COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚBEV/ ACM/12	**Course name:** Analytical 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:

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:

Notes:

Course assessment
Total number of assessed students: 19

A	B	C	D	E	FX	N	P
5.26	0.0	0.0	0.0	0.0	0.0	0.0	94.74

Provides: RNDr. Rastislav Jendželovský, PhD.

Date of last modification: 03.05.2015

Approved: prof. RNDr. Peter Fedoročko, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ 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: 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

Approved: prof. RNDr. Peter Fedoročko, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚBEV/ PVS/04	**Course name:** Author's patents, discoveries, software
Course type, scope and the method: **Course type:** **Recommended course-load (hours):** **Per week: Per study period:** **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:	
Notes:	
Course assessment Total number of assessed students: 1	

abs	n
100.0	0.0

Provides:
Date of last modification:
Approved: prof. RNDr. Peter Fedoročko, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚBEV/ CM/04	**Course name:** Citation in monograph
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:	
Notes:	
Course assessment Total number of assessed students: 0	
Provides:	
Date of last modification:	
Approved: prof. RNDr. Peter Fedoročko, CSc.	

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚBEV/ CZC/04	**Course name:** Citation in scientific journal published abroad
Course type, scope and the method: **Course type:** **Recommended course-load (hours):** **Per week: Per study period:** **Course method:** present	
Number of credits: 10	
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:	
Notes:	
Course assessment Total number of assessed students: 22	

abs	n
100.0	0.0

Provides:
Date of last modification:
Approved: prof. RNDr. Peter Fedoročko, CSc.

COURSE INFORMATION LETTER

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	
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:	
Notes:	

Course assessment
Total number of assessed students: 5

abs	n
100.0	0.0

Provides:
Date of last modification:
Approved: prof. RNDr. Peter Fedoročko, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚBEV/ SCI/04	**Course name:** Citation registered in Science Citation Index
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:	
Notes:	

Course assessment
Total number of assessed students: 35

abs	n
100.0	0.0

Provides:
Date of last modification:
Approved: prof. RNDr. Peter Fedoročko, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚBEV/DK/04	**Course name:** Conference 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: 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:	
Notes:	
Course assessment Total number of assessed students: 92	

abs	n
100.0	0.0

Provides:
Date of last modification:
Approved: prof. RNDr. Peter Fedoročko, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚBEV/ SMPR/04	**Course name:** Co-worker of project supported by international grant schemes
Course type, scope and the method: **Course type:** **Recommended course-load (hours):** **Per week: Per study period:** **Course method:** present	
Number of credits: 15	
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:	
Notes:	

Course assessment
Total number of assessed students: 33

abs	n
100.0	0.0

Provides:
Date of last modification:
Approved: prof. RNDr. Peter Fedoročko, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚBEV/ SDPR/04	**Course name:** Co-worker of project supported by national grant schemes
Course type, scope and the method: **Course type:** **Recommended course-load (hours):** **Per week: Per study period:** **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:	
Notes:	

Course assessment
Total number of assessed students: 296

abs	n
100.0	0.0

Provides:
Date of last modification:
Approved: prof. RNDr. Peter Fedoročko, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/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	B	C	D	E	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

Approved: prof. RNDr. Peter Fedoročko, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚBEV/ ODZP/14	**Course name:** Defence of Doctoral Thesis
Course type, scope and the method: **Course type:** **Recommended course-load (hours):** **Per week: Per study period:** **Course method:** present	
Number of credits: 30	
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:	
Notes:	

Course assessment
Total number of assessed students: 9

N	P
0.0	100.0

Provides:
Date of last modification: 03.05.2015
Approved: prof. RNDr. Peter Fedoročko, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚBEV/DZS/14	**Course name:** Doctoral exam
Course type, scope and the method: **Course type:** **Recommended course-load (hours):** **Per week: Per study period:** **Course method:** present	
Number of credits: 5	
Recommended semester/trimester of the course:	
Course level: III.	
Prerequisities: ÚBEV/VEK3/11	
Conditions for course completion:	
Learning outcomes:	
Brief outline of the course:	
Recommended literature:	
Course language:	
Notes:	

Course assessment
Total number of assessed students: 15

N	P
0.0	100.0

Provides:
Date of last modification: 03.05.2015
Approved: prof. RNDr. Peter Fedoročko, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: CJP/ AJD1/07	**Course name:** English Language for PhD Students 1

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	P	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

Approved: prof. RNDr. Peter Fedoročko, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: CJP/ AJD2/07	**Course name:** English Language for PhD Students 2

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	P	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

Approved: prof. RNDr. Peter Fedoročko, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ EMK/15	**Course name:** Environmentálna 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 oral examination

Learning outcomes:
To provide students data on participation of microorganisms in biosphere processes, characteristics of most frequently occuring microbial communities and interactions ofmicroorganisms 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	B	C	D	E	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

Approved: prof. RNDr. Peter Fedoročko, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/GM1/03	**Course name:** Gene Manipulations

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	B	C	D	E	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

Approved: prof. RNDr. Peter Fedoročko, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚBEV/ IMU/04	**Course name:** Immunology
Course type, scope and the method: **Course type:** Practice **Recommended course-load (hours):** **Per week: Per study period:** 20s **Course method:** present	
Number of credits: 5	
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:	
Notes:	

Course assessment
Total number of assessed students: 21

N	P
0.0	100.0

Provides: RNDr. Vlasta Demečková, PhD.
Date of last modification: 03.05.2015
Approved: prof. RNDr. Peter Fedoročko, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚBEV/ NEM/04	**Course name:** Implementation of new experimental methodology
Course type, scope and the method: **Course type:** **Recommended course-load (hours):** **Per week: Per study period:** **Course method:** present	
Number of credits: 15	
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:	
Notes:	

Course assessment
Total number of assessed students: 61

abs	n
100.0	0.0

Provides:
Date of last modification:
Approved: prof. RNDr. Peter Fedoročko, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚBEV/ MK/04	**Course name:** International Conference
Course type, scope and the method: **Course type:** **Recommended course-load (hours):** **Per week: Per study period:** **Course method:** present	
Number of credits: 6	
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:	
Notes:	

Course assessment
Total number of assessed students: 139

abs	n
100.0	0.0

Provides:
Date of last modification:
Approved: prof. RNDr. Peter Fedoročko, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚBEV/ DKZU/04	**Course name:** International conference taking place 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: 4	
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:	
Notes:	

Course assessment
Total number of assessed students: 86

abs	n
100.0	0.0

Provides:
Date of last modification:
Approved: prof. RNDr. Peter Fedoročko, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ 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:

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	B	C	D	E	FX	N	P
62.65	0.0	10.84	3.61	3.61	0.0	0.0	19.28

Provides: RNDr. Rastislav Jendželovský, PhD.

Date of last modification: 02.09.2015
Approved: prof. RNDr. Peter Fedoročko, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚBEV/ ZNC/04	**Course name:** Journals not registered in the Current Contents Connect database and published abroad
Course type, scope and the method: **Course type:** **Recommended course-load (hours):** **Per week: Per study period:** **Course method:** present	
Number of credits: 5	
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:	
Notes:	
Course assessment Total number of assessed students: 40	

abs	n
100.0	0.0

Provides:
Date of last modification:
Approved: prof. RNDr. Peter Fedoročko, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚBEV/ DNC/04	**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	
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:	
Notes:	
Course assessment Total number of assessed students: 33	

abs	n
100.0	0.0

Provides:
Date of last modification:
Approved: prof. RNDr. Peter Fedoročko, CSc.

COURSE INFORMATION LETTER

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 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:	
Notes:	

Course assessment
Total number of assessed students: 176

abs	n
100.0	0.0

Provides:
Date of last modification:
Approved: prof. RNDr. Peter Fedoročko, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
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 and the method: **Course type:** **Recommended course-load (hours):** **Per week: Per study period:** **Course method:** present	
Number of credits: 15	
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:	
Notes:	

Course assessment
Total number of assessed students: 12

abs	n
100.0	0.0

Provides:
Date of last modification:
Approved: prof. RNDr. Peter Fedoročko, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/MOBM/09	**Course name:** Methods in Molecular Biology

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

N	P
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

Approved: prof. RNDr. Peter Fedoročko, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/MOCY/09	**Course name:** Molekulárna cytológia

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, 1998
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

N	P
0.0	100.0

Provides: prof. RNDr. Peter Fedoročko, CSc.

Date of last modification: 03.05.2015

Approved: prof. RNDr. Peter Fedoročko, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
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 and the method: **Course type:** **Recommended course-load (hours):** **Per week: Per study period:** **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:	
Notes:	
Course assessment Total number of assessed students: 80	

abs	n
100.0	0.0

Provides:
Date of last modification:
Approved: prof. RNDr. Peter Fedoročko, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚBEV/ RZ/04	**Course name:** Peer-reviewed collections of papers and monographs published abroad or in 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	
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:	
Notes:	

Course assessment
Total number of assessed students: 177

abs	n
100.0	0.0

Provides:
Date of last modification:
Approved: prof. RNDr. Peter Fedoročko, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/FARM/09	**Course name:** Pharmacology

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

Approved: prof. RNDr. Peter Fedoročko, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚBEV/ 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	B	C	D	E	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

Approved: prof. RNDr. Peter Fedoročko, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚBEV/ ZSP/04	**Course name:** Realisation of study/research stay abroad
Course type, scope and the method: **Course type:** **Recommended course-load (hours):** **Per week: Per study period:** **Course method:** present	
Number of credits: 2	
Recommended semester/trimester of the course: 4., 6., 8.	
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: 71

abs	n
100.0	0.0

Provides:
Date of last modification:
Approved: prof. RNDr. Peter Fedoročko, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚBEV/ IG/04	**Course name:** Receiving a grant under Internal Scientific Grant System (VVGS)
Course type, scope and the method: **Course type:** **Recommended course-load (hours):** **Per week: Per study period:** **Course method:** present	
Number of credits: 10	
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:	
Notes:	
Course assessment Total number of assessed students: 122	

abs	n
100.0	0.0

Provides:
Date of last modification:
Approved: prof. RNDr. Peter Fedoročko, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚBEV/ SSOL/04	**Course name:** Samostatné štúdium odbornej literatúry
Course type, scope and the method: **Course type:** **Recommended course-load (hours):** **Per week: Per study period:** **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:	
Notes:	

Course assessment
Total number of assessed students: 196

abs	n
100.0	0.0

Provides:
Date of last modification:
Approved: prof. RNDr. Peter Fedoročko, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: Dek. PF UPJŠ/JSD/14	**Course name:** Spring School for PhD Students
Course type, scope and the method: **Course type:** Lecture **Recommended course-load (hours):** **Per week: Per study period:** 4d **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:	
Notes:	

Course assessment
Total number of assessed students: 68

abs	n
100.0	0.0

Provides: doc. RNDr. Vladimír Zeleňák, PhD.
Date of last modification: 03.05.2015
Approved: prof. RNDr. Peter Fedoročko, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚBEV/ VYS/04	**Course name:** Talk given at scholar seminars of department or institute
Course type, scope and the method: **Course type:** **Recommended course-load (hours):** **Per week: Per study period:** **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:	
Notes:	
Course assessment Total number of assessed students: 158	

abs	n
100.0	0.0

Provides:
Date of last modification:
Approved: prof. RNDr. Peter Fedoročko, CSc.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

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

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	B	C	D	E	FX	N	P
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.

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice	
Faculty: Faculty of Science	
Course ID: ÚBEV/ PDS/14	**Course name:** Writing Dissertation Work
Course type, scope and the method: **Course type:** **Recommended course-load (hours):** **Per week: Per study period:** **Course method:** present	
Number of credits: 15	
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:	
Notes:	
Course assessment Total number of assessed students: 14	

abs	n
100.0	0.0

Provides:
Date of last modification:
Approved: prof. RNDr. Peter Fedoročko, CSc.