	COURSE INFORMATION LETTER			
University: P. J. Šafár	rik University in Košice			
Faculty: Faculty of So	cience			
Course ID: ÚBEV/ ACM/12				
Course type, scope a Course type: Lectur Recommended cour Per week: 1/2 Per Course method: pre	re / Practice rse-load (hours): study period: 14 / 28			
Number of credits: 4				
Recommended semes	ster/trimester of the course:			
Course level: II., III.				
Prerequisities:				
Conditions for cours	e completion:			
analytical cytometry. on flurescence and its	se is to teach the students fundamental theoretical and practical aspects of The course covers multiple areas of methods in microscopy with special focus application in confocal microscopy, morphometric measurements and their gy, determination of vital parameters and live cell imaging, basic methods for it.			
(FRET, FLIM, FLIM of confocal microscop software image analy for vital parameters or cell division. Fluctipid, proteins, cytosc	ourse: prescent methods, principles of fluorescence and various fluorescent methods prescent methods, principles of fluorescent and phusion proteins. Principles provided by (spinning disc CM, laser scanning CM), principles of colocalisation studies, principles of colocalisation studies, principles, hardware requirements, methods analyses, imaging methods with regard to lipids, cytoskeleton dynamics prescent dyes and their applications in analytical cytometry – nucleic acid, prescent dyes and introgen species (ROS, NOS), membrane potential, pH etc.			
Laboratory Press, 201 2. J.B. Pawley a kol.: 3. D. Anselmetti a ko	ol.: Live Cell Imaging – A Laboratory Manual, Cold Spring Harbour			

Course language:

Notes:

Course assessment							
Total numb	Total number of assessed students: 19						
A	В	C	D	Е	FX	N	P
5.26 0.0 0.0 0.0 0.0 0.0 94.74							

Provides: RNDr. Rastislav Jendželovský, PhD.

Date of last modification: 03.05.2015

University: P. J. Šafárik University in Košice Faculty: Faculty of Science Course ID: ÚBEV/ Course name: Aplikovaná mikrobiológia **AMK/15** Course type, scope and the method: Course type: Lecture / Practice **Recommended course-load (hours):** Per week: 2 / 2 Per study period: 28 / 28 Course method: present Number of credits: 5 Recommended semester/trimester of the course: Course level: III. **Prerequisities: Conditions for course completion:** Attendance of practicals (at least 90%), final examination **Learning outcomes:** Študenti získajú prehľad o využití mikroorganizmov v priemyselných procesoch pre výrobu biochemikálií a o využití rekombinantných DNA techník v priemysle. Ďalej získajú informácie o kyselinu mliečnu produkujúcich baktériách a ich využití v potravinárskom priemysle a o využití mikroorganizmov pri ochrane životného prostredia – čistenie odpadových vôd, bioremediácia, biopalivá. **Brief outline of the course:** Application of bacteria in industrial processes, biochemicals production. Application of recombinant DNA techniques in industry. Lactic acid bacteria and its application in food industry. Microbiology in food quality control. Application of microorganisms in environment protection – wastewater treatment, bioremediation, biofuels, microbiology of biogas plants. **Recommended literature: Course language:** Notes: Course assessment Total number of assessed students: 0 N P 0.0 0.0 Provides: doc. RNDr. Peter Pristaš. CSc.

Date of last modification: 03.05.2015

University: P. J. Šafá	rik University in Košice		
Faculty: Faculty of S	cience		
Course ID: ÚBEV/ PVS/04	1 , ,		
Course type, scope a Course type: Recommended cour Per week: Per stud Course method: pre	rse-load (hours): ly period:		
Number of credits: 2			
Recommended seme	ster/trimester of the cours	2:	
Course level: III.			
Prerequisities:			
Conditions for cours	e completion:		
Learning outcomes:			
Brief outline of the c	ourse:		
Recommended litera	nture:		
Course language:			
Notes:			
Course assessment Total number of asses	ssed students: 1		
	abs	n	
	100.0 0.0		
Provides:			
Date of last modifica	tion:		
Approved: prof. RNI	Dr. Peter Fedoročko, CSc.		

University: P. J. Šafá	rik University in Košice				
Faculty: Faculty of S	cience				
Course ID: ÚBEV/ Course name: Citation in monograph CM/04					
Course type, scope a Course type: Recommended cour Per week: Per stud Course method: pre	rse-load (hours): ly period:				
Number of credits: 2	20				
Recommended seme	ester/trimester of the course:				
Course level: III.					
Prerequisities:					
Conditions for cours	se completion:				
Learning outcomes:					
Brief outline of the c	ourse:				
Recommended litera	Recommended literature:				
Course language:					
Notes:					
Course assessment Total number of assessed students: 0					
Provides:					
Date of last modifica	ition:				
Approved: prof. RNDr. Peter Fedoročko, CSc.					

University: P. J. Šafá	University: P. J. Šafárik University in Košice			
Faculty: Faculty of S	Faculty: Faculty of Science			
Course ID: ÚBEV/ CZC/04	\mathbf{J}			
Course type, scope and the method: Course type: Recommended course-load (hours): Per week: Per study period: Course method: present				
Number of credits: 1				
Recommended seme	ster/trimester of the cours	e:		
Course level: III.				
Prerequisities:				
Conditions for cours	e completion:			
Learning outcomes:				
Brief outline of the c	ourse:			
Recommended litera	iture:			
Course language:				
Notes:	Notes:			
Course assessment Total number of assessed students: 22				
abs				
100.0 0.0				
Provides:	Provides:			
Date of last modification:				
Approved: prof. RNDr. Peter Fedoročko, CSc.				

University: P. J. Šafá	University: P. J. Šafárik University in Košice		
Faculty: Faculty of Science			
Course ID: ÚBEV/ CDC/04	Course name: Citation in scientific journal published in the country of residence		
Course type, scope and the method: Course type: Recommended course-load (hours): Per week: Per study period: Course method: present			
Number of credits: 5	5		
Recommended seme	ster/trimester of the cours	e:	
Course level: III.			
Prerequisities:			
Conditions for cours	se completion:		
Learning outcomes:			
Brief outline of the c	ourse:		
Recommended litera	nture:		
Course language:			
Notes:	,		
Course assessment Total number of assessed students: 5			
	abs n		
	100.0 0.0		
Provides:	Provides:		
Date of last modifica	Date of last modification:		
Approved: prof. RNDr. Peter Fedoročko, CSc.			

University: P. J. Šafá	rik University in Košice		
Faculty: Faculty of S	cience		
Course ID: ÚBEV/ SCI/04	ϵ		
Course type, scope a Course type: Recommended cour Per week: Per stud Course method: pre	rse-load (hours): ly period:		
Number of credits: 2	20		
Recommended seme	ster/trimester of the cours	e:	
Course level: III.			
Prerequisities:			
Conditions for cours	e completion:		
Learning outcomes:			
Brief outline of the c	ourse:		
Recommended litera	nture:		
Course language:			
Notes:			
Course assessment Total number of asse	ssed students: 35		
	abs n		
	100.0 0.0		
Provides:			
Date of last modifica	tion:		
Approved: prof. RNI	Or. Peter Fedoročko, CSc.		

University: P. J. Šafá	rik University in Košice		
Faculty: Faculty of S	cience		
Course ID: ÚBEV/ DK/04			
Course type, scope a Course type: Recommended cour Per week: Per stud Course method: pre	rse-load (hours): ly period:		
Number of credits: 2	2		
Recommended seme	ster/trimester of the cours	e:	
Course level: III.			
Prerequisities:			
Conditions for cours	se completion:		
Learning outcomes:			
Brief outline of the c	ourse:		
Recommended litera	nture:		
Course language:			
Notes:			
Course assessment Total number of asses	ssed students: 92		
	abs	n	
	100.0 0.0		
Provides:			
Date of last modifica	ation:		
Approved: prof. RNI	Dr. Peter Fedoročko, CSc.		

University: P. J. Šafá	rik University in Košice		
Faculty: Faculty of S	cience		
Course ID: ÚBEV/ SMPR/04	Course name: Co-worker of project supported by international grant schemes		
Course type, scope a Course type: Recommended cou Per week: Per stud Course method: pre	rse-load (hours): ly period: esent		
Number of credits: 1			
	ster/trimester of the cours	6e:	
Course level: III.			
Prerequisities:	,		
Conditions for cours	se completion:		
Learning outcomes:			
Brief outline of the c	ourse:		
Recommended litera	nture:		
Course language:			
Notes:			
Course assessment Total number of asse	ssed students: 33		
	abs n		
	100.0 0.0		
Provides:		•	
Date of last modifica	ntion:		
Approved: prof. RNI	Dr. Peter Fedoročko, CSc.		

University: P. J. Šafá	rik University in Košice		
Faculty: Faculty of S	cience		
Course ID: ÚBEV/ SDPR/04	Derive ID: ÚBEV/ Course name: Co-worker of project supported by national grant schemes DPR/04		
Course type, scope a Course type: Recommended cour Per week: Per stud Course method: pre	rse-load (hours): y period:		
Number of credits: 2			
Recommended seme	ster/trimester of the cou	rse:	
Course level: III.			
Prerequisities:			
Conditions for cours	e completion:		
Learning outcomes:			
Brief outline of the c	ourse:		
Recommended litera	iture:		
Course language:			
Notes:			
Course assessment Total number of asse	ssed students: 296		
	abs	n	
	100.0 0.0		
Provides:		•	
Date of last modifica	tion:		
Approved: prof. RNI	Dr. Peter Fedoročko, CSc.		

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ Course nam

CK1/03

Course name: Cytogenetics and Karyology

Course type, scope and the method:

Course type: Lecture / Practice Recommended course-load (hours): Per week: 1 / 2 Per study period: 14 / 28

Course method: present

Number of credits: 4

Recommended semester/trimester of the course:

Course level: II., III.

Prerequisities:

Conditions for course completion:

written tests, protocols, oral examination

Learning outcomes:

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

Brief outline of the course:

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

Recommended literature:

Russel, J.P.: Genetics, Third Edition, Harper Collins Publisher,

New York 1992

Periodicals

Internet sources

Course language:

Notes:

Course assessment

Total number of assessed students: 935

A	В	C	D	Е	FX	N	P
24.71	15.19	15.51	14.55	17.01	11.98	0.0	1.07

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

Date of last modification: 03.05.2015

University: P. J. Šafá	rik University in Košice		
Faculty: Faculty of S	cience		
Course ID: ÚBEV/ ODZP/14			
Course type, scope a Course type: Recommended cour Per week: Per stud Course method: pre	rse-load (hours): ly period: esent		
Number of credits: 3			
	ster/trimester of the cour	se:	
Course level: III.			
Prerequisities:			
Conditions for cours	e completion:		
Learning outcomes:			
Brief outline of the c	ourse:		
Recommended litera	iture:		
Course language:			
Notes:			
Course assessment Total number of asse	ssed students: 9		
	N P		
0.0 100.0			
Provides:			
Date of last modifica	tion: 03.05.2015		
Approved: prof. RNI	Dr. Peter Fedoročko, CSc.		

University: P. J. Šafárik University in Košice					
Faculty: Faculty of S	Faculty: Faculty of Science				
Course ID: ÚBEV/ Course name: Doctoral exam DZS/14					
Course type, scope a Course type: Recommended cour Per week: Per stud Course method: pre	rse-load (hours): ly period: esent				
Number of credits: 5					
	ster/trimester of the cours	e: 			
Course level: III.					
Prerequisities: ÚBE	V/VEK3/11				
Conditions for cours	se completion:				
Learning outcomes:					
Brief outline of the c	ourse:				
Recommended litera	nture:				
Course language:					
Notes:					
Course assessment Total number of assessed students: 15					
N P					
0.0 100.0					
Provides:					
Date of last modifica	ation: 03.05.2015				
Approved: prof. RNI	Or. Peter Fedoročko, CSc.				

University: P. J. Šafárik University in Košice Faculty: Faculty of Science Course ID: CJP/ Course name: English Language for PhD Students 1 AJD1/07

Course type, scope and the method:

Course type: Practice

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

Course method: present

Number of credits: 2

Recommended semester/trimester of the course: 1.

Course level: III.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment

Total number of assessed students: 425

N	Ne	Р	Pr	abs	neabs
0.0	0.0	67.53	0.0	32.47	0.0

Provides: PhDr. Helena Petruňová, CSc., Mgr. Zuzana Kolaříková, PhD.

Date of last modification: 03.05.2015

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: CJP/

Course name: English Language for PhD Students 2

AJD2/07

Course type, scope and the method:

Course type: Practice

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

Course method: present

Number of credits: 3

Recommended semester/trimester of the course: 2.

Course level: III.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Notes:

Course assessment

Total number of assessed students: 421

N	Ne	Р	Pr	abs	neabs
0.0	0.0	89.79	1.9	8.31	0.0

Provides: PhDr. Helena Petruňová, CSc., Mgr. Zuzana Kolaříková, PhD., Mgr. Barbara Mitríková

Date of last modification: 03.05.2015

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ C

Course name: Environmentálna mikrobiológia

EMK/15

Course type, scope and the method: Course type: Lecture / Practice

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

Course method: present

Number of credits: 5

Recommended semester/trimester of the course:

Course level: II., III.

Prerequisities:

Conditions for course completion:

Attendance of practicals (at least 90%), final oral examination

Learning outcomes:

To provide students data on participation of microorganisms in biosphere processes, characteristics of most frequently occurring microbial communities and interactions of microorganisms with other organisms.

Brief outline of the course:

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

Recommended literature:

Course language:

Notes:

Course assessment

Total number of assessed students: 11

A	В	С	D	Е	FX	N	P
45.45	27.27	0.0	0.0	18.18	0.0	0.0	9.09

Provides: doc. RNDr. Peter Pristaš, CSc.

Date of last modification: 03.05.2015

University: P. J. Šafárik University in Košice Faculty: Faculty of Science Course ID: ÚBEV/ Course name: Gene Manipulations GM1/03 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: Course level: II., III. Prerequisities: ÚBEV/UGM1/03 **Conditions for course completion: Learning outcomes: Brief outline of the course: Recommended literature:** Course language: **Notes:** Course assessment Total number of assessed students: 118

A	В	C	D	Е	FX	N	P
51.69	22.88	6.78	2.54	2.54	0.85	0.0	12.71

Provides: doc. RNDr. Peter Pristaš, CSc.

Date of last modification: 03.05.2015

University: P. J. Šafárik University in Košice				
Faculty: Faculty of S	cience			
Course ID: ÚBEV/ IMU/04	$\mathcal{E}_{\mathcal{I}}$			
Course type, scope a Course type: Practic Recommended cou Per week: Per stud Course method: pre	ce rse-load (hours): ly period: 20s esent			
Number of credits: 5	5			
Recommended seme	ster/trimester of the cours	e:		
Course level: III.				
Prerequisities:		,		
Conditions for cours	se completion:			
Learning outcomes:				
Brief outline of the o	ourse:			
Recommended litera	nture:			
Course language:				
Notes:				
Course assessment Total number of asse	ssed students: 21			
	N P			
0.0 100.0				
Provides: RNDr. Vla	sta Demečková, PhD.			
Date of last modifica	ation: 03.05.2015			
Approved: prof. RNI	Dr. Peter Fedoročko, CSc.			

University: P. J. Šafárik University in Košice					
Faculty: Faculty of S	Faculty: Faculty of Science				
Course ID: ÚBEV/ NEM/04					
Course type, scope a Course type: Recommended cour Per week: Per stud Course method: pre	rse-load (hours): ly period: esent				
Number of credits: 1					
Recommended seme	ster/trimester of the cour	se:			
Course level: III.					
Prerequisities:					
Conditions for cours	e completion:				
Learning outcomes:					
Brief outline of the c	ourse:				
Recommended litera	iture:				
Course language:					
Notes:	Notes:				
Course assessment Total number of assessed students: 61					
abs n					
100.0 0.0					
Provides:					
Date of last modifica	tion:				
Approved: prof. RNDr. Peter Fedoročko, CSc.					

University: P. J. Šafárik University in Košice					
Faculty: Faculty of S	Faculty: Faculty of Science				
Course ID: ÚBEV/ MK/04	Course ID: ÚBEV/ MK/04 Course name: International Conference				
Course type, scope a Course type: Recommended cour Per week: Per stud Course method: pre	rse-load (hours): y period: esent				
Number of credits: 6					
	ster/trimester of the cou	irse:			
Course level: III.					
Prerequisities:					
Conditions for cours	e completion:				
Learning outcomes:					
Brief outline of the c	ourse:				
Recommended litera	ture:				
Course language:					
Notes:					
Course assessment Total number of assessed students: 139					
	abs n				
100.0 0.0					
Provides:					
Date of last modifica	Date of last modification:				
Approved: prof. RNI	Approved: prof. RNDr. Peter Fedoročko, CSc.				

University: P. J. Šafárik University in Košice				
Faculty: Faculty of S	cience			
Course ID: ÚBEV/ DKZU/04				
Course type, scope a Course type: Recommended cour Per week: Per stud Course method: pre	rse-load (hours): ly period: esent			
Number of credits: 4				
	ster/trimester of the cours	e: 		
Course level: III.				
Prerequisities:				
Conditions for cours	se completion:			
Learning outcomes:				
Brief outline of the c	ourse:			
Recommended litera	iture:			
Course language:				
Notes:				
Course assessment Total number of assessed students: 86				
	abs	n		
100.0 0.0				
Provides:				
Date of last modifica	ation:			
Approved: prof. RNI	Or. Peter Fedoročko, CSc.			

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ Course na

Course name: Introduction to Flow Cytometry

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:

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 clinical 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 data processing, data plotting, gating. Various types of analyses, basic applications, summary of 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 Cytomtery: 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 language:

Notes:

Course assessment

Total number of assessed students: 83

A	В	С	D	Е	FX	N	P
62.65	0.0	10.84	3.61	3.61	0.0	0.0	19.28

Provides: RNDr. Rastislav Jendželovský, PhD.

 $\textbf{Date of last modification:}\ 02.09.2015$

University: P. J. Šafárik University in Košice			
Faculty: Faculty of S	cience		
Course ID: ÚBEV/ ZNC/04	V/ Course name: Journals not registered in the Current Contents Connect database and published abroad		
Course type, scope a Course type: Recommended cou Per week: Per stud Course method: pre	rse-load (hours): ly period:		
Number of credits: 5	; ;		
Recommended seme	ster/trimester of the cours	e:	
Course level: III.			
Prerequisities:			
Conditions for cours	se completion:		
Learning outcomes:			
Brief outline of the c	ourse:		
Recommended litera	iture:		
Course language:			
Notes:			
Course assessment Total number of asse	ssed students: 40		
	abs n		
100.0 0.0			
Provides:			
Date of last modifica	ntion:		
Approved: prof. RNDr. Peter Fedoročko, CSc.			

University: P. J. Šafárik University in Košice				
Faculty: Faculty of S	cience			
Course ID: ÚBEV/ DNC/04	(D: ÚBEV/ Course name: Journals not registered in the Current Contents Connect database and published in the country of residence			
Course type, scope and the method: Course type: Recommended course-load (hours): Per week: Per study period: Course method: present				
Number of credits: 5				
	ster/trimester of the cours	e:		
Course level: III.				
Prerequisities:				
Conditions for cours	se completion:			
Learning outcomes:				
Brief outline of the c	ourse:			
Recommended litera	iture:			
Course language:				
Notes:				
Course assessment Total number of assessed students: 33				
	abs	n		
100.0 0.0				
Provides:				
Date of last modifica	Date of last modification:			
Approved: prof. RNDr. Peter Fedoročko, CSc.				

University: P. J. Šafá	rik University in Košice		
Faculty: Faculty of S	cience		
Course ID: ÚBEV/ ZKC/04	Course name: Journals registered in the Current Contents Connect database and published abroad		
Course type, scope a Course type: Recommended cou Per week: Per stud Course method: pre	rse-load (hours): ly period: esent		
Number of credits: 2			
	ster/trimester of the cours	e:	
Course level: III.			
Prerequisities:			
Conditions for cours	se completion:		
Learning outcomes:			
Brief outline of the c	ourse:		
Recommended litera	nture:		
Course language:			
Notes:			
Course assessment Total number of asse	ssed students: 176		
abs n			
100.0 0.0			
Provides:			
Date of last modifica	ntion:		
Approved: prof. RNI	Dr. Peter Fedoročko, CSc.		

University: P. J. Šafá	rik University in Košice		
Faculty: Faculty of S	cience		
Course ID: ÚBEV/ DKC/04	Course name: Journals registered in the Current Contents Connect database and published in the country of residence		
Course type, scope a Course type: Recommended cour Per week: Per stud Course method: pre	rse-load (hours): ly period:		
Number of credits: 1	5		
Recommended seme	ster/trimester of the cours	e:	
Course level: III.			
Prerequisities:			
Conditions for cours	se completion:		
Learning outcomes:			
Brief outline of the c	ourse:		
Recommended litera	iture:		
Course language:			
Notes:			
Course assessment Total number of asse	ssed students: 12		
abs			
100.0 0.0			
Provides:			
Date of last modifica	tion:		
Approved: prof. RNI	Or. Peter Fedoročko, CSc.		

University: P. J. Šafárik University in Košice Faculty: Faculty of Science Course ID: ÚBEV/ Course name: Methods in Molecular Biology MOBM/09 Course type, scope and the method: Course type: Lecture / Practice **Recommended course-load (hours):** Per week: 1/3 Per study period: 14/42 Course method: present Number of credits: 4 Recommended semester/trimester of the course: Course level: III. **Prerequisities: Conditions for course completion: Learning outcomes:** Acquaint the students with modern methods in molecular biology and with their applications in research and to give them practical basics needed for practical work in molecular biology laboratory. **Brief outline of the course:** Basics of laboratory practice for work under sterile/aseptic conditions in cell culture lab, cell culturing of tumour cell lines, methods for isolation of nucleic acids from cells, determination of protein concentration in cell lysates, measurements of enzymatic concentrations. Polymerase chain reaction, Western blot, dot-blot, fluorescent microscopy, flowcytometric analyses of cellular processes (cell cycle, cell death, mitochondrial parameters, proteomic applications). **Recommended literature:** J. Reinders a A.Sickmann: Proteomics: Methods and Protocols (Methods in Molecular Biology), Humana Press, 2009 G. Ecker et al.: Transporters as Drug Carriers: Structure, Function, Substrates: 44 (Methods and Principles in Medicinal Chemistry), Wiley-VCH, 2009 J. Pawley: Handbook of Biological Confocal Microscopy, Springer, 2006 Course language: Notes: Course assessment Total number of assessed students: 22 P N 0.0 100.0 Provides: RNDr. Veronika Sačková, PhD., doc. RNDr. Peter Solár, PhD., RNDr. Martina Šemeláková, PhD.

Date of last modification: 03.05.2015

University: P. J. Šafárik University in Košice Faculty: Faculty of Science Course ID: ÚBEV/ Course name: Molekulárna cytológia MOCY/09 Course type, scope and the method: Course type: Lecture / Practice **Recommended course-load (hours):** Per week: 3 / 2 Per study period: 42 / 28 Course method: present Number of credits: 10 Recommended semester/trimester of the course: 2. Course level: III. **Prerequisities: Conditions for course completion: Learning outcomes:** Describe and explain attributes and processes within living cells on molecular level. **Brief outline of the course:** Cells structure, chemical composition and energetic processes in cells. Proteins and nucleic acids, their structure, function and regulation. Membrane systems, structure, membrane transport of chemical compounds and information. Intercellular communication. Cytoskeleton. Cell division. Cell cycle regulation, Cell death. Cytopathology of tumour cell. **Recommended literature:** Bruce Alberts et al.: Essential Cell Biology. Espero Publishing, Garland Publishing, New York, David Morgan: The Cell Cycle: Principles of Control, Oxford University Press, 2006 Friedrich Marks et al.: Cellular Signal Processing: An Introduction to the Molecular Mechanisms of Signal Transduction, Garland Science, 2008 Lauren Pecorino: Molecular Biology of Cancer: Mechanisms, Targets, and Therapeutics, Oxford University Press, 2008 Gerald Karp: Cell and Molecular Biology: Concepts and Experiments, 6th ed. Wiley, 2009 Course language: **Notes:** Course assessment Total number of assessed students: 18 P N 0.0 100.0 Provides: prof. RNDr. Peter Fedoročko, CSc. Date of last modification: 03.05.2015

University: P. J. Šafá	rik University in Košice		
Faculty: Faculty of S	cience		
Course ID: ÚBEV/ NZ/04	Course name: Non-reviewed collections of papers and monographs published abroad or in the country of residence		
Course type, scope a Course type: Recommended cou Per week: Per stud Course method: pre	rse-load (hours): ly period:		
Number of credits: 2	2		
Recommended seme	ster/trimester of the cours	e:	
Course level: III.			
Prerequisities:			
Conditions for cours	se completion:		
Learning outcomes:			
Brief outline of the c	ourse:		
Recommended litera	iture:		
Course language:			
Notes:			
Course assessment Total number of asse	ssed students: 80		
abs n			
100.0 0.0			
Provides:			
Date of last modifica	tion:		
Approved: prof. RNI	Or. Peter Fedoročko, CSc.		

University: P. J. Šafárik University in Košice			
Faculty: Faculty of S	cience		
Course ID: ÚBEV/ RZ/04	Course name: Peer-reviewed collections of papers and monographs published abroad or in the country of residence		
Course type, scope a Course type: Recommended cou Per week: Per stud Course method: pre	rse-load (hours): ly period: esent		
Number of credits: 5			
	ster/trimester of the cours	e: 	
Course level: III.			
Prerequisities:			
Conditions for cours	se completion:		
Learning outcomes:			
Brief outline of the c	ourse:		
Recommended litera	nture:		
Course language:			
Notes:			
Course assessment Total number of asse	ssed students: 177		
abs n			
100.0 0.0			
Provides:			
Date of last modifica	ntion:		
Approved: prof. RNI	Dr. Peter Fedoročko, CSc.		

University: P. J. Šafárik University in Košice Faculty: Faculty of Science Course ID: ÚBEV/ **Course name:** Pharmacology FARM/09 Course type, scope and the method: Course type: Lecture / Practice Recommended course-load (hours): Per week: 2 / 3 Per study period: 28 / 42 Course method: present **Number of credits: 8** Recommended semester/trimester of the course: Course level: III. **Prerequisities: Conditions for course completion: Learning outcomes:** To provide students with a comprehensive introduction to the fundamental Pharmacology and uses of the major classes of drugs currently used in medical practice. **Brief outline of the course:** Basic pharmacology (pharmacokinetic and pharmacodynamic principles), factors influencing drug effects, routes of drug application. Special pharmacology including drugs affecting the autonomic nervous system, myorelaxants and ganglioplegic drugs, drugs affecting CNS (drugs used to treat psychiatric disorders, antiepileptics, antiparkinson drugs, hypnotics). **Recommended literature:** Finkel et al.: Lippincott's Illustrated reviews: Pharmacology 4th edition, Wolters Kluwer, 2009, pp. 564. Course language: Notes: Course assessment Total number of assessed students: 19 N P 0.0 100.0 Provides: prof. MVDr. Ján Mojžiš, DrSc., MUDr. Iveta Radváková, PhD.

Date of last modification: 03.05.2015

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ Course name: Plan

BTR1/06

Course name: Plant Biotechnology

Course type, scope and the method:

Course type: Lecture / Practice

Recommended course-load (hours): Per week: 2 / 3 Per study period: 28 / 42

Course method: present

Number of credits: 6

Recommended semester/trimester of the course:

Course level: I., II., III.

Prerequisities:

Conditions for course completion:

written test, protocols, oral examination

Learning outcomes:

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

Brief outline of the course:

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

Recommended literature:

Slater A. et al.: Plant Biotechnology. Oxford University Press 2008, 376 pp.

Wink M. (Ed.): An Introduction to Molecular Biotechnology. Willey-Blackwell, 2011, 601 pp.

Periodicals and Internet sources

Course language:

Notes:

Course assessment

Total number of assessed students: 110

A	В	С	D	Е	FX	N	P
37.27	17.27	17.27	6.36	11.82	4.55	0.0	5.45

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

Date of last modification: 03.05.2015

University: P. J. Šafárik University in Košice				
Faculty: Faculty of S	cience			
Course ID: ÚBEV/ ZSP/04				
Course type, scope a Course type: Recommended cour Per week: Per stud Course method: pre	rse-load (hours): ly period: esent			
Number of credits: 2				
Recommended seme	ster/trimester of the course	e: 6., 8.		
Course level: III.				
Prerequisities:				
Conditions for cours	e completion:			
Learning outcomes:				
Brief outline of the course:				
Recommended literature:				
Course language:				
Notes:				
Course assessment Total number of asse	ssed students: 71			
abs n				
100.0 0.0				
Provides:				
Date of last modifica	tion:			
Approved: prof. RNI	Or. Peter Fedoročko, CSc.			

University: P. J. Šafá	rik University in Košice		
Faculty: Faculty of S	cience		
Course ID: ÚBEV/ IG/04			
Course type, scope a Course type: Recommended cou Per week: Per stud Course method: pre	rse-load (hours): ly period: esent		
Number of credits: 1			
	ster/trimester of the course	2:	
Course level: III.			
Prerequisities:			
Conditions for cours	se completion:		
Learning outcomes:			
Brief outline of the c	ourse:		
Recommended litera	nture:		
Course language:			
Notes:			
Course assessment Total number of asse	ssed students: 122		
	abs	n	
	100.0 0.0		
Provides:	-		
Date of last modifica	tion:		
Approved: prof. RNI	Or. Peter Fedoročko, CSc.		

University: P. J. Šafá	rik University in Košice		
Faculty: Faculty of S	cience		
Course ID: ÚBEV/ VPBB/11			
Course type, scope a Course type: Recommended cour Per week: Per stud Course method: pre	rse-load (hours): ly period: esent		
Number of credits: 2			_
	ster/trimester of the cour	se:	_
Course level: III.			
Prerequisities:			
Conditions for cours	se completion:		
Learning outcomes:			
Brief outline of the c	ourse:		
Recommended litera	iture:		
Course language:			
Notes:			
Course assessment Total number of asse	ssed students: 12		
	abs		
	100.0 0.0		
Provides:			
Date of last modifica	tion:		
Approved: prof. RNI	Dr. Peter Fedoročko, CSc.		

University: P. J. Šafá	rik University in Košice		
Faculty: Faculty of S	cience		
Course ID: ÚBEV/ SSOL/04	Course ID: ÚBEV/ Course name: Samostatné štúdium odbornej literatúry SSOL/04		
Course type, scope a Course type: Recommended cour Per week: Per stud Course method: pre	rse-load (hours): ly period:		
Number of credits: 2			
Recommended seme	ster/trimester of the cou	rse:	
Course level: III.			
Prerequisities:			
Conditions for cours	e completion:		
Learning outcomes:			
Brief outline of the c	ourse:		
Recommended litera	iture:		
Course language:			
Notes:			
Course assessment Total number of asse	ssed students: 196		
	abs	n	
	100.0	0.0	
Provides:			
Date of last modifica	tion:		
Approved: prof. RNI	Dr. Peter Fedoročko, CSc.		

University: P. J. Šafá	rik University in Košice		
Faculty: Faculty of S	cience		
Course ID: Dek. PF UPJŠ/JSD/14			
Course type, scope a Course type: Lectur Recommended cour Per week: Per stud Course method: pre	re rse-load (hours): ly period: 4d esent		
Number of credits: 2			
Recommended seme	ster/trimester of the cours	e:	
Course level: III.			
Prerequisities:			
Conditions for cours	e completion:		
Learning outcomes:	Learning outcomes:		
Brief outline of the c	ourse:		
Recommended litera	iture:		
Course language:			
Notes:			
Course assessment Total number of asse	ssed students: 68		
	abs n		
100.0 0.0			
Provides: doc. RNDr	. Vladimír Zeleňák, PhD.		
Date of last modifica	tion: 03.05.2015		
Approved: prof. RNI	Dr. Peter Fedoročko, CSc.		

University: P. J. Šafá	rik University in Košice		
Faculty: Faculty of S	cience		
Course ID: ÚCHV/ VBP/04	Course ID: ÚCHV/ Course name: Supervision of Bachelor Thesis BP/04		
Course type, scope a Course type: Recommended cour Per week: Per stud Course method: pre	rse-load (hours): y period:		
Number of credits: 6	: 		
Recommended seme	ster/trimester of the co	urse: 6., 8.	
Course level: III.			
Prerequisities:			
Conditions for cours	e completion:		`
Learning outcomes:			
Brief outline of the c	ourse:		
Recommended litera	ture:		
Course language:			
Notes:			
Course assessment Total number of asse	ssed students: 227		
	abs	n	ı.
	100.0 0.0		
Provides:			
Date of last modifica	tion:		
Approved: prof. RNI	Dr. Peter Fedoročko, CSo).	

University: P. J. Šafá	rik University in Košice		
Faculty: Faculty of S	cience		
Course ID: ÚBEV/ VPSV/04			
Course type, scope a Course type: Recommended cour Per week: Per stud Course method: pre	rse-load (hours): ly period:		
Number of credits: 6)		
Recommended seme	ster/trimester of the cour	se: 6., 8.	
Course level: III.			
Prerequisities:			
Conditions for cours	e completion:		
Learning outcomes:			
Brief outline of the c	ourse:		
Recommended litera	iture:		
Course language:			
Notes:			
Course assessment Total number of asse	ssed students: 10		
	abs	n	
	100.0 0.0		
Provides:			
Date of last modifica	tion:		
Approved: prof. RNI	Dr. Peter Fedoročko, CSc.		

University: P. J. Šafá	rik University in Košice		
Faculty: Faculty of S	cience		
Course ID: ÚBEV/ VYS/04			
Course type, scope a Course type: Recommended cour Per week: Per stud Course method: pre	rse-load (hours): ly period:		
Number of credits: 2	2		
Recommended seme	ster/trimester of the cours	e:	
Course level: III.			
Prerequisities:			
Conditions for cours	se completion:		
Learning outcomes:			
Brief outline of the c	ourse:		
Recommended litera	iture:		
Course language:			
Notes:			
Course assessment Total number of asse	ssed students: 158		
	abs		
100.0 0.0			
Provides:			
Date of last modifica	tion:		
Approved: prof. RNI	Or. Peter Fedoročko, CSc.		

University: P. J. Šafá	rik University in Košice		
Faculty: Faculty of S	cience		
Course ID: ÚBEV/ PPC/04			
Course type, scope a Course type: Recommended cour Per week: Per stud Course method: pre	rse-load (hours): ly period:		
Number of credits: 1			
Recommended seme	ster/trimester of the cour	rse:	
Course level: III.			
Prerequisities:			
Conditions for cours	e completion:		
Learning outcomes:	Learning outcomes:		
Brief outline of the c	ourse:		
Recommended litera	iture:		
Course language:			
Notes:			
Course assessment Total number of asses	ssed students: 325		
	abs	n	
	100.0 0.0		
Provides:			
Date of last modifica	tion:		
Approved: prof. RNI	Dr. Peter Fedoročko, CSc.		

University: P. J. Šafá	rik University in Košice		
Faculty: Faculty of S	cience		
Course ID: ÚBEV/ PPC/04	Course ID: ÚBEV/ Course name: Teaching activities PC/04		
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 cou	rse:	_
Course level: III.			
Prerequisities:			_
Conditions for cours	se completion:		
Learning outcomes:			
Brief outline of the o	course:		
Recommended litera	ature:		
Course language:			
Notes:			_
Course assessment Total number of asse	ssed students: 325		
	abs	n	
	100.0	0.0	
Provides:		•	
Date of last modifica	ntion:		-
Approved: prof. RN	Dr. Peter Fedoročko, CSc.		_

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ Co

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:

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:

Notes:

Course assessment

Total number of assessed students: 137

A	В	С	D	Е	FX	N	Р
65.69	14.6	11.68	2.92	2.92	0.73	0.0	1.46

Provides: doc. RNDr. Zuzana Daxnerová, CSc.

Date of last modification: 03.05.2015

Approved: prof. RNDr. Peter Fedoročko, CSc.

University: P. J. Šafá	rik University in Košice		
Faculty: Faculty of S	cience		
Course ID: ÚBEV/ POVK/04			
Course type, scope a Course type: Recommended cou Per week: Per stud Course method: pre	rse-load (hours): ly period: esent		
Number of credits: 2			
Recommended seme	ster/trimester of the co	ourse:	
Course level: III.			
Prerequisities:			
Conditions for cours	se completion:		
Learning outcomes:			
Brief outline of the c	ourse:		
Recommended litera	iture:		
Course language:			
Notes:			
Course assessment Total number of asse	ssed students: 26		
	abs		
	100.0 0.0		
Provides:		<u> </u>	
Date of last modifica	tion:		
Approved: prof. RNI	Or. Peter Fedoročko, CS	c.	

University: P. J. Šafá	rik University in Koš	sice	
Faculty: Faculty of S	cience		
Course ID: ÚBEV/ PDS/14			
Course type, scope a Course type: Recommended cour Per week: Per stud Course method: pre	rse-load (hours): ly period: esent		
Number of credits: 1			
Recommended seme	ster/trimester of the	e course:	
Course level: III.			
Prerequisities:			
Conditions for cours	se completion:		
Learning outcomes:			
Brief outline of the c	ourse:		
Recommended litera	nture:		
Course language:			
Notes:			
Course assessment Total number of asse	ssed students: 14		
	abs	n	
	100.0	0.0	
Provides:		<u> </u>	
Date of last modifica	ntion:		
Approved: prof. RNI	Or. Peter Fedoročko,	CSc.	