	Šafárik Univers	ity in Košice			
Faculty: Faculty	of Science				
Course ID: Dek. PF UPJŠ/PPZ/13Course name: Personality Development and Key Competences for Success on a Labour Market					
Course type, sco Course type: Pr Recommended Per week: Per Course method	ractice course-load (h study period: 1	ours):			
Number of credi	its: 2				
Recommended s	emester/trimes	ter of the cours	se: 1., 3.		
Course level: II.					
Prerequisities:					
Conditions for c	ourse completi	on:			
Learning outcom	nes:				
Brief outline of t	the course:				
Recommended l	iterature:				
Course language	2:				
Course assessme Total number of	-	ts: 39			
A	В	С	D	E	FX
100.0	0.0	0.0	0.0	0.0	0.0
Provides: RNDr.	Peter Stefányi,	PhD.			
Date of last mod	ification: 19.02	.2018			
Approved: Guar	anteeprof. RND	r. Eva Čellárová	, DrSc.		

University: P. J. Ša	afárik Universi	ity in Košice				
Faculty: Faculty of	f Science					
Course ID: KPPaPZ/PPZMg/12						
Course type, scope Course type: Lec Recommended co Per week: 1 / 2 Po Course method: 1	ture / Practice ourse-load (he er study perio	ours):				
Number of credits	: 4					
Recommended ser	nester/trimes	ter of the cours	e:			
Course level: II.						
Prerequisities:						
Conditions for cou	irse completio	on:				
Learning outcome	es:					
Brief outline of the	e course:					
Recommended lite	erature:					
Course language:						
Course assessmen Total number of as	-	ts: 226				
A	В	С	D	Е	FX	
19.47	25.22	25.66	13.27	15.93	0.44	
Provides: PhDr. A	nna Janovská,	PhD., Mgr. Luc	ia Hricová, PhD.			
Date of last modifi	ication: 21.08	.2017				
Approved: Guaran	teeprof. RND	r. Eva Čellárová	, DrSc.			

University: P. J. Šafa	árik University in Košice			
Faculty: Faculty of S	Science			
Course ID: ÚBEV/ Course name: Diploma Thesis Seminar SDPa/15				
Course type, scope a Course type: Recommended cou Per week: Per stue Course method: pr	ırse-load (hours): dy period:			
Number of credits:	4			
Recommended sem	ester/trimester of the cour	se: 1.		
Course level: II.				
Prerequisities:				
Conditions for cour	se completion:			
Learning outcomes				
Brief outline of the	course:			
Recommended liter	ature:			
Course language:				
Course assessment Total number of asse	essed students: 150			
	abs	n		
	100.0	0.0		
Provides:		·		
Date of last modific	ation: 23.02.2018			
Approved: Guarante	eprof. RNDr. Eva Čellárov	á, DrSc.		

University: P. J. Šafa	arik University in Košice			
Faculty: Faculty of S	Science			
Course ID: ÚBEV/Course name: Diploma Thesis SeminarSDPb/15				
Course type, scope a Course type: Recommended cou Per week: Per stue Course method: pr	rse-load (hours): dy period:			
Number of credits:	4			
Recommended sem	ester/trimester of the cour	se: 2.		
Course level: II.				
Prerequisities:				
Conditions for cour	se completion:			
Learning outcomes				
Brief outline of the	course:			
Recommended liter	ature:			
Course language:				
Course assessment Total number of asse	essed students: 112			
	abs	n		
	100.0	0.0		
Provides:				
Date of last modific	ation: 23.02.2018			
Approved: Guarante	eprof. RNDr. Eva Čellárov	á, DrSc.		

University: P. J. Šafárik University in Košice				
Faculty: Faculty of S	science			
Course ID: ÚBEV/ Course name: Diploma Thesis Seminar SDPc/15				
Course type, scope a Course type: Recommended cou Per week: Per stud Course method: pro	rse-load (hours): ly period:			
Number of credits:	1			
Recommended seme	ester/trimester of the cours	e: 3.		
Course level: II.				
Prerequisities:				
Conditions for cours	se completion:			
Learning outcomes:				
Brief outline of the o	course:			
Recommended litera	ature:			
Course language:				
Course assessment Total number of asse	essed students: 110			
	abs	n		
	100.0	0.0		
Provides:				
Date of last modifica	ation: 23.02.2018			
Approved: Guarante	eprof. RNDr. Eva Čellárová	, DrSc.		

University: P. J. Šaf	ärik Universit	y in Košice			
Faculty: Faculty of	Science				
Course ID: ÚBEV/ Course name: Diploma Thesis Seminar SDPd/15					
Course type, scope Course type: Recommended co Per week: Per stu Course method: p	urse-load (ho Idy period:				
Number of credits:	4				
Recommended sem	ester/trimest	er of the cours	se: 4.		
Course level: II.					
Prerequisities:					
Conditions for cou	rse completio	n:			
Learning outcomes) •				
Brief outline of the	course:				
Recommended lite	rature:				
Course language:					
Course assessment Total number of ass	essed students	s: 108			
A	В	С	D	Е	FX
87.04	6.48	3.7	0.93	1.85	0.0
Provides:			·	<u> </u>	
Date of last modific	cation: 23.02.	2018		_	
Approved: Guarant	eeprof. RNDr	Eva Čellárová	, DrSc.		

University: P. J. Šafá	rik University in	Košice			
Faculty: Faculty of S	cience				
Course ID: KPPaPZ/SPVKE/07	KE/07Course name: Social-Psychological Training of Coping with Critical LifeKE/07Situations				
Course type, scope a Course type: Practic Recommended cour Per week: 2 Per stu Course method: pre	ce cse-load (hours): dy period: 28 sent				
Number of credits: 2	1				
Recommended seme	ster/trimester of	the course: 2.			
Course level: II.					
Prerequisities:					
Conditions for cours	e completion:				
Learning outcomes:					
Brief outline of the c	ourse:				
Recommended litera	ture:				
Course language:					
Course assessment Total number of asses	ssed students: 126	6			
abs		n	Z		
97.62		2.38	0.0		
Provides: Mgr. Ondre	ej Kalina, PhD.				
Date of last modifica	tion: 21.08.2017				
Approved: Guarantee	prof. RNDr. Eva	Čellárová, DrSc.			

University: P. J. Šaf	čárik Universit	y in Košice					
Faculty: Faculty of	Science						
Course ID: ÚBEV/ SVK/01	ID: ÚBEV/ Course name: Student Scientific Conference						
Course type, scope Course type: Recommended cou Per week: Per stu Course method: p	urse-load (ho dy period:						
Number of credits:	4						
Recommended sem	ester/trimest	er of the cours	e: 2.				
Course level: I., II.							
Prerequisities:							
Conditions for cour	rse completio	n:					
Learning outcomes	•						
Brief outline of the	course:						
Recommended liter	rature:						
Course language:							
Course assessment Total number of ass	essed students	s: 258					
A	В	С	D	Е	FX		
100.0	0.0	0.0	0.0	0.0	0.0		
Provides:	I		1	1	1		
Date of last modific	cation: 23.02.	2018					
Approved: Guarante	eeprof. RNDr.	Eva Čellárová	, DrSc.				

Faculty: Faculty		ity in Košice				
Course ID: ÚBEV/ Course name: Plant Taxonomy						
TR1/99	V/ Course na	ime: Plant Taxol	lomy			
Course type, sco						
Course type: Le Recommended						
Per week: 2 / 2]						
Course method:	• •					
Number of credit	ts: 5					
Recommended se	emester/trimes	ter of the cours	e:			
Course level: II.						
Prerequisities:						
Conditions for co	-					
Information on se Exam.	elected taxonom	nc work.				
Learning outcom	ies:					
To learn about ba	sic methods and	d approaches in	plant taxonomy.			
Brief outline of t	he course:					
Plant taxonomy.	Approaches to	biological class	ification. Source	of informationa	and taxonomi	
data. Variation in		-				
utilization in tax	1		•	u /		
phylogeny of trac	-	-				
plant evolutions,		-				
Code of botanical				inear nomeneratu	re. memationa	
Recommended li						
Briggs D., Walter		nlivost a evoluc	e rostlin Univer	rzita Palackého.	Olomouc.	
2001.					0101110 40 ,	
Stuessy T. F.: Pla	nt Taxonomy	New York, Oxf	ord 1990.			
Judd W. S., Camp	bell Ch. S., Ke	llogg E. A., Stev	vens P. F., Donog	hue M. J.: Plant	Systematics. A	
Phylogenetic App	proach, 2nd ed.	- Sinauer Assoc	iates, Sunderland	, 2002.		
Greuter W. et al.	(Eds.): Medziná	árodný kód bota	nickej nomenklat	úry (Saint Louis	Code) Praha	
Bratislava, 2000.						
Course language	:					
Course assessme		120				
Total number of a			D	Г	EV	
A	B	C	D	E	FX	
40.83	20.83	17.5	10.83	6.67	3.33	
Provides: prof R	NDr. Pavol Má	rtonfi, PhD., Mg	r. Vladislav Kola	arčik, PhD.		
-						
Date of last modi	fication: 23.02	.2018				

University	P. J. Šafái	rik University i	n Košice				
Faculty: Fa	aculty of So	cience					
Course ID TVa/11	rse ID: ÚTVŠ/ Course name: Sports Activities I. 11						
Course ty Recomme Per week	pe: Practic nded cour	rse-load (hours dy period: 28					
Number of	credits: 2						
Recommer	ided seme	ster/trimester	of the cours	e: 1.			
Course lev	el: I., I.II.,	II.					
Prerequisi	ties:						
Conditions	for course	e completion: completion: articipation in c	classes.				
relationshi	physical co p of studen	ondition and pe ts to the selecto			1		g the
University floorball, y tennis, spo In the first and particu physical co Last but no means of a In addition physical co the premise	ne of the co optional su provides f yoga, pilate rts for unfi two semes larities of i ondition, co ot least, the special pro- to these se lucation tra- es of the fac	burse: ubject, the Inst for students the es, swimming, t persons, stree sters of the firs ndividual sport oordination abi important role ogram of medic sports, the Inst inings with an a culty or Univers	e following s body-buildin tball, tennis, it level of ed ts, motor skil ilities, physic of sports act cal physical o itute offers to attractive pro	ports activiti ag, indoor for and volleyba ucation stude ls, game activities is to e education to for those wh gram and org	ies: aerobics, otball, self-de all. ents will mas vities, they wince, and mot eliminate swin influence and o are interest ganises variou	basketball, efence and l ster basic ch ill improve l tor performa mming illite mitigate ur ted winter a us competitio	badminton karate, table aracteristics evel of their ince fitness gracy and by fitness. and summer ons, either a
Recommer	nded litera	ture:					
Course lan	guage:						
	essment						
Course ass		sed studenter 1	1672				
Course ass		abs-B	1672 abs-C	abs-D	abs-E	n	neabs

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

Date of last modification: 18.08.2017

Approved: Guaranteeprof. RNDr. Eva Čellárová, DrSc.

	COUR	RSE INFORM	MATION LI	ETTER			
University: P. J. Šaf	árik University	in Košice					
Faculty: Faculty of	Science						
Course ID: ÚTVŠ/ TVb/11	1						
Course type, scope Course type: Pract Recommended cou Per week: 2 Per st Course method: pu	ice 1 rse-load (hour 1dy period: 28						
Number of credits:	2						
Recommended sem	ester/trimester	of the cours	e: 2.				
Course level: I., I.II	, II.						
Prerequisities:							
Conditions for cour Conditions for cours Final assessment an	se completion:		ses - min. 759	%.			
Learning outcomes: Learning outcomes: Increasing physical relationship of stude	condition and p			-		g the	
Brief outline of the Brief outline of the Within the optional University provides floorball, yoga, pila tennis, sports for un In the first two sem and particularities of physical condition, Last but not least, th means of a special p In addition to these physical education to the premises of the fa	course: subject, the Inst for students the tes, swimming, fit persons, streed esters of the first individual sport coordination ab e important role rogram of medit sports, the Inst rainings with an aculty or Univer	e following s body-buildir etball, tennis, st level of ed ts, motor skil ilities, physic e of sports ac cal physical titute offers attractive pro	sports activiting, indoor for and volleyba ucation study ls, game activities is to ever tivities is to ever education to for those who gram and org	ies: aerobics otball, self-d all. ents will ma- vities, they w nce, and mo eliminate swi influence an o are interes ganises vario	, basketball, lefence and l ster basic ch vill improve l tor performa imming illite d mitigate un sted winter a us competitio	badminton, karate, table aracteristics evel of their ance fitness. eracy and by hfitness. and summer ons, either at	
Recommended liter	ature:						
Course language:							
Course assessment							
Total number of ass abs abs-A		10971 abs-C	abs-D	abs-E	n	neabs	
			1		n 10.12		
85.37 0.57	0.02	0.0	0.0	0.05	10.13	3.86	

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

Date of last modification: 18.08.2017

Approved: Guaranteeprof. RNDr. Eva Čellárová, DrSc.

University:	P. J. Šafárik	. University i	n Košice				
Faculty: Fa	culty of Scie	ence					
Course ID: TVc/11	ÚTVŠ/ C	Course name: Sports Activities III.					
Course typ Recomme Per week:	pe: Practice nded course	l the method e-load (hours y period: 28 ent					
Number of	credits: 2						
Recommen	ded semeste	er/trimester	of the cours	e: 3.			
Course leve	el: I., I.II., II	•					
Prerequisit	ies:						
Conditions	for course	completion:					
Learning o	utcomes:						
Brief outlin	e of the cou	irse:					
Recommen	ded literatu	ire:					
Course lang	guage:						
Course asse Total numb		ed students: 6	910				
abs	abs-A	abs-B	abs-C	abs-D	abs-E	n	neabs
89.84	0.04	0.0	0.0	0.0	0.03	4.23	5.86
Horbacz, Ph	D., Mgr. Dá	Čurgali, Mgr. avid Kaško, N prof. RNDr. S	Agr. Zuzana	Küchelová, l	PhD., doc. Pa	edDr. Ivan	Uher, PhD.,
Date of last	modificatio	on: 18.08.201	17				
Approved: Guaranteeprof. RNDr. Eva Čellárová, DrSc.							

University: 1	P. J. Šafárik	University in	n Košice				
Faculty: Faculty of Science							
Course ID: UTVd/11	ÚTVŠ/ C	Course name: Sports Activities IV.					
Course type Course type Recommen Per week: 2 Course met	e: Practice ded course 2 Per study	e-load (hours) period: 28					
Number of c	credits: 2						
Recommend	led semeste	er/trimester	of the cours	e: 4.			
Course level	: I., I.II., II.						
Prerequisitie	es:						
Conditions f	or course o	completion:					
Learning ou	tcomes:						
Brief outline	e of the cou	rse:					
Recommend	led literatu	re:					
Course lang	uage:						
Course asses Total numbe		ed students: 5	045				
abs	abs-A	abs-B	abs-C	abs-D	abs-E	n	neabs
85.09	0.3	0.04	0.0	0.0	0.0	6.82	7.75
Provides: M Horbacz, PhI Mgr. Marek	D., Mgr. Dá	vid Kaško, N	Igr. Zuzana	Küchelová, I	PhD., doc. Pa	aedDr. Ivan I	Uher, PhD.,
Date of last	modificatio	on: 18.08.201	7				
Approved: (Guaranteenr	of. RNDr. Ex	va Čellárová	DrSc.			

OUDSE INFODMATION I ETTED

University: P. J. Šafărik University in Košice Faculty: Faculty of Science Course ID: ÜBEV/ UFCM/10 Course name: Introduction to Flow Cytometry UFCM/10 Course type, scope and the method: Course method: present Scope and the method: Number of credits: 4 Recommended semester/trimester of the course: 1,, 3. Course level: II., III. Prerequisities: Conditions for course completion: Learning outcomes: 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 clinic diagnosis and scientific research. Brief outline of the course: 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 da processing, data plotting, gating. Various types of analyses, basic applications, summary - commercial hardware and software. Ceutical software data analyses. Recommended			COUR	SE INFORM	MATION LI	ETTER		
Course ID: UBEV/ UFCM/10 Course name: Introduction to Flow Cytometry Course type, scope and the method: Course type: Lecture / Practice Recommended course-load (hours): Per week: 1/2 Per study period: 14 / 28 Course method: present Number of credits: 4 Recommended semester/trimester of the course: 1., 3. Course level: II., III. Prerequisities: Conditions for course completion: Learning outcomes: 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 clinic diagnosis and scientific research. Brief outline of the course: Flow cytometry: principle of hydrodynamic focusing, signal detection, analog and digital da processing, data plotting, gating. Various types of analyses, basic applications, summary or commercial hardware and software. Cell sorting: physical principles of cell sorting – advatages and disadvantages, sorting strategies summary of applications and commercial hardware and software. Practical software data analyses. Recommended literature: 1. H.M. Shapiro: Practical Flow Cytometry, WILEY-LISS, 2003. (ISBN:0-471-41125-6) 2. A.L. Givan: Flow Cytometry: First principles, WILEY-LISS, 2001, (ISBN 0-471-22394-8) 3. J. Dolezel a kol: Flow Cytometry with Plant Cells, Willey-VCH, 2007, (ISBN: 978-3-527-31487-4) Course assessment Total numbe	University:	P. J. Šafárik	University i	n Košice				
UFCM/10 Course type, scope and the method: Course type: Lecture / Practice Recommended course-load (hours): Per week: 1 / 2 Per study period: 14 / 28 Course method: present Number of credits: 4 Recommended semester/trimester of the course: 1., 3. Course level: II., III. Prerequisities: Conditions for course completion: Course 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 clinic diagnosis and scientific research. Brief outline of the course: Fluorescence: physical bases, detection, various designs of instruments exploiting fluorescence detection, fluorescent detection, fluorescent dated antibodies Flow cytometry: principle of hydrodynamic focusing, signal detection, analog and digital da processing, data plotting, gating. Various types of analyses, basic applications, summary commercial hardware and software. Cell sorting: physical principles of cell sorting – advatages and disadvantages, sorting strategie summary of applications and commercial hardware and software. Practical software data analyses. Recommended literature: 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. Dolece 1 a kol.: Flow Cytometry with Plant Cells, Willey-VCH, 2007, (ISBN: 978-3527-31487-4	Faculty: Fac	culty of Scie	ence					
Course type: Lecture / Practice Recommended course-load (hours): Per week: 1 / 2 Per study period: 14 / 28 Course method: present Number of credits: 4 Recommended semester/trimester of the course: 1., 3. Course level: II., III. Prerequisities: Conditions for course completion: Learning outcomes: 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 clinic diagnosis and scientific research. Brief outline of the course: Physical bases, detection, various designs of instruments exploiting fluorescend detection, fluorescent dyes, fluorescently labeled antibodies Flow cytometry: principle of hydrodynamic focusing, signal detection, analog and digital da processing, data plotting, gating. Various types of analyses, basic applications, summary commercial hardware and software. Cell sorting : physical principles of cell sorting – advatages and disadvantages, sorting strategie summary of applications and commercial hardware and software. Practical software data analyses. Recommended literature: 1. H.M. Shapiro: Practical Flow Cytometry, WILEY-LISS, 2001, (ISBN 0-471-22394-8) </td <th>Course ID: UFCM/10</th> <td colspan="7"></td>	Course ID: UFCM/10							
Recommended semester/trimester of the course: 1., 3. Course level: II., III. Prerequisities: Conditions for course completion: Learning outcomes: 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 clinic. diagnosis and scientific research. Brief outline of the course: 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 da processing, data plotting, gating. Various types of analyses, basic applications, summary or commercial hardware and software. Cell sorting - advatages and disadvantages, sorting strategie summary of applications and commercial hardware and software. Practical Sflow Cytometry, WILEY-LISS, 2003. (ISBN:0-471-41125-6) 2. A.L. Givan: Flow Cytometry: First principles, WILEY-LISS, 2001, (ISBN 0-471-22394-8) 3. J. Dolezel a kol.: Flow Cytometry with Plant Cells, Willey-VCH, 2007, (ISBN: 978-3-527-31487-4) Course assessment Total number of assessed students: 137								

67.88	1.46	6.57	2.19	2.19	0.0	0.0	19.71	
Provides: R	Provides: RNDr. Rastislav Jendželovský, PhD.							
Date of last	t modificatio	on: 23.02.201	8					
Approved:	Guaranteepr	of. RNDr. Ev	va Čellárová	, DrSc.				

		ity in Košice			
Faculty: Faculty					
Course ID: ÚBE UGM1/03	EV/ Course na	me: Introduction	n to Gene Manip	ulations	
Course type, sco Course type: L Recommended Per week: 2 / 2 Course method	ecture / Practice course-load (h Per study peri	ours):			
Number of cred	its: 6				
Recommended s	semester/trimes	ster of the cours	e: 1.		
Course level: II.					
Prerequisities:					
Conditions for c Oral examination	-	on:			
Learning outcor To provide the st recombinant DN Brief outline of t	tudents with the	principles of pre	eparation and app	olication of techn	iques of
Isolation of nucle used for DNA n recombinant DN	eic acids. Restric nanipulation. La A. Recombinan	beling of DNA. t vectors. Selecti	Nucleic acid hy on markers. Trai	d ligation of DNA bridization. PCR nsfer of recombir s in E. coli. DNA	. Preparation on the part of t
Recommended I	rose, S. B.: Prin	-	-	An Introduction to	o Genetic
Engineering. Bla	s, M and Reichs	,	· ·	y. Academic Press	
Engineering. Bla Fitzgerald-Hayes	s, M and Reichs 780080916354	,	· ·	Academic Press	
Engineering. Bla Fitzgerald-Hayes edition. ISBN 97	s, M and Reichs 780080916354 e: ent	man, F: DNA an	· ·	Academic Press	
Engineering. Bla Fitzgerald-Hayes edition. ISBN 97 Course language Course assessme	s, M and Reichs 780080916354 e: ent	man, F: DNA an	· ·	E E	
Engineering. Bla Fitzgerald-Hayes edition. ISBN 97 Course language Course assessme Total number of	s, M and Reichs 780080916354 e: ent assessed studen	man, F: DNA an ts: 224	d Biotechnology		s, 2009. Third
Engineering. Bla Fitzgerald-Hayes edition. ISBN 97 Course language Course assessme Total number of A 59.82	s, M and Reichs 780080916354 e: ent assessed studen B 27.68	man, F: DNA an ts: 224 C 8.93	d Biotechnology	E	s, 2009. Third FX
Engineering. Bla Fitzgerald-Hayes edition. ISBN 97 Course language Course assessme Total number of A	s, M and Reichs 780080916354 e: ent assessed studen B 27.68 Mariana Koles	man, F: DNA an ts: 224 C 8.93 árová, PhD.	d Biotechnology	E	s, 2009. Third FX

University: P. J. Ša	afárik Universit	y in Košice					
Faculty: Faculty o	f Science						
Course ID: KPPaPZ/UPR/03	Course nai	Course name: The Art of Aiding by Verbal Exchange					
Course type, scop Course type: Pra Recommended co Per week: 2 Per s Course method:	ctice ourse-load (ho study period: 2	urs):					
Number of credits	s: 2						
Recommended ser	mester/trimest	er of the cours	se: 4.				
Course level: II.							
Prerequisities:							
Conditions for co	urse completio	n:					
Learning outcome	es:						
Brief outline of th	e course:						
Recommended lite	erature:						
Course language:							
Course assessmen Total number of as	-	s: 49					
A	В	С	D	E	FX		
85.71	4.08	2.04	2.04	2.04	4.08		
Provides: Mgr. On	drej Kalina, Ph	D.					
Date of last modif	ication: 21.08.	2017					
Approved: Guarar	nteeprof. RNDr	. Eva Čellárová	, DrSc.				

Faculty: Faculty	·						
Course ID: ÚB ZOG1/03							
Course type: I Recommended	ope and the met Lecture / Practice I course-load (h 2 Per study perio d: present	ours):					
Number of cred	lits: 6						
Recommended	semester/trimes	ster of the cours	e:				
Course level: I.,	, II.						
Prerequisities:							
	en test.	to selected topic.					
Learning outco	mos.						
The main goal of animals on the I	of the subject is t	o get knowledge phic regionalizat history.					
The main goal of animals on the I on the faunal dia Brief outline of This course will processes that in information on interaction with distributions. Th	of the subject is the Earth, zoogeograstribution in the Earth the course: the course: I review our curnfluence distribution the historical and the environmental the course will employed by the subject of the the course will employed by the subject of the the course will employed by the the the course will employed by the the the course will employed by the the the the the the course will employed by the	phic regionalizat	ion of the Earth's ng of the pattern and their attribut y, genetics, and inental drift, cli ve and analytical	s surface and hu s of animal dist es. Zoogeograp physiology of a mate) in regula approaches use	man influence ribution and the hy will integrate nimals and their ting geographic ful in hypothesis		
The main goal of animals on the I on the faunal dif Brief outline of This course will processes that in information on interaction with distributions. The testing in zooge conservation). Recommended Buchar, J., 1983 Darlington, P.J., Lomolino M.V.,	of the subject is the Earth, zoogeograsstribution in the Earth zoogeograsstribution in the Earth zoogeograms and the course of the course will employ and will literature: B: Zoogeografie., 1998: Zoogeografie, Brown J.H., Rice	phic regionalizat history. rent understandir tions of species d current ecolog processes (cont phasize descripti l illustrate applie	ion of the Earth's ng of the pattern and their attribut y, genetics, and inental drift, cli ve and analytical d aspects of zoos aphical distributi Biogeography. S	s surface and hu s of animal dist res. Zoogeograp physiology of a mate) in regula approaches use geography (e.g.	man influence ribution and the hy will integrate nimals and their ting geographic ful in hypothesis refuge design in Krieger, USA es, 1-845		
The main goal of animals on the I on the faunal dif Brief outline of This course will processes that in information on interaction with distributions. The testing in zooge conservation). Recommended Buchar, J., 1983 Darlington, P.J., Lomolino M.V., Plesník, P., Zatk	of the subject is the Earth, zoogeograsstribution in the Earth zoogeograsstribution in the Earth zoogeograms and the course of the course will emplement and the historical and the expression of the sography and will literature: B: Zoogeografie. J: Toogeografie. J: Stown J.H., Rick alik, F., 1996: B	phic regionalizat history. rent understandir ttions of species d current ecolog processes (cont phasize descripti l illustrate applie SPN Praha raphy: The geogr ddle B. R., 2005:	ion of the Earth's ng of the pattern and their attribut y, genetics, and inental drift, cli ve and analytical d aspects of zoos aphical distributi Biogeography. S	s surface and hu s of animal dist res. Zoogeograp physiology of a mate) in regula approaches use geography (e.g.	man influence ribution and the hy will integrate nimals and their ting geographic ful in hypothesis refuge design in Krieger, USA es, 1-845		
The main goal of animals on the I on the faunal dia Brief outline of This course will processes that in information on interaction with distributions. The testing in zooge conservation). Recommended Buchar, J., 1983 Darlington, P.J., Lomolino M.V., Plesník, P., Zatk Course languag	of the subject is the Earth, zoogeograsstribution in the Earth, zoogeograsstribution in the Earth, zoogeograsstribution in the Earth course: I review our currently our currently our current environmental the historical and the eourse will employed and will environment	phic regionalizat history. rent understandir tions of species d current ecolog processes (cont aphasize descripti l illustrate applie SPN Praha raphy: The geogr ddle B. R., 2005: iogeografia. Vyse	ion of the Earth's ng of the pattern and their attribut y, genetics, and inental drift, cli ve and analytical d aspects of zoos aphical distributi Biogeography. S	s surface and hu s of animal dist res. Zoogeograp physiology of a mate) in regula approaches use geography (e.g.	man influence ribution and the hy will integrate nimals and their ting geographic ful in hypothesis refuge design in Krieger, USA es, 1-845		
The main goal of animals on the I on the faunal dia Brief outline of This course will processes that in information on interaction with distributions. The testing in zooge conservation). Recommended Buchar, J., 1983 Darlington, P.J., Lomolino M.V., Plesník, P., Zatk Course languag	of the subject is the Earth, zoogeograsstribution in the Earth, zoogeograsstribution in the Earth, zoogeograsstribution in the Earth, zoogeograsstribution in the Earth course will current the historical and a environmental the course will emposed by and will literature: B: Zoogeografie. , 1998: Zoogeografie. , Brown J.H., Rickalík, F., 1996: B	phic regionalizat history. rent understandir tions of species d current ecolog processes (cont aphasize descripti l illustrate applie SPN Praha raphy: The geogr ddle B. R., 2005: iogeografia. Vyse	ion of the Earth's ng of the pattern and their attribut y, genetics, and inental drift, cli ve and analytical d aspects of zoos aphical distributi Biogeography. S	s surface and hu s of animal dist res. Zoogeograp physiology of a mate) in regula approaches use geography (e.g.	man influence ribution and the hy will integrate nimals and their ting geographic ful in hypothesis refuge design in Krieger, USA es, 1-845		

Provides: prof. RNDr. Ľubomír Kováč, CSc.

Date of last modification: 23.02.2018

Approved: Guaranteeprof. RNDr. Eva Čellárová, DrSc.

University: P. J. Šafárik University in Košice							
Faculty: Faculty of S	cience						
Course ID: ÚTVŠ/ ÚTVŠ/CM/13	Course name: Seaside Aer	obic Exercise					
Course type, scope and the method: Course type: Practice Recommended course-load (hours): Per week: Per study period: 36s Course method: present							
Number of credits: 2							
Recommended seme	ster/trimester of the course	e:					
Course level: I., II.							
Prerequisities:							
Conditions for course completion: Conditions for course completion: Attendance							
Learning outcomes: Learning outcomes: Students will be provided an overview of possibilities how to spend leisure time in seaside conditions actively and their skills in work and communication with clients will be improved. Students will acquire practical experience in organising the cultural and art-oriented events, with the aim to improve the stay and to create positive experiences for visitors.							
 Brief outline of the contract of the contract of the contract of the sensitive and the sensit	 the aim to improve the stay and to create positive experiences for visitors. Brief outline of the course: Basics of seaside aerobics Morning exercises Pilates and its application in seaside conditions Exercises for the spine Yoga basics Sport as a part of leisure time Application of projects of productive spending of leisure time for different age and social groups (children, young people, elderly) 						
Recommended litera	ture:						
Course language:							
Course assessment Total number of asses	ssed students: 33						
	abs	n					
	12.12	87.88					
Provides: Mgr. Alena	Buková, PhD., Mgr. Agata	Horbacz, PhD.					
Date of last modifica	Date of last modification: 18.08.2017						

Approved: Guaranteeprof. RNDr. Eva Čellárová, DrSc.