University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ | Course name: Analytical Cytometry

ACM/12

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 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: 25

A	В	С	D	Е	FX	N	Р
4.0	0.0	0.0	0.0	0.0	0.0	0.0	96.0

Provides: RNDr. Rastislav Jendželovský, PhD.

Date of last modification: 24.02.2017

Approved: Co-guaranteedoc. RNDr. Peter Solár, PhD.Co-guaranteedoc. RNDr. Katarína Kimáková, CSc.Guaranteeprof. RNDr. Eva Čellárová, DrSc.

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:

Course level: III.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Course assessment

Total number of assessed students: 525

N	Ne	Р	Pr	abs	neabs
0.0	0.0	58.29	0.0	41.71	0.0

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

Date of last modification: 04.10.2016

Approved: Co-guaranteedoc. RNDr. Peter Solár, PhD.Co-guaranteedoc. RNDr. Katarína

Kimáková, CSc. Guaranteeprof. RNDr. Eva Čellárová, DrSc.

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:

Course level: III.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Brief outline of the course:

Recommended literature:

Course language:

Course assessment

Total number of assessed students: 528

N	Ne	P	Pr	abs	neabs
0.0	0.0	91.86	1.52	6.63	0.0

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

Date of last modification: 04.10.2016

Approved: Co-guaranteedoc. RNDr. Peter Solár, PhD.Co-guaranteedoc. RNDr. Katarína

Kimáková, CSc. Guaranteeprof. RNDr. Eva Čellárová, DrSc.

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ Course name

AMK/15

Course name: Aplikovaná mikrobiológia

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 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:

Course assessment

Total number of assessed students: 0

A	В	С	D	Е	FX	N	P
0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Provides: doc. RNDr. Peter Pristaš, CSc., prof. RNDr. Jana Sedláková, PhD., RNDr. Lenka Maliničová, PhD.

Date of last modification: 24.02.2017

Approved: Co-guaranteedoc. RNDr. Peter Solár, PhD.Co-guaranteedoc. RNDr. Katarína Kimáková, CSc.Guaranteeprof. RNDr. Eva Čellárová, DrSc.

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ Course name:

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:

Course assessment

Total number of assessed students: 135

A	В	С	D	Е	FX	N	P
37.04	18.52	15.56	7.41	12.59	3.7	0.0	5.19

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

Date of last modification: 24.02.2017

Approved: Co-guaranteedoc. RNDr. Peter Solár, PhD.Co-guaranteedoc. RNDr. Katarína

Kimáková, CSc.Guaranteeprof. RNDr. Eva Čellárová, DrSc.

University: P. J. Šafá	rik University in Koši	ce			
Faculty: Faculty of S	cience				
Course ID: ÚBEV/ CDC/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: 5					
Recommended seme	ster/trimester of the	course:			
Course level: III.					
Prerequisities:					
Conditions for cours	se completion:				
Learning outcomes:					
Brief outline of the c	ourse:				
Recommended litera	iture:				
Course language:					
Course assessment Total number of asse	ssed students: 5				
	abs	n			
	100.0	0.0			
Provides:		·			
Date of last modifica	ntion: 24.02.2017				
	nteedoc. RNDr. Peter	Solár, PhD.Co-guaranteedoc. RNDr. Katarína Čellárová, DrSc			

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ | Course name: Cytogenetics and Karyology

CK1/03

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

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

Course method: present

Number of credits: 4

Recommended semester/trimester of the course:

Course level: II., III.

Prerequisities:

Conditions for course completion:

written tests, protocols, oral examination

Learning outcomes:

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

Brief outline of the course:

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

Recommended literature:

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

New York 1992

Periodicals

Internet sources

Course language:

Course assessment

Total number of assessed students: 1107

A	В	С	D	Е	FX	N	P
24.93	14.81	15.54	14.72	17.52	11.38	0.0	1.08

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

Date of last modification: 24.02.2017

Approved: Co-guaranteedoc. RNDr. Peter Solár, PhD.Co-guaranteedoc. RNDr. Katarína

Kimáková, CSc. Guaranteeprof. RNDr. Eva Čellárová, DrSc.

University: P. J. Šafárik University in Košice Faculty: Faculty of Science Course ID: ÚBEV/ **Course name:** Citation in monograph CM/04 Course type, scope and the method: **Course type: Recommended course-load (hours):** Per week: Per study period: Course method: present Number of credits: 20 Recommended semester/trimester of the course: Course level: III. **Prerequisities: Conditions for course completion: Learning outcomes: Brief outline of the course: Recommended literature:** Course language: **Course assessment** Total number of assessed students: 0 **Provides:** Date of last modification: 24.02.2017

Approved: Co-guaranteedoc. RNDr. Peter Solár, PhD.Co-guaranteedoc. RNDr. Katarína

Kimáková, CSc.Guaranteeprof. RNDr. Eva Čellárová, DrSc.

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ | Course name:

CTP1/01

Course name: Cytopathology

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 a knowledge of basic biological principles of carcinogenesis.

Brief outline of the course:

Tumor development. Tumor growth and metastatic potential. Cell cycle regulation and pathogenesis of cancer. Apoptosis in tumor growth and metastasis. Oncogenes and cancer. Tumor suppressor genes. Metastasis suppressor genes. Angiogenesis in cancer. Cell surface glycoproteins and their receptors. Proteinases and their inhibitors in cancer invasion. Radio-, chemo- and immunotherapy.

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: 282

A	В	C	D	Е	FX	N	P
40.78	21.99	19.15	9.57	4.96	2.48	0.0	1.06

Provides: prof. RNDr. Peter Fedoročko, CSc.

Date of last modification: 24.02.2017

Approved: Co-guaranteedoc. RNDr. Peter Solár, PhD.Co-guaranteedoc. RNDr. Katarína

Kimáková, CSc.Guaranteeprof. RNDr. Eva Čellárová, DrSc.

University: P. J. Šafá	rik University in Košice			
Faculty: Faculty of S	cience			
Course ID: ÚBEV/ Course name: Citation in scientific journal published abroad CZC/04				
Course type, scope a Course type: Recommended cou Per week: Per stud Course method: pre	rse-load (hours): ly period:			
Number of credits: 1				
Recommended seme	ster/trimester of the co	urse:		
Course level: III.				
Prerequisities:				
Conditions for cours	se completion:			
Learning outcomes:				
Brief outline of the c	ourse:			
Recommended litera	nture:			
Course language:				
Course assessment Total number of asse	ssed students: 33			
	abs	n		
	100.0 0.0			
Provides:		•		
Date of last modifica	ation: 24.02.2017			
11	nteedoc. RNDr. Peter So anteeprof. RNDr. Eva Če	lár, PhD.Co-guaranteedoc. RNDr. Katarína ellárová, DrSc.		

University: P. J. Šafá	rik University in Koši	ce		
Faculty: Faculty of S	cience			
Course ID: ÚBEV/ DK/04				
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	ester/trimester of the	course:		
Course level: III.				
Prerequisities:				
Conditions for cours	se completion:			
Learning outcomes:				
Brief outline of the c	course:			
Recommended litera	ature:			
Course language:				
Course assessment Total number of asse	ssed students: 125			
	abs	n		
	100.0	0.0		
Provides:		·		
Date of last modifica	ntion: 24.02.2017			
11	nteedoc. RNDr. Peter	Solár, PhD.Co-guaranteedoc. RNDr. Katarína Čallárová, DrSo		

University: P. J. Šafá	rik University in Koši	ce		
Faculty: Faculty of S	cience			
Course ID: ÚBEV/ DKC/04				
Course type, scope a Course type: Recommended cour Per week: Per stud Course method: pre	rse-load (hours): y period: esent			
Number of credits: 1				
Recommended seme	ster/trimester of the	course:		
Course level: III.				
Prerequisities:				
Conditions for cours	e completion:			
Learning outcomes:				
Brief outline of the c	ourse:			
Recommended litera	ture:			
Course language:				
Course assessment Total number of asse	ssed students: 16			
	abs	n		
	100.0 0.0			
Provides:		·		
Date of last modifica	tion: 24.02.2017			
Approved: Co-guara: Kimáková, CSc.Guara		Solár, PhD.Co-guaranteedoc. RNDr. Katarína Čellárová, DrSc.		

University: P. J. Šafá	rik University in Košice				
Faculty: Faculty of S	cience				
Course ID: ÚBEV/ Course name: International conference taking place 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: 4					
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	nture:				
Course language:					
Course assessment Total number of asse	ssed students: 105				
	abs n				
	100.0 0.0				
Provides:					
Date of last modifica	ation: 24.02.2017				
	nteedoc. RNDr. Peter So anteenrof RNDr. Fva Č	olár, PhD.Co-guaranteedoc. RNDr. Katarína			

University: P. J. Šafá	rik University in Košice					
Faculty: Faculty of S	cience					
Course ID: ÚBEV/ DNC/04	ϵ					
Course type, scope a Course type: Recommended cou Per week: Per stud Course method: pre	rse-load (hours): ly period:					
Number of credits: 5	5					
Recommended seme	ster/trimester of the co	urse:				
Course level: III.						
Prerequisities:	,					
Conditions for cours	se completion:					
Learning outcomes:						
Brief outline of the c	ourse:					
Recommended litera	nture:					
Course language:						
Course assessment Total number of asse	ssed students: 37					
	abs	n				
	100.0	0.0				
Provides:						
Date of last modifica	tion: 24.02.2017					
	nteedoc. RNDr. Peter So anteeprof. RNDr. Eva Če	lár, PhD.Co-guaranteedoc. RNDr. Katarína				

University: P. J. Šafá	rik University in Kos	šice
Faculty: Faculty of S	cience	
Course ID: ÚBEV/ DZS/14	Course name: Doc	toral exam
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		
Recommended seme	ster/trimester of the	e course:
Course level: III.		
Prerequisities: ÚBE	V/VEK3/11	
Conditions for cours	se completion:	
Learning outcomes:		
Brief outline of the c	ourse:	
Recommended litera	iture:	
Course language:		
Course assessment Total number of asse	ssed students: 34	
	N	P
	2.94	97.06
Provides:		•
Date of last modifica	ition: 24.02.2017	
Approved: Co-guara Kimáková, CSc.Guara		r Solár, PhD.Co-guaranteedoc. RNDr. Katarína a Čellárová, DrSc.

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/

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 occuring 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:

Course assessment

Total number of assessed students: 27

A	В	С	D	Е	FX	N	P
37.04	37.04	0.0	0.0	7.41	0.0	0.0	18.52

Provides: doc. RNDr. Peter Pristaš, CSc., prof. RNDr. Jana Sedláková, PhD., RNDr. Lenka Maliničová, PhD.

Date of last modification: 24.02.2017

Approved: Co-guaranteedoc. RNDr. Peter Solár, PhD.Co-guaranteedoc. RNDr. Katarína

Kimáková, CSc.Guaranteeprof. RNDr. Eva Čellárová, DrSc.

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ | Course name: Functional genomics

FG/14

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:

Active participation in practical and theoretical courses

Learning outcomes:

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

Brief outline of the course:

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

Recommended literature:

Internet sources, PowerPoint Presentation

Course language:

English

Course assessment

Total number of assessed students: 68

A	В	С	D	Е	FX	N	P
30.88	23.53	20.59	5.88	11.76	2.94	0.0	4.41

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

Date of last modification: 24.02.2017

Approved: Co-guaranteedoc. RNDr. Peter Solár, PhD.Co-guaranteedoc. RNDr. Katarína Kimáková, CSc.Guaranteeprof. RNDr. Eva Čellárová, DrSc.

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ | Cours

Course name: Human Genetics

GC1/01

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:

Learning outcomes:

To provide students with a basics of human genetics, with the role of genetic factors in pathologic processes, with the inheritance, diagnostics and treatment of genetic disorders.

Brief outline of the course:

The genetic basics of physiological variability and pathological traits of individuals; human population genetics; the patterns of inheritance and pedigree problem solving; the basic methods used in human genetics - genealogy, linkage analysis and the gene mapping, cytogenetic analysis and karyotyping, the DNA diagnosis of pathological traits; the treatment of genetic disorders.

Recommended literature:

Thompson JS, Thompson MW (2001): Genetics in Medicine 6/e. W.B.Sounders Company, Philadelphia, Pennsylvania, USA

Friedman JM, Dill FJ, Hayden MR, McGillivray BC (1996): Genetics 2/e. Williams & Wilkins, Baltimore, Maryland, USA

Course language:

Course assessment

Total number of assessed students: 1012

A	В	С	D	Е	FX	N	P
25.3	14.33	16.6	14.33	17.09	11.76	0.0	0.59

Provides: RNDr. Katarína Bruňáková, PhD.

Date of last modification: 24.02.2017

Approved: Co-guaranteedoc. RNDr. Peter Solár, PhD. Co-guaranteedoc. RNDr. Katarína

Kimáková, CSc.Guaranteeprof. RNDr. Eva Čellárová, DrSc.

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ Cou

Course name: Population Genetics

GEP/12

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

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

Course method: present

Number of credits: 4

Recommended semester/trimester of the course:

Course level: II., III.

Prerequisities:

Conditions for course completion:

Exam.

Learning outcomes:

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:

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): 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: 856

A	В	С	D	Е	FX	N	P
18.57	15.07	14.84	16.47	20.56	13.55	0.0	0.93

Provides: RNDr. Linda Petijová, PhD., RNDr. Miroslav Soták, PhD., RNDr. Katarína Bruňáková, PhD.

Date of last modification: 24.02.2017

Approved: Co-guaranteedoc. RNDr. Peter Solár, PhD.Co-guaranteedoc. RNDr. Katarína

Kimáková, CSc. Guaranteeprof. RNDr. Eva Čellárová, DrSc.

University: P. J. Šafá	rik University in Košice				
Faculty: Faculty of S	cience				
Course ID: ÚBEV/ GMd/12	Course name: Génové ma	nipulácie			
Course type, scope a Course type: Lectur Recommended cou Per week: 2 / 2 Per Course method: pre	re / Practice rse-load (hours): study period: 28 / 28				
Number of credits: 6	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	course:				
Recommended litera	ature:				
Course language:					
Course assessment Total number of asse	ssed students: 0				
	abs	n			
0.0					
Provides: doc. RNDr. Peter Pristaš, CSc., RNDr. Mariana Kolesárová, PhD.					
Date of last modifica	ation: 24.02.2017				
	nteedoc. RNDr. Peter Solár, anteeprof. RNDr. Eva Čellá	PhD.Co-guaranteedoc. RNDr. Katarína rová, DrSc.			

University: P. J. Šafá	rik University in Koši	ce					
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							
Recommended seme	ster/trimester of the	course: 6., 8.					
Course level: III.							
Prerequisities:							
Conditions for cours	se completion:						
Learning outcomes:							
Brief outline of the c	ourse:						
Recommended litera	nture:						
Course language:							
Course assessment Total number of asse	ssed students: 142						
	abs	n					
	100.0	0.0					
Provides:							
Date of last modifica	ation: 24.02.2017						
	nteedoc. RNDr. Peter	Solár, PhD.Co-guaranteedoc. RNDr. Katarína Čellárová, DrSc					

University: P. J. Šafá	rik University in Košice		
Faculty: Faculty of S	cience		
Course ID: Dek. PF UPJŠ/JSD/14	Course name: Spring Sci	hool for PhD Students	
Course type, scope a Course type: Lectur Recommended cour Per week: Per stud Course method: pre	re rse-load (hours): y period: 4d		
Number of credits: 2			
Recommended seme	ster/trimester of the cour	rse:	
Course level: III.			
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: 115		
	abs	n	
	100.0	0.0	
Provides: doc. RNDr	. Vladimír Zeleňák, PhD.	•	
Date of last modifica	tion: 13.02.2017		
	nteedoc. RNDr. Peter Solá anteenrof RNDr. Eva Čell	r, PhD.Co-guaranteedoc. RND	r. Katarína

University: P. J. Šafá	rik University in Košio					
Faculty: Faculty of S	cience					
Course ID: ÚBEV/ MK/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	ester/trimester of the o	course:				
Course level: III.						
Prerequisities:						
Conditions for cours	se completion:					
Learning outcomes:						
Brief outline of the c	course:					
Recommended litera	nture:					
Course language:						
Course assessment Total number of asse	ssed students: 186					
	abs	n				
	100.0	0.0				
Provides:		•				
Date of last modifica	ntion: 24.02.2017					
	nteedoc. RNDr. Peter S anteeprof. RNDr. Eva	Solár, PhD.Co-guaranteedoc. RNDr. Katarína Čellárová, DrSc.				

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ Cour

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:

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. Prokaryotic model systems (Escherichia coli, Diplococcus pneumoniae, Agrobacterium tumefaciens and A. rhizogenes). Model systems of simple eukaryotic organisms (Saccharomyces cerevisiae, Neurospora crassa). Plant and animal model systems in vitro and in vivo. Caenorhabditis elegans. Arabidopsis thaliana. Mendel's laws. Drosophila melanogaster. Morgan's rules. Danio rerio. Mus musculus. Human genome. Transgenic plants and animals. HeLa cells. Stem cells. Genetic importance of the study of twins. Genetic databases.

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: 1091

A	В	С	D	Е	FX	N	Р
23.56	15.67	15.77	14.21	18.06	11.64	0.0	1.1

Provides: prof. RNDr. Eva Čellárová, DrSc., RNDr. Andrea Kimáková, PhD., RNDr. Miroslav Soták, PhD., RNDr. Katarína Nigutová, PhD.

Date of last modification: 24.02.2017

Approved: Co-guaranteedoc. RNDr. Peter Solár, PhD.Co-guaranteedoc. RNDr. Katarína Kimáková, CSc.Guaranteeprof. RNDr. Eva Čellárová, DrSc.

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ Course name: M

MZO1/03

Course name: Molecular basis of ontogenetic development

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:

Acquiring of basic knowledge of principles and molecular-biological mechanisms of ontogenetic development of animal and plant organisms.

Brief outline of the course:

Regulation of the ontogenetic development in eukaryotic organisms. Program of the ontogenetic development. Cell determination and differentiation. Molecular mechanisms of formation of specialised cell types. Epigenetic mechanisms of cellular memory. Imprinting. Combinatory control of eukaryotic genes. Regulatory genes. Establishment of cell position. Formation of the embryonic body plan. Establishment of the main axis of body. Shape formation. Cloning of multicellular organisms.

Recommended literature:

Gerhard, J., Kirschener, M.: Cells, Embryos and Evolution. Blacwell Science Inc., Massachusett, Oxford, London, 1997

Course language:

Course assessment

Total number of assessed students: 327

A	В	С	D	Е	FX	N	P
36.7	22.32	12.23	14.07	8.56	4.59	0.0	1.53

Provides: prof. RNDr. Eva Mišúrová, CSc., RNDr. Zuzana Jendželovská, PhD.

Date of last modification: 24.02.2017

Approved: Co-guaranteedoc. RNDr. Peter Solár, PhD.Co-guaranteedoc. RNDr. Katarína

Kimáková, CSc.Guaranteeprof. RNDr. Eva Čellárová, DrSc.

University: P. J. Šafá	rik University in Koši	ce
Faculty: Faculty of S	cience	
Course ID: ÚBEV/ NEM/04	Course name: Implementation of new experimental methodology	
Course type, scope a Course type: Recommended cou Per week: Per stud Course method: pre	rse-load (hours): ly period:	
Number of credits: 1	.5	
Recommended seme	ster/trimester of the	course:
Course level: III.		
Prerequisities:		
Conditions for cours	se completion:	
Learning outcomes:		
Brief outline of the c	ourse:	
Recommended litera	iture:	
Course language:		
Course assessment Total number of asse	ssed students: 69	
	abs	n
100.0 0.0		
Provides:		·
Date of last modifica	ation: 24.02.2017	
	nteedoc. RNDr. Peter anteeprof. RNDr. Eva	Solár, PhD.Co-guaranteedoc. RNDr. Katarína Čellárová, DrSc.

University: P. J. Šafá	rik University in Koši	ce	
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 cour Per week: Per stud Course method: pre	rse-load (hours): ly period:		
Number of credits: 2			
Recommended seme	ester/trimester of the	course:	
Course level: III.			
Prerequisities:			
Conditions for cours	se completion:		
Learning outcomes:			
Brief outline of the c	course:		
Recommended litera	iture:		
Course language:			
Course assessment Total number of asses	ssed students: 108		
	abs	n	
	100.0 0.0		
Provides:		<u> </u>	
Date of last modifica	ition: 24.02.2017		
	nteedoc. RNDr. Peter S anteeprof. RNDr. Eva	Solár, PhD.Co-guaranteedoc. RNDr. Katarína Čellárová, DrSc.	

University: P. J. Šafá	rik University in Koš	ice	
Faculty: Faculty of Science			
Course ID: ÚBEV/ ODZP/14			
Course type, scope a Course type: Recommended cou Per week: Per stud Course method: pre	rse-load (hours): ly period:		
Number of credits: 3	30		
Recommended seme	ster/trimester of the	course:	
Course level: III.			
Prerequisities:			
Conditions for cours	se completion:		
Learning outcomes:			
Brief outline of the c	ourse:		
Recommended litera	nture:		
Course language:			
Course assessment Total number of asse	ssed students: 27		
	N	P	
	0.0 100.0		
Provides:		·	
Date of last modifica	ation: 24.02.2017		
Approved: Co-guara Kimáková, CSc.Guar		Solár, PhD.Co-guaranteedoc. RNDr. Katarína Čellárová, DrSc.	

University: P. J. Šafárik University in Košice			
Faculty: Faculty of Science			
Course ID: ÚBEV/ PDS/14	Course name: Writing D	ssertation Work	
Course type, scope and the method: Course type: Recommended course-load (hours): Per week: Per study period: Course method: present			
Number of credits: 1	5		
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:			
Course assessment Total number of asses	ssed students: 37		
	abs	n	
	100.0 0.0		
Provides:			
Date of last modification: 24.02.2017			
Approved: Co-guaranteedoc. RNDr. Peter Solár, PhD.Co-guaranteedoc. RNDr. Katarína Kimáková, CSc.Guaranteeprof. RNDr. Eva Čellárová, DrSc.			

University: P. J. Šafá	rik University in Košice		
Faculty: Faculty of S	cience		
Course ID: ÚBEV/ PVS/04	Course name: Author's patents, discoveries, software		
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 co	urse:	
Course level: III.			
Prerequisities:			
Conditions for cours	se completion:		
Learning outcomes:			
Brief outline of the c	ourse:		
Recommended litera	nture:		
Course language:			
Course assessment Total number of asse	ssed students: 1		
	abs n		
	100.0 0.0		
Provides:		•	
Date of last modifica	ntion: 24.02.2017		
	nteedoc. RNDr. Peter Sc anteeprof. RNDr. Eva Č	lár, PhD.Co-guaranteedoc. RNDr. Katarína ellárová, DrSc.	

University: P. J. Šafá	rik 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 cour Per week: Per stud Course method: pre	rse-load (hours): y period:		
Number of credits: 5			
Recommended seme	ster/trimester of the co	urse:	
Course level: III.			
Prerequisities:			
Conditions for cours	e completion:		
Learning outcomes:			
Brief outline of the c	ourse:		
Recommended litera	ture:		
Course language:			
Course assessment Total number of asse	ssed students: 242		
	abs n		
100.0 0.0			
Provides:			
Date of last modifica	tion: 24.02.2017		
11	nteedoc. RNDr. Peter So anteeprof. RNDr. Eva Če	lár, PhD.Co-guaranteedoc. RNDr. Katarína	

University: P. J. Šafá	rik University in Košice		
Faculty: Faculty of Science			
Course ID: ÚBEV/ SCI/04	Course name: Citation registered in Science Citation Index		
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	se:	
Course level: III.			
Prerequisities:			
Conditions for cours	e completion:		
Learning outcomes:			
Brief outline of the c	ourse:		
Recommended litera	iture:		
Course language:			
Course assessment Total number of asse	ssed students: 38		
	abs n		
	100.0 0.0		
Provides:			
Date of last modifica	tion: 24.02.2017		
Approved: Co-guaranteedoc. RNDr. Peter Solár, PhD.Co-guaranteedoc. RNDr. Katarína Kimáková, CSc.Guaranteeprof. RNDr. Eva Čellárová, DrSc.			

University: P. J. Šafá	rik University in Koši	ee	
Faculty: Faculty of S	cience		
Course ID: ÚBEV/ SDPR/04			
Course type, scope a Course type: Recommended cou Per week: Per stud Course method: pre	rse-load (hours): ly period:		
Number of credits: 2			
Recommended seme	ster/trimester of the	course:	
Course level: III.			
Prerequisities:			
Conditions for cours	se completion:		
Learning outcomes:			
Brief outline of the o	course:		
Recommended litera	nture:		
Course language:			
Course assessment Total number of asse	ssed students: 364		
	abs n		
100.0 0.0			
Provides:		<u> </u>	
Date of last modifica	ntion: 24.02.2017		
	nteedoc. RNDr. Peter S	Solár, PhD.Co-guaranteedoc. RNDr. Katarína Čellárová, DrSc	

University: P. J. Šafárik University in Košice		
Faculty: Faculty of S	cience	
Course ID: ÚBEV/ SMPR/04	ÚBEV/ 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:	
Number of credits: 1	5	
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:		
Course assessment Total number of asse	ssed students: 38	
	abs	
	100.0 0.0	
Provides:		-
Date of last modifica	tion: 24.02.2017	
	nteedoc. RNDr. Peter Solár anteeprof. RNDr. Eva Čella	, PhD.Co-guaranteedoc. RNDr. Katarína arová. DrSc.

University: P. J. Šafá	rik University in Koši	ce
Faculty: Faculty of S	cience	
Course ID: ÚBEV/ SSOL/04	Course name: Samostatné štúdium odbornej literatúry	
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	course:
Course level: III.		
Prerequisities:		
Conditions for cours	e completion:	
Learning outcomes:		
Brief outline of the c	ourse:	
Recommended litera	ture:	
Course language:		
Course assessment Total number of asse	ssed students: 224	
	abs	n
100.0 0.0		
Provides:		<u> </u>
Date of last modifica	tion: 24.02.2017	
	nteedoc. RNDr. Peter anteeprof. RNDr. Eva	Solár, PhD.Co-guaranteedoc. RNDr. Katarína Čellárová, DrSc.

University: P. J. Šafá	rik University in Košio	ce	
Faculty: Faculty of S	cience		
Course ID: ÚBEV/ VYS/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	course:	
Course level: III.			
Prerequisities:			
Conditions for cours	Conditions for course completion:		
Learning outcomes:	Learning outcomes:		
Brief outline of the c	course:		
Recommended litera	nture:		
Course language:			
Course assessment Total number of asse	ssed students: 200		
	abs n		
	100.0 0.0		
Provides:			
Date of last modifica	ntion: 24.02.2017		
	nteedoc. RNDr. Peter S	Solár, PhD.Co-guaranteedoc. RNDr. Katarína Čellárová, DrSc	

University: P. J. Šafárik University in Košice		
Faculty: Faculty of Science		
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 cour Per week: Per stud Course method: pre	rse-load (hours): y period:	
Number of credits: 2	0	
Recommended seme	ster/trimester of the co	ourse:
Course level: III.		
Prerequisities:		
Conditions for cours	e completion:	
Learning outcomes:		
Brief outline of the c	ourse:	
Recommended literature:		
Course language:		
Course assessment Total number of asse	ssed students: 214	
	abs	n
	100.0 0.0	
Provides:		
Date of last modifica	tion: 24.02.2017	
11	nteedoc. RNDr. Peter S anteeprof. RNDr. Eva Č	olár, PhD.Co-guaranteedoc. RNDr. Katarína Cellárová, DrSc.

University: P. J. Šafá	rik University in Koš	ice	
Faculty: Faculty of S	cience		
Course ID: ÚBEV/ ZNC/04	Course name: Journals not registered in the Current Contents Connect database and published abroad		
Course type, scope a Course type: Recommended cour Per week: Per stud Course method: pre	rse-load (hours): ly period:		
Number of credits: 5			
Recommended semester/trimester of the course:			
Course level: III.			
Prerequisities:			
Conditions for cours	se completion:		
Learning outcomes:			
Brief outline of the c	course:		
Recommended litera	nture:		
Course language:			
Course assessment Total number of asse	ssed students: 48		
	abs	n	
	100.0	0.0	
Provides:		•	
Date of last modifica	ntion: 24.02.2017		
Approved: Co-guara Kimáková, CSc.Guara		Solár, PhD.Co-guaranteedoc. RNDr. Katarína a Čellárová, DrSc.	

University: P. J. Šafá	rik University in Košice			
Faculty: Faculty of S	cience			
Course ID: ÚBEV/ ZSP/04	ÚBEV/ Course name: Realisation of study/research stay 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				
Recommended semester/trimester of the course: 6., 8.				
Course level: III.				
Prerequisities:				
Conditions for cours	se completion:			
Learning outcomes:				
Brief outline of the c	ourse:			
Recommended literature:				
Course language:				
Course assessment Total number of asse	ssed students: 84			
	abs	n		
	100.0	0.0		
Provides:				
Date of last modifica	ation: 24.02.2017			
	nteedoc. RNDr. Peter Solá anteeprof. RNDr. Eva Čell	r, PhD.Co-guaranteedoc. RNDr. Katarína árová, DrSc.		