University: P. J. Šafá	rik University in Košice		
Faculty: Faculty of S	cience		
Course ID: ÚCHV/ IG/04	ourse ID: ÚCHV/ Course name: Acquirement of Internal Grant		
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			
	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	nture:		
Course language:			
Notes:			
Course assessment Total number of asse	ssed students: 144		
	abs		
100.0 0.0			
Provides:			
Date of last modifica	tion: 03.05.2015		
Approved:			-

University: P. J. Šafárik University in Košice Faculty: Faculty of Science Course ID: ÚCHV/ **Course name:** Advances in Clinical Biochemistry PKLB/13 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: 8** Recommended semester/trimester of the course: Course level: III. **Prerequisities: Conditions for course completion:** Oral examination **Learning outcomes:** Familiarize postgraduate students with newest knowledge from medicinal biochemistry and pathobiochemistry. **Brief outline of the course:** Molecular basis of medicinal biochemistry (urine, kidney, pancreas, gland, heart, blood circulation, lungs and bronchi, liver and bile duct) and its application into practice. **Recommended literature:** Rosenthal, M.D., Glew, R.H.: Medical biochemistry – human metabolism in health and disease, Wiley and Sons, 2009. **Course language: Notes:** Course assessment Total number of assessed students: 2 P N 0.0 100.0 Provides: doc. RNDr. Mária Kožurková, CSc. Date of last modification: 03.05.2015

Approved:

University: P. J. Šafá	rik University in Košice		
Faculty: Faculty of S	cience		
Course ID: ÚCHV/ BINF/06	Course ID: ÚCHV/ Course name: Bioinformatics BINF/06		
Course method: pre	re / Practice rse-load (hours): study period: 56 / 28 esent		
Number of credits: 1			
	ster/trimester of the course:		
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: 12		
	N P		
	0.0 100.0		
Provides: doc. RNDr	. Peter Pristaš, CSc.		
Date of last modifica	tion: 03.05.2015		
Approved:			

University: P. J. Šafá	University: P. J. Šafárik University in Košice		
Faculty: Faculty of S	cience		
Course ID: ÚCHV/ CZC/04	Course ID: ÚCHV/ Course name: Citation in the International Scientific Journal CZC/04		
Course type, scope and the method: Course type: Recommended course-load (hours): Per week: Per study period: Course method: present			
Number of credits: 1	0		
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:			
Course assessment Total number of assessed students: 15			
	abs		
100.0 0.0			
Provides:			
Date of last modification:			
Approved:			

University: P. J. Šafá	rik University in Košic	e	
Faculty: Faculty of S	cience		
Course ID: ÚCHV/ CDC/04	Course ID: ÚCHV/ Course name: Citation in the Local Scientific Journal CDC/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: 5			
Recommended seme	ster/trimester of the c	ourse:	
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 asses	ssed students: 0		
	abs n		
	0.0		
Provides:		•	
Date of last modifica	tion:		
Approved:	,		

University: P. J. Šafá	rik University in Koši	ce		
Faculty: Faculty of S	cience			
Course ID: ÚCHV/ CM/04	ourse ID: ÚCHV/ Course name: Citation in the Monograph M/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	20			
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:				
Notes:				
Course assessment Total number of asse	ssed students: 2			
	abs n			
100.0 0.0				
Provides:		•		
Date of last modifica	tion:			
Approved:				

University: P. J. Šafá	rik University in Košice
Faculty: Faculty of S	cience
Course ID: ÚCHV/ KSB/13	Course name: Conformational Stability of Proteins
Course type, scope a Course type: Lectur Recommended cour Per week: 4 / 2 Per Course method: pre	re / Practice rse-load (hours): study period: 56 / 28
Number of credits: 8	3
Recommended seme	ster/trimester of the course:
Course level: III.	
Prerequisities:	
Conditions for cours Examination	e completion:
folding and biosynth	n extended knowledge in the field of conformation properties of proteins, lesis of proteins, formation and characteristics of missfodled and agregated ques in study of proteins: solvent engineering, display/evolution technologies.
polypeptide backbon 2. Protein structure of proteins, conformatio 3. Proteins in solution globular proteins) — protein structure. Mis 4. Protein stability —	es of polypeptides (the polymeric nature of proteins, amino acid residues, the
York, 2004. 2. J.M. Berg, J.L. Tyr 3. Thomas E. Creight New York, 1993. 4. Articles from Scient	Michael M. Fox, Lenhinger principles of biochemistry, W.H.Freeman, New moczko, L. Stryer, Biochemistry, W.H.Freeman, New York, 2007. ton, Proteins, Structure and Molecular Properties (2nd Ed.), W.H.Freeman;
Course language:	

Notes:

Course assessment Total number of assessed students: 3			
N P			
0.0 100.0			
Provides: prof. Ing. Marián Antalík, DrSc., doc. RNDr. Erik Sedlák, PhD., RNDr. Nataša Tomášková, PhD.			
Date of last modification: 03.05.2015			
Approved:			

University: P. J. Šafá	rik University in Košice		
Faculty: Faculty of S	cience		
Course ID: ÚCHV/ SDPR/04	Course ID: ÚCHV/ Course name: Co-worker of a Local Project 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	ture:		
Course language:			
Notes:			
Course assessment Total number of asse	ssed students: 252		
	abs n		
	99.6 0.4		
Provides:		-	
Date of last modifica	tion:		
Approved:			

University: P. J. Šafá	rik University in Košice		
Faculty: Faculty of S	cience		
Course ID: ÚCHV/ SMPR/04	Course ID: ÚCHV/ Course name: Co-worker of an International Project MPR/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 cours	ee:	
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: 24		
	abs n		
	100.0 0.0		
Provides:			
Date of last modifica	ntion:		
Approved:			

University: P. J. Šafá	rik University in Košice		
Faculty: Faculty of S	cience		
Course ID: ÚCHV/ PPC/04	ÚCHV/ Course name: Direct Pedagogical Activities		
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 cour	se:	
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: 263		
	abs n		
100.0 0.0			
Provides:			
Date of last modifica	ntion:		
Annroved:			

University: P. J. Šafá	rik University in Košice		
Faculty: Faculty of S	cience		
Course ID: ÚCHV/ PPC/04	ourse ID: ÚCHV/ Course name: Direct Pedagogical Activities PC/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 cour	se:	
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: 263		
	abs n		
	100.0 0.0		
Provides:			
Date of last modifica	ntion:		
Approved:			

University: P. J. Šafárik University in Košice			
Faculty: Faculty of S	cience		
Course ID: ÚCHV/ DZS/15			
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 course		
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 asses	ssed students: 4		
	N P		
	0.0 100.0		
Provides:			
Date of last modifica	tion: 03.05.2015		
Approved:			

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: **Notes:** Course assessment Total number of assessed students: 425 N P Ne 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:

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: **Notes:** Course assessment Total number of assessed students: 421 N P Ne 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:

University: P. J. Šafá	rik University in Košice		
Faculty: Faculty of S	cience		
Course ID: ÚCHV/ GI/06	ourse ID: ÚCHV/ Course name: Genetic Engineering		
Course method: pre	re / Practice rse-load (hours): study period: 56 / 28 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	ture:		
Course language:			
Notes:			
Course assessment Total number of asses	ssed students: 12		
	N	P	
	0.0 100.0		
Provides: doc. RNDr	Peter Pristaš, CSc.		
Date of last modifica	tion: 03.05.2015		
Approved:			

University: P. J. Šafá	rik University in Košice		
Faculty: Faculty of S	cience		
Course ID: ÚCHV/ SSOL/04	Course ID: ÚCHV/ Course name: Individual Study of Scientific Literature SSOL/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			
	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 asses	ssed students: 159		
	abs n		
	100.0 0.0		
Provides:			
Date of last modifica	ntion: 03.05.2015		
Approved:	,		

University: P. J. Šafá	rik University in Košice		
Faculty: Faculty of S	cience		
Course ID: ÚCHV/ MK/04	Course ID: ÚCHV/ Course name: International Conference 1K/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: 6			
Recommended seme	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	nture:		
Course language:			
Notes:			
Course assessment Total number of asse	ssed students: 146		
	abs	n	
	100.0	0.0	
Provides:		•	
Date of last modifica	ntion: 03.05.2015		
Approved:			

University: P. J. Šafá	rik University in Košice		
Faculty: Faculty of S	cience		
Course ID: ÚCHV/ ZKC/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			
	ster/trimester of the cou	rse:	
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: 179		
	abs n		
	99.44 0.56		
Provides:			
Date of last modifica	tion: 03.05.2015		
Approved:			

University: P. J. Šafá	rik University in Košice		
Faculty: Faculty of S	cience		
Course ID: ÚCHV/ ZNC/04			
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 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: 14		
	abs	n	
	100.0 0.0		
Provides:		•	
Date of last modifica	tion: 03.05.2015		
Approved:			

University: P. J. Šafá	rik University in Košice		
Faculty: Faculty of S	cience		
Course ID: ÚCHV/ NEM/04	r		
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	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: 7		
	abs	n	
	100.0 0.0		
Provides:			
Date of last modifica	tion:		
Approved:			

University: P. J. Šafá	rik University in Košice		
Faculty: Faculty of S	cience		
Course ID: ÚCHV/ 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			
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: 66		
	abs		
	100.0 0.0		
Provides:		·	
Date of last modifica	tion:		
Approved:			

University: P. J. Šafá	rik University in Košice		
Faculty: Faculty of S	cience		
Course ID: ÚCHV/ DKZU/04	Course ID: ÚCHV/ Course name: Local Conference with Foreign Participation OKZU/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 cour	se:	
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: 142		
	abs	n	
	100.0 0.0		
Provides:			
Date of last modifica	ntion: 03.05.2015		
Approved:	,		

University: P. J. Šafá	rik University in Košice)		
Faculty: Faculty of S	cience			
Course ID: ÚCHV/ DKC/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	5			
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 litera	iture:			
Course language:				
Notes:				
Course assessment Total number of asse	ssed students: 9			
	abs		n	
	100.0 0.0			
Provides:		•		
Date of last modifica	tion: 03.05.2015			
Approved:				

University: P. J. Šafá	rik University in Košice		
Faculty: Faculty of S	cience		
Course ID: ÚCHV/ DNC/04	Course ID: ÚCHV/ Course name: Local Non-Currented Journal ONC/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: 5			
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	ture:		
Course language:			
Notes:			
Course assessment Total number of asses	ssed students: 14		
	abs	n	
	100.0 0.0		
Provides:		•	
Date of last modifica	tion: 03.05.2015		
Approved:			

University: P. J. Šafá	rik University in Košice		
Faculty: Faculty of S	cience		
Course ID: ÚCHV/ POVK/04	ourse ID: ÚCHV/ Course name: Membership in a Conference organizing Committee OVK/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			
	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 asses	ssed students: 26		
	abs	n	
	100.0 0.0		
Provides:			
Date of last modifica	ation:		
Approved:			

University: P. J. Šafá	rik University in Košice		
Faculty: Faculty of S	cience		
Course ID: ÚCHV/ MPEP/06	$\mathcal{E}_{\mathcal{F}}$		
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 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: 10		
	abs	n	
	100.0 0.0		
		. RNDr. Peter Pristaš, CSc., doc. RNDr. Mária c., doc. RNDr. Viktor Víglaský, PhD., doc. RNDr.	
Date of last modification: 03.05.2015			
Approved:			

Page: 27

University: P. J. Šafá	rik University in Košice
Faculty: Faculty of S	cience
Course ID: ÚCHV/ MTB/13	Course name: Modern Trends in Biotechnology
Course type, scope a Course type: Lectur Recommended cour Per week: 3 / 1 Per Course method: pre	re / Practice rse-load (hours): study period: 42 / 14
Number of credits: 6)
Recommended seme	ster/trimester of the course:
Course level: III.	
Prerequisities:	
Conditions for cours Examination	e completion:
Learning outcomes: To acquaint students	with the latest knowledge and trends in biotechnology.
engineering, cloning, Biomass - Biotechno of fermenters and mi and wine. Production acetone, butanol, eth proteins for therapeu	and the use of biotechnology. The material base for biotechnology. Genetic artificial insemination and conventional techniques of plant biotechnology. logy substrate. Biogas. Fermentation processes, cultivation equipment, types xers. Food Biotechnology: alcoholic fermentation, production of spirits, beer of dairy products, amino acids and vitamins. Manufacture of organic solvents: nanol. Biotechnology in medicine. Production of antibiotics, vaccines and tic purposes. Wastewater treatment: biological filters, membrane bioreactors, aval of solid impurities and water disinfection.
Simpson, Food Bioch 2. E. M. T. El-Mansi, Microbiology and Bi 3. Principles of Ferm Elsevier Science Ltd. 4. J. G. Black, Micro	ai-Kit Nip, Leo M.L. Nollet, PhD, Gopinadhan Paliyath, Ph.D., Benjamin K. nemistry and Food Processing, Wiley-Blackwell, 2006. C. F. A. Bryce, Arnold L. Demain, A.R. Allman, Fermentation otechnology, Second Edition, CRS Press, 2006. entation Technology, Second Edition, P F Stanbury, S. Hall, A. Whitaker, 1999. biology (seventh edition), John Wiley & Sons, Inc. 2008.
1	chnology (fifth edition), UK, University Press, Cambridge, 2009. nology from A-Z (third edition), Oxford university Press, 2004.
Course language:	

Notes:

Course assessment Total number of assessed students: 0			
N P			
0.0	0.0		
Provides: RNDr. Danica Sabolová, PhD.			
Date of last modification: 03.05.2015			
Approved:			

University: P. J. Šafárik University in Košice				
Faculty: Faculty of S	cience			
Course ID: ÚCHV/ NZ/04	Course ID: ÚCHV/ Course name: Not-Reviewed International or Local Proceedings IZ/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 cour	se:		
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: 132			
abs n				
100.0 0.0				
Provides:				
Date of last modifica	tion: 03.05.2015			
Approved:				

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ Course

Course name: Nucleic Acids: Structure and Function

NKSF/13

Course type, scope and the method: Course type: Lecture / Practice Recommended course-load (hours): Per week: 3 / 1 Per study period: 42 / 14

Course method: present

Number of credits: 6

Recommended semester/trimester of the course:

Course level: III.

Prerequisities:

Conditions for course completion:

Examination

Learning outcomes:

The main objective of the course is to provide studenst of PhD degree the newest trends in the field of molecular biology and biochemistry focused on nucleic acids.

Brief outline of the course:

The lead-in of the molecular genetics and biology problems, the implication of the nucleic acids for processes occurring in cells. Dividing the nucleic acids according to their chemical compound and their function, localization in the cell organelles, DNA and RNA structure, DNA topology, the chromatine structure, the histons function, dividing of the small RNA molecules and their catalytic function. Transcription in eukaryotických and prokaryotic cells: promoters, enhancers, silencers, transcription factors, initiation, post-transcription modification, processing of precursor RNA: covalent modification, hnRNA, polyadenylation, cap creation, splicing and RNA editing, transcription regulation, negative-positive, anti-termination, attenuation, cis- and transregulating elements, iRNA. Translation of the eukaryotic and prokaryotic genomes: iniciation, elongation, termination, post-translating modification, regulating mechanisms, protein folding, in vitro translating systems. Replication: iniciation, ori/ARS, the replicant factor processing mechanisms, PCR and its variations. The nucleic acids metabolism, syntheses and degradation of the purine and pyrimidin bases, gout. Mutations: the hereditary illnesses, the infulence of the outer and the initial factors to the mutagenesis induction, definition of the oncogenes and the tumor suppressing genes. Viruses: genome, morphology, function. Carcinogenesis and gene therapy. The Outlook for a successful cancer treatment. The cons and pros of the known therapeutic methods.

Recommended literature:

- 1. B. Alberts, A. Johnson, J. Lewis, M. Raff, K. Roberts, P.: Walter Molecular Biology of the Cell, Garland Science, Fifth edition, New York, NY, 2008.
- 2. Neidle S.: Cancer Drug Design and Discovery, Academic Press, First edition, 2007.
- 3. Krauss G.: Biochemistry of Signal Transduction and Regulation, Wiley-VCH Verlag GmbH, Second Edition, 2003.

Course language:

Notes:			
Course assessment Total number of assessed students: 4			
N	P		
0.0	100.0		
Provides: doc. RNDr. Viktor Víglaský, PhD.			
Date of last modification: 03.05.2015			
Approved:			

University: P. J. Šafá	rik University in Košice		
Faculty: Faculty of S	cience		
Course ID: ÚCHV/ ODZP/2014/15	Course name: Obhajoba	dizertačnej práce	
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: 12		
	N	P	
	0.0	100.0	
Provides:			
Date of last modifica	tion: 03.05.2015		
Approved:			

University: P. J. Šafá	rik University in Košice		
Faculty: Faculty of S	cience		
Course ID: ÚCHV/ PVS/04	Course name: Patents, Inv	ventions, Software	
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	e:	
Course level: III.			
Prerequisities:			
Conditions for cours	e completion:		
Learning outcomes:			
Brief outline of the c	ourse:		
Recommended litera	Recommended literature:		
Course language:			
Notes:			
Course assessment Total number of asse	ssed students: 0		
	abs	n	
	0.0	0.0	
Provides:			
Date of last modifica	tion:		
Approved:			

University: P. J. Šafárik University in Košice				
Faculty: Faculty of Science				
Course ID: ÚCHV/ FBB/06	Course name: Physiology and Biochemistry of Rumen Microorganisms			
Course method: pre	re / Practice rse-load (hours): study period: 56 / 28 esent			
Number of credits: 1	0			
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:	Notes:			
Course assessment Total number of asse	ssed students: 8			
N P				
	0.0 100.0			
Provides: doc. RNDr. Peter Javorský, DrSc., doc. RNDr. Peter Pristaš, CSc.				
Date of last modification: 03.05.2015				
Approved:				

University: P. J. Šafá	rik University in Košice			
Faculty: Faculty of S	cience			
Course ID: ÚCHV/ VYS/04	Course name: Presentatio	n in Seminar		
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	se:		
Course level: III.				
Prerequisities:				
Conditions for cours	Conditions for course completion:			
Learning outcomes:				
Brief outline of the c	ourse:			
Recommended litera	Recommended literature:			
Course language:				
Notes:				
Course assessment Total number of asse	ssed students: 144			
	abs	n		
	100.0	0.0		
Provides:				
Date of last modifica	tion:			
Approved:				

University: P. J. Šafárik University in Košice

Faculty: Faculty of Science

Course ID: ÚCHV/ Co

Course name: Research of Individual Molecules

VIM/13

Course type, scope and the method: Course type: Lecture / Practice Recommended course-load (hours): Per week: 4 / 2 Per study period: 56 / 28

Course method: present

Number of credits: 8

Recommended semester/trimester of the course:

Course level: III.

Prerequisities:

Conditions for course completion:

Examination

Learning outcomes:

In biological systems, many biopolymers present in small amounts, even as individual molecules. Recently, new methods have been developed to study such systems. The lectures will be given to work regularities of such systems, as well as biochemical and biophysical research methods of individual molecules.

Brief outline of the course:

Biomacromolecules, cells in terms of their individual characteristics. Basic knowledge about the function of lasers and other devices (eg XFEL), suitable for the study of biomacromolecules. GFP protein, dyes - fluorescent probes, nano and microparticles. Atomic force microscopy - AFM, MSM. Microchip electrophoresis and microhydrodynamic devices (MEMS, Lab on a Chip). Super resolution microscopy, two-photon processes, and more. TERS, SERS, Fano resonance. SNOM, fluorescence correlation spectroscopy. GSDM, STED. Storm, FRET, TIRF. Manipulation of individual molecules, cells. Optical tweezers, magnetic tweezers, optical crystals with cavity. Electron microscopy (SEM, TEM), X-ray microscopy. Study of membrane processes, Patch clamp. The electrical conductivity of the molecules, graphene, carbon nanotubes.

Recommended literature:

- 1. Christoph Zander, Jörg Enderlein, Richard A. Keller Single molecule detection in solution: methods and applications Wiley, 2002.
- 2. Chris Gell, David Brockwell, D. Alastair Smith, Handbook of single molecule fluorescence spectroscopy, Oxford University Press, 2006.
- 3. Experimental oriented journal articles:

/ Keir C Neuman & Attila Nagy Single-molecule force spectroscopy: optical tweezers, magnetic tweezers and atomic force microscopy Nature Methods - 5, 491 - 505 (2008)

/ Chirlmin Joo, Hamza Balci, Yuji Ishitsuka,1 Chittanon Buranachai, and Taekjip Ha,

Advances in Single-Molecule Fluorescence Methods for Molecular Biology, Annual Review of Biochemistry 77, 51-76 (2008).

Course language:

Notes:			
Course assessment			
Total number of assessed students: 0			
N P			
0.0			
Provides: prof. Ing. Marián Antalík, DrSc.			
Date of last modification: 03.05.2015			
Approved:			

University: P. J. Šafárik University in Košice				
Faculty: Faculty of Science				
Course ID: ÚCHV/ RZ/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: 5				
	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: 186			
	abs n			
100.0 0.0				
Provides:				
Date of last modification: 03.05.2015				
Approved:	,			

University: P. J. Šafá	rik University in Košice			
Faculty: Faculty of S	cience			
Course ID: ÚCHV/ VPBP/04	Course ID: ÚCHV/ Course name: Review of a Bachelor Thesis /PBP/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				
	ster/trimester of the co	ourse:		
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: 44			
abs n				
100.0 0.0				
Provides:		'		
Date of last modifica	tion:			
Approved:				

University: P. J. Šafárik University in Košice				
Faculty: Faculty of S	Faculty: Faculty of Science			
Course ID: ÚCHV/ SCI/04	Course ID: ÚCHV/ Course name: SCI Citation SCI/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				
	ster/trimester of the cou	rse:		
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: 78				
abs n				
100.0 0.0				
Provides:				
Date of last modification:				
Approved:				

University: P. J. Šafá	University: P. J. Šafárik University in Košice			
Faculty: Faculty of Science				
Course ID: ÚCHV/ VKB/06				
Course type, scope and the method: Course type: Lecture / Practice Recommended course-load (hours): Per week: 4 / 2 Per study period: 56 / 28 Course method: present				
Number of credits: 1	.0			
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 assessed students: 33				
N P				
0.0 100.0				
Provides: prof. Ing. Marián Antalík, DrSc.				
Date of last modification: 03.05.2015				
Approved:				

University: P. J. Šafárik University in Košice			
Faculty: Faculty of S	cience		
Course ID: ÚCHV/ VKBMB/04	Course ID: ÚCHV/ Course name: Selected Topics in Biochemistry and Molecular Biology VKBMB/04		
Course method: pre	re / Practice rse-load (hours): study period: 28 / 28 esent		
Number of credits: 8			
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:			
Course assessment Total number of asses	ssed students: 33		
	N	P	
	0.0 100.0		
Provides: doc. RNDr	. Peter Javorský, DrSc., do	c. RNDr. Peter Pristaš, CSc.	
Date of last modifica	tion: 03.05.2015		
Approved:			

University: P. J. Šafá	rik University in Košice		
Faculty: Faculty of Science			
Course ID: ÚCHV/ VKBM/13	Course name: Selected Topics in Biochemistry of Microorganisms		
Course type, scope a Course type: Lectur Recommended cour Per week: 4/2 Per Course method: pre	re / Practice rse-load (hours): study period: 56 / 28		
Number of credits: 8			
Recommended seme	ster/trimester of the course:		
Course level: III.			
Prerequisities:			
Conditions for cours Examination	e completion:		
Learning outcomes: Familiarize postgradu	nate students with newest knowledge from Biochemistry of microorganism.		
Ecology and symbios interactions. Antimicrobial chem antimicrobial drugs, influencing antimicro drugs. Food and industrial microbial and food sp	l world – microbial evolution, taxonomy and diversity. sis – Biogeochemical cycling and introductory microbial ecology, microbial otherapy – development of chemotherapy, general characteristics of determining the level of antimicrobial activity, antibacterial drugs, factor bial drug effectiveness, drug resistance, antifungal, antiviral and antiprotozoal microbiology – microbiology of food, microorganism growth in foods, boilage, controlling food spoilage, food-borne pathogens. al microbiology – microorganisms used in industrial microbiology, major		
2. Johnson, T. R., Cas 3. Kayser, F. H., Bien Stitgart-New York, 20 4. Levinson, W.: Rev Edition, 2010.	biology, Wiley & Sons, Inc., 2008. se, J.: Laboratory Experiments in Microbiology, 9th Ed., Pearson, 2010. sz, K. A., Eckert, J., Zinkernagel, R. M.: Medical Microbiology, Thieme, 2001. iew of Medical Microbiology and Immunology, McGraw-Hill International wood, L. M., Woolverton, C. J.: Prescott, Harley, and Klein's Microbiology,		
Course language:			

Notes:

Course assessment Total number of assessed students: 2			
N P			
0.0 100.0			
Provides: doc. RNDr. Mária Kožurková, CSc.			
Date of last modification: 03.05.2015			
Approved:			

University: P. J. Šafárik University in Košice				
Faculty: Faculty of S	Faculty: Faculty of Science			
Course ID: ÚCHV/ VKI/06	Course ID: ÚCHV/ Course name: Selected Topics in Immunology			
Course method: pre	re / Practice rse-load (hours): study period: 56 / 28 esent			
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:				
Course assessment Total number of assessed students: 3				
N P				
0.0 100.0				
Provides: prof. MVDr. Juraj Koppel, DrSc., RNDr. Štefan Číkoš, CSc.				
Date of last modification: 03.05.2015				
Approved:				

University: P. J. Šafá	rik University in Košice			
Faculty: Faculty of Science				
Course ID: ÚCHV/ VKFZ/06	Course ID: ÚCHV/ Course name: Selected Topics in Physiology VKFZ/06			
Course method: pre	re / Practice rse-load (hours): study period: 56 / 28 esent			
Number of credits: 1				
	ster/trimester of the cour	rse:		
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: 0			
N P				
0.0				
Provides: prof. MVD	r. Juraj Koppel, DrSc., RN	NDr. Štefan Číkoš, CSc.		
Date of last modifica	ntion: 03.05.2015			
Approved:				

University: P. J. Šafárik University in Košice			
Faculty: Faculty of S	Faculty: Faculty of Science		
Course ID: Dek. PF UPJŠ/JSD/14	Course ID: Dek. PF Course name: Spring School for PhD Students UPJŠ/JSD/14		
Course type, scope a Course type: Lectur Recommended cour Per week: Per stud Course method: pre	rse-load (hours): y period: 4d esent		
Number of credits: 2			
Recommended seme	ster/trimester of the course	e:	
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: 68			
abs n			
100.0 0.0			
Provides: doc. RNDr. Vladimír Zeleňák, PhD.			
Date of last modification: 03.05.2015			
Approved:			

University: P. J. Šafárik University in Košice			
Faculty: Faculty of Science			
Course ID: ÚCHV/ ZSP/04	Course ID: ÚCHV/ Course name: Study Stay Abroad ZSP/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: 2			
	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	ture:		
Course language:			
Notes:			
Course assessment Total number of assessed students: 50			
abs n			
100.0 0.0			
Provides:			
Date of last modification:			
Approved:			

University: P. J. Šafá	rik University in Košice			
Faculty: Faculty of Science				
Course ID: ÚCHV/ VPSV/04	Course name: Supervision of a Students Scientific Work			
Course type, scope a Course type: Recommended cou Per week: Per stud Course method: pre	rse-load (hours): ly period: esent			
Number of credits: 6				
Recommended seme	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	nture:			
Course language:				
Notes:				
Course assessment Total number of asse	ssed students: 48			
	abs	n		
	100.0	0.0		
Provides:				
Date of last modification:				
Approved:				

University: P. J. Šafárik University in Košice				
Faculty: Faculty of Science				
Course ID: ÚCHV/ VBP/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: 6				
	ster/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: 227				
	abs	n		
	100.0	0.0		
Provides:	•			
Date of last modification:				
Approved:				

University: P. J. Šafá	rik University in Košice
Faculty: Faculty of S	cience
Course ID: ÚCHV/ TBFC/04	Course name: Trends in Biophysical Chemistry
Course type, scope a Course type: Lectur Recommended cour Per week: 4/2 Per Course method: pre	re / Practice rse-load (hours): study period: 56 / 28
Number of credits: 1	.0
Recommended seme	ester/trimester of the course:
Course level: III.	
Prerequisities:	
Conditions for cours	se completion:
Learning outcomes:	
Communications, che Biomimetic materials	of biological systems cological systems com sees cal systems of morphogenesis, signal transductions emotaxis can methods and devices
Voet,D. Voet,J.G. Bio	el,P.R Biophysical Chemistry, W.H. Freeman and Co., S. Francisco,1980 ochemistry, John Willey @Sons, 1990 W. Curtis Johnson, P. Shing Ho: Principles of Physical Biochemistry,
Course language:	

Notes:

Course assessment Total number of assessed students: 22			
Total number of assessed students. 22			
N	P		
0.0	100.0		
Provides: prof. Ing. Marián Antalík, DrSc.			
Date of last modification: 03.05.2015			
Approved:			

University: P. J. Šafárik University in Košice			
Faculty: Faculty of Science			
Course ID: ÚCHV/ PUI/06	Course name: Work with Literar Data from Internet		
Course type, scope a Course type: Recommended cour Per week: Per stud Course method: pre	rse-load (hours): ly period:		
Number of credits: 3			
Recommended seme	ster/trimester of the cours	e:	
Course level: III.	Course level: III.		
Prerequisities:			
Conditions for cours	e completion:		
Learning outcomes:			
Brief outline of the c	ourse:		
Recommended literature:			
Course language:	Course language:		
Notes:			
Course assessment Total number of asse	ssed students: 33		
	abs	n	
	100.0	0.0	
Provides:			
Date of last modifica	tion:		
Approved:			

University: P. J. Šafá	rik University in Košice			
Faculty: Faculty of Science				
Course ID: ÚCHV/ PDS/14	rse ID: ÚCHV/ Course name: Writing Dissertation Work			
Course type, scope a Course type: Recommended cour Per week: Per stud Course method: pre	rse-load (hours): ly period: esent			
	Number of credits: 15			
	ster/trimester of the cours	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 assessed students: 10				
	abs	n		
	100.0	0.0		
Provides:				
Date of last modification:				
Approved:				