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University: P. J. Šafárik University in Košice				
Faculty: Faculty of S	Faculty: Faculty of Science			
Course ID: ÚCHV/ BINF/06	ourse ID: ÚCHV/ Course name: Bioinformatics INF/06			
Course type, scope a Course type: Lectur Recommended cour Per week: 4 / 2 Per Course method: pre	nd the method: re / Practice rse-load (hours): study period: 56 / 28 esent			
Number of ECTS cr	edits: 10			
Recommended seme	ster/trimester of the cours	e:		
Course level: III.				
Prerequisities:				
Conditions for cours Independent work on Final assignment, exa	e completion: assignments during the sen am	nester		
Learning outcomes: The student will obtain information and practical experience with methods of obtaining and analyzing biological sequences using either a PC and freely available software (BioEdit, RasMol, VNTI-Viewer, MAGA), as well as using software available via the www network. In addition to basic information, students will also get information about some specialized analyzes - molecular taxonomy, phylogenetic analysis and prediction of biopolymer structures.				
Brief outline of the course: Use of PC and online web servers in sequence analysis. Freely available biological databases (PubMed, GenBank, SwissProt). Analysis of nucleotide sequences. Analysis of protein sequences. Pairwise sequence comparisons - blast analysis. Multiple sequence comparison - clustal program. Molecular taxonomy of bacteria. Evolutionary and phylogenetic analyses. Predicting the secondary and tertiary structure of biopolymers.				
Recommended literature: The phylogenetic handbook, Salemi, M. a Vandamme, A-M., Cambridge University Press, 2003, 485 pp Bioinformatics: a practical guide to the analysis of genes and proteins, Baxevanis, AD; Francis Ouellette, BF. 4th edition, Wiley, 2020, 609 pp.				
Course language: slovak, english				
Notes:				
Course assessment				
10tal number of asse	N D			
	0.0	100.0		

Provides: doc. RNDr. Peter Pristaš, CSc.

Date of last modification: 09.08.2022

Approved: prof. RNDr. Mária Kožurková, CSc.

University: P. J. Šafá	University: P. J. Šafárik University in Košice		
Faculty: Faculty of S	Faculty: Faculty of Science		
Course ID: ÚCHV/ CZC/04	urse ID: ÚCHV/ Course name: Citation in the International Scientific Journal		
Course type, scope a Course type: Recommended cour Per week: Per stud Course method: pre	Course type, scope and the method: Course type: Recommended course-load (hours): Per week: Per study period: Course method: present		
Number of ECTS cr	edits: 10		
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 language:		
Notes:			
Course assessment Total number of assessed students: 71			
	abs n		
100.0 0.0			
Provides:			
Date of last modifica	Date of last modification: 15.09.2021		
Approved: prof. RNI	Approved: prof. RNDr. Mária Kožurková, CSc.		

University: P. J. Šafá	University: P. J. Šafárik University in Košice		
Faculty: Faculty of Science			
Course ID: ÚCHV/ CDC/04	Durse ID: ÚCHV/ Course name: Citation in the Local Scientific Journal		
Course type, scope a Course type: Recommended cour Per week: Per stud Course method: pre	Course type, scope and the method: Course type: Recommended course-load (hours): Per week: Per study period: Course method: present		
Number of ECTS cr	edits: 5		
Recommended seme	ster/trimester of the cou	se:	
Course level: III.			
Prerequisities:			
Conditions for cours	e completion:		
Learning outcomes:			
Brief outline of the c	ourse:		
Recommended litera	iture:		
Course language:	Course language:		
Notes:			
Course assessment Total number of assessed students: 1			
	abs n		
100.0 0.0			
Provides:			
Date of last modification: 15.09.2021			
Approved: prof. RNI	Approved: prof. RNDr. Mária Kožurková, CSc.		

University: P. J. Šafá	University · P. I. Šafárik University in Košice		
Faculty: Faculty of S	Faculty: Faculty of Science		
Faculty . Faculty of 5			
Course ID: UCHV/ CM/04	Course name: Citation	n in the Monograph	
Course type, scope a Course type: Recommended cour Per week: Per stud Course method: pre	nd the method: rse-load (hours): y period: esent		
Number of ECTS cr	edits: 20		
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:	Course language:		
Notes:			
Course assessment Total number of assessed students: 4			
abs n			
100.0 0.0			
Provides:			
Date of last modifica	Date of last modification: 15.09.2021		
Approved: prof. RNDr. Mária Kožurková, CSc.			

University: P. J. Šafá	University: P. J. Šafárik University in Košice		
Faculty: Faculty of S	Faculty: Faculty of Science		
Course ID: ÚCHV/ SDPR/04	Course name: Co-worker	of a Local Project	
Course type, scope a Course type: Recommended cour Per week: Per stud Course method: pre	Course type, scope and the method: Course type: Recommended course-load (hours): Per week: Per study period: Course method: present		
Number of ECTS cro	edits: 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	ture:		
Course language:			
Notes:			
Course assessment Total number of assessed students: 518			
	abs n		
99.81 0.19			
Provides:			
Date of last modifica	Date of last modification: 15.09.2021		
Approved: prof. RNI	Approved: prof. RNDr. Mária Kožurková, CSc.		

Feaulty Feaulty of Science		
raculty: raculty of Science		
Course ID: ÚCHV/ SMPR/04Course name: Co-worker of an International Project		
Course type, scope and the method: Course type: Recommended course-load (hours): Per week: Per study period: Course method: present		
Number of ECTS credits: 15		
Recommended semester/trimester of the course:		
Course level: III.		
Prerequisities:		
Conditions for course completion: Membership in the research team of an international project.		
Learning outcomes: Active involvement by solving a specific task within a team of international project solvers. The PhD student demonstrates the ability to work in a team, take responsibility for the assigned task, adhere to the time schedule and fulfill the project outputs. The PhD student gains personal experience from the implementation of an international project, participation in its key stages, creation of measurable outputs, grant funding of science.		
Brief outline of the course:		
Recommended literature:		
Course language:		
Notes:		
Course assessment Total number of assessed students: 42		
abs n		
100.0 0.0		
Provides:		
Date of last modification: 08.11.2022		
Approved: prof. RNDr. Mária Kožurková, CSc.		

inversity, F. J. Statist Onversity in Köstee faculty: Faculty of Science Course ID: ÚCHV/ 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 iumber of ECTS credits: 8 Recommended semester/trimester of the course: Ourse level: III. rerequisities: Onditions for course completion: Examination. examination. examination. evel: study of proteins; formation and characteristics of missfolded and agregated proteins, folding and biosynthesis of proteins; solvent engineering, display/evolution technologies. rief outline of the course: 1. Chemical properties of polypeptides (the polymeric nature of proteins, amino acid residues, the solypeptide backbonc). 2. Protein structure determination methods. Physical interaction that determine the properties of proteins, onformational properties of polypeptide chains. Biosynthesis of proteins. 3. Protein study of protein stability: of the folded conformations of proteins. 4. Protein stability - thermodynamic and kinetic stability. Methods for determination of protein tability. Modification of protein stability: solvent engineering, display/evolution technologies. tecommeded literature:	University, D. I. Šefér	ile University in Večiec
actuaty if ractury if science Course ID: ÚCHV/ Course name: Conformational Stability of Proteins SiB/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: prosent Sumber of ECTS credits: 8 Ecommended semester/trimester of the course: Ourse level: III. Terequisities: Onditions for course completion: Examination. Examination. Econse: Student should attain extended knowledge in the field of conformation properties of proteins, folding and biosynthesis of proteins, formation and characteristics of missfolded and agregated arcteristics is of missfolded and agregated stores: 1. Chemical properties of polypeptides (the polymeric nature of proteins, amino acid residues, the solypeptide backbonc). 2. Protein structure determination methods. Physical interaction that determine the properties of roteins, conformational properties of polypeptide chains. Biosynthesis of proteins. 3. Protein sin solution and in membrane (folded state, missfolded states and denatured states of globular proteins) – stability of the folded conformations of proteins. 4. Protein stability – thermodynamic and kinetic stability. Methods for determination of protein stability. Modification of protein stability: solvent engineering, display/evolution technologies. tecommended literature: 1. David L. Nelson, Mic	Eagultan Eagulta of S	
Jourse ID: UCHV/ Course name: Conformational Stability of Proteins CSB/13 Course type, scope and the method: 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 State St	Faculty: Faculty of So	
Course type: Lecture / Practice Recommended course-load (hours): Per week: 4 / 2 Per study period: 56 / 28 Course method: present Xumber of ECTS credits: 8 Recommended semester/trimester of the course: Course level: III. Trerequisities: Conditions for course completion: Examination	Course ID: UCHV/ KSB/13	Course name: Conformational Stability of Proteins
Number of ECTS credits: 8 Recommended semester/trimester of the course: Course level: III. Prerequisities: Conditions for course completion: Examination. earning outcomes: Student should attain extended knowledge in the field of conformation properties of proteins, formation and characteristics of missfodled and agregated aroteins, new techniques in study of proteins: solvent engineering, display/evolution technologies. Frief outline of the course: 1. Chemical properties of polypeptides (the polymeric nature of proteins, amino acid residues, the polypeptide backbone). 2. Protein structure determination methods. Physical interaction that determine the properties of roteins, conformational properties of polypeptide chains. Biosynthesis of proteins. 3. Protein structure. Misfolded and aggregated states of proteins. 4. Protein stability – thermodynamic and kinetic stability. Methods for determination of protein stability. Modification of protein stability: solvent engineering, display/evolution technologies. Kecommended literature: 1. David L. Nelson, Michael M. Fox, Lenhinger principles of biochemistry, W.H.Freeman, New York, 2004. 2. J.M. Berg, J.L. Tymoczko, L. Stryer, Biochemistry, W.H.Freeman, New York, 2007. 3. Thomas E. Creighton, Proteins, Structure and Molecular Properties (2nd Ed.), W.H.Freeman; New York, 1993. 4. Articles from Scientific Journals. Course language:	Course type, scope an Course type: Lectury Recommended cour Per week: 4 / 2 Per s Course method: pre	nd the method: e / Practice rse-load (hours): study period: 56 / 28 sent
Recommended semester/trimester of the course: Course level: III. Prerequisities: Conditions for course completion: Examination. earning outcomes: Student should attain extended knowledge in the field of conformation properties of proteins, folding and biosynthesis of proteins, formation and characteristics of missfolded and agregated proteins, new techniques in study of proteins: solvent engineering, display/evolution technologies. Frief outline of the course: 1. Chemical properties of polypeptides (the polymeric nature of proteins, amino acid residues, the polypeptide backbone). 2. Protein structure determination methods. Physical interaction that determine the properties of proteins, conformational properties of polypeptide chains. Biosynthesis of proteins. 3. Protein structure. Misfolded and aggregated states of proteins. 4. Protein structure. Misfolded and aggregated states of proteins. 4. Protein stability – thermodynamic and kinetic stability. Methods for determination of protein stability. Modification of protein stability: solvent engineering, display/evolution technologies. Recommended literature: 1. David L. Nelson, Michael M. Fox, Lenhinger principles of biochemistry, W.H.Freeman, New York, 2004. 2. J.M. Berg, J.L. Tymoczko, L. Stryer, Biochemistry, W.H.Freeman, New York, 2007. 3. Thomas E. Creighton, Proteins, Structure and Molecular Properties (2nd Ed.), W.H.Freeman; New York, 1993. 4. Articles from	Number of ECTS cre	edits: 8
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 Prerequisities: Conditions for course completion: Examination. Examination. Learning outcomes: Student should attain extended knowledge in the field of conformation properties of proteins, fording and biosynthesis of proteins, formation and characteristics of missfodled and agregated proteins, new techniques in study of proteins: solvent engineering, display/evolution technologies. Frief outline of the course: Chemical properties of polypeptides (the polymeric nature of proteins, amino acid residues, the polypeptide backbone). Protein structure determination methods. Physical interaction that determine the properties of polypeptide chains. Biosynthesis of proteins. Proteins in solution and in membrane (folded state, missfolded states and denatured states of globular proteins) – stability of the folded conformations of proteins, flexibility and dynamics of protein structure. Misfolded and aggregated states of proteins. Protein stability – thermodynamic and kinetic stability. Methods for determination of protein stability. Modification of protein stability: solvent engineering, display/evolution technologies. Recommended literature: David L. Nelson, Michael M. Fox, Lenhinger principles of biochemistry, W.H.Freeman, New York, 2004. J.M. Berg, J.L. Tymoczko, L. Stryer, Biochemistry, W.H.Freeman, New York, 2004. J.M. Berg, J.L. Tymoczko, L. Stryer, Biochemistry, W.H.Freeman, New York, 1993. Articles from Scientific Journals. 	Course level: III.	
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 cearning outcomes: Student should attain extended knowledge in the field of conformation properties of proteins, folding and biosynthesis of proteins, formation and characteristics of missfodled and agregated proteins, new techniques in study of proteins: solvent engineering, display/evolution technologies. Brief outline of the course: Chemical properties of polypeptides (the polymeric nature of proteins, amino acid residues, the polypeptide backbone). Protein structure determination methods. Physical interaction that determine the properties of proteins, conformational properties of polypeptide chains. Biosynthesis of proteins. Proteins in solution and in membrane (folded state, missfolded states and denatured states of globular proteins) – stability of the folded conformations of proteins, flexibility and dynamics of protein structure. Misfolded and aggregated states of proteins. Protein structure. Misfolded and aggregated states of proteins. Protein stability – thermodynamic and kinetic stability. Methods for determination of protein stability. Modification of protein stability: solvent engineering, display/evolution technologies. Recommended literature: David L. Nelson, Michael M. Fox, Lenhinger principles of biochemistry, W.H.Freeman, New York, 2004. J.M. Berg, J.L. Tymoczko, L. Stryer, Biochemistry, W.H.Freeman, New York, 2007. Thomas E. Creighton, Proteins, Structure and Molecular Properties (2nd Ed.), W.H.Freeman; New York, 1993. Articles from Scientific Journals. 	Conditions for cours Examination.	e completion:
 Brief outline of the course: Chemical properties of polypeptides (the polymeric nature of proteins, amino acid residues, the polypeptide backbone). Protein structure determination methods. Physical interaction that determine the properties of proteins, conformational properties of polypeptide chains. Biosynthesis of proteins. Proteins in solution and in membrane (folded state, missfolded states and denatured states of globular proteins) – stability of the folded conformations of proteins, flexibility and dynamics of protein structure. Misfolded and aggregated states of proteins. Protein stability – thermodynamic and kinetic stability. Methods for determination of protein stability. Modification of protein stability: solvent engineering, display/evolution technologies. Recommended literature: David L. Nelson, Michael M. Fox, Lenhinger principles of biochemistry, W.H.Freeman, New York, 2004. J.M. Berg, J.L. Tymoczko, L. Stryer, Biochemistry, W.H.Freeman, New York, 2007. Thomas E. Creighton, Proteins, Structure and Molecular Properties (2nd Ed.), W.H.Freeman; New York, 1993. Articles from Scientific Journals. 	Student should attain folding and biosynthe proteins, new techniq	extended knowledge in the field of conformation properties of proteins, esis of proteins, formation and characteristics of missfodled and agregated ues in study of proteins: solvent engineering, display/evolution technologies.
 Recommended literature: 1. David L. Nelson, Michael M. Fox, Lenhinger principles of biochemistry, W.H.Freeman, New York, 2004. 2. J.M. Berg, J.L. Tymoczko, L. Stryer, Biochemistry, W.H.Freeman, New York, 2007. 3. Thomas E. Creighton, Proteins, Structure and Molecular Properties (2nd Ed.), W.H.Freeman; New York, 1993. 4. Articles from Scientific Journals. 	 Brief outline of the contract of the	burse: as of polypeptides (the polymeric nature of proteins, amino acid residues, the e). etermination methods. Physical interaction that determine the properties of nal properties of polypeptide chains. Biosynthesis of proteins. In and in membrane (folded state, missfolded states and denatured states of stability of the folded conformations of proteins, flexibility and dynamics of folded and aggregated states of proteins. thermodynamic and kinetic stability. Methods for determination of protein n of protein stability: solvent engineering, display/evolution technologies.
Course language:	Recommended litera 1. David L. Nelson, M York, 2004. 2. J.M. Berg, J.L. Tyn 3. Thomas E. Creight New York, 1993. 4. Articles from Scier	ture: Michael M. Fox, Lenhinger principles of biochemistry, W.H.Freeman, New noczko, L. Stryer, Biochemistry, W.H.Freeman, New York, 2007. on, Proteins, Structure and Molecular Properties (2nd Ed.), W.H.Freeman; ntific Journals.
	Course language:	
Notes:	Notes:	

Course assessment		
Total number of assessed students: 4		
Ν	Р	
0.0	100.0	
Provides: prof. Ing. Marián Antalík, DrSc., doc. RNDr. Erik Sedlák, DrSc., RNDr. Nataša Tomášková, PhD., doc. RNDr. Rastislav Varhač, PhD.		
Date of last modification: 13.03.2023		
Approved: prof. RNDr. Mária Kožurková, CSc.		

University: P. J. Šafán	rik University in Košice		
Faculty: Faculty of Seculty	cience		
Course ID: ÚCHV/ ODZP/2014/15	Course ID: ÚCHV/ Course name: Defence of Doctoral Thesis DDZP/2014/15		
Course type, scope a Course type: Recommended cour Per week: Per stud Course method: pre	nd the method: rse-load (hours): y period: sent		
Number of ECTS cro	edits: 30		
Recommended seme	ster/trimester of the cours	e:	
Course level: III.			
Prerequisities:			
Conditions for course completion: The Dissertation thesis is the result of the student's own scientific research. It must not show elements of academic fraud and must meet the criteria of correct research practice defined in the Rector's Decision no. 21/2021, which lays down the rules for assessing plagiarism at Pavel Jozef Šafárik University in Košice and its constituents. Fulfillment of the criteria is verified mainly in the process of supervising and in the process of the thesis defense. Failure to do so is grounds for disciplinary action			
Learning outcomes: The Dissertation thesis has elements of a scientific work and the student demonstrates extensive mastery of the theory and professional terminology of the field of study, acquisition of knowledge, skills and competences in accordance with the declared profile of the graduate of the field of study, as well as the ability to apply them in an original way in solving selected problems of the field of study. The student demonstrates the ability of independent scientific work in terms of content, formal and ethical aspects. Further details of the Dissertation thesis are determined by Directive no. 1/2011 on the essential prerequisites of final theses and by the Study Rules of Procedure at UPJŠ in Košice for doctoral studies. The doctoral student demonstrated the ability and readiness for independent scientific and creative activity in the field of study of philology in accordance with the expectations of the relevant qualification framework and the profile of the graduate.			
Brief outline of the course:			
Recommended literature:			
Course language:			
Notes:			
Course assessment Total number of assessed students: 64			
	N	Р	
	0.0	100.0	

Provides:

Date of last modification: 08.11.2022

Approved: prof. RNDr. Mária Kožurková, CSc.

University: P. J. Šafá	University: P. J. Šafárik University in Košice		
Faculty: Faculty of S	Faculty: Faculty of Science		
Course ID: ÚCHV/ PPC/04	Course name: Direct H	Pedagogical Activities	
Course type, scope a Course type: Recommended cour Per week: Per stud Course method: pre	Course type, scope and the method: Course type: Recommended course-load (hours): Per week: Per study period: Course method: present		
Number of ECTS cr	edits: 1		
Recommended seme	ster/trimester of the co	urse:	
Course level: 111.			
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: 422			
abs n			
100.0 0.0			
Provides:			
Date of last modifica	tion: 15.09.2021		
Approved: prof. RNI	Dr. Mária Kožurková, C	Sc.	

University: P. J. Šafá	rik University in Košio	ce	
Faculty: Faculty of S	Faculty: Faculty of Science		
Course ID: ÚCHV/ PPC/04	Course name: Direct	t Pedagogical Activities	
Course type, scope a Course type: Recommended cour Per week: Per stud Course method: pre	nd the method: rse-load (hours): y period: esent		
Number of ECTS cr	edits: 1		
Recommended seme	ster/trimester of the	course:	
Course level: III.			
Prerequisities:	• <i>.</i> .		
Conditions for cours	e completion:		
Learning outcomes:			
Brief outline of the c	ourse:		
Recommended litera	ture:		
Course language:			
Notes:	Notes:		
Course assessment Total number of assessed students: 422			
	abs n		
	100.0 0.0		
Provides:		I	
Date of last modifica	Date of last modification: 15.09.2021		
Approved: prof. RNI	Dr. Mária Kožurková,	CSc.	

University: P. J. Šafá	rik University in Košic	ce	
Faculty: Faculty of S	cience		
Course ID: ÚCHV/ DZS/15	Course name: Disser	tation examination	
Course type, scope a Course type: Recommended cour Per week: Per stud Course method: pre	nd the method: rse-load (hours): y period: esent		
Number of ECIS cr			
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	iture:		
Course language:			
Notes:			
Course assessment Total number of asses	ssed students: 63		
	N	Р	
	0.0 100.0		
Provides:			
Date of last modifica	tion: 15.09.2021		
Approved: prof. RNI	Dr. Mária Kožurková, (CSc.	

University: P. J. Šafá	rik University in Košice
Faculty: Faculty of S	cience
Course ID: CJP/ AJD1/07	Course name: English Language for PhD Students 1
Course type, scope a Course type: Practic Recommended cou Per week: 2 Per stu Course method: pre	and the method: ce rse-load (hours): ady period: 28 esent
Number of ECTS cr	edits: 2
Recommended seme	ster/trimester of the course:
Course level: III.	
Prerequisities:	
Conditions for cours Completion of e-cours Written assignments	se completion: rse English for PhD Students (lms.upjs.sk), consultations (1-3). - Professional/Academic CV, Short Academic Biography.
Learning outcomes: The development of a of their linguistic co and syntactic aspects language for a given p purposes, level B2.	students' language skills - reading, writing, listening, speaking, improvement ompetence - students acquire knowledge of selected phonological, lexical s, development of pragmatic competence - students can effectively use the purpose, with focus on Academic English and English for specific/professional
Brief outline of the c Specific aspects of vocabulary developm formation, formal/in grammar tenses, pass Biography).	course: academic and professional English with focus on correct pronunciation, nent (noun and verb collocations, phrasal verbs, prepositional phrases, word- formal language, etc.), selected aspects of English grammar (prepositions, ive voice, etc.), academic writing (professional/academic CV, Short Academic
Recommended litera Moore, J.: Oxford Ac Kolaříková, Z., Petru Košice, Vydavateľstv Tomaščíková, S., Ro Vydavateľstvo Šafári McCarthy, M., O'De Štepánek, L., J. De H 2011. Armer, T.: Cambridg Ims.upjs.sk	Iture: cademic Vocabulary Practice. OUP, 2017. ňová, H., Timková, R.: Angličtina v akademickom prostredí – cvičebnica. 70 ŠafárikPress, 2021. zenfeld, J. Developing Academic English in Speaking and Writing. kPress, 2021. II, F.: Academic Vocabulary in Use. CUP, 2008. Iaff a kol.: Academic English-Akademická angličtina. Grada Publishing, a.s., e English for Scientists. CUP, 2011.
Course language: English, level B2 acc	cording to CEFR
Notes:	

Course assessn	Course assessment						
Total number o	f assessed studen	ts: 738					
N Ne P Pr abs neabs							
0.0	0.0 0.0 48.1 0.0 51.9 0.0						
Provides: PhDr	Provides: PhDr. Helena Petruňová, CSc., Mgr. Zuzana Kolaříková, PhD.						
Date of last modification: 16.09.2022							
Approved: prof. RNDr. Mária Kožurková, CSc.							

University: P. J. Šafărik University in Košice Faculty: Faculty of Science Course ID: CJP/ AJD2/07 Course name: English Language for PhD Students 2 AJD2/07 Course type: seque and the method: Course type: Practice Recommended course-load (hours): Per week: 2 Per study period: 28 Course method: present Number of ECTS credits: 3 Recommended semester/trimester of the course: Course level: III. Prerequisities: Contract evel: III. Prerequisitie: Contract: Contra: Contract: Contract: Contract: Contract: Contract: Co		
Faculty: Faculty of Science Course ID: CJP/ AJD2/07 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 ECTS credits: 3 Recommended semester/trimester of the course: Course level: III. Prerequisities: Conditions for course completion: Test, oral exam in accordance with the exam requirements (https://www.upjs.sk/filozofieka-fakulta/ cjp/doktorandi-upjs/) Learning outcomes: The development of students' language skills - reading, writing, listening, speaking, improvement of their linguistic competence - students acquire knowledge of selected phonological, lexical and syntactic aspects, development of pragmatic competence - students can efectively use the language for a given purpose, with focus on Academic English and English for specific/professional purposes, level B2. Brief outline of the course: Academic communication (self-presentation, presenting at scientific meetings and conferences). Specific aspects of academic and professional English with focus on vocabulary development (formality, academic word-list), English grammar (passive voice, nominalisatio), language graphs/charts/schemes, etc.). Cross-language interference. Recommended literature: Moore, J.: Oxford Academic Vocabulary Practice. OUP, 2017. Kolafiková, Z., Petruňová, H., Timková, R.: Angličtina v akademickom prostredí (evičebnica). UPJS Košice, 2021. Tomaščíková, S., Rozenfeld, J. Developing Academic English in Speaking and Writing. Vydavatefsvo SafärikPress, 2021. Mora, J.:	University: P. J. Šafá	rik University in Košice
Course ID: CJP/ AJD2/07 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 ECTS credits: 3 Recommended semester/trimester of the course: Course level: III. Prerequisities: Conditions for course completion: Test, oral exam in accordance with the exam requirements (https://www.upjs.sk/filozoficka-fakulta/ cjp/doktorandi-upjs/) Learning outcomes: The development of students' language skills - reading, writing, listening, speaking, improvement of their linguistic competence - students acquire knowledge of selected phonological, lexical and syntactic aspects, development of pragmatic competence - students can effectively use the language for a given purpose, with focus on Academic English and English for specific/professional purposes, level B2. Brief outline of the course: Academic communication (self-presentation, presenting at scientific meetings and conferences). Specific aspects of academic and professional English with focus on vocabulary development (formality, academic word-list), English grammar (passive voice, nominalisatio), language functions (expressing opinion, cause/effect, presenting arguments, giving examples, describing graphs/charts/shemes, etc.). Cross-language interference. Recommended literature: Moore, J: Oxford Academic Vocabulary Practice. OUP, 2017. Kolafiková, S, Rozenfeld, J. Developing Academic English in Speaking and Writing. VydavatelStvö ŠafarkPress, 2021. McCarthy, M, O'Dell, F: Academic Vocabulary in Use. CUP, 2008. Stepánek, L., J. De Haff a kol: Academic English-Akademická angličtina. Grada Publishing, a.s.,	Faculty: Faculty of S	cience
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 ECTS credits: 3 Recommended semester/trimester of the course: Course level: III. Prerequisities: Conditions for course completion: Test, oral exam in accordance with the exam requirements (https://www.upjs.sk/filozoficka-fakulta/ cjp/doktorandi-upjs/) Learning outcomes: The development of students' language skills - reading, writing, listening, speaking, improvement of their linguistic competence - students can effectively use the language for a given purpose, with focus on Academic English and English for specific/professional purposes, level B2. Brief outline of the course: Academic communication (self-presentation, presenting at scientific meetings and conferences). Specific aspects of academic and professional English with focus on vocabulary development (formality, academic word-list), English grammar (passive voice, nominalisatio), language functions (expressing opinion, cause/effect, presenting arguments, giving examples, describing graphs/charts/schemes, etc.). Cross-language interference. Recommended literature: Moore, J.: Oxford Academic Vocabulary Practice. OUP, 2017. Kolafiková, Z., Petruhová, H., Timková, R.: Angličtina v akademickom prostredi (cvičebnica). UPJŠ Košice, 2021. UPJŠ Košice, 2021. Tomaščíková, S., Rozenfe	Course ID: CJP/ AJD2/07	Course name: English Language for PhD Students 2
Number of ECTS credits: 3 Recommended semester/trimester of the course: Course level: III. Prerequisities: Conditions for course completion: Test, oral exam in accordance with the exam requirements (https://www.upjs.sk/filozoficka-fakulta/ cjp/doktorandi-upjs/) Learning outcomes: The development of students' language skills - reading, writing, listening, speaking, improvement of their linguistic competence - students acquire knowledge of selected phonological, lexical and syntactic aspects, development of pragmatic competence - students can efectively use the language for a given purpose, with focus on Academic English and English for specific/professional purposes, level B2. Brief outline of the course: Academic communication (self-presentation, presenting at scientific meetings and conferences). Specific aspects of academic and professional English with focus on vocabulary development (formality, academic word-list), English grammar (passive voice, nominalisatio), language functions (expressing opinion, cause/effect, presenting arguments, giving examples, describing graphs/charts/schemes, etc.). Cross-language interference. Recommended literature: Moore, J.: Oxford Academic Vocabulary Practice. OUP, 2017. Kolafiková, Z., Petruňová, H., Timková, R.: Angličtina v akademickom prostredí (cvičebnica). UPJŠ Košice, 2021. McCarthy, M., O'Dell, F.: Academic Vocabulary in Use. CUP, 2008. Štepánek, L., J. De Haff a kol.: Academic English-Akademická angličtina. Grada Publishing, a.s., 2011. Armer, T.: Cambridge English for	Course type, scope a Course type: Practic Recommended cour Per week: 2 Per stu Course method: pre	nd the method: ce rse-load (hours): dy period: 28 esent
Recommended semester/trimester of the course: Course level: III. Prerequisities: Conditions for course completion: Test, oral exam in accordance with the exam requirements (https://www.upjs.sk/filozoficka-fakulta/ cjp/doktorandi-upjs/) Learning outcomes: The development of students' language skills - reading, writing, listening, speaking, improvement of their linguistic competence - students acquire knowledge of selected phonological, lexical and syntactic aspects, development of pragmatic competence - students can efectively use the language for a given purpose, with focus on Academic English and English for specific/professional purposes, level B2. Brief outline of the course: Academic communication (self-presentation, presenting at scientific meetings and conferences). Specific aspects of academic and professional English with focus on vocabulary development (formality, academic word-list). English grammar (passive voice, nominalisatio), language functions (expressing opinion, cause/effect, presenting arguments, giving examples, describing graphs/charts/schemes, etc.). Cross-language interference. Recommended literature: Moore, J.: Oxford Academic Vocabulary Practice. OUP, 2017. Kolaříková, Z., Petruňová, H., Timková, R.: Angličtina v akademickom prostredí (cvičebnica). UPJŠ Košice, 2021. Tomaščíková, S., Rozenfeld, J. Developing Academic English in Speaking and Writing. Vydavateľstvo ŠafaříkPress, 2021. McCarthy, M., O'Dell, F.: Academic Vocabulary in Use. CUP, 2008. Štepánek, L., J. De Haff a kol.: Academic English-Akademická angličtina. Grad	Number of ECTS cr	edits: 3
Course level: III. Prerequisities: Conditions for course completion: Test, oral exam in accordance with the exam requirements (https://www.upjs.sk/filozoficka-fakulta/ cjp/doktorandi-upjs/) Learning outcomes: The development of students' language skills - reading, writing, listening, speaking, improvement of their linguistic competence - students acquire knowledge of selected phonological, lexical and syntactic aspects, development of pragmatic competence - students can efectively use the language for a given purpose, with focus on Academic English and English for specific/professional purposes, level B2. Brief outline of the course: Academic communication (self-presentation, presenting at scientific meetings and conferences). Specific aspects of academic and professional English with focus on vocabulary development (formality, academic word-list), English grammar (passive voice, nominalisatio), language functions (expressing opinion, cause/effect, presenting arguments, giving examples, describing graphs/charts/schemes, etc.). Cross-language interference. Recommended literature: Moore, J.: Oxford Academic Vocabulary Practice. OUP, 2017. Kolaříková, Z., Petruňová, H., Timková, R.: Angličtina v akademickom prostredí (cvičebnica). UPJŠ Košice, 2021. Tomaščíková, S., Rozenfeld, J. Developing Academic English in Speaking and Writing. Vydavateľstvo ŠaťaříkPress, 2021. McCarthy, M., O'Dell, F.: Academic Vocabulary in Use. CUP, 2008. Štepánek, L., J. De Haff a kol.: Academic English-Akademická angličtina. Grada Publishing, a.s., 2011. Armer, T.: Cambridge	Recommended seme	ster/trimester of the course:
Prerequisities: Conditions for course completion: Test, oral exam in accordance with the exam requirements (https://www.upjs.sk/filozoficka-fakulta/ cjp/doktorandi-upjs/) Learning outcomes: The development of students' language skills - reading, writing, listening, speaking, improvement of their linguistic competence - students acquire knowledge of selected phonological, lexical and syntactic aspects, development of pragmatic competence - students can efectively use the language for a given purpose, with focus on Academic English and English for specific/professional purposes, level B2. Brief outline of the course: Academic communication (self-presentation, presenting at scientific meetings and conferences). Specific aspects of academic and professional English with focus on vocabulary development (formality, academic word-list), English grammar (passive voice, nominalisatio), language functions (expressing opinion, cause/effect, presenting arguments, giving examples, describing graphs/charts/schemes, etc.). Cross-language interference. Recommended literature: Moore, J.: Oxford Academic Vocabulary Practice. OUP, 2017. Kolaříková, Z., Petruňová, H., Timková, R.: Angličtina v akademickom prostredí (cvičebnica). UPJŠ Košice, 2021. Tomaščíková, S., Rozenfeld, J. Developing Academic English in Speaking and Writing. Vydavateľstvo ŠafaříkPress, 2021. McCarthy, M., O'Dell, F.: Academic Vocabulary in Use. CUP, 2008. Štepánek, L., J. De Haff a kol.: Academic English-Akademická angličtina. Grada Publishing, a.s., 2011. Armer, T.: Cambridge English for Scient	Course level: III.	
 Conditions for course completion: Test, oral exam in accordance with the exam requirements (https://www.upjs.sk/filozoficka-fakulta/cjp/doktorandi-upjs/) Learning outcomes: The development of students' language skills - reading, writing, listening, speaking, improvement of their linguistic competence - students acquire knowledge of selected phonological, lexical and syntactic aspects, development of pragmatic competence - students can efectively use the language for a given purpose, with focus on Academic English and English for specific/professional purposes, level B2. Brief outline of the course: Academic communication (self-presentation, presenting at scientific meetings and conferences). Specific aspects of academic and professional English with focus on vocabulary development (formality, academic word-list), English grammar (passive voice, nominalisatio), language functions (expressing opinion, cause/effect, presenting arguments, giving examples, describing graphs/charts/schemes, etc.). Cross-language interference. Recommended literature: Moore, J.: Oxford Academic Vocabulary Practice. OUP, 2017. Kolafiková, Z., Petruňová, H., Timková, R.: Angličtina v akademickom prostredi (cvičebnica). UPJŠ Košice, 2021. Tomaščíková, S., Rozenfeld, J. Developing Academic English in Speaking and Writing. Vydavateľstvo ŠaťaříkPress, 2021. McCarthy, M., O'Dell, F.: Academic Vocabulary in Use. CUP, 2008. Štepánek, L., J. De Haff a kol.: Academic English-Akademická angličtina. Grada Publishing, a.s., 2011. Course language: B2 level according to CEFR Notes: 	Prerequisities:	
 Learning outcomes: The development of students' language skills - reading, writing, listening, speaking, improvement of their linguistic competence - students acquire knowledge of selected phonological, lexical and syntactic aspects, development of pragmatic competence - students can efectively use the language for a given purpose, with focus on Academic English and English for specific/professional purposes, level B2. Brief outline of the course: Academic communication (self-presentation, presenting at scientific meetings and conferences). Specific aspects of academic and professional English with focus on vocabulary development (formality, academic word-list), English grammar (passive voice, nominalisatio), language functions (expressing opinion, cause/effect, presenting arguments, giving examples, describing graphs/charts/schemes, etc.). Cross-language interference. Recommended literature: Moore, J.: Oxford Academic Vocabulary Practice. OUP, 2017. Kolaříková, Z., Petruňová, H., Timková, R.: Angličtina v akademickom prostredí (cvičebnica). UPJŠ Košice, 2021. Tomaščíková, S., Rozenfeld, J. Developing Academic English in Speaking and Writing. Vydavateľstvo ŠafárikPress, 2021. McCarthy, M., O'Dell, F.: Academic Vocabulary in Use. CUP, 2008. Štepánek, L., J. De Haff a kol.: Academic English-Akademická angličtina. Grada Publishing, a.s., 2011. Armer, T.: Cambridge English for Scientists. CUP, 2011. Course language: B2 level according to CEFR Notes: 	Conditions for cours Test, oral exam in acc cjp/doktorandi-upjs/)	e completion: ordance with the exam requirements (https://www.upjs.sk/filozoficka-fakulta/
 Brief outline of the course: Academic communication (self-presentation, presenting at scientific meetings and conferences). Specific aspects of academic and professional English with focus on vocabulary development (formality, academic word-list), English grammar (passive voice, nominalisatio), language functions (expressing opinion, cause/effect, presenting arguments, giving examples, describing graphs/charts/schemes, etc.). Cross-language interference. Recommended literature: Moore, J.: Oxford Academic Vocabulary Practice. OUP, 2017. Kolaříková, Z., Petruňová, H., Timková, R.: Angličtina v akademickom prostredí (cvičebnica). UPJŠ Košice, 2021. Tomaščíková, S., Rozenfeld, J. Developing Academic English in Speaking and Writing. Vydavateľstvo ŠafárikPress, 2021. McCarthy, M., O'Dell, F.: Academic Vocabulary in Use. CUP, 2008. Štepánek, L., J. De Haff a kol.: Academic English-Akademická angličtina. Grada Publishing, a.s., 2011. Armer, T.: Cambridge English for Scientists. CUP, 2011. Course language: B2 level according to CEFR Notes: 	Learning outcomes: The development of s of their linguistic co and syntactic aspects language for a given p purposes, level B2.	students' language skills - reading, writing, listening, speaking, improvement ompetence - students acquire knowledge of selected phonological, lexical s, development of pragmatic competence - students can efectively use the ourpose, with focus on Academic English and English for specific/professional
Recommended literature: Moore, J.: Oxford Academic Vocabulary Practice. OUP, 2017. Kolaříková, Z., Petruňová, H., Timková, R.: Angličtina v akademickom prostredí (cvičebnica). UPJŠ Košice, 2021. Tomaščíková, S., Rozenfeld, J. Developing Academic English in Speaking and Writing. Vydavateľstvo ŠafárikPress, 2021. McCarthy, M., O'Dell, F.: Academic Vocabulary in Use. CUP, 2008. Štepánek, L., J. De Haff a kol.: Academic English-Akademická angličtina. Grada Publishing, a.s., 2011. Armer, T.: Cambridge English for Scientists. CUP, 2011. Course language: B2 level according to CEFR Notes:	Brief outline of the c Academic communic Specific aspects of a (formality, academic functions (expressing graphs/charts/scheme	ourse: cation (self-presentation, presenting at scientific meetings and conferences). cademic and professional English with focus on vocabulary development c word-list), English grammar (passive voice, nominalisatio), language g opinion, cause/effect, presenting arguments, giving examples, describing es, etc.). Cross-language interference.
Course language: B2 level according to CEFR Notes:	Recommended litera Moore, J.: Oxford Ac Kolaříková, Z., Petru UPJŠ Košice, 2021. Tomaščíková, S., Roz Vydavateľstvo Šafári McCarthy, M., O'De Štepánek, L., J. De H 2011. Armer, T.: Cambridg	iture: cademic Vocabulary Practice. OUP, 2017. ňová, H., Timková, R.: Angličtina v akademickom prostredí (cvičebnica). zenfeld, J. Developing Academic English in Speaking and Writing. kPress, 2021. II, F.: Academic Vocabulary in Use. CUP, 2008. caff a kol.: Academic English-Akademická angličtina. Grada Publishing, a.s., e English for Scientists. CUP, 2011.
Notes:	Course language: B2 level according to	OCEFR
	Notes:	

Course assessn	nent f assessed studen	ts: 729					
NoNePPrabsneabs							
0.27	0.27 0.0 93.83 1.1 4.8 0.0						
Provides: PhDr	Provides: PhDr. Helena Petruňová, CSc., Mgr. Zuzana Kolaříková, PhD.						
Date of last modification: 10.03.2022							
Approved: prof. RNDr. Mária Kožurková, CSc.							

University: P. J. Šafá	rik University in Košice		
Faculty: Faculty of S	cience		
Course ID: ÚCHV/ GI/06	Course name: Genetic	Engineering	
Course type, scope a Course type: Lectur Recommended cour Per week: 4 / 2 Per Course method: pre	nd the method: e / Practice rse-load (hours): study period: 56 / 28 esent		
Number of ECTS cr	edits: 10		
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:			
Notes:			
Course assessment Total number of asses	ssed students: 17		
	Ν	Р	
	0.0 100.0		
Provides: doc. RNDr. Peter Pristaš, CSc.			
Date of last modifica	tion: 16.11.2021		
Approved: prof. RNI	Dr. Mária Kožurková, CS	Sc.	

University: P. J. Šafá	rik University in Košic	e
Faculty: Faculty of S	cience	
Course ID: ÚCHV/ MK/04	Course name: Interna	ational Conference
Course type, scope a Course type: Recommended cour Per week: Per stud Course method: pre	nd the method: rse-load (hours): y period: esent	
Number of ECTS cr	edits: 6	
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	iture:	
Course language:		
Notes:		
Course assessment Total number of asses	ssed students: 227	
	abs	n
	100.0	0.0
Provides:		· · ·
Date of last modifica	tion: 15.09.2021	
Approved: prof. RNI	Dr. Mária Kožurková, G	CSc.

University: P. J. Šafá	rik University in Košice	
Faculty: Faculty of S	cience	
Course ID: ÚCHV/ ZKC/04	Course name: Internation	al Currented Journal
Course type, scope a Course type: Recommended cour Per week: Per stud Course method: pre	nd the method: rse-load (hours): y period: esent	
Number of ECTS cr	edits: 20	
Recommended seme	ster/trimester of the cours	e:
Course level: III.		
Prerequisities:		
Conditions for cours Publication od the pa	e completion: per in journal registered in (CC database.
Learning outcomes:		
Brief outline of the c Authorship or co-auth in the Current Conter	ourse: norship of doctoral student o nts Connect database.	n a paper published in a foreign journal registered
Recommended litera	iture:	
Course language: English language.		
Notes:		
Course assessment Total number of asse	ssed students: 342	
	abs	n
	99.71	0.29
Provides:		
Date of last modifica	tion: 05.11.2021	
Approved: prof. RNI	Dr. Mária Kožurková, CSc.	

University: P J Šafá	rik University in Košice		
Faculty: Faculty of S	cience		
Course ID: ÚCHV/	Course name: Internati	onal Non-Currented Jounal	
ZNC/04			
Course type, scope a	nd the method:		
Course type:			
Recommended coul	rse-load (hours):		
Course method: pre	y perioa:		
Course method. pre			
Number of ECTS cr	edits: 5		
Recommended seme	ster/trimester of the co	irse:	
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: 28		
	abs	n	
	100.0 0.0		
Provides:			
Date of last modifica	tion: 15.09.2021		
Approved: prof. RNI	Dr. Mária Kožurková, CS	c.	

University: P. J. Šafá	University: P. J. Šafárik University in Košice				
Faculty: Faculty of S	cience				
Course ID: ÚCHV/ DK/04	Course name: Local Confe	erence			
Course type, scope a Course type: Recommended cour Per week: Per stud Course method: pre	Course type, scope and the method: Course type: Recommended course-load (hours): Per week: Per study period: Course method: present				
Number of ECTS cro	edits: 2				
Recommended seme	ster/trimester of the cours	e:			
Course level: III.					
Prerequisities:					
Conditions for cours Active participation i	e completion: n the home conference.				
By actively participat degree of ability to ide in his scientific field using the latest approa theories and concepts and communicating to Slovak language.	By actively participating in the national scientific conference, the PhD student demonstrates a high degree of ability to identify, evaluate, and apply correct scientific methods or research methodology in his scientific field. He demonstrates the ability to reflect on a specific scientific problem by using the latest approaches and applying them critically. Demonstrates competence in using existing theories and concepts in an innovative way, as well as generating new original scientific knowledge and communicating research results to a wider audience using adequate means and through the Slovak language				
Brief outline of the c	ourse:				
Recommended litera	iture:				
Course language:					
Notes:					
Course assessment Total number of asses	Course assessment Total number of assessed students: 126				
	abs	n			
100.0 0.0					
Provides:					
Date of last modification: 08.11.2022					
Approved: prof. RNDr. Mária Kožurková, CSc.					

University: P. J. Šafá	rik University in Košice	
Faculty: Faculty of S	cience	
Course ID: ÚCHV/ DKZU/04	Course name: Local Con	Iference with Foreign Participation
Course type, scope a Course type: Recommended cour Per week: Per stud Course method: pre	nd the method: rse-load (hours): y period: esent	
Number of ECTS cr	edits: 4	
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 asses	ssed students: 256	
	abs	n
100.0 0.0		
Provides:		· · · · · · · · · · · · · · · · · · ·
Date of last modifica	tion: 15.09.2021	
Approved: prof. RNI	Dr. Mária Kožurková, CSc	

University: P. J. Šafá	rik University in Košic	e	
Faculty: Faculty of S	cience		
Course ID: ÚCHV/ DKC/04	Course name: Local	Currented Journal	
Course type, scope a Course type: Recommended cour Per week: Per stud Course method: pre	nd the method: rse-load (hours): y period: esent		
Number of ECTS cr	edits: 15		
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: 10		
	abs	n	
100.0 0.0			
Provides:		· · · · · · · · · · · · · · · · · · ·	
Date of last modifica	tion: 15.09.2021		
Approved: prof. RNI	Dr. Mária Kožurková, C	CSc.	

University: P. J. Šafá	University: P. J. Šafárik University in Košice		
Faculty: Faculty of Science			
Course ID: ÚCHV/ DNC/04	Course ID: ÚCHV/ Course name: Local Non-Currented Journal DNC/04		
Course type, scope and the method: Course type: Recommended course-load (hours): Per week: Per study period: Course method: present			
Number of ECTS cr	edits: 5		
Recommended seme	ster/trimester of the co	ourse:	
Course level: III.			
Prerequisities:			
Conditions for course completion:			
Learning outcomes:			
Brief outline of the c	Brief outline of the course:		
Recommended literature:			
Course language:			
Notes:			
Course assessment Total number of assessed students: 18			
abs n			
	100.0 0.0		
Provides:	Provides:		
Date of last modification: 15.09.2021			
Approved: prof. RNDr. Mária Kožurková, CSc.			

U			
University: P. J. Safar	rik University in Kosice		
Faculty: Faculty of S	cience		
Course ID: ÚCHV/ MPEP/06	Course ID: ÚCHV/ Course name: Methodology of Experimental Work MPEP/06		
Course type, scope and the method: Course type: Recommended course-load (hours): Per week: Per study period: Course method: present			
Number of ECTS cro	edits: 4		
Recommended seme	ster/trimester of the cours	e:	
Course level: III.			
Prerequisities:			
Conditions for course completion: Elaboration of a seminar paper on a topic related to the methodical approaches in experimental work and the topic of the student's doctoral studies. A discussion with the examiner about the topic of the seminar work, in which the student is given the opportunity to prove that they possess sufficient knowledge of the subject.			
Learning outcomes: The aim of the course is to provide students with a basic understanding of the methodology of scientific work, the creation and verification of scientific theories, the design, implementation and interpretation of scientific experiments, the presentation of scientific results in biochemistry and other related fields.			
Brief outline of the course: The science of science, the scientific method, scientific logic, induction and deduction, empirical methods of science, the construction of scientific theories, the methodology of biological and chemical sciences, problem formulation, the implementation, interpretation and evaluation of experiments, the presentation of results, the principles of creating scientific publications.			
Recommended literature: Wanunu M., Tor, Yitzhak.: Methods for studing nucleic acids/drug interaction. CRc Press, Taylor and Francis Group, 2012. Chaires, J.B., Waring, M.J.: Methods in Enzymology, Academic Press, 2001.			
Course language: English			
Notes:			
Course assessment Total number of assessed students: 19			
abs n			
100.0 0.0			

Provides: prof. RNDr. Mária Kožurková, CSc., prof. Ing. Marián Antalík, DrSc., doc. RNDr. Viktor Víglaský, PhD., doc. RNDr. Erik Sedlák, DrSc., RNDr. Danica Sabolová, PhD.

Date of last modification: 07.03.2023

Approved: prof. RNDr. Mária Kožurková, CSc.

University, F. J. Salarik University in Rusice	University:	P. J.	Šafárik	University	v in Košice
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Faculty: Faculty of Science

Course ID: ÚCHV/ **Course name:** Modern Trends in Biotechnology MTB/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 ECTS credits: 6

Recommended semester/trimester of the course:

Course level: III.

Prerequisities:

Conditions for course completion:

Writing the seminar work.

Learning outcomes:

Students will have the latest knowledge and trends in biotechnology.

Brief outline of the course:

Methods, disciplines and the use of biotechnology. The material base for biotechnology. Genetic engineering, cloning, artificial insemination and conventional techniques of plant biotechnology. Biomass - Biotechnology substrate. Biogas. Fermentation processes, cultivation equipment, types of fermenters and mixers. Food Biotechnology: alcoholic fermentation, production of spirits, beer and wine. Production of dairy products, amino acids and vitamins. Manufacture of organic solvents: acetone, butanol, ethanol. Biotechnology in medicine. Production of antibiotics, vaccines and proteins for therapeutic purposes. Wastewater treatment: biological filters, membrane bioreactors, sludge disposal, removal of solid impurities and water disinfection.

Recommended literature:

1. Y.H. Hui, Ph.D, Wai-Kit Nip, Leo M.L. Nollet, PhD, Gopinadhan Paliyath, Ph.D., Benjamin K. Simpson, Food Biochemistry and Food Processing, Wiley-Blackwell, 2006.

2. E. M. T. El-Mansi, C. F. A. Bryce, Arnold L. Demain, A.R. Allman, Fermentation Microbiology and Biotechnology, Second Edition, CRS Press, 2006.

3. Principles of Fermentation Technology, Second Edition, P F Stanbury, S. Hall, A. Whitaker, Elsevier Science Ltd., 1999.

4. J. G. Black, Microbiology (seventh edition), John Wiley & Sons, Inc. 2008.

5. J. E. Smith, Biotechnology (fifth edition), UK, University Press, Cambridge, 2009.

6. W. Bains, Biotechnology from A-Z (third edition), Oxford university Press, 2004.

Course language:

Notes:

Course assessment			
Total number of assessed students: 7			
N P			
0.0 100.0			
Provides: RNDr. Danica Sabolová, PhD.			
Date of last modification: 07.03.2023			
Approved: prof. RNDr. Mária Kožurková, CSc.			

University: P. J. Šafá	rik University in Košice		
Faculty: Faculty of Science			
Course ID: ÚCHV/ NZ/04	Course ID: ÚCHV/ Course name: Not-Reviewed International or Local Proceedings		
Course type, scope a Course type: Recommended cour Per week: Per stud Course method: pre	nd the method: rse-load (hours): ly period: esent		
Number of ECTS cr	edits: 2		
Recommended seme	ster/trimester of the cours	e:	
Course level: III.			
Prerequisities:	Prerequisities:		
Conditions for course completion:			
Learning outcomes:			
Brief outline of the c	ourse:		
Recommended literature:			
Course language:			
Notes:			
Course assessment Total number of assessed students: 195			
abs n			
	100.0 0.0		
Provides:			
Date of last modifica	tion: 15.09.2021		
Approved: prof. RNDr. Mária Kožurková, CSc.			

	COURSE INFORMATION LETTER
University: P. J. Šafá	rik University in Košice
Faculty: Faculty of S	cience
Course ID: ÚCHV/ NKSF/13	Course name: Nucleic Acids: Structure and Function
Course type, scope a Course type: Lectur Recommended cour Per week: 3 / 1 Per Course method: pre	nd the method: re / Practice rse-load (hours): study period: 42 / 14 esent
Number of ECTS cr	edits: 6
Recommended seme	ster/trimester of the course:
Course level: III.	
Prerequisities:	
Conditions for cours Participation in the le The lecturer conduc (sickness, family reas event of longer-term mastery of the missed	be completion: Exctures (also by distance learning). ting the lecture/seminar will excuse the justified absence of the student sons, etc.) at a maximum of two lectures/seminars during the semester. In the justified absence (e.g. due to sickness), the student must provide evidence of d course content by means of an agreed substitute; oral examination
Learning outcomes: The main objective o of molecular biology	f the course is to provide studenst of PhD degree the newest trends in the field and biochemistry focused on nucleic acids.

Brief outline of the course:

Cell signaling system. Molecular basis of neoplastic cell transformation leading to development of cancer - oncogenes, tumor suppressing genes, regulatory regions of DNA. Gene mutations and DNA repair mechanisms. Induced pluripotent stem cells. Current trends and advances in the study of nucleic acids, their biological significance in cell metabolism. Gene therapy. Gene editing-CRISPR Cas technology. Gene silencing. The classification of viruses based on genetic material, the effect of physical and chemical factors on viruses. Biochemistry of viruses. Virus replication. Viral oncogenicity. Retroviruses and HIV. Pandemic viruses - Covid, SARS, MERS, Ebola, influenza papillomaviruses. Prions. Aptamers and nanobioconjugates. Molecular basis of the manifestation of genetically determined diseases and their detection and diagnostic.

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: 9			
N P			
0.0 100.0			
Provides: doc. RNDr. Viktor Víglaský, PhD.			
Date of last modification: 13.03.2023			
Approved: prof. RNDr. Mária Kožurková, CSc.			

University: P. J. Šafá	University: P. J. Šafárik University in Košice			
Faculty: Faculty of S	cience			
Course ID: ÚCHV/ PVS/04	ourse ID: ÚCHV/ Course name: Patents, Inventions, Software			
Course type, scope a Course type: Recommended cour Per week: Per stud Course method: pre	nd the method: rse-load (hours): y period: rsent			
Number of ECTS cro	edits: 2			
Recommended seme	ster/trimester of the	course:		
Course level: III.				
Prerequisities:				
Conditions for cours Patent filed, invention	e completion: n, software product cr	reated.		
Learning outcomes: The PhD student dem or with impact on an	onstrates the ability to interdisciplinary scale	o create an innovative product in a given scientific field, e or in technical practice.		
Brief outline of the course:				
Recommended literature:				
Course language:				
Notes:				
Course assessment Total number of asses	ssed students: 0			
	abs	n		
	0.0 0.0			
Provides:				
Date of last modifica	tion: 08.11.2022			
Approved: prof. RNI	Dr. Mária Kožurková,	CSc.		

University: P. J. Šafa	árik University in Košice		
Faculty: Faculty of S	Science		
Course ID: KPE/ PgVU/17	ourse ID: KPE/ gVU/17Course name: Pedagogy for University Teachers		
Course type, scope Course type: Lectu Recommended cou Per week: Per stu Course method: pr	and the method: ire irse-load (hours): dy period: 28s resent		
Number of ECTS c	redits: 5		
Recommended sem	ester/trimester of the course:		
Course level: III.			
Prerequisities:			
Conditions for cour 1. Development of a 2. Compulsory activ	se completion: teaching diary—100% re participation and attendance in accordance with the Study Regulations.		
Learning outcomes Students will be able Apply didactic princ the educational proc evaluation of learn possibilities in the te teachers taking into	: e to: iples, methods, forms, and tools in the teaching of a specialised subject. Specify cedures of a university teacher in subject teaching, pedagogical diagnostics, ing outcomes, and self-reflection. Present rationalisation and streamlining eaching of specialised subjects. Apply educational competencies of university account the peculiarities of educating university students.		
Brief outline of the The personality of a learning styles. Pos teacher–student inter of a university teac Forms of university assessment. Creation self-reflection.	course: university teacher. Teaching styles. Student in university education. Student sibilities of adapting teaching styles and student learning styles. University raction and communication in the teaching process. Pedagogical competencies her. Didactic analysis of the curriculum; teaching materials and textbooks. teaching. Methods of university teaching. Verification methods and student n of a didactic test. Designing university teaching process. University teacher		
Recommended liter Čapek, R. (2015). M	ature: Ioderní didaktika. Lexikon výukových a hodnoticích metod. Praha, Grada		

Publishing, a.s.

Danek, J. (2014). Pedagogická komunikácia na vysokej škole. Trnava, Univerzita sv.Cyrila a Metoda v Trnave.

Dargová, J. (2001). Tvorivé kompetencie učiteľa. Prešov, Privat Press.

Dvořáček, J. (2014). Základy pedagogiky. Praha, Oeconomica.

Hupková, M., Petlák, E. (2004). Sebareflexia a kompetencie v práci učiteľa. Bratislava, IRIS. Kyriacou, CH. (1996). Klíčové dovednosti učitele. Praha, Portál.

Mertin, V. a kol. (2012). Metody a postupy poznávaní žáka: pedagogická diagnostika. Praha, Wolters Kluwer.

Petty, G. (2013). Moderní vyučování. Praha, Portál.

 Prucha, J. (2013). Moderní pedagogika. Praha, Portál. Sirotová, M. (2014). Vysokoškolský učiteľ v edukačnom procese. Trnava, Univerzita sv.Cyrila a Metoda v Trnave. Slávik, M. a kol. (2012). Vysokoškolská pedagogika. Praha, Grada. Šebeň Zaťková, T. (2014). Úvod do vysokoškolskej pedagogiky. Trnava, Univerzita sv.Cyrila a Metoda v Trnave. Turek, I. (2014). Didaktika. Bratislava, Wolters Kluwer, s.r.o. Zormanová, L. (2014). Obecná didaktika. Praha, Grada. 			
Course language: slovak			
Notes:			
Course assessment Total number of assessed students: 78			
abs n neabs			
98.72 0.0 1.28			
Provides: doc. PaedDr. Renáta Orosová, PhD.			
Date of last modification: 07.09.2022			
Approved: prof. RNDr. Mária Kožurková, CSc.			

University: P. J. Šafán	rik University in Košice		
Faculty: Faculty of S	cience		
Course ID: ÚCHV/ FBB/06	Course ID: ÚCHV/ Course name: Physiology and Biochemistry of Rumen Microorganisms BB/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 ECTS credits: 10			
Recommended seme	ster/trimester of the co	urse:	
Course level: III.			
Prerequisities:			
Conditions for cours	Conditions for course completion:		
Learning outcomes:			
Brief outline of the c	ourse:		
Recommended litera	ture:		
Course language:	Course language:		
Notes:	Notes:		
Course assessment Total number of assessed students: 10			
	N P		
	0.0 100.0		
Provides: doc. RNDr.	Peter Pristaš, CSc.		
Date of last modifica	tion: 16.11.2021		
Approved: prof. RNI	Dr. Mária Kožurková, CS	Sc.	

University: P. J. Šafá	rik University in Košic	e			
Faculty: Faculty of S	Faculty: Faculty of Science				
Course ID: ÚCHV/ VYS/04	Course ID: ÚCHV/ Course name: Presentation in Seminar				
Course type, scope and the method: Course type: Recommended course-load (hours): Per week: Per study period: Course method: present					
Number of ECTS cr	edits: 2				
Recommended seme	ster/trimester of the c	ourse:			
Course level: III.	Course level: III.				
Prerequisities:					
Conditions for course completion:					
Learning outcomes:					
Brief outline of the c	Brief outline of the course:				
Recommended literature:					
Course language:					
Notes:					
Course assessment Total number of assessed students: 191					
abs n					
	100.0 0.0				
Provides:					
Date of last modification: 15.09.2021					
Approved: prof. RNDr. Mária Kožurková, CSc.					

University: P. J. Šafá	University: P. J. Šafárik University in Košice		
Faculty: Faculty of Science			
Course ID: ÚCHV/ PKLB/04	Ourse ID: ÚCHV/ Course name: Progress in Clinical Biochemistry KLB/04 Course name: Progress in Clinical Biochemistry		
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 ECTS cr	edits: 8		
Recommended seme	ster/trimester of the cours	2:	
Course level: III.			
Prerequisities:			
Conditions for cours	e completion:		
Learning outcomes: Aim: Student should attain extended knowledge in the field of clinical biochemistry on molecular level and orientation on the newest information in clinical biochemistry and pathobiochemistry.			
Brief outline of the course: Molecular basis of clinical biochemistry (urine, kidneys, pancreas, glands, heart and blood circulation, lungs and windpipes, liver and biliary duct) and practical application.			
Recommended literature: Musil, J.: Molekulove základy klinické biochemie, Avicenum, 1994 aktuálne články z odborných časopisov			
Course language:			
Notes:			
Course assessment Total number of assessed students: 0			
	N P		
	0.0 0.0		
Provides: doc. RNDr. Jaroslav Kušnír, CSc.			
Date of last modification: 16.11.2021			
Approved: prof. RNI	Dr. Mária Kožurková, CSc.		

University: P. J. Šafárik University in Košice				
Faculty: Faculty of	Faculty: Faculty of Science			
Course ID: KPPaPZ/PsVU/17	Course name: Psychology for University Lecturers			
Course type, scope Course type: Lectu Recommended cou Per week: Per stu Course method: p	Course type, scope and the method: Course type: Lecture Recommended course-load (hours): Per week: Per study period: 28s Course method: present			
Number of ECTS c	redits: 5			
Recommended sem	ester/trimester of the course:			
Course level: III.				
Prerequisities:				
Conditions for coun Case study, micro-o Current modificatio	•se completion: utput, its analysis ns of the course are listed in the electronic bulletin board of the course.			
After completing the and Understand, s psychology, emotio educational psychol b) apply the above p of university teachin c) to create and in knowledge d) evaluate their per	: e course, students can: ummarize and explain selected psychological knowledge from cognitive n and motivation psychology, personality psychology, developmental, social, ogy and health psychology. sychological knowledge necessary for the professional, competent performance ng practice of doctoral students nplement the teaching of a professional topic with applied psychological formance and the performance of their classmates, provide feedback			
Brief outline of the course: The content of the course is based on selected psychological knowledge of cognitive psychology, psychology of emotions and motivation, personality psychology, developmental, social, educational psychology and health psychology. Teaching is realized by a combination of lectures with interactive, experiential methods, discussion, open communication with mutual respect, support of independence, activity and motivation of students. Syllabus: University teacher and his work in the teaching process with a focus on: teachers in relation to themselves (cognitive, personal, social and competencies in the use of methods), in relation to students and as part of the teacherstudent relationship on the basis of selected areas of cognitive psychology, psychology and health psychology, social psychology, educational psychology and health psychology with application to the university environment				
Recommended liter Alexitch, L. R. (200 Schneider F., Gruma Fry, H., Ketteridge, education: Enhancir Mareš, J.: Pedagogi	 ature: 5). Applying social psychology to education. Social Psychology.–Ed.: an J., Coutts L.–Sage Publications, Inc, 205-228. S., & Marshall, S. (2008). A handbook for teaching and learning in higher ng academic practice. Routledge. cká psychologie. Portál, 2013. 			

Kniha psychologie. Universum, 2 Čáp, J., Mareš, J.: Psychologie pro Vágnerová, M.: Školní poradensk	014 o učitele. Praha: Portál 2007. á psychológie pro pedagogy. P	raha: Karolínum 2005.
Course language: slovak		
Notes:		
Course assessment Total number of assessed students	s: 70	
abs	n	neabs
100.0 0.0 0.0		
Provides: PhDr. Anna Janovská, PhD.		
Date of last modification: 24.06.2	2022	
Approved: prof. RNDr. Mária Ko	žurková, CSc.	

Faculty: Faculty of Science

Course ID: ÚCHV/ **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 ECTS 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: 3		
N P		
0.0 100.0		
Provides: prof. Ing. Marián Antalík, DrSc.		
Date of last modification: 13.03.2023		
Approved: prof. RNDr. Mária Kožurková, CSc.		

University: P. J. Šafá	rik University in Košic	ce	
Faculty: Faculty of Science			
Course ID: ÚCHV/ VPBP/04	ourse 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	nd the method: rse-load (hours): y period: esent		
Number of ECTS cr	edits: 2		
Recommended seme	ster/trimester of the o	course:	
Course level: III.			
Prerequisities:			
Conditions for cours	Conditions for course completion:		
Learning outcomes:	Learning outcomes:		
Brief outline of the c	ourse:		
Recommended literature:			
Course language:	Course language:		
Notes:			
Course assessment Total number of assessed students: 67			
abs n			
100.0 0.0			
Provides:			
Date of last modifica	tion: 15.09.2021		
Approved: prof. RNI	Dr. Mária Kožurková, (CSc.	

University: P. J. Šafá	rik University in Košic	e	
Faculty: Faculty of S	cience		
Course ID: ÚCHV/ RZ/04	Course ID: ÚCHV/ Course name: Reviewed International or Local Proceedings		
Course type, scope a Course type: Recommended cour Per week: Per stud Course method: pre	nd the method: rse-load (hours): y period: esent		
Number of EC18 cr			
Recommended seme	ster/trimester of the c	ourse:	
Course level: III.			
Prerequisities:			
Conditions for cours	Conditions for course completion:		
Learning outcomes:			
Brief outline of the c	ourse:		
Recommended litera	iture:		
Course language:			
Notes:			
Course assessment Total number of asse	ssed students: 367		
	abs n		
	100.0 0.0		
Provides:			
Date of last modifica	tion: 15.09.2021		
Approved: prof. RNI	Dr. Mária Kožurková, (CSc.	

University: P. J. Šafá	University: P. J. Šafárik University in Košice		
Faculty: Faculty of Science			
Course ID: ÚCHV/ SCI/04	urse ID: ÚCHV/ Course name: SCI Citation		
Course type, scope and the method: Course type: Recommended course-load (hours): Per week: Per study period: Course method: present			
Number of ECTS cr	edits: 20		
Recommended seme	ster/trimester of the c	course:	
Course level: III.			
Prerequisities:			
Conditions for cours	Conditions for course completion:		
Learning outcomes:	Learning outcomes:		
Brief outline of the c	ourse:		
Recommended litera	iture:		
Course language:	Course language:		
Notes:			
Course assessment Total number of assessed students: 298			
abs n			
100.0 0.0			
Provides:			
Date of last modification: 15.09.2021			
Approved: prof. RNI	Dr. Mária Kožurková, (CSc.	

University: P. J. Šafárik Un	iversity in Košice
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Faculty: Faculty of Science

Course ID: ÚCHV/ **Course name:** Selected Topics in Biochemistry of Microorganisms VKBM/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 ECTS credits: 8

Recommended semester/trimester of the course:

Course level: III.

Prerequisities:

Conditions for course completion:

Elaboration of a seminar paper on a topic related to the subject biochemistry of microorganism and the topic of the student's doctoral studies. A discussion with the examiner about the topic of the seminar work, in which the student is given the opportunity to prove that they possess sufficient knowledge of the subject.

Learning outcomes:

Familiarize postgraduate students with newest knowledge from Biochemistry of microorganism.

Brief outline of the course:

Diversity of microbial world – microbial evolution, taxonomy and diversity.

Ecology and symbiosis – Biogeochemical cycling and introductory microbial ecology, microbial interactions.

Antimicrobial chemotherapy – development of chemotherapy, general characteristics of antimicrobial drugs, determining the level of antimicrobial activity, antibacterial drugs, factor influencing antimicrobial drug effectiveness, drug resistance, antifungal, antiviral and antiprotozoal drugs.

Food and industrial microbiology – microbiology of food, food-borne pathogens.

Applied and industrial microbiology – microorganisms used in industrial microbiology, major products of industrial microbiology.

Recommended literature:

1. Black, J. G.: Microbiology, Wiley & Sons, Inc., 2008.

2. Johnson, T. R., Case, J.: Laboratory Experiments in Microbiology, 9th Ed., Pearson, 2010.

3. Kayser, F. H., Bienz, K. A., Eckert, J., Zinkernagel, R. M.: Medical Microbiology, Thieme, Stitgart-New York, 2001.

4. Levinson, W.: Review of Medical Microbiology and Immunology, McGraw-Hill International Edition, 2010.

5. Willey, J. M., Sherwood, L. M., Woolverton, C. J.: Prescott, Harley, and Klein's Microbiology, McGraw-Hill International Edition, 2008.

Course language:

English

Notes:

Teaching is carried out either face-to-face or remotely/hybrid learning using the MS Teams program. The teaching format is specified by the teacher at the beginning of the semester and updated continuously.

Course assessment Total number of assessed students: 10		
N P		
0.0 100.0		
Provides: prof. RNDr. Mária Kožurková, CSc.		
Date of last modification: 07.03.2023		
Approved: prof. RNDr. Mária Kožurková, CSc.		

University: P. J. Šafárik University in Košice			
Faculty: Faculty of Science			
Course ID: ÚCHV/ VKB/06	'se ID: ÚCHV/ Course name: Selected Topics in Biochemistry /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 ECTS cr	edits: 10		
Recommended seme	ster/trimester of the cours	e:	
Course level: III.			
Prerequisities:			
Conditions for course completion: Elaboration of a seminar paper on a topic related to the subject and the topic of the student's doctoral studies. A discussion with the examiner about the topic of the seminar work, in which the student is given the opportunity to prove that they possess sufficient knowledge of the subject.			
Learning outcomes: Acquainting doctoral	students with the most up-t	o-date findings in biochemistry.	
Brief outline of the course: Biomacromolecular structures, interactions of ligands with biomacromolecules, newly identified types of biologically active substances, proteomics, mechanisms of enzyme action, new findings in metabolism, apoptosis, supramolecular complexes, metabolites, hormonal processes, molecular physiology, bioenergetics.			
Recommended literature: Latest articles from scientific journals.			
Course language: English			
Notes:			
Course assessment Total number of assessed students: 43			
	N P		
	0.0 100.0		
Provides: prof. Ing. Marián Antalík, DrSc.			
Date of last modification: 07.03.2023			
Approved: prof. RNI	Dr. Mária Kožurková, CSc.		

University: P. J. Šafá	rik University in Košice		
Faculty: Faculty of Science			
Course ID: ÚCHV/ VKBMB/04	Course name: Selected Topics in Biochemistry and Molecular Biology		
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 ECTS cro	edits: 8		
Recommended seme	ster/trimester of the cour	se:	
Course level: III.			
Prerequisities:			
Conditions for cours	Conditions for course completion:		
Learning outcomes:	Learning outcomes:		
Brief outline of the c	ourse:		
Recommended litera	Recommended literature:		
Course language:			
Notes:			
Course assessment Total number of assessed students: 42			
	N P		
	0.0 100.0		
Provides: doc. RNDr. Peter Pristaš, CSc.			
Date of last modification: 18.11.2021			
Approved: prof. RNI	Dr. Mária Kožurková, CSc.		

University: P. J. Šafá	rik University in Košice		
Faculty: Faculty of Science			
Course ID: ÚCHV/ VKI/06	CHV/ Course name: Selected Topics in Immunology		
Course type, scope a Course type: Lectur Recommended cour Per week: 4 / 2 Per Course method: pre	nd the method: re / Practice rse-load (hours): study period: 56 / 28 esent		
Number of ECTS cr	edits: 10		
Recommended seme	ster/trimester of the cour	se:	
Course level: III.			
Prerequisities:			
Conditions for cours	e completion:		
Learning outcomes:			
Brief outline of the c	Brief outline of the course:		
Recommended litera	Recommended literature:		
Course language:	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, DrSc.			
Date of last modifica	tion: 16.11.2021		
Approved: prof. RNDr. Mária Kožurková, CSc.			

University: P. J. Šafárik University in Košice			
Faculty: Faculty of Science			
Course ID: ÚCHV/ VKFZ/06	Course name: Selected Topics in Physiology		
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 ECTS cr	edits: 10		
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	Brief outline of the course:		
Recommended literature:			
Course language:			
Notes:			
Course assessment Total number of assessed students: 0			
	N P		
0.0 0.0			
Provides: prof. MVDr. Juraj Koppel, DrSc., RNDr. Štefan Číkoš, DrSc.			
Date of last modification: 16.11.2021			
Approved: prof. RNDr. Mária Kožurková, CSc.			

University: P. J. Šafárik University in Košice			
Faculty: Faculty of Science			
Course ID: ÚCHV/ ZSP/04	rse ID: ÚCHV/ Course name: Study Stay Abroad /04		
Course type, scope and the method: Course type: Recommended course-load (hours): Per week: Per study period: Course method: present			
Number of ECTS cr	edits: 2		
Recommended seme	ster/trimester of the o	course:	
Course level: III.			
Prerequisities:			
Conditions for course completion:			
Learning outcomes:	Learning outcomes:		
Brief outline of the c	ourse:		
Recommended litera	Recommended literature:		
Course language:			
Notes:			
Course assessment Total number of assessed students: 92			
abs n			
100.0 0.0			
Provides:			
Date of last modification: 15.09.2021			
Approved: prof. RNDr. Mária Kožurková, CSc.			

University: P. J. Šafá	University: P. J. Šafárik University in Košice		
Faculty: Faculty of Science			
Course ID: ÚCHV/ VBP/04	Course name: Supervision of Bachelor Thesis		
Course type, scope and the method: Course type: Recommended course-load (hours): Per week: Per study period: Course method: present			
Number of ECTS cr	edits: 6		
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 literature:			
Course language:	Course language:		
Notes:			
Course assessment Total number of assessed students: 318			
abs n			
100.0 0.0			
Provides:			
Date of last modification: 15.09.2021			
Approved: prof. RNDr. Mária Kožurková, CSc.			

University: P. J. Šafárik University in Košice			
Faculty: Faculty of Science			
Course ID: ÚCHV/ VPSV/04	D: ÚCHV/ Course name: Supervision of a Students Scientific Work		
Course type, scope and the method: Course type: Recommended course-load (hours): Per week: Per study period: Course method: present			
Number of ECTS cro	edits: 6		
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 literature:			
Course language:	Course language:		
Notes:			
Course assessment Total number of assessed students: 79			
abs n			
100.0 0.0			
Provides:			
Date of last modification: 15.09.2021			
Approved: prof. RNDr. Mária Kožurková, CSc.			

University: P. J. Šafárik University in Košice			
Faculty: Faculty of Science			
Course ID: ÚCHV/ TBFC/04Course name: Trends in Biophysical Chemistry			
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 ECTS credits: 10			
Recommended semester/trimester of the course:			
Course level: III.			
Prerequisities:			
Conditions for course completion:			
Learning outcomes:			
Brief outline of the course: Structure hierarchy of biological systems Time hierarchy in biological systems Regulatory mechanism Cooperativity Autocatalytic processes Atractors, fractals Surface interfaces Evolution of biological systems Molecular principles of morphogenesis, signal transductions Communications, chemotaxis Biomimetic materials Modern biophys.chem methods and devices Modern biophys. Methods and devices			
Recommended literature: Cantor,C.R.,Schimmel,P.R Biophysical Chemistry, W.H. Freeman and Co., S. Francisco,1980 Voet,D. Voet,J.G. Biochemistry, John Willey @Sons, 1990 Kersal E. van Holde, W. Curtis Johnson, P. Shing Ho: Principles of Physical Biochemistry, Prentise Hall, 1998 Articles from Journals			
Course language:			
Notes:			

Course assessment		
Total number of assessed students: 34		
N P		
0.0 100.0		
Provides: prof. Ing. Marián Antalík, DrSc.		
Date of last modification: 18.11.2021		
Approved: prof. RNDr. Mária Kožurková, CSc.		

University: P. J. Šafá	rik University in Košice		
Faculty: Faculty of Science			
Course ID: ÚCHV/ PDS/14	ourse ID: ÚCHV/ Course name: Writing Dissertation Work DS/14		
Course type, scope and the method: Course type: Recommended course-load (hours): Per week: Per study period: Course method: present			
Number of EC18 cr	edits: U		
Course level: III	ster/trimester of the cours		
Proroquisitios:			
Conditions for course	a completion.		
Conditions for cours			
Learning outcomes:			
Brief outline of the c	ourse:		
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. Mária Kožurková, CSc.			

University: P. J. Šafá	rik University in Koši	ce	
Faculty: Faculty of Science			
Course ID: ÚCHV/ PDS/18	Durse ID: ÚCHV/ Course name: Writing Dissertation Work		
Course type, scope a Course type: Recommended cour Per week: Per stud Course method: pre	nd the method: rse-load (hours): y period: esent		
Number of ECTS cr	edits: 0		
Recommended seme	ster/trimester of the	course:	
Course level: III.			
Prerequisities:			
Conditions for cours	Conditions for course completion:		
Learning outcomes:			
Brief outline of the c	ourse:		
Recommended literature:			
Course language:			
Notes:	Notes:		
Course assessment Total number of assessed students: 6			
	N P		
	0.0 100.0		
Provides:			
Date of last modification: 15.09.2021			
Approved: prof. RNI	Approved: prof. RNDr. Mária Kožurková, CSc.		