University: P. J	. Šafárik Univers	sity in Košice				
Faculty: Facult	y of Science					
Course ID: ÚB ACL/03	EV/ Course n	EV/ Course name: Human Anatomy				
Course type, sc Course type: 1 Recommended Per week: 2 / 2 Course metho	cope and the me Lecture / Practice d course-load (h 2 Per study peri d: present	thod: e ours): od: 28 / 28				
Number of cree	dits: 5					
Recommended	semester/trime	ster of the course	e: 3.			
Course level: I.						
Prerequisities:						
Conditions for Written examin	course complet ation	ion:				
Learning outco Anatomic syste	omes: ms of man.					
Brief outline of Anatomic tern circulatory and of man.	the course: ninology, skelet lymphatic system	on and muscles n, urogenital syst	, gastrointestir em,sensory org	nal system, respi ans, nervous syste	iratory system, em, ontogenesis	
Recommended Kahle, W., Leon Anatomy in 3 V and Volume 3: Thieme Medica Anne M. R. Ag	literature: nhardt, H., Platze /olumes : Volum Nervous System Il Publishers, Inc ur : Grant´s atlas	er, W. : Color Atla e 1 : Locomotor S and Sensory Orga . New York, 1993 s of anatomy. Will	as and Textbook System, Volume ans iams et Wilkins	c of Human 2: Internal Organ 5, USA, 1991	S	
Course languag	ge:					
Course assessm Total number o	Course assessment Total number of assessed students: 1566					
А	В	C	D	Е	FX	
4.47	16.99	27.59	25.48	22.67	2.81	
Provides: RND	r. Juraj Ševc, Ph	D., RNDr. Anna A	Alexovič Matiaš	šová, PhD.		
Date of last mo	dification: 24.02	2.2017				
Approved: Gua	ranteeprof. RNI	Dr. Peter Kollár, D	rSc.Guaranteep	orof. RNDr. Pavol	Mártonfi, PhD.	

University: P. J.	Šafárik Univers	ity in Košice				
Faculty: Faculty	of Science					
Course ID: KPE ALP/06	Course name: Alternative Education					
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 cred	lits: 2					
Recommended	semester/trimes	ster of the cours	e: 4.			
Course level: I.						
Prerequisities:						
Conditions for a	course completi	on:				
Learning outco	mes:					
Brief outline of	the course:			_		
Recommended	literature:					
Course languag	je:					
Course assessment Total number of assessed students: 143						
A	В	С	D	Е	FX	
66.43	29.37	0.7	1.4	0.7	1.4	
Provides: PaedDr. Renáta Orosová, PhD., Mgr. Katarína Petríková, PhD.						
Date of last modification: 07.02.2017						
Approved: Guaranteeprof. RNDr. Peter Kollár, DrSc.Guaranteeprof. RNDr. Pavol Mártonfi, PhD.						

University: P. J. Safárik University in Košice						
Faculty: Faculty of Science						
Course ID: ÚBEV/ BDD/05Course name: Biology of Children and Adolescents	BEV/ Course name: Biology of Children and Adolescents					
Course type, scope and the method: Course type: Lecture / Practice Recommended course-load (hours): Per week: 2 / 0 Per study period: 28 / 0 Course method: present						
Number of credits: 2						
Recommended semester/trimester of the course: 4., 6.						
Course level: I.						
Prerequisities:						
Conditions for course completion: Written test						
The aim of the subject is to gain the particular level of knowledge about human body and its development. It is neccessary for the understanding of specific biological characteristics of children and adolescents linked to development.						
Brief outline of the course: Human ontogenesis. Postnatal development. Age specific features of skeletal and musc circulatory, respiratory, gastrointestinal and urinary systems. Reproductive system. Endoc system. Nervous system. Age specifics of selected diseases and drug dependence arise. Hu population and environment.	alar, rine man					
Recommended literature: Drobný I., Drobná M.: Biológia dieťaťa pre špeciálnych pedagógov I. a II. Bratislava, PdF UH 2000 Lipková V.: Somatický a fyziologický vývoj dieťaťa. Osveta Bratislava, 1980 Malá H., Klementa J.: Biológia detí a dorastu. Bratislava, SPN, 1989	<u>,</u>					
Course language:						
Course assessment Total number of assessed students: 1337						
A B C D E FX						
31.56 23.04 17.5 18.03 9.42 0.45						
Provides: doc. RNDr. Monika Kassayová, CSc.						
Date of last modification: 16.02.2017						
Approved: Guaranteeprof. RNDr. Peter Kollár, DrSc.Guaranteeprof. RNDr. Pavol Mártonfi, H	hD.					

University: P. J. Šafá	rik University in Košice					
Faculty: Faculty of S	Faculty: Faculty of Science					
Course ID: ÚBEV/ BKP/14	Course name: Bachelor Pr	roject				
Course type, scope and the method: Course type: Recommended course-load (hours): Per week: Per study period: Course method: present						
Number of credits: 2						
Recommended seme	ster/trimester of the cours	e: 5				
Course level: I.						
Prerequisities:						
Conditions for cours Submission of the bac supervisor.	e completion: chelor project, the defense of	of the project and acceptance of its content by the				
Learning outcomes:						
Brief outline of the c	ourse:					
Recommended literature: 1. Scientific papers related to the topic of the bachelor project. 2. Directive No. 1/2011 of the rector UPJS in Košice.						
Course language:						
Course assessment Total number of assessed students: 56						
	abs	n				
	100.0	0.0				
Provides:						
Date of last modification: 24.02.2017						
Approved: Guaranteeprof. RNDr. Peter Kollár, DrSc.Guaranteeprof. RNDr. Pavol Mártonfi, PhD.						

University: P. J. Šafá	University: P. J. Šafárik University in Košice					
Faculty: Faculty of S	cience					
Course ID: ÚFV/ BKP/14	Course name: Bachelor Pr	Course name: Bachelor Project				
Course type, scope and the method: Course type: Recommended course-load (hours): Per week: Per study period: Course method: present						
Number of credits: 2						
Recommended seme	ster/trimester of the course	e: 5.				
Course level: I.						
Prerequisities:						
Conditions for cours Submission of the bas its content by the sup	e completion: chelor project based on the a ervisor.	assignments of the supervisor and acceptance of				
Learning outcomes: Bachelor project prep process konwledge av prepare a presentation	pared as a design of a bachel vailable in different resource n and share the results in fro	or thesis, as an evidence that student is able to es, citate correctly and keep the layout correctly, nt of experts.				
Brief outline of the c The bachelor project to carries out the follow development of the p correct citations and p	Brief outline of the course: The bachelor project is aimed at the selected problem of physics. Based on the assignments student carries out the following activities: development of the project, formulation of the problem and methods, formal and graphical layout, correct citations and references, basic principles of presentation and its defence.					
Recommended litera 1. Resources (literatu 2. Regulations No. 1/	 Recommended literature: 1. Resources (literature, papers) based on the project assignments. 2. Regulations No. 1/2011 about final works (thesis for University of P.J. Safarik. 					
Course language: Slovak, English						
Course assessment Total number of assessed students: 4						
abs n						
100.0 0.0						
Provides:						
Date of last modification: 24.02.2017						
Approved: Guarantee	Approved: Guaranteeprof. RNDr. Peter Kollár, DrSc.Guaranteeprof. RNDr. Pavol Mártonfi, PhD.					

University: P. J. Ša	afárik Univers	ity in Košice		University: P. J. Šafárik University in Košice					
Faculty: Faculty o	f Science								
Course ID: ÚBEV BO1/15	EV/ Course name: Botany I								
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	s: 4								
Recommended set	mester/trimes	ster of the cours	e: 3.						
Course level: I.									
Prerequisities:									
Conditions for co	urse completi	on:							
Learning outcome Introduction to bio	e s: blogy of lower	plants.							
Morphology, cytology, ecology, evolution and taxonomy of all main groups of lower plants. Cyanobacteria and algae (Cyanophyta, Prochlorophyta,Glaucophyta, Rhodophyta, Heterocontophyta, Haptophyta, Cryptophyta, Dinophyta, Euglenophyta, Chlorarachniophyta, Chlorophyta). Slime moulds(Plasmodiophoromycota, Dictyosteliomycota, Acrasiomycota, Labyrinthulomycota). Fungi (Oomycota, Hyphochytriomycota, Chytridiomycota, Zygomycota, Ascomycota, Basidiomycota). Lichens. Bryophytes. Literature: Deacon LW (1998) Modern Mycology. Blackwell Science Ltd									
Recommended literature: Bačkor, M.: Základy systému nižších rastlín I. (sinice, riasy a slizovky). UPJŠ, Košice 2002; Deacon, J.W. (1998) Modern Mycology. Blackwell Science Ltd. Van den Hoek, C. a kol. 1995: Algae, an introduction to phycology, Záhorovská E. a kol.: Systém a evolúcia nižších rastlín. UK Bratislava 1998									
Course language:									
Course assessment Total number of assessed students: 177									
A	В	С	D	E	FX				
28.81 15.82 24.29 16.95 10.73 3.39									
Provides: prof. RN	NDr. Martin Ba	ačkor, DrSc., RN	Dr. Michal Goga	, PhD.					
Date of last modif	Date of last modification: 24.02.2017								
Approved: Guaranteeprof. RNDr. Peter Kollár, DrSc.Guaranteeprof. RNDr. Pavol Mártonfi, PhD.									

University: P. J.	. Šafárik Univers	ity in Košice					
Faculty: Faculty	y of Science						
Course ID: ÚB BO1/03	EV/ Course name: Botany I						
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 crea	lits: 5						
Recommended	semester/trime	ster of the cours	e: 3.				
Course level: I.							
Prerequisities:							
Conditions for	course complet	on:					
Learning outco Introduction to	mes: biology of lower	plants.					
Morphology, cytology, ecology, evolution and taxonomy of all main groups of lower plants. Cyanobacteria and algae (Cyanophyta, Prochlorophyta,Glaucophyta, Rhodophyta, Heterocontophyta, Haptophyta, Cryptophyta, Dinophyta, Euglenophyta, Chlorarachniophyta, Chlorophyta). Slime moulds(Plasmodiophoromycota, Dictyosteliomycota, Acrasiomycota, Labyrinthulomycota). Fungi (Oomycota, Hyphochytriomycota, Chytridiomycota, Zygomycota, Ascomycota, Basidiomycota). Lichens. Bryophytes. Literature: Deacon J.W. (1998) Modern Mycology. Blackwell Science J td							
Recommended literature: Bačkor, M.: Základy systému nižších rastlín I. (sinice, riasy a slizovky). UPJŠ, Košice 2002; Deacon, J.W. (1998) Modern Mycology. Blackwell Science Ltd. Van den Hoek, C. a kol. 1995: Algae, an introduction to phycology, Záhorovská E. a kol.: Systém a evolúcia nižších rastlín. UK Bratislava 1998							
Course language:							
Course assessment Total number of assessed students: 1599							
Α	В	С	D	Е	FX		
13.32	13.32 18.82 25.27 20.39 19.45 2.75						
Provides: prof.	RNDr. Martin B	ačkor, DrSc., RN	Dr. Michal Goga	a, PhD.			
Date of last mo	dification: 24.02	2.2017					
Approved: Gua	Approved: Guaranteeprof. RNDr. Peter Kollár, DrSc.Guaranteeprof. RNDr. Pavol Mártonfi, PhD.						

University: P. J	. Šafárik Univers	sity in Košice			
Faculty: Facult	y of Science			-	
Course ID: ÚB BOT1/15	EV/ Course na	ame: Botany II			
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 cree	dits: 4				
Recommended	semester/trime	ster of the cours	e: 2.		
Course level: I.					
Prerequisities:	ÚBEV/TCB1/03	}			
Conditions for Practical and th	course complet eoretical exam.	ion:			
Learning outco To obtain of su	omes: rvey in knowledg	ge and methods in	n systematics of t	racheophytes.	
 Brief outline of the course: History and present time of plant systematics. Approaches to plant classification. Principles of cladistics and molecular taxonomy. Tracheophytes, clades of lycophytes, ferns and allies. Seed plants. Gymnosperms and their evolution: cycads, ginkgos, conifers, gnetophytes. Angiosperms. Evolution and general description. Basal clades and Magnoliid clade. Monocots. "Basal tricolpates" and Caryophyllid clade. Rosid and asterid clades of tricolpates. Practices are devoted to study of the most important families of tracheophytes. Fossil evidence of ferns and allies from Palaeozoic age. Tropical a subtropical flora. Ferns. Practical study of conifers. Selected families of angiosperms. (<i>Magnoliaceae, Araceae, Liliaceae, Amaryllidaceae, Cyperaceae, Rosaceae, Betulaceae, Brassicaceae, Boraginaceae, Plantaginaceae, Lamiaceae, Fabaceae, Rosaceae, Betulaceae, Brassicaceae, Boraginaceae, Plantaginaceae, Lamiaceae,</i> 					
Recommended literature: Mártonfi P.: Systematika cievnatých rastlín, 2. vydanie ES UPJŠ, Košice, 2006. Mártonfi P.: Systematika cievnatých rastlín ES UPJŠ, Košice, 2003. Judd W. S., Campbell Ch. S., Kellogg E. A. & Stevens P. F., Donoghue M. J.: Plant Systematics. A phylogenetic Approach, 2nd ed Sinauer Associates, Sunderland, 2002. Dostál J., Červenka M.: Veľký kľúč na určovanie rastlín I. a II SPN, Bratislava, 1991 a 1992. Course language:					
Course assessment					
Total number of assessed students: 234					
A	В	C	D	E	FX
14.53	13.25	27.35	21.37	13.68	9.83
Provides: prof. RNDr. Pavol Mártonfi, PhD., Mgr. Vladislav Kolarčik, PhD.					

Date of last modification: 24.02.2017

Approved: Guaranteeprof. RNDr. Peter Kollár, DrSc.Guaranteeprof. RNDr. Pavol Mártonfi, PhD.

University: P. J.	. Šafárik Unive	rsity in Košice					
Faculty: Faculty	y of Science						
Course ID: ÚB BOT1/03	urse ID: ÚBEV/ Course name: Botany II T1/03						
Course type, sc Course type: 1 Recommended Per week: 2 / 2 Course metho	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 crea	lits: 5						
Recommended	semester/trim	ester of the cours	e: 2.				
Course level: I.							
Prerequisities:	ÚBEV/TCB1/0	3					
Conditions for Practical and th	course comple eoretical exam.	tion:					
Learning outco To obtain of sur	mes: vey in knowled	lge and methods in	n systematics of t	racheophytes.			
Brief outline of the course: History and present time of plant systematics. Approaches to plant classification. Principles of cladistics and molecular taxonomy. Tracheophytes, clades of lycophytes, ferns and allies. Seed plants. Gymnosperms and their evolution: cycads, ginkgos, conifers, gnetophytes. Angiosperms. Evolution and general description. Basal clades and Magnoliid clade. Monocots. "Basal tricolpates" and Caryophyllid clade. Rosid and asterid clades of tricolpates. Practices are devoted to study of the most important families of tracheophytes. Fossil evidence of ferns and allies from Palaeozoic age. Tropical a subtropical flora. Ferns. Practical study of conifers. Selected families of angiosperms. (<i>Magnoliaceae, Araceae, Liliaceae, Amaryllidaceae, Cyperaceae, Rosaceae, Betulaceae, Brassicaceae, Boraginaceae, Plantaginaceae, Lamiaceae, Lamiaceae, Araceae, Lamiaceae, Lamiaceae, Caryophyllaceae, Study of the most information of the study of the formation of the study of the study</i>							
Recommended literature: Mártonfi P.: Systematika cievnatých rastlín, 2. vydanie ES UPJŠ, Košice, 2006. Mártonfi P.: Systematika cievnatých rastlín ES UPJŠ, Košice, 2003. Judd W. S., Campbell Ch. S., Kellogg E. A. & Stevens P. F., Donoghue M. J.: Plant Systematics. A phylogenetic Approach, 2nd ed Sinauer Associates, Sunderland, 2002. Dostál J., Červenka M.: Veľký kľúč na určovanie rastlín I. a II SPN, Bratislava, 1991 a 1992.							
Course language:							
Course assessment Total number of assessed students: 1388							
A	B	C	D	Е	FX		
10.3	12.03	17.29	19.96	24.78	15.63		
			<u> </u>		1		

Provides: prof. RNDr. Pavol Mártonfi, PhD., Mgr. Vladislav Kolarčik, PhD.

Date of last modification: 24.02.2017

Approved: Guaranteeprof. RNDr. Peter Kollár, DrSc.Guaranteeprof. RNDr. Pavol Mártonfi, PhD.

University: P. J	. Šafárik Univer	sity in Košice				
Faculty: Facult	y of Science					
Course ID: ÚF BPO/14	V/ Course n	Course name: Bachelor Thesis and its Defence				
Course type, so Course type: Recommende Per week: Pe Course metho	cope and the me d course-load (l r study period: od: present	ethod: hours):				
Number of cre	dits: 4					
Recommended	semester/trime	ester of the cours	se:			
Course level: I						
Prerequisities:						
Conditions for Required numb	course complete ber of credits gain	ion: ned basedon subr	nitting the bache	lor thesis.		
Learning outco	omes:					
Brief outline of Presentation of professional co	f the course: the bachelor th mmission.	esis results, answ	vering questions	of the reviewer a	and members of	
Recommended	literature:					
Course langua Slovak or Engl	ge: ish					
Course assessm Total number o	nent f assessed stude	nts: 17				
А	В	C	D	Е	FX	
100.0	100.0 0.0 0.0 0.0 0.0					
Provides:	·	-	•			
Date of last mo	dification: 24.0	2.2017				
Approved: Gua	aranteeprof. RNI	Dr. Peter Kollár, I	DrSc.Guaranteep	rof. RNDr. Pavol	Mártonfi, PhD.	

University: P. J.	Šafárik Univers	ity in Košice				
Faculty: Faculty	of Science					
Course ID: ÚBI BPO/14	rse ID: ÚBEV/ Course name: Bachelor Thesis and its Defence					
Course type, scope and the method: Course type: Recommended course-load (hours): Per week: Per study period: Course method: present						
Number of cred	lits: 4					
Recommended	semester/trimes	ster of the cours	e:			
Course level: I.						
MOB1/03 or ÚB and (ÚBEV/ZO1 BO1/03 or ÚBE	Prerequisities: ((ÚBEV/CYT1/02 or ÚBEV/CYT1/15) and ÚBEV/GE1/10 and (ÚBEV/ MOB1/03 or ÚBEV/MOB1/15)) or (ÚBEV/FZ1/10 and (ÚBEV/HIS1/03 or ÚBEV/HIS1/15) and (ÚBEV/ZO1/03 or ÚBEV/ZO1/15) and (ÚBEV/ZOO1/03 or ÚBEV/ZOO1/15)) or ((ÚBEV/ BO1/03 or ÚBEV/BO1/15) and (ÚBEV/BOT1/03 or ÚBEV/BOT1/15) and ÚBEV/FR1/10)					
Conditions for a	course completi	on:				
Learning outco	mes:					
Brief outline of	the course:					
Recommended	literature:					
Course languag	ge:					
Course assessment Total number of assessed students: 130						
A	В	С	D	Е	FX	
47.69	29.23	16.15	6.15	0.77	0.0	
Provides:						
Date of last modification: 24.02.2017						
Approved: Guaranteeprof. RNDr. Peter Kollár, DrSc.Guaranteeprof. RNDr. Pavol Mártonfi, PhD.						

University: P. J.	Šafárik Univers	ity in Košice					
Faculty: Faculty	of Science						
Course ID: ÚBE BS1/03	Course ID: ÚBEV/ Course name: Biostatistics 3S1/03						
Course type, scope and the method: Course type: Lecture / Practice Recommended course-load (hours): Per week: 2 / 2 Per study period: 28 / 28 Course method: present							
Number of cred	its: 6						
Recommended s	semester/trimes	ster of the course	e: 3., 5.				
Course level: I.							
Prerequisities:							
Conditions for c Recognition. Recognition.	ourse completi	on:					
Learning outcor To provide the st and their scope of	nes: tudents with kno of application	owledge on basic	principles of sta	tistic methods us	ed in biology		
Brief outline of the course: Sources and theoretical background of biostatistics. Basic principles of the probability theory. Descriptive statistics: variables, measures of mean value and variability of data. Theoretical and empirical distributions. Experimental sampling from normal distributions. Testing of hypotheses. One-way and multiple analysis of variance. Tests for multiple comparisons. Regression analysis. Correlations. Non parametrical methods. Time series. Analysis of quantitative data							
Recommended literature: Hassard, T. H.: Understanding biostatistics. Mosby Year Book, 1991 Snedecor,G.W., Cochran,W.G.: Statistical methods. The Iowa state university, Ames, 1972. R.Forthofer, E.S.Lee, M.Hernandez: Biostatistics. Elsevier, Amsterdam, 2007							
Course language:							
Course assessment Total number of assessed students: 164							
A	В	С	D	Е	FX		
3.05	3.05 9.76 17.07 20.12 34.15 15.85						
Provides: prof. RNDr. Beňadik Šmajda, CSc.							
Date of last modification: 24.02.2017							
Approved: Guar	Approved: Guaranteeprof. RNDr. Peter Kollár, DrSc.Guaranteeprof. RNDr. Pavol Mártonfi, PhD.						

University: P. J. Š	Safárik Univers	ity in Košice			
Faculty: Faculty of	of Science				
Course ID: ÚBEV/ Course name: Biology BSB/15					
Course type, scop Course type: Recommended of Per week: Per s Course method:	pe and the met course-load (h study period: present	thod: ours):			
Number of credit	ts: 1				
Recommended se	emester/trimes	ster of the cours	e:		
Course level: I.					
Prerequisities:					
Conditions for co	ourse completi	on:			
Learning outcom	ies:				
Brief outline of th	he course:				
Recommended li	terature:				
Course language	:				
Course assessmen Total number of a	nt assessed studen	ts: 110			
Α	В	С	D	Е	FX
22.73 20.91 25.45 16.36 13.64 0.91					
Provides:				·4	
Date of last modi	fication: 24.02	2.2017			
Approved: Guara	inteeprof. RND	r. Peter Kollár, E	DrSc.Guaranteepi	of. RNDr. Pavol	Mártonfi, PhD.

University: P. J	. Šafárik Univer	sity in Košice				
Faculty: Facult	Faculty: Faculty of Science					
Course ID: ÚFV/ BSSM/15Course name: Bachelor State Exam Physics						
Course type, so Course type: Recommended Per week: Pe Course metho	cope and the me d course-load (I r study period: od: present	thod: 10urs):				
Number of cree	dits: 1					
Recommended	semester/trime	ster of the cours	e:			
Course level: I.						
Prerequisities:						
Conditions for Answering que	course complet stions concernin	ion: g selected fields o	of the subjects of	f Bachelor state e	xam.	
Learning outco Basic knowledg	omes: ge and overview	of konowledge in	n the fields stated	d by the Bachelro	state exam.	
 Brief outline of Exam in the fie Mechanics an Electricity and Oscillations a Nuclear physi General bioph Theoretical m Theory of election Statistical physical statistical statistical statistical physical statistical statis	 Brief outline of the course: Exam in the field of knowledge in physics consisting of an overview of the following fields: Mechanics and molecular physics Electricity and magnetism Oscillations and waves, optics Nuclear physics General biophysics Theoretical mechanics Theory of electromagnetic field 					
Recommended	literature:					
Course language: Slovak						
Course assessment Total number of assessed students: 8						
Α	В	С	D	E	FX	
37.5 50.0 12.5 0.0 0.0 0.0						
Provides:						
Date of last mo	dification: 24.0	2.2017				
Approved: Gua	aranteeprof. RNI	Dr. Peter Kollár, I	DrSc.Guaranteep	rof. RNDr. Pavol	Mártonfi, PhD.	

University: P. J.	Šafárik Univer	sity in Košice				
Faculty: Faculty	y of Science					
Course ID: ÚBEV/ CYT1/15Course name: Cytology						
Course type, sc Course type: I Recommended Per week: 3 / 2 Course method	Course type, scope and the method: Course type: Lecture / Practice Recommended course-load (hours): Per week: 3 / 2 Per study period: 42 / 28 Course method: present					
Number of crea	lits: 6					
Recommended	semester/trime	ster of the cours	e: 1.			
Course level: I.						
Prerequisities:						
Conditions for Oral examination	course complet	ion:				
Learning outco To provide the s submicroscopic	mes: students with kn structure and fu	owledge of basic inction.	principles of cell	microscopic and	d	
Brief outline of Levels of living plant and anim individual cell of	the course: system organiza al cells. Micros components. Nu	ation. Characterist scopic, submicros cleus and cell div	ics and comparis scopic and mole ision.	on of prokaryotic cular structure	c and eukaryotic and function of	
Recommended Alberts, B., Bra New York, Lond	Recommended literature: Alberts, B., Bray, D., Lewis, J. et al.: Molecular Biology of the Cell. Garland Publishing Inc., New York, London, 1994					
Course languag	ge:					
Course assessm Total number of	Course assessment Total number of assessed students: 3658					
А	В	C	D	Е	FX	
5.52 15.17 24.52 23.15 26.68 4.95						
Provides: RNDr. Rastislav Jendželovský, PhD., RNDr. Zuzana Jendželovská, PhD.						
Date of last mo	dification: 24.0	2.2017				
Approved: Gua	ranteeprof. RNI	Dr. Peter Kollár, D	PrSc.Guaranteepr	of. RNDr. Pavol	Mártonfi, PhD.	

University: P. J.	University: P. J. Šafárik University in Košice				
Faculty: Faculty	of Science				
Course ID: KFaDF/ Course name: History of Philosophy 2 (General Introduction) DF2p/03					
Course type, scope and the method: Course type: Lecture / Practice Recommended course-load (hours): Per week: 2 / 1 Per study period: 28 / 14 Course method: present					
Number of cred	lits: 4				
Recommended	semester/trimes	ster of the cours	e: 6.		
Course level: I.,	, II.				
Prerequisities:					
Conditions for	course completi	on:			
Learning outco	mes:				
Brief outline of	the course:				
Recommended	literature:				
Course languag	ge:				
Course assessm Total number of	ent assessed studen	ts: 734			
A	В	С	D	Е	FX
60.63	13.9	12.67	8.72	3.41	0.68
Provides: doc. PhDr. Pavol Tholt, PhD., mim. prof., Doc. PhDr. Peter Nezník, CSc., PhDr. Katarína Mayerová, PhD., doc. Mgr. Róbert Stojka, PhD.					
Date of last mo	dification: 24.02	2.2017			
Approved: Gua	ranteeprof. RND	r. Peter Kollár, E	PrSc.Guaranteepr	of. RNDr. Pavol	Mártonfi, PhD.

University: P. J. Šafá	rik University in Košice					
Faculty: Faculty of S	cience					
Course ID: ÚMV/ DGS/15Course name: Students` Digital Literacy						
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					
Number of credits: 2	2					
Recommended seme	ster/trimester of the course: 1.					
Course level: I.						
Prerequisities:						
Conditions for cours continuous assessment	e completion: nt and final project					
Learning outcomes: To acquire an overvie competencies with er To acquire basic digit laptop, social media, technologies for bette lifelong learning and	ew of the current possibilities of digital technology to develop skills and nphasis on the area of communication, social interaction and personal. tal skills for working with advanced technologies (mobile phone, tablet, online webtechnologies). To understand the value of existing advanced er and more effective learning, work and active life in higher education, further career prospects.					
Brief outline of the course: Introduction to the problems of current, commonly available digital technology. Tools for access to online information source (mobile applications for access to information systems, databases, data books). Tools for collecting, generating direct information and data and its subsequent analysis and visualization. Tools for providing and sharing of electronic content (cloud technology -Google Drive, Youtube, Google+, Skydrive, Dropbox). Tools for communication, discussion and collaborative activities. Legal work with digital technologies and resources, plagiarism, critical evaluation of digital resources. Security, privacy, digital ethics and etiquette, digital citizenship.						
Recommended litera 1. Bruff, D. (2009). T environments. San Fr	iture: Ceaching with classroom response systems: Creating active learning rancisco: Jossey-Bass.					

2. Byrne, R. (2012). Google Drive and Docs for Teachers. Free Tech for Teachers.

3. Kawasaki, G. (2012). What the Plus! Google+ for the Rest of Us. Amazon igital Services.

4. Kolb, L. (2011). Cell Phones in the Classroom: A Practical Guide for Educators. International Society for Technology in Education.

Course language: Slovak

Course assessment

Total number of assessed students: 104

abs	n
97.12	2.88
Provides: doc. RNDr. Stanislav Lukáč, PhD., doc Šnajder, PhD.	c. RNDr. Jozef Hanč, PhD., doc. RNDr. Ľubomír

Date of last modification: 22.02.2017

Approved: Guaranteeprof. RNDr. Peter Kollár, DrSc.Guaranteeprof. RNDr. Pavol Mártonfi, PhD.

University: P. J. Šafárik University in Košice					
Faculty: Faculty of S	cience				
Course ID: ÚINF/ EDS/15	Course name: Educational software				
Course type, scope a Course type: Lectur Recommended cour Per week: 0 / 2 Per Course method: pre	nd the method: re / Practice rse-load (hours): study period: 0 / 28 esent				
Number of credits: 2					
Recommended seme	ster/trimester of the course: 5.				
Course level: I.					
Prerequisities:					
Conditions for cours 1 Preparation of inter a) Worksheet for stud b) Multimedia education c) Interactive education d) Methodological guid chosen school subject 2 Creation and preser Learning outcomes: 1. To acquire an over 2. To gain or enhanced a) presentation softwar concept maps, b) programs for creat	te completion: im assignments: lent (with custom graphics) tional presentation (with pictures, animations and sounds) onal quiz (with several types of quiz items) tidance on the use of interactive applications in teaching selected topic of t. ntation of final project on the use of educational software in education. view of the educational software types and its exploitation in education. view of the educational software types and its exploitation in education. e basic skills in working with: are, programs for creation and editing images, animations, diagrams, sounds, ion of quizes, questionnaires, voting,				
c) simulation and mo	deling software,				
3. To create and prese	ent a final project on the use of educational software in education.				
Brief outline of the c Educational software for creation of teaching	ourse: types. Onlilne educational sources and tools. Multimedia processing. Tools ng aids.				
Recommended litera 1. Digitálna gramotno Košice : Ústav inform 2. Moderná didaktick [et al.] ; recenzenti Vi 9788080861353 (bros 3. Web, Multimédiá / 68 s Č. projektu: Šl	nture: osť učiteľa : učebný materiál- modul 1 / Rastislav Adámek [et al.] nácií a prognóz školstva, 2009 80 s ISBN 9788080861193(brož.). sá technika v práci učiteľa : učebný materiál modul 2 / Rastislav Adámek iliam Fedák, Anton Lavrin Košice : Elfa, 2010 200 s ISBN ž.). Martin Homola [et al.] Bratislava : Štátny pedagogický ústav, 2010 PVV ĎVUi 26120130001 ISBN 9788081180514 (brož.).				
Course language:					
Notes:					

Content of lessons will be flexibly adapted to the field of study of learners. Language learners will be able to work more with pictures and sounds, physicists with simulation programs, mathematicians with mathematical software, etc.

Course assessment Total number of assessed students: 25						
A B C D E FX						
56.0	24.0	16.0	0.0	4.0	0.0	
Provides: doc.	Provides: doc. RNDr. Ľubomír Šnajder, PhD.					
Date of last modification: 09.02.2017						
Approved: Gua	Approved: Guaranteeprof. RNDr. Peter Kollár, DrSc.Guaranteeprof. RNDr. Pavol Mártonfi, PhD.					

University: P. J. Ša	University: P. J. Šafárik University in Košice						
Faculty: Faculty of	Science			-			
Course ID: ÚFV/ ELEM1/15	Course ID: ÚFV/ LEM1/15Course name: Electronics						
Course type, scope and the method: Course type: Lecture Recommended course-load (hours): Per week: 3 Per study period: 42 Course method: present							
Number of credits	: 3						
Recommended sen	nester/trimes	ter of the cours	e: 5.				
Course level: I.							
Prerequisities: ÚF	V/VF1b/03 or	ÚFV/VFM1b/1	5				
Conditions for cou Exam	irse completio	on:					
To explain physical of their realization. electronic circuits a into basic elements fabrication and prin	l principles of To perform a and informatic and devices i nciples of their	classical electro nalysis of proper on transmission a n area of nanoel r functioning.	nic components rties and function and processing sy ectonics and to en	and systems and as of basic electro ystems. To introd xplain methods o	technologies onic elements, uce student of their		
Brief outline of the Structure, propertie of functions and p selected building c nanodevices their p	e course: es and physical roperties of b components of properties, fab	principles of the pasic analog and nanoelectronics rication and inte	e activity of select digital electron s: graphene, carb gration to functio	ted electronic electic circuits. Nano pon nanotubes, se ponal systems.	ments. Analysis belectronics and elected types of		
 Recommended literature: 1. Brown P.B., Frantz G.N., Moraff H.: Electronics for the Modern Scientist. Elsevier, 1982. 2. Delaney C.F.G.: Electronics for the Physicist with Aplications. John Willey & Sons, 1980. 3. Wolt E. L.: Quantum Nanoelectronics, An introduction to electronic nanotechnology and quantum computing, Wiley-VCh, 2009 							
Course language: Slovak							
Course assessment Total number of assessed students: 147							
Α	В	C	D	Е	FX		
25.85 25.17 29.25 8.16 4.08 7.48							
Provides: Mgr. Vla	dimír Koman	ický, Ph.D., prof	RNDr. Peter Ko	ollár, DrSc.			
Date of last modifi	cation: 24.02	.2017					
Approved: Guaran	teeprof. RND	r. Peter Kollár, D	PrSc.Guaranteepr	of. RNDr. Pavol	Mártonfi, PhD.		

University: P. J.	Šafárik Univers	sity in Košice					
Faculty: Faculty	of Science						
Course ID: ÚF ELP1/01	V/ Course name: Electonics Practical						
Course type, sc Course type: F Recommended Per week: 3 Pe Course metho	ope and the me Practice I course-load (h er study period d: present	thod: nours): : 42					
Number of cred	lits: 3						
Recommended	semester/trime	ster of the cours	e: 6.				
Course level: I.							
Prerequisities:	ÚFV/ELE1/07						
Conditions for Debate with stu experimental re Summary evalu	course complet dents during pra sults of their def ation of student	ion: ctice, trial prepar ense. activities while v	ation and proce	ssing of theoretica	ll and ctices.		
Learning outco Practical work of of electronic cir theoretical know	mes: of students in the cuits and interpr vledge acquired	e design, construct retation of the res in lectures on the	tion and proper ults obtained to subject Electro	ties of the measure verify and consoli- nics.	ements idate the		
Brief outline of 1. Combinatori Rectifiers, filter 7. Generators of Digital-to-analo	the course: al logical circu s, stabilizers. 5. Tharmonic signa g converters. 10	its. 2.Logical me Amplifier with bi ls. 8. Operational Analog-to-digit	emory circuits. ipolar transistor. amplifiers and al converters.	3. Logical seque 6. Stabilized DC operational netwo 1 Reserve.	nce circuits. 4. power supplies. rk interfaces. 9.		
Recommended 1. Delaney C.F. York, 1980. 2. Zbar P.B., Ma McGraw – Hill,	literature: G.: Electronics f alvino A.P., Mill New York, 199	for the Physicist v er M.A.: Basic E 4.	vith Aplications lectronics: a Tex	. John Willey & S xt-Lab Manual. M	ons, New acmillan/		
Course languages slovak or englis	g e: h						
Course assessm Total number of	ent fassessed studer	nts: 33					
А	В	С	D	E	FX		
96.97	96.97 0.0 3.03 0.0 0.0 0.0						
Provides: RND	r. Vladimír Tkáč	, PhD.					
Date of last mo	dification: 24.02	2.2017					
Approved: Gua	ranteeprof. RNI	Dr. Peter Kollár, I	DrSc.Guaranteep	prof. RNDr. Pavol	Mártonfi, PhD.		

University: P. J.	. Šafárik Univer	sity in Košice				
Faculty: Faculty	y of Science					
Course ID: ÚF FDE/15	urse ID: ÚFV/ Course name: Physics in Demonstration Experiments E/15					
Course type, sc Course type: F Recommended Per week: 2 Pe Course metho	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 cred	lits: 2					
Recommended	semester/trime	ster of the cours	e: 3.			
Course level: I.						
Prerequisities:						
Conditions for Seminar work –	course complet - a project dealir	ion: ng with hands-on o	experiments and	their role in Phys	sics teachig.	
Learning outco The goal of the phenomena thro	mes: course is to get ough demonstrat	better the understa ional physical exp	anding of basic p periments.	hysical concepts	and	
Brief outline of The course is a with the help of subject Introduc	the course: imed at the con selected demon ctory physics an	ceptual understan strational experin d their realization	ding of basic ph nents. The experi is based on stude	ysical concepts a ments concern th ents' active partic	and phenomena e content of the cipation.	
Recommended 1. D.Halliday, F 2.K.Cummings, John Wiley & S 3.P.G.Hewitt: C 4.Ľ.Onderová, I	 Recommended literature: 1. D.Halliday, R.Resnick, J.Walker: Fyzika, VUTIUM, Brno, 2000 2.K.Cummings, P.W.Law, E.F.Redish, P.J.Cooney: Understanding Physics, John Wiley & Sons, Inc., 2004 3.P.G.Hewitt: Conceptual Physics, tenth edition, Pearson, Addison Wesley, 2006 4. I' Onderová M Kireš, Z. Ješková, J.Degro: Praktikum školských pokusov II. PE UPIŠ, 2004 					
Course languag Slovak	ge:					
Course assessment Total number of assessed students: 10						
А	В	С	D	Е	FX	
70.0 10.0 10.0 10.0 0.0 0.0						
Provides: doc. RNDr. Zuzana Ješková, PhD., doc. RNDr. Marián Kireš, PhD., PaedDr. Iveta Štefančínová, Ph.D.						
Date of last mo	dification: 23.0	2.2017				
Approved: Gua	ranteeprof. RNI	Dr. Peter Kollár, D	PrSc.Guaranteepr	of. RNDr. Pavol	Mártonfi, PhD.	

University: P. J. Šafárik University in Košice							
Faculty: Faculty of	Faculty: Faculty of Science						
Course ID: ÚBEV/ FG1/03	D: ÚBEV/ Course name: Phytogeography						
Course type, scope Course type: Lect Recommended co Per week: 2 / 1 Pe Course method: p	Course type, scope and the method: Course type: Lecture / Practice Recommended course-load (hours): Per week: 2 / 1 Per study period: 28 / 14 Course method: present						
Number of credits	5						
Recommended sen	nester/trimes	ster of the cours	e:				
Course level: I., II.							
Prerequisities:							
Conditions for cou Written work. Exam.	rse completi	on:					
Learning outcome To obtain theoretics	s: al and practic	al knowledge fro	m phytogeograpl	ny.			
Brief outline of the History of phytoge endemites, vicariar ages. Postglacial er geography: from t Geographical origin Practices: Fieldwo seminar works on p	course: ography. Pla cy, floral ele volution of S ropical rainfo of cultivate rks. Preparir hytogeograp	nts and environ ments. Main cou lovak vegetation prests to tundras d plants. ng of maps. Phy hy.	nent. Chorology rse of florogenes . Regional phyto . Changes of ea /togeographical	, area, area disju is since paleozoi geography of Ea irth vegetation a division of Slov	unctions, relics, c to quaternary urth. Vegetation nd their study. vakia. Students		
Recommended lite Hendrych R.: Fytog Brown J. H., Lomo	Recommended literature: Hendrych R.: Fytogeografie SPN, Praha 1984. Brown J. H., Lomolino M. V.: Biogeography Sinauer Associates, Sunderland, 1998.						
Course language:							
Course assessment Total number of assessed students: 324							
A	B C D E FX						
<u>39.81</u> 21.91 21.3 8.33 7.72 0.93							
Provides: prof. RN	Provides: prof. RNDr. Pavol Mártonfi, PhD., Mgr. Vladislav Kolarčik, PhD.						
Date of last modifi	cation: 24.02	2.2017					
Approved: Guaran	eeprof. RND	r. Peter Kollár, D	rSc.Guaranteepr	of. RNDr. Pavol	Mártonfi, PhD.		

University: P. J. Šafárik University in Košice									
Faculty: Faculty	Faculty: Faculty of Science								
Course ID: ÚB FR1/10	Course ID: ÚBEV/ Course name: Plant Physiology FR1/10								
Course type, sc Course type: I Recommended Per week: 2 / 3 Course method	Course type, scope and the method: Course type: Lecture / Practice Recommended course-load (hours): Per week: 2 / 3 Per study period: 28 / 42 Course method: present								
Number of crea	lits: 6								
Recommended	semester/trime	ster of the cours	e: 4.						
Course level: I.									
Prerequisities:	ÚBEV/VB1/01								
Conditions for	course complet	ion:							
Learning outco Overview of all	mes: important phys	iological processe	es in plant organis	sms.					
Water in plan, mineral nutrition, photosynthesis, pholem transport, respiration, lipid biosynthesis, heterotrophy, metabolism of macronutrients, secondary metabolism, growth and development, plant hormones, photoreceptors, dormancy, germination, flowering, plant movements, stress physiology Lab practicals: Measurements of water potential, Quantitative analyses of nutrients in dust. Separation of assimilation pigments by TLC. Quantitative analyses of chlorophyll a and b. Biotest of cytokinins. Qualitative and quantitative analyses of sugars. HPLC separation of glucose and fructose. Measurements of respiration by selective electrode. Measurement of total nitrogen by Kjeldahl method. Qualitative analyses of proteins. Activity of some enzymes in potato and pea. Colour of anthocyanins at different pH. Measurement of silica level by distillation method. Germination of seeds									
Recommended literature: Hopkins W.G. Huner N.P.A., Introduction to plant physiology. 3rd ed., Wiley, New York 2004									
Course language:									
Course assessment Total number of assessed students: 1565									
А	В	C	D	Е	FX				
14.5 12.33 15.14 13.67 23.77 20.58									
Provides: Mgr. Silvia Gajdošová, Ph.D., doc. RNDr. Peter Pal'ove-Balang, PhD.									
Date of last modification: 24.02.2017									
Approved: Gua	ranteeprof. RNI	Dr. Peter Kollár, D	PrSc.Guaranteepr	of. RNDr. Pavol	Mártonfi, PhD.				

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

Course ID: ÚBEV/	Course name: Animal Physiology
FZ1/10	

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

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

Course method: present

Number of credits: 7

Recommended semester/trimester of the course: 6.

Course level: I.

Prerequisities: ÚBEV/HIS1/03 or ÚBEV/HISE1/04 or ÚBEV/HIS1/15 or ÚBEV/HISE1/15

Conditions for course completion:

Writen testing from practicals and oral examination

Learning outcomes:

To provide students with basic knowledge about physiological processes in organisms of animals and man.

Brief outline of the course:

The physiology of blood and hemopoietic organs. Physiology of respiration. Heart and circulatory physiology. Physiology of the gastrointestinal tract. The functions of liver. Energetic metabolism and physiology of nutrition. Water and mineral household of the organism. Physiology of the endocrine secretion. Physiology of reproduction. Physiology of excretion.General neurophysiology. Functions of neurons and neuronal networks. Sensory and motoric functions of CNS. Associative functions of CNS. Functions of the vegetative nervous system. Physiology of muscle contraction and active motion. Work physiology. Sensory physiology

Recommended literature:

Ganong, W. F.: Review of medical physiology. Prentice-Hall, Appleton & Langer, 1993 Varder, A. J., Sherman, J. H., Luciano, D. S.: The mechanisms of body functions, McGraw-Hill, 1990

Schmidt, R. F., Thews, G.: Human Physiology, Springer-Verlag, 1989 R.W.Hill, R.Wyse, M.Anderson : Animal Physiology, Sinauer Assoc., 2008

Course language:

Course assessment

Total number of assessed students: 1174

А	В	С	D	Е	FX
8.35	14.14	21.64	25.04	24.19	6.64

Provides: doc. RNDr. Monika Kassayová, CSc., prof. RNDr. Beňadik Šmajda, CSc., doc. RNDr. Bianka Bojková, PhD., RNDr. Vlasta Demečková, PhD., RNDr. Terézia Kisková, PhD., RNDr. Natália Pipová, PhD.

Date of last modification: 24.02.2017

Approved: Guaranteeprof. RNDr. Peter Kollár, DrSc.Guaranteeprof. RNDr. Pavol Mártonfi, PhD.

University: P. J. Šaf	árik Univers	ity in Košice						
Faculty: Faculty of	Science							
Course ID: ÚBEV/ GE1/10	Course ID: ÚBEV/ Course name: Genetics GE1/10							
Course type, scope and the method: Course type: Lecture / Practice Recommended course-load (hours): Per week: 3 / 3 Per study period: 42 / 42 Course method: present								
Number of credits:	7							
Recommended sem	ester/trimes	ster of the course	e: 5.					
Course level: I.								
Prerequisities: ÚBI	EV/MB1/01	or ÚBEV/MOB1	/03 or ÚBEV/M	OB1/15				
Conditions for cour	se completi	on:						
Learning outcomes	:							
Brief outline of the	course:							
Recommended liter	ature:							
Course language:								
Course assessment Total number of assessed students: 1196								
A B C D E FX								
18.56 16.47 15.97 13.96 18.73 16.3								
Provides: prof. RNDr. Eva Čellárová, DrSc., RNDr. Katarína Bruňáková, PhD.								
Date of last modification: 24.02.2017								
Approved: Guaranteeprof. RNDr. Peter Kollár, DrSc.Guaranteeprof. RNDr. Pavol Mártonfi, PhD.								

Faculty: Faculty of Science Course ID: ÚBEV/ Course name: Histology Histology Histology Histology Course type, scope and the method: Course type: Lecture / Practice Recommended course-load (hours): Per week: 3 / 2 Per study period: 42 / 28 Course method: present Number of credits: 6 Recommended course: 2. Course level: I. Prerequisities: ÚBEV/CYT1/02 or ÚBEV/CYT1/15 Course axemination Learning outcomes: To provide the students with knowledge of basic morphology of tissues of animals. Brief outline of the course: Privide: system. Urinary system. Female reproductive system. Male reproductive system. Nervous system. Urinary system. Female reproductive system. Male reproductive system. Nervous system. Urinary system. Female reproductive system. Male reproductive system. Nervous system. Urinary system. Female reproductive system. Male reproductive system. Narequisition: Learning outcones: Co	University: P. J.	Šafárik Univers	ity in Košice						
Course ID: ÚBEV/ HISE1/15 Course name: Histology Course type, scope and the method: Course type: Lecture / Practice Recommended course-load (hours): Per week: 3 / 2 Per study period: 42 / 28 Course method: present Number of credits: 6 Recommended semester/trimester of the course: 2. Course level: I. Prerequisities: ÚBEV/CYT1/02 or ÚBEV/CYT1/15 Conditions for course completion: Oral examination Learning outcomes: To provide the students with knowledge of basic morphology of tissues of animals. Brief outline of the course: Epithelium and glands. Connective tissue. Cartilage. Bone. Muscle. Nervous Tissue.Blood and hemopoiesis. Circulatory system. Lymphoid system. Endocrine system. Integument. Respiratory system. Digestive system. Urinary system. Female reproductive system. Male reproductive system. Nervous system. Special senses. Recommended literature: Gartner, L.P., Hiatt, J.L.: Color Texbook of Histology. W.B. Saunders Company, Philadelphia, 1997 Juanqueira, L.C., Carneiro, J., Kelley, R.O.: Basic Histology. Prentice Hall International Inc., Apleton & Lange, 1992 Course language: Course assessment Total number of assessed students: 1744 A B C D E FX 17.66 13.36 15.54 12.44 25.69 15.31 Provides: doc. RNDr. Zuzana Daxnerová, CSc., RNDr. Juraj Ševc, PhD., RNDr. Anna Alexovič Matiašová, PhD. D E FX	Faculty: Faculty	of Science							
Course type, scope and the method: Course type: Lecture / Practice Recommended course-load (hours): Per week: 3 / 2 Per study period: 42 / 28 Course method: present Number of credits: 6 Recommended semester/trimester of the course: 2. Course level: 1. Prerequisities: ÚBEV/CYT1/02 or ÚBEV/CYT1/15 Conditions for course completion: Oral examination Learning outcomes: To provide the students with knowledge of basic morphology of tissues of animals. Brief outline of the course: Epithelium and glands. Connective tissue. Cartilage. Bone. Muscle. Nervous Tissue Blood and hemopoiesis. Circulatory system. Lymphoid system. Endocrine system. Integument. Respiratory system. Digestive system. Urinary system. Female reproductive system. Male reproductive system. Nervous system. Special senses. Recommended literature: Gartner, IP., Hiatt, J.L.: Color Texbook of Histology. W.B. Saunders Company, Philadelphia, 1997 Juanqueira, L.C., Carneiro, J., Kelley, R.O.: Basic Histology. Prentice Hall International Inc., Apleton & Lange, 1992 Course language: Course assessment Total number of assessed students: 1744 A B C D E FX 17.66 13.36	Course ID: ÚBE HISE1/15	Course ID: ÚBEV/ Course name: Histology HISE1/15							
Number of credits: 6 Recommended semester/trimester of the course: 2. Course level: I. Prerequisities: ÚBEV/CYT1/02 or ÚBEV/CYT1/15 Conditions for course completion: Oral examination Learning outcomes: To provide the students with knowledge of basic morphology of tissues of animals. Brief outline of the course: Epithelium and glands. Connective tissue. Cartilage. Bone. Muscle. Nervous Tissue.Blood and hemopoiesis. Circulatory system. Lymphoid system. Endocrine system.Integument. Respiratory system. Digestive system. Urinary system. Female reproductive system. Male reproductive system. Nervous system. Special senses. Recommended literature: Gartner, L.P., Hiatt, J.L.: Color Texbook of Histology. W.B. Saunders Company, Philadelphia, 1997 Juanqueira, L.C., Carneiro, J., Kelley, R.O.: Basic Histology. Prentice Hall International Inc., Apleton & Lange, 1992 Course language: Course language: Course assessment Total number of assessed students: 1744 A B C D E FX 17.66 13.36 15.54 12.44 25.69 15.31 Provides: doc. RNDr. Zuzana Daxnerová, CSc., RNDr. Juraj Ševc, PhD., RNDr. Anna Alexovič <matiašová, phd.<="" td=""> Tata modification: 24.02.2017</matiašová,>	Course type, sco Course type: L Recommended Per week: 3 / 2 Course method	ppe and the met ecture / Practice course-load (h Per study perio l: present	thod: ours): od: 42 / 28						
Recommended semester/trimester of the course: 2. Course level: I. Prerequisities: ÚBEV/CYT1/02 or ÚBEV/CYT1/15 Conse for course completion: Oral examination Derecquisities: ÚBEV/CYT1/02 or ÚBEV/CYT1/15 Conse completion: Oral examination Learning outcomes: To provide the students with knowledge of basic morphology of tissues of animals. Brief outline of the course: Epithelium and glands. Connective tissue. Cartilage. Bone. Muscle. Nervous Tissue.Blood and hemopoiesis. Circulatory system. Lymphoid system. Endocrine system. Integument. Respiratory system. Digestive system. Urinary system. Female reproductive system. Male reproductive system. Nervous system. Special senses. Recommended literature: Gartner, L.P., Hiatt, J.L.: Color Texbook of Histology. W.B. Saunders Company, Philadelphia, 1997 Juanqueira, L.C., Carneiro, J., Kelley, R.O.: Basic Histology. Prentice Hall International Inc., Apleton & Lange, 1992 Course language: Course language: Course language: A A A A Course language: Course language: A A A	Number of cred	its: 6							
Course level: I.Prerequisities: ÚBEV/CYT1/02 or ÚBEV/CYT1/15Conditions for course completion: Oral examinationOral examinationLearning outcomes: To provide the students with knowledge of basic morphology of tissues of animals.Brief outline of the course: Epithelium and glands. Connective tissue. Cartilage. Bone. Muscle. Nervous Tissue.Blood and hemopoiesis. Circulatory system. Lymphoid system. Endocrine system.Integument. Respiratory system. Digestive system. Urinary system. Female reproductive system. Male reproductive system. Nervous system. Special senses.Recommended literature: Gartner, L.P., Hiatt, J.L.: Color Texbook of Histology. W.B. Saunders Company, Philadelphia, 1997 Juanqueira, L.C., Carneiro, J., Kelley, R.O.: Basic Histology. Prentice Hall International Inc., Apleton & Lange, 1992Course language: Course language: AB CDEFridotin e dassessed students: 1744ABCourse language: Total number of assessed students: 1744ABCDEFrivelFrivelCourse language: Total number of assessed students: 1744ABCourse language: Total number of assessed students: 1744ABCD	Recommended s	semester/trimes	ster of the cours	e: 2.					
Prerequisities: ÚBEV/CYT1/02 or ÚBEV/CYT1/15 Conditions for course completion: Oral examination Learning outcomes: To provide the students with knowledge of basic morphology of tissues of animals. Brief outline of the course: Epithelium and glands. Connective tissue. Cartilage. Bone. Muscle. Nervous Tissue.Blood and hemopoiesis. Circulatory system. Lymphoid system. Endocrine system. Integument. Respiratory system. Digestive system. Urinary system. Female reproductive system. Male reproductive system. Nervous system. Special senses. Recommended literature: Gartner, L.P., Hiatt, J.L.: Color Texbook of Histology. W.B. Saunders Company, Philadelphia, 1997 Juanqueira, L.C., Carneiro, J., Kelley, R.O.: Basic Histology. Prentice Hall International Inc., Apleton & Lange, 1992 Course language: Course language: Course assessed students: 1744 A B C D E FX 17.66 13.36 15.54 12.44 25.69 15.31 Provides: doc. RNDr. Zuzana Daxnerová, CSc., RNDr. Juraj Ševc, PhD., RNDr. Anna Alexovič Matiašová, PhD. Date of last modification: 24.02.2017	Course level: I.								
Conditions for course completion: Oral examination Learning outcomes: To provide the students with knowledge of basic morphology of tissues of animals. Brief outline of the course: Epithelium and glands. Connective tissue. Cartilage. Bone. Muscle. Nervous Tissue.Blood and hemopoiesis. Circulatory system. Lymphoid system. Endocrine system.Integument. Respiratory system. Digestive system. Urinary system. Female reproductive system. Male reproductive system. Nervous system. Special senses. Recommended literature: Gartner, L.P., Hiatt, J.L.: Color Texbook of Histology. W.B. Saunders Company, Philadelphia, 1997 Juanqueira, L.C., Carneiro, J., Kelley, R.O.: Basic Histology. Prentice Hall International Inc., Apleton & Lange, 1992 Course language: Course language: Course assessed students: 1744 A B C D E FX 17.66 13.36 15.54 12.44 25.69 15.31 Provides: doc. RNDr. Zuzana Daxnerová, CSc., RNDr. Juraj Ševc, PhD., RNDr. Anna Alexovič Matiašová, PhD. Date of last modification: 24.02.2017	Prerequisities: (ÚBEV/CYT1/02	or ÚBEV/CYT	1/15					
Learning outcomes: To provide the students with knowledge of basic morphology of tissues of animals. Brief outline of the course: Epithelium and glands. Connective tissue. Cartilage. Bone. Muscle. Nervous Tissue.Blood and hemopoiesis. Circulatory system. Lymphoid system. Endocrine system.Integument. Respiratory system. Digestive system. Urinary system. Female reproductive system. Male reproductive system. Nervous system. Special senses. Recommended literature: Gartner, L.P., Hiatt, J.L.: Color Texbook of Histology. W.B. Saunders Company, Philadelphia, 1997 Juanqueira, L.C., Carneiro, J., Kelley, R.O.: Basic Histology. Prentice Hall International Inc., Apleton & Lange, 1992 Course language: Course language: Total number of assessed students: 1744 A B C D E FX 17.66 13.36 15.54 12.44 25.69 15.31 Provides: doc. RNDr. Zuzana Daxnerová, CSc., RNDr. Juraj Ševc, PhD., RNDr. Anna Alexovič Matiašová, PhD. Date of last modification: 24.02.2017	Conditions for c Oral examination	c ourse completi n	on:						
Brief outline of the course: Epithelium and glands. Connective tissue. Cartilage. Bone. Muscle. Nervous Tissue.Blood and hemopoiesis. Circulatory system. Lymphoid system. Endocrine system. Integument. Respiratory system. Digestive system. Urinary system. Female reproductive system. Male reproductive system. Nervous system. Special senses. Recommended literature: Gartner, L.P., Hiatt, J.L.: Color Texbook of Histology. W.B. Saunders Company, Philadelphia, 1997 Juanqueira, L.C., Carneiro, J., Kelley, R.O.: Basic Histology. Prentice Hall International Inc., Apleton & Lange, 1992 Course language: Course assessment Total number of assessed students: 1744 A B C D E FX 17.66 13.36 15.54 12.44 25.69 15.31 Provides: doc. RNDr. Zuzana Daxnerová, CSc., RNDr. Juraj Ševc, PhD., RNDr. Anna Alexovič Matiašová, PhD. Date of last modification: 24.02.2017	Learning outcor To provide the st	nes: tudents with kno	owledge of basic	morphology of	tissues of animals				
Recommended literature: Gartner, L.P., Hiatt, J.L.: Color Texbook of Histology. W.B. Saunders Company, Philadelphia, 1997 Juanqueira, L.C., Carneiro, J., Kelley, R.O.: Basic Histology. Prentice Hall International Inc., Apleton & Lange, 1992Course language:Course language:Course assessment Total number of assessed students: 1744ABCDEFX17.6613.3615.5412.4425.6915.31Provides: doc. RNDr. Zuzana Daxnerová, CSc., RNDr. Juraj Ševc, PhD., RNDr. Anna Alexovič Matiašová, PhD.Date of last modification: 24.02.2017	Brief outline of a Epithelium and hemopoiesis. Ci system. Digestiv Nervous system.	the course: glands. Connec rculatory syster e system. Urinat Special senses.	tive tissue. Cart n. Lymphoid sys ry system. Femal	ilage. Bone. Mu stem. Endocrine e reproductive sy	iscle. Nervous Ti system.Integume ystem. Male repro	ssue.Blood and ent. Respiratory ductive system.			
Course language: Course assessment Total number of assessed students: 1744 A B C D E FX 17.66 13.36 15.54 12.44 25.69 15.31 Provides: doc. RNDr. Zuzana Daxnerová, CSc., RNDr. Juraj Ševc, PhD., RNDr. Anna Alexovič Matiašová, PhD. Date of last modification: 24.02.2017	Recommended I Gartner, L.P., Hi 1997 Juanqueira, L.C. Apleton & Lang	iterature: att, J.L.: Color T , Carneiro, J., K e, 1992	Texbook of Histo elley, R.O.: Basi	logy. W.B. Saun c Histology. Pre	iders Company, Pl ntice Hall Interna	hiladelphia, tional Inc.,			
Course assessment Total number of assessed students: 1744ABCDEFX17.6613.3615.5412.4425.6915.31Provides: doc. RNDr. Zuzana Daxnerová, CSc., RNDr. Juraj Ševc, PhD., RNDr. Anna Alexovič Matiašová, PhD.Date of last modification: 24.02.2017	Course language	e:							
ABCDEFX17.6613.3615.5412.4425.6915.31Provides: doc. RNDr. Zuzana Daxnerová, CSc., RNDr. Juraj Ševc, PhD., RNDr. Anna Alexovič Matiašová, PhD.Date of last modification: 24.02.2017	Course assessme Total number of	ent assessed studen	ts: 1744						
17.6613.3615.5412.4425.6915.31Provides: doc. RNDr. Zuzana Daxnerová, CSc., RNDr. Juraj Ševc, PhD., RNDr. Anna Alexovič Matiašová, PhD.Date of last modification: 24.02.2017	Α	A B C D E FX							
Provides: doc. RNDr. Zuzana Daxnerová, CSc., RNDr. Juraj Ševc, PhD., RNDr. Anna Alexovič Matiašová, PhD. Date of last modification: 24.02.2017	17.66	13.36	15.54	12.44	25.69	15.31			
Date of last modification: 24.02.2017	Provides: doc. R Matiašová, PhD.	NDr. Zuzana D	axnerová, CSc., I	RNDr. Juraj Šev	c, PhD., RNDr. A	nna Alexovič			
	Date of last mod	lification: 24.02	2.2017		_				
Approved: Guaranteeprof. RNDr. Peter Kollár, DrSc.Guaranteeprof. RNDr. Pavol Mártonfi, PhD.	Approved: Guar	anteeprof. RND	r. Peter Kollár, I	DrSc.Guaranteep	rof. RNDr. Pavol	Mártonfi, PhD.			

University: P. J.	Šafárik Univer	sity in Košice						
Faculty: Faculty	y of Science							
Course ID: KPI INP/17	Course ID: KPE/ Course name: Inclusive Pedagogy INP/17							
Course type, sc Course type: F Recommended Per week: 2 Po Course metho	ope and the me Practice I course-load (H er study period d: present	thod: nours): : 28						
Number of cred	lits: 2							
Recommended	semester/trime	ster of the cours	e: 5.					
Course level: I.								
Prerequisities:								
Conditions for	course complet	ion:						
Learning outco	mes:							
Brief outline of	the course:							
Recommended	literature:							
Course languag	ge:							
Course assessm Total number of	ent f assessed studer	nts: 0						
А	A B C D E FX							
0.0 0.0 0.0 0.0 0.0 0.0								
Provides: Mgr. Lucia Diheneščíková, PhD.								
Date of last modification: 13.06.2017								
Approved: Gua	ranteeprof. RNI	Dr. Peter Kollár, E	DrSc.Guaranteep	rof. RNDr. Pavol	Mártonfi, PhD.			

University: P. J. Šafá	University: P. J. Šafárik University in Košice						
Faculty: Faculty of S	cience						
Course ID: ÚTVŠ/ KP/12	Course ID: ÚTVŠ/ Course name: Survival Course KP/12						
Course type, scope a Course type: Practic Recommended cour Per week: Per stud Course method: pre	Course type, scope and the method: Course type: Practice Recommended course-load (hours): Per week: Per study period: 36s Course method: present						
Recommonded some							
Course level: I., II.							
Prerequisities:							
Conditions for cours	e completion:						
Learning outcomes:							
Brief outline of the c	ourse:						
Recommended litera	iture:						
Course language:							
Course assessment Total number of assessed students: 329							
abs n							
47.11 52.89							
Provides: MUDr. Peter Dombrovský, Mgr. Marek Valanský							
Date of last modification: 23.02.2017							
Approved: Guaranteeprof. RNDr. Peter Kollár, DrSc.Guaranteeprof. RNDr. Pavol Mártonfi, PhD.							

University: P. J	University: P. J. Šafárik University in Košice					
Faculty: Facult	y of Science					
Course ID: ÚF KVM/15	V/ Course na	ame: Quantum N	fechanics I.			
Course type, sc Course type: 1 Recommended Per week: 3 / 2 Course metho	ope and the me Lecture / Practice d course-load (h 2 Per study peri d: present	thod: e oours): od: 42 / 28				
Number of crea	lits: 5					
Recommended	semester/trime	ster of the cours	e: 5.			
Course level: I.						
Prerequisities:						
Conditions for	course complet	ion:				
Learning outco To become fam possible applica	mes: iliar with elemer ations on selected	ntary principles o d examples.	f quantum mech	anics and to illust	trate its	
axioms of QM. and spherically matrices. System	Schrödinger equa symmetric pote ms of identical p	ation and its solut entials. Tunnel e articles, bosons,	ion for a square p ffect and over-b fermions and Pa	potential well, har parrier reflection. uli exclusion prin	monic oscillator Spin and Pauli ciple.	
 Recommended literature: 1. Ľ. Tóth, M. Tóthová, Kvantová a štatistická fyzika I, Rektorát Univerzity P. J. Šafárika, 1982. (in Slovak language) 2. Ľ. Skála, Úvod do kvantovej mechaniky, Academia, Praha, 2005. (in Czech language) 3. J. Pišút, L. Gomolčák, Úvod do kvantovej mechaniky, Bratislava 1983. (in Slovak language) 4. W. Greiner, Quantum Mechanics, 4th edition, Springer, Berlin, 2000. 5. A. C. Philips, Introduction to Quantum Mechanics, Wiley, Weinheim, 2003. 6. D. I. Griffiths. Introduction to Quantum Mechanics. Prentice Hall. New Jersey 1995. 						
Course language: EN - english						
Course assessment Total number of assessed students: 10						
A	В	С	D	Е	FX	
30.0 0.0 30.0 20.0 0.0 20.0						
Provides: doc. 1	Provides: doc. RNDr. Jozef Strečka, PhD.					
Date of last modification: 21.02.2017						
Approved: Gua	ranteeprof. RNE	Dr. Peter Kollár, I	DrSc.Guaranteep	rof. RNDr. Pavol	Mártonfi, PhD.	

University: P. J. Šafá	rik University in Košic	e					
Faculty: Faculty of S	Faculty: Faculty of Science						
Course ID: ÚTVŠ/ LKSp/13	Course ID: ÚTVŠ/ Course name: Summer Course-Rafting of TISA River						
Course type, scope a Course type: Practic Recommended cour Per week: Per stud Course method: pre	Course type, scope and the method: Course type: Practice Recommended course-load (hours): Per week: Per study period: 36s Course method: present						
Number of credits: 2							
Recommended seme	ster/trimester of the c	course:					
Course level: I., II.							
Prerequisities:							
Conditions for cours	e completion:						
Learning outcomes:							
Brief outline of the c	ourse:						
Recommended litera	ture:						
Course language:							
Course assessment Total number of asses	ssed students: 126						
abs n							
45.24 54.76							
Provides: Mgr. Peter Bakalár, PhD.							
Date of last modification: 23.02.2017							
Approved: Guaranteeprof. RNDr. Peter Kollár, DrSc.Guaranteeprof. RNDr. Pavol Mártonfi, PhD.							

University: P. J.	Šafárik Univers	sity in Košice						
Faculty: Faculty	Faculty: Faculty of Science							
Course ID: ÚB MB1/01	ourse ID: ÚBEV/ Course name: Molecular Biology IB1/01							
Course type, sc Course type: 1 Recommended Per week: 3 Pe Course method Number of cred Recommended	ope and the me Lecture I course-load (h er study period d: present lits: 4 semester/trime	thod: ours): : 42 ster of the course	:: 4.					
Course level: I.								
Prerequisities:								
Conditions for Oral examination	course complet	ion:						
Learning outco To provide the s expression and o	mes: students with know development.	owledge of molec	ular basis of inl	neritance and con	trol of gene			
Brief outline of Structure and replication and r gene expression	the course: properties of i repair, transcript in prokaryotes	nformation macr ion and translatior and eukaryotes. C	omolecules. M n. Prokaryotic an ontrol of cell cy	Iolecular mechan nd eukaryotic ger ycle.	nisms of DNA nome. Control of			
Recommended literature: Lodish, H., Baltimore, D., Berk, A. et al.: Molecular Cell Biology. Sci. Amer. Books Inc., W.H. Freeman and Company, New York, 1995 Myers, R.A.: Molecular Biology and Biotechnology. VCH Publishers Inc., New York, 1995								
Course language:								
Course assessment Total number of assessed students: 873								
А	В	C	D	Е	FX			
6.3 10.42 17.07 17.87 34.71 13.63								
Provides: doc. RNDr. Peter Pristaš, CSc.								
Date of last modification: 24.02.2017								
Approved: Gua	Approved: Guaranteeprof. RNDr. Peter Kollár, DrSc.Guaranteeprof. RNDr. Pavol Mártonfi, PhD.							
University: P. J.	University: P. J. Šafárik University in Košice							
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Faculty: Faculty	y of Science							
Course ID: ÚF MFYU/15	ID: ÚFV/ Course name: Methods of Physical Problems Solving							
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 crea	lits: 2							
Recommended	semester/trimes	ster of the cours	e: 5.					
Course level: I.								
Prerequisities:								
Conditions for Successfull in t	course completi wo writing exam	on: s oriented on pro	blem solving.					
Learning outco Student is able to problems from p and modelling f	Learning outcomes: Student is able to use the selected method of problem solving. He(she) is experienced in solving problems from physics olympiad with comments. Student knows how to use multimedia support and modelling for problem solving.							
Brief outline of the course: 1. Clasification of selected physics problem solving methods 2. Mechanics 3. Multimedia support for problem solving 4. Hydromechanics 5. Physics problems series 6. Termodynamics 7. Physics olympiad 8. Physics olympiad problem solving with comments 9. Electric current 10. Qualitative physics problems 11. Mechanical oscillations 12. Dynamics modeling and problem solving								
8021418680, 2007								
Slovak, English								
Course assessment Total number of assessed students: 4								
А	В	С	D	Е	FX			
100.0	0.0	0.0	0.0	0.0	0.0			

Provides: doc. RNDr. Marián Kireš, PhD.

Date of last modification: 23.02.2017

Approved: Guaranteeprof. RNDr. Peter Kollár, DrSc.Guaranteeprof. RNDr. Pavol Mártonfi, PhD.

University: P. J.	. Šafárik Univers	sity in Košice					
Faculty: Faculty	y of Science						
Course ID: ÚB MKV/15	EV/ Course n	ame: Mikrobioló	gia a základy vire	ológie			
Course type, sc Course type: I Recommended Per week: 2 / 2 Course metho	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 cred	lits: 5						
Recommended	semester/trimes	ster of the cours	e:				
Course level: I.							
Prerequisities:							
Conditions for Attendance of p examination	Conditions for course completion: Attendance of practicals (at least 90%), 2 written examinations during semester, final oral examination						
Learning outco Students will ob their cytology, p basic methods f	Learning outcomes: Students will obtain a basic informations on viruses, prokaryotic and eukaryotic microorganisms, their cytology, physiology, genetics, ecology, classification, and importance . Information on basic methods for studying microorganisms will be provided						
Brief outline of the course: Viruses, prokaryotic and eukaryotic microorganisms, their cytology, physiology, genetics, ecology, classification. The importance of microorganisms for humans and environment.							
Recommended	literature:						
Course languag	ge:						
Course assessment Total number of assessed students: 1300							
А	В	С	D	Е	FX		
21.69	12.38	18.0	20.15	23.23	4.54		
Provides: doc. RNDr. Peter Pristaš, CSc., RNDr. Mariana Kolesárová, PhD., RNDr. Lenka Maliničová, PhD.							
Date of last modification: 24.02.2017							
Approved: Guaranteeprof. RNDr. Peter Kollár, DrSc.Guaranteeprof. RNDr. Pavol Mártonfi, PhD.							

University: P. J	. Šafárik Univers	sity in Košice				
Faculty: Faculty	y of Science					
Course ID: KP MMKV/17	E/ Course na	Course name: Multiculturalism and Multicultural Education				
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 crea	dits: 2					
Recommended	semester/trimes	ster of the cours	e: 4.			
Course level: I.						
Prerequisities:						
Conditions for	course completi	ion:				
Learning outco	omes:					
Brief outline of	the course:					
Recommended	literature:					
Course languag	ge:					
Course assessm Total number of	Course assessment Total number of assessed students: 22					
А	В	С	D	Е	FX	
36.36	45.45 9.09 4.55 4.55 0.0					
Provides: Mgr. Lucia Diheneščíková, PhD.						
Date of last modification: 13.06.2017						
Approved: Gua	Approved: Guaranteeprof. RNDr. Peter Kollár, DrSc.Guaranteeprof. RNDr. Pavol Mártonfi, PhD.					

University: P. J. Safár	ik University in Košice
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Faculty: Faculty of Science

Course ID: ÚFV/	Course name: Modern Trends in Physics
MTFM/15	

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

Recommended course-load (hours):

Per week: 3 Per study period: 42

Course method: present

Number of credits: 3

Recommended semester/trimester of the course: 4.

Course level: I.

Prerequisities:

Conditions for course completion:

test

test

Learning outcomes:

Presentation of scientific goals and experimental facilities on the Institute of Physics. Discussion of new trends in physics of micro-world, astrophysics, biophysics and physics of condensed matter.

Brief outline of the course:

The present state of the micro-world physics – fundamental particles and the interaction forces. Theoretical description of the micro-world – the Standard Model. Experimental tests of the Standard Model - the discovery of neutral currents and intermediate W+-, Z0 bosons. Heavy ion collisions and the search for new state of matter - quark gluon plasma - on the most powerful accelerators RHIC (Relativistic Heavy Ion Collider), Brookhaven National Laboratory) , USA and on the constructed LHC (Large Hadron Collider), CERN, Geneva. Big Bang and the quark gluon plasma. Some open questions – search for Higgs boson, responsible for the mass of fundamental particles and quark gluon plasma in laboratory conditions.

Practical activities – demonstration of the knowledge from lectures at identification of the real Z0 decay events in experimental data from the LEP accelerator, CERN, Swizterland.

New trends in astrophysical investigation: Solar system planets and exoplanets; cataclysmic variables, blazers and polars; black holes; quasars and active galactic nuclei, clusters of galaxies and web structure of Universe; gravitational lensing, dark matter and dark energy; gamma ray bursts. Topical problems in biophysics

Low temperatures as a tool for the study of physical properties of matter. Non-Fermi liquid materials... Geometrically frustrated systems. Quantum tunneling in molecular magnets. Application of quantum magnets. Excursion in the Centre of Excellence of Low Temperature Physics.

Soft magnetic nanostructure materials prepared by milling and alloying: magnetic properties of small particles, magnetization processes, domain structure, milling and alloying.

Recommended literature:

S. Chikazumi: Physics of Magnetism, J. Willey and Sons, Inc. New York, London, Sydney, 1997. C. Suryanarayana, Progress in Materials Science 46 (2001), 1-184

F. Close : The Cosmic Onion, 1990 Cindy Schwarz : A Tour of the Subatomic Zoo, 1997 Frank Close, Michael Marten, Christine Sutton : The Particle Odyssey- A Journey to the Heart of Matter, 2002 http://vk.upjs.sk/~epog/2006/ Scientific journals				
Course language: english				
Course assessment Total number of assessed students: 6				
abs	n			
100.0 0.0				
Provides: Dr.h.c. prof. RNDr. Alexander Feher, DrSc.				
Date of last modification: 24.02.2017				
Approved: Guaranteeprof. RNDr. Peter Kollár, D	DrSc.Guaranteeprof. RNDr. Pavol Mártonfi, PhD.			

University: P. J.	University: P. J. Šafárik University in Košice					
Faculty: Faculty	y of Science					
Course ID: ÚM MTFa/15	V/ Course n	ame: Mathematic	s I for physicist	5		
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 crea	lits: 5					
Recommended	semester/trime	ster of the cours	e: 1.			
Course level: I.						
Prerequisities:						
Conditions for course completion: Two written tests and one homework with excercises from the whole semester. The final evaluation is given according to the results from the semester and in view of the results of the written final test.						
Learning outco To obtain basic the theory in co	mes: knowledge on f ncrete excercise	unctions of one va s.	ariable and their	properties; to be	able to apply	
Brief outline of the course: Functions, basic properties. Elementary functions. Continuous functions. Limits. Derivation and its geometric aplications. Theorems about continuous functions. Behaviour of functions. Indefinite integrals, basic methods of integration. Definite integral and its applications.						
Recommended literature: S. Lang: A First Course in Calculus, Springer Verlag, 1998						
Course languag Slovak	Course language: Slovak					
Course assessment Total number of assessed students: 309						
Α	В	C	D	E	FX	
8.41	8.41	13.92	19.09	29.77	20.39	
Provides: doc. I	Provides: doc. RNDr. Roman Soták, PhD., Mgr. Katarína Lučivjanská, PhD.					
Date of last mo	dification: 22.0	2.2017				
Approved: Gua	ranteeprof. RNI	Dr. Peter Kollár, D	PrSc.Guaranteep	rof. RNDr. Pavol	Mártonfi, PhD.	

University D I Šeférik University in Košice					
Enculty: Enculty of Science					
Course ID: L'IMV/ Course name: Mathematics II for physicists					
MTFb/15					
Course type, scope and the method:					
Course type: Lecture / Practice					
Recommended course-load (nours): Per week: 2 / 2 Per study period: 28 / 28					
Course method: present					
Number of credits: 4					
Recommended semester/trimester of the course: 2.					
Course level: I.					
Prerequisities: ÚMV/MTFa/15					
Conditions for course completion:					
Two written tests and one homework with excercises from the whole semester, final test.					
According to the results from the semester and in view of the results of the written final test.					
Learning outcomes:					
functions of more variables. To learn to solve basic types of differential equations and know how					
to use them to model real-world phenomena. To learn to solve problems about infinite series.					
Brief outline of the course:					
System of linear algebraic equations, determinants. Functions of more variables, continuity and					
limits, partial derivations, local extremes of functions of two variables. Some types of differential equations Series functional series Taylor and MacLaurin series					
Decommended literature:					
1. S. Lang: A First Course in Calculus. Springer Verlag, 1998					
2. Huťka V., Benko E., Ďurikovič V.: Matematika, Alfa, Bratislava 1991.					
3. Došlá, Z.: Matematika pro chemiky, 1.díl. Masarykova univerzita, Brno, 2010.					
Course language:					
SIOVAK					
Course assessment Total number of assessed students: 176					
A B C D E FX					
11.36 16.48 11.93 25.57 29.55 5.11					
Provides: doc. RNDr. Stanislav Lukáč, PhD., RNDr. Anton Hovana					
Date of last modification: 22.02.2017					
Approved: Guaranteeprof. RNDr. Peter Kollár, DrSc.Guaranteeprof. RNDr. Pavol Mártonfi, PhD.					

University: P. J.	Šafárik Univers	ity in Košice			
Faculty: Faculty	of Science				
Course ID: KGE NJKG/07	ER/ Course na	me: Communica	ative Grammar in	German Langua	ige
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 credi	its: 2				
Recommended s	emester/trimes	ster of the cours	e:		
Course level: I.,	II.				
Prerequisities:					
Conditions for c	ourse completi	on:			
Learning outcon	nes:				
Brief outline of t	the course:				
Recommended li	iterature:				
Course language	2:				
Course assessment Total number of assessed students: 47					
A	В	С	D	Е	FX
53.19	53.19 12.77 10.64 4.26 10.64 8.51				
Provides: PaedDr. Ingrid Puchalová, PhD.					
Date of last mod	Date of last modification: 20.02.2017				
Approved: Guara	Approved: Guaranteeprof. RNDr. Peter Kollár, DrSc.Guaranteeprof. RNDr. Pavol Mártonfi, PhD.				

University: P. J.	Šafárik Univers	ity in Košice			
Faculty: Faculty	of Science				
Course ID: KGE OJPV1/07	ER/ Course na	me: Specialised	German Langua	ge - Natural Scie	ences 1
Course type, scope and the method: Course type: Practice Recommended course-load (hours): Per week: 2 Per study period: 28 Course method: present					
Number of cred	its: 2				
Recommended s	semester/trimes	ster of the cours	e: 4.		
Course level: I.					
Prerequisities:					
Conditions for c	course completi	on:			
Learning outcor	mes:				
Brief outline of	the course:				
Recommended I	literature:				
Course language	e:				
Course assessment Total number of assessed students: 131					
A	В	С	D	Е	FX
20.61	22.9 25.19 22.14 8.4 0.76				
Provides:					
Date of last modification: 20.02.2017					
Approved: Guaranteeprof. RNDr. Peter Kollár, DrSc.Guaranteeprof. RNDr. Pavol Mártonfi, PhD.					

University: P. J.	Šafárik Univers	ity in Košice				
Faculty: Faculty	of Science					
Course ID: KPE OLŠ/15	Course na	ame: School Adn	ninistration and I	egislation		
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 cred	its: 2					
Recommended s	semester/trimes	ster of the cours	e: 3., 5.			
Course level: I.						
Prerequisities:						
Conditions for c	ourse completi	on:				
Learning outcom	mes:					
Brief outline of	the course:					
Recommended I	literature:					
Course languag	e:					
Course assessment Total number of assessed students: 132						
A	В	С	D	Е	FX	
28.03	28.03 33.33 26.52 8.33 3.03 0.76					
Provides: Mgr. Lucia Diheneščíková, PhD., PaedDr. Renáta Orosová, PhD.						
Date of last modification: 07.02.2017						
Approved: Guar	Approved: Guaranteeprof. RNDr. Peter Kollár, DrSc.Guaranteeprof. RNDr. Pavol Mártonfi, PhD.					

University: P. J. Šafá	rik University in Košice			
Faculty: Faculty of S	cience			
Course ID: KOP/ OPaPDV/14	Course ID: KOP/ Course name: Civil Law and Intellectual Property Rights DPaPDV/14			
Course type, scope and the method: Course type: Lecture Recommended course-load (hours): Per week: 2 Per study period: 28 Course method: present				
Number of credits: 4				
Recommended seme	ster/trimester of the cours	e: 3., 5.		
Course level: I., N				
Prerequisities:				
Conditions for cours	e completion:			
Learning outcomes:				
Brief outline of the c	ourse:			
Recommended litera	iture:			
Course language:				
Course assessment Total number of assessed students: 49				
abs n				
91.84 8.16				
Provides: JUDr. Renáta Bačárová, PhD., LL.M., prof. JUDr. Peter Vojčík, CSc.				
Date of last modification: 08.02.2017				
Approved: Guaranteeprof. RNDr. Peter Kollár, DrSc.Guaranteeprof. RNDr. Pavol Mártonfi, PhD.				

University: P. J. Šafárik University in Košice								
Faculty: Faculty of S	Faculty: Faculty of Science							
Course ID: CJP/ PFAJ4/07	Course name: English Language of Natural Science							
Course type, scope a Course type: Practi Recommended cou Per week: 2 Per stu Course method: pro	and the method: ce rse-load (hours): idy period: 28 esent							
Number of credits: 2	2							
Recommended seme	ester/trimester of the course: 4.							
Course level: I.								
Prerequisities:								
Conditions for cours Active participation 2 classes at the most Continuous assessme in English. In order to be admitt credit tests and acade The exam test results results represent the The final grade for th A 93-100, B 86-92, C	se completion: in class and completed homework assignments. Students are allowed to miss ent: 2 credit tests (presumably in weeks 6 and 13) and academic presentation ed to the final exam, a student has to score at least 65 % as a sum of both emic presentation. s represent 50% of the final grade for the course, continuous assessment other 50% of the final grade. he course will be calculated as follows: C 79-85, D 72-78, E 65-71, FX 64 and less.							
Learning outcomes: Enhancement of stud comprehension) in E competence (familia: improvement of stud functions) and impro of English for natura Brief outline of the o ANGLICKÝ JAZYK Veda a výskum. Odb Planéta Zem. Naša si Zem - dynamická pla Zemetrasenia. Svetové oceány. Mon	dents' language skills (speaking, writing, reading and listening inglish for specific purposes and development of students' language rization with selected phonological, lexical and syntactic phenomena), lents' pragmatic competence (familiarization with selected language overment of presentation skills at B2 level (CEFR) with focus on terminology l science. Course: K PRE GEOGRAFOV: Nor geografia. Inečná sústava. Litosféra, hydrosféra, atmosféra, biosféra. anéta. Tektonické platne. Sopečná činnosť.							
Atmosféra - zloženie Kontinenty. Európa - ANGLICKÝ JAZYK Veda a výskum. Odb Životné prostredie. Z	e atmosféry. - krajiny, národnosti. K PRE EKOLÓGOV: por ekológia. Znečistenie a dôsledky.							

Sopečná činnosť, zemetrasenia. Great Pacific Garbage Patch. Globálne otepľovanie a dôsledky. Ľadovce. Počasie a klíma. Búrky, hurikány, tsunami. Život na Zemi. Ohrozené rastlinné a živočíšne druhy. ANGLICKÝ JAZYK PRE BIOLÓGOV: veda a výskum, odbor biológia. morfológia rastlín, koreň. stonka, list. rozmnožovanie rastlín, kvet. biológia človeka - telesné sústavy. slovná zásoba z oblasti botanickej a zoologickej nomenklatúry. ANGLICKÝ JAZYK PRE MATEMATIKOV: Veda a výskum, odbor matematika. čísla a tvary v matematike. Elementárna algebra. Elementárna geometria. Výpočty v matematike. Pytagoras, Pytagorova veta. Grafy a diagramy. Štatistika. ANGLICKÝ JAZYK PRE FYZIKOV Veda a výskum, odbor fyzika. Atómy a molekuly. Hmota a jej premeny. Elektrina, jej využitie. Zvuka, jeho prenos. Svetlo. Solárny systém. Matematické operácie. ANGLICKÝ JAZYK PRE CHEMIKOV: Veda a výskum, odbor chémia: História, alchímia. Nomenklatúra. Laboratórium a jeho vybavenie. Periodická tabuľka. Hmota a jej premeny. Organická chémia. Anorganická chémia. ANGLICKÝ JAZYK PRE INFORMATIKOV: Veda a výskum, informatika. Život s počítačom. Typický PC. Zdravie a bezpečnosť, ergonomika. Programovanie. Emailovanie. Cybercrime. Trendy budúcnosti.

Recommended literature:

study materials provided by the course instructor

Royds-Irmak, D.E. Beginning Scientific English. Nelson, 1975.
Velebná, B. English for Chemists. ffweb.ff.upjs.sk/vyuka//
Redman, S.: English Vocabulary in Use, Pre-intermetdiate, Intermediate. Cambridge University
Press, 2003.
Powel, M.: Dynamic Presentations. CUP, 2010.
Armer, T.: Cambridge English for Scientists. CUP, 2011.
Wharton J.: Academic Encounters. The Natural World. CUP, 2009.
Murphy, R.: English Grammar in Use. Cambridge University Press, 1994.
Redman, S.: English Vocabulary in Use, Pre-intermetdiate, Intermediate. Cambridge University Press, 2003.
P. Fitzgerald : English for ICT studies. Garnet Publishing, 2011.
http://www.bbc.co.uk/worldservice/learningenglish

Course assessment

Total number of assessed students: 2304

А	В	С	D	Е	FX
32.55	26.26	18.06	11.46	9.24	2.43

Provides: PaedDr. Gabriela Bednáriková, Mgr. Gabriel Lukáč, PhD., PhDr. Helena Petruňová, CSc.

Date of last modification: 21.02.2017

Approved: Guaranteeprof. RNDr. Peter Kollár, DrSc.Guaranteeprof. RNDr. Pavol Mártonfi, PhD.

University: P. J. S	Šafárik Univers	ity in Košice						
Faculty: Faculty	Faculty: Faculty of Science							
Course ID: CJP/ PFAJAKA/07	Course ID: CJP/ PFAJAKA/07Course name: Academic English							
Course type, scope and the method: Course type: Practice Recommended course-load (hours): Per week: 2 Per study period: 28 Course method: combined, present								
Number of credi	ts: 2							
Recommended s	emester/trimes	ter of the course	e:					
Course level: I., 2	II., N							
Prerequisities:								
Conditions for conditions for conditions for conditions for conditional Active classroom and 12th/13th we assessment of test 72-78%, E 65-71	Conditions for course completion: Active classroom participation, 2 absences tolerated (4x45 min.) tolerated. 2 tests (5th/6th week and 12th/13th week), no retake. Minipresentation on chosen topic. Final evaluation- average assessment of tests and presentation. Grading scale: A 93-100%, B 86-92%, C 79-85%, D 72-78% E 65-71% FX 64% and less							
Learning outcon	nes:							
Brief outline of t	he course:							
Recommended literature: Seal B.: Academic Encounters, CUP, 2002 T. Armer :Cambridge English for Scientists, CUP 2011 M. McCarthy M., O'Dell F Academic Vocabulary in Use, CUP 2008 Zemach, D.E, Rumisek, L.A: Academic Writing, Macmillan 2005 Olsen, A. : Active Vocabulary, Pearson, 2013 www.bbclearningenglish.com								
Course language		1: CEED						
English language, level B2 according to CEFR.								
Course assessment Total number of assessed students: 334								
A	В	С	D	Е	FX			
29.94	29.94 23.65 16.17 11.08 7.49 11.68							
Provides: PaedD	Provides: PaedDr. Gabriela Bednáriková							
Date of last mod	ification: 21.02	.2017						
Approved: Guaranteeprof. RNDr. Peter Kollár, DrSc.Guaranteeprof. RNDr. Pavol Mártonfi, PhD.								

University: P. J.	Šafárik Univer	sity in Košice					
Faculty: Faculty	of Science						
Course ID: CJP PFAJGA/07	Course ID: CJP/ PFAJGA/07 Course name: Communicative Grammar in English						
Course type, sco Course type: P Recommended Per week: 2 Pe Course method	ope and the me Practice I course-load (H er study period d: combined, pr	thod: nours): : 28 esent					
Number of cred	lits: 2						
Recommended	semester/trime	ster of the cours	e:				
Course level: I.,	II., N						
Prerequisities:							
Conditions for a Active classroon week), no retake 86-92%, C 79-8	course complet n participation (e. Final evaluati 5%, D 72-78%,	ton: (max. 2x90 min. a on- average asses E 65-71%, FX 64	bsences tolerat sment of tests. (1% and less.	ed). 2 test (5th/6th Grading scale: A 9	n and 12/13th 93-100%, B		
Learning outco	mes:						
Brief outline of	the course:						
Recommended Misztal M.: The McCarthy, O'De Alexander L.G.: Jones I Comm Vince M.: Macm www.bbclearnin Gráf T., Peters S	literature: matic Vocabula ell: English Voca Longman Engl nunicative Gram nillan Grammar ngenglish.com S.: Time to pract	ry, Fragment, 199 abulary in Use, 19 ish Grammar, Lou mar Practice, CU in Context, Macr ise, Polyglot, 200	8 194 ngman, 1988 P, 1992 nillan, 2008 7				
Course languag	e:						
Course assessm Total number of	Course assessment Total number of assessed students: 389						
А	В	С	D	E	FX		
39.33	39.33 18.25 16.97 9.0 6.17 10.28						
Provides: PaedI	Provides: PaedDr. Gabriela Bednáriková, Mgr. Barbara Mitríková						
Date of last mo	dification: 21.0	2.2017					
Approved: Guar	ranteeprof. RNI	Dr. Peter Kollár, D	prSc.Guaranteep	prof. RNDr. Pavol	Mártonfi, PhD.		

University: P. J. Ša	fárik University in Košice					
Faculty: Faculty of Science						
Course ID: CJP/ PFAJKKA/07	Course name: Communicative Competence in English					
Course type, scope Course type: Prac Recommended co Per week: 2 Per s Course method: c	and the method: tice surse-load (hours): tudy period: 28 combined, present					
Number of credits	: 2					
Recommended sen	nester/trimester of the course:					
Course level: I., II.	, N					
Prerequisities:						
Conditions for cou Active participation two classes at the m 2 credit tests (presu on selected topics. Final grade will be 65-71%, FX 64 % a	rse completion: n in class and completed homework assignments. Students are allowed to miss nost. mably in weeks 6/7 and 12/13) and short academic presentations in English calculated as follows: A 93-100 %, B 86-92%, C 79-85%, D 72-78%, E and less.					
Learning outcome Uplatnenie a aktívr situáciách. Zdokon vecnej kompetencie výpovede, efektívn výpovede. Precviče oslovenie), informa časových vzťahov) a hodnotiacich (nat	S: le používanie svojich teoretických vedomostí v praktických komunikačných alenie jazykových vedomostí a zručností študenta, rečovej, pragmatickej a e, predovšetkým zlepšujú komunikáciu, schopnosť prijímať a formulovať e vyjadrovať svoje myšlienky ako aj orientovať sa v obsahovom pláne ovanie rečových intencií kontaktných (napr. pozdravy, oslovenia, pozvanie, utívnych (napr. získavanie a podávanie informácií, vyjadrenie priestorových a , regulačných (napr. prosba, poďakovanie, zákaz, pochvala, súhlas, nesúhlas) or. vyjadrenie vlastného názoru, stanoviska, želania, emócií). Výsledkom					

budovania praktickej jazykovej kompetencie majú byť vedomosti a zručnosti zodpovedajúce

požiadavkám a kritériám dokumentu Spoločný európsky referenčný rámec pre vyučovanie jazykov.

Brief outline of the course:

Rodina, jej formy a problémy Vyjadrovanie pocitov a dojmov Dom, bývanie a budúcnosť Formy a dialekty v anglickom jazyku Život v meste a na vidieku Kolokácie a idiomy, zaužívané slovné spojenia Prázdniny a sviatky vo svete Životné prostredie a ekológia Výnimky zo slovosledu Frázové slovesá a ich použitie Charakteristiky neformálneho diškurzu

Recommended literature:

www.bbclearningenglish.com

McCarthy M., O'Dell F.: English Vocabulary in Use, Upper-Intermediate. CUP, 1994. Misztal M.: Thematic Vocabulary. SPN, 1998.

Fictumova J., Ceccarelli J., Long T.: Angličtina, konverzace pro pokročilé. Barrister and Principal, 2008.

Peters S., Gráf T.: Time to practise. Polyglot, 2007.

Jones L.: Communicative Grammar Practice. CUP, 1985.

Alexander L.G.: Longman English Grammar. Longman, 1988.

Course language:

English language, B2 level according to CEFR

Course assessment

Total number of assessed students: 211

А	В	С	D	Е	FX
36.02	21.33	20.38	10.9	7.58	3.79

Provides: Mgr. Barbara Mitríková

Date of last modification: 21.02.2017

Approved: Guaranteeprof. RNDr. Peter Kollár, DrSc.Guaranteeprof. RNDr. Pavol Mártonfi, PhD.

University: P. J.	. Šafárik Univer	sity in Košice				
Faculty: Faculty	y of Science					
Course ID: KPPaPZ/PKŽ/1	Course name: Psychology of Everyday Life					
Course type, sc Course type: H Recommended Per week: 2 Pe Course metho	ope and the me Practice d course-load (l er study period d: present	thod: nours): : 28				
Number of crea	lits: 2					
Recommended	semester/trime	ster of the cours	e: 3.			
Course level: I.						
Prerequisities:						
Conditions for	course complet	ion:				
Learning outco	mes:					
Brief outline of	the course:					
Recommended	literature:					
Course languag	ge:					
Course assessm Total number of	ent f assessed studer	nts: 87				
А	В	C	D	Е	FX	
29.89	29.89 16.09 37.93 11.49 3.45 1.15					
Provides: Mgr. Ondrej Kalina, PhD.						
Date of last modification: 16.02.2017						
Approved: Gua	ranteeprof. RNI	Dr. Peter Kollár, I	DrSc.Guaranteepr	of. RNDr. Pavol	Mártonfi, PhD.	

University: P. J.	Šafárik Univers	ity in Košice					
Faculty: Faculty	of Science	-					
Course ID: ÚBE PMZ/10	e ID: ÚBEV/ Course name: Comparative Animal Morphology						
Course type, scope and the method: Course type: Lecture / Practice Recommended course-load (hours): Per week: 2 / 1 Per study period: 28 / 14 Course method: present							
Number of credi	ts: 4						
Recommended s	emester/trimes	ster of the cours	e: 1.				
Course level: I.							
Prerequisities:							
Conditions for conditions for conditions and prace examination.	ourse completi ctical exercises,	on: original drawing	g of some parts o	f animal body or	it derivates,		
Brief outline of t	he course:						
Brief outline of the course: Recommended literature: Kardong, K. V., 2002: Vertebrates. Comparative anatomy, function, evolution. 3rd ed., Mc-Graw- Hill, New York. Pough, F. H., Janis, Ch. M., Heiser, J. B., 2008: Vertebrate Life. Prentice Hall, Inc., 752 pp. 8th edition. Ruppert, E. E., Fox, R. S., & Barnes, R. D., 2004: Invertebrate zoology: a functional evolutionary							
Course language							
Course assessment Total number of assessed students: 1676							
A	В	С	D	Е	FX		
16.11	16.11 17.96 24.58 22.55 13.25 5.55						
Provides: RNDr.	Provides: RNDr. Andrej Mock, PhD., RNDr. Alexander Csanády, PhD.						
Date of last mod	ification: 24.02	2.2017					
Approved: Guara	anteeprof. RND	r. Peter Kollár, D	PrSc.Guaranteepr	of. RNDr. Pavol	Mártonfi, PhD.		
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University:]	P. J. Šafárik	University in	1 Košice					
Faculty: Fac	Faculty: Faculty of Science							
Course ID: U POF1a/99	ÚFV/ Course name: Computational Physics I							
Course type, scope and the method: Course type: Lecture / Practice Recommended course-load (hours): Per week: 2 / 1 Per study period: 28 / 14 Course method: present								
Number of c	credits: 4							
Recommend	ed semest	er/trimester	of the cours	e: 6.				
Course level	: I.							
Prerequisitie	es: ÚFV/N	UM/10						
Conditions f Continuous o Examination	for course evaluation and assign	completion: is based on st iments submi	udents' activ	ity in the cla	ssroom and he attached c	work on assi	gnments. le.	
Learning ou	tcomes:							
To teach stud	dents to use	e computer as	a tool of mo	deling of ph	ysical reality	/		
Brief outline of the course: Introduction to dynamical systems. Numerical solution of ordinary differential equations (ODE) with initial value. Boundary value problems for ODE. Discrete schemes for partial differential equations (PDE). Numerical solution of PDE. Finite difference methods, consistency, convergence, stability. Eliptic and parabolic PDE. Introduction to Monte Carlo (MC) method and applicactions in statistical physics. MC simulations of lattice spin systems and stochastic processes								
 Recommended literature: 1. C. Pozrikidis: Num. Comp. in Science and Engineering, Oxford Univ. Press, 1998. 2. A.L. Garcia: Numerical Methods for Physics, Prentice-Hall, 1994. 3. D. P. Landau, K. Binder: A Guide to Monte Carlo Simulations in Statistical Physics, Cambridge Univ. Press, 2000. 4. B. A. Berg: Introduction to Markov Chain Monte Carlo Simulations and Their Statistical Analysis, http://www.worldscibooks.com/etextbook/5904/5904_intro.pdf 5. W. Janke: Lectures on Ising model, http://www.physik.uni-leipzig.de/~janke/ 								
Course lang	uage:							
Course asses Total numbe	ssment r of assesse	ed students: 94	4					
A	В	C	D	Е	FX	N	Р	
35.11	19.15	8.51	14.89	13.83	3.19	0.0	5.32	
Provides: do	c. RNDr. N	/ Iilan Žukovič	, PhD.			<u>. </u>	<u> </u>	
Date of last	modificati	on: 21.02.201	7					
Approved: (Guaranteep	rof. RNDr. Pe	ter Kollár, D	PrSc.Guarant	teeprof. RNI	Dr. Pavol Má	rtonfi, PhD.	
rr states			· ····, 2		·r ······		, ·	

University: P. J.	. Šafárik Univer	sity in Košice				
Faculty: Faculty	y of Science					
Course ID: KPPaPZ/PP/15	5 Course name: Positive Psychology					
Course type, sc Course type: H Recommended Per week: 2 Pe Course metho	ope and the me Practice I course-load (I er study period d: present	ethod: nours): : 28				
Number of crea	lits: 2					
Recommended	semester/trime	ester of the cour	se: 4., 6.			
Course level: I.						
Prerequisities:						
Conditions for	course complet	ion:				
Learning outco	mes:					
Brief outline of	the course:					
Recommended	literature:					
Course languag	ge:					
Course assessm Total number of	ent f assessed stude	nts: 120				
А	В	С	D	E	FX	
97.5	1.67	0.0	0.0	0.83	0.0	
Provides: Mgr. Jozef Benka, PhD. et PhD.						
Date of last mo	dification: 16.0	2.2017				
Approved: Gua	ranteeprof. RNI	Dr. Peter Kollár, I	DrSc.Guaranteep	rof. RNDr. Pavol	Mártonfi, PhD.	

University: P. J.	Šafárik Univers	ity in Košice					
Faculty: Faculty	y of Science						
Course ID: ÚF PPFM/15	se ID: ÚFV/ Course name: Computer-Based Physical Measurement						
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 crea	lits: 2						
Recommended	semester/trimes	ster of the cours	e: 4.				
Course level: I.							
Prerequisities:							
Conditions for active participat written laborato	course completi tion at all labwor ry records with c	on: ks lata analysis					
Learning outco Students is able data processing physical phenor courses General	Learning outcomes: Students is able to measure physical quantities and gains skills important for measuring and data processing with the help of computer. The result is deeper conceptual understanding of physical phenomena involved in the labworks that is connected mainly with the content of courses General Physics I II III						
Brief outline of the course: The content of the course involves labworks in physics aimed at selected problems of General Physics I,II,III. Student learns about different methods of measurement of physical quantities, he gains skills concerning measurement and data processing with the help of computer. The set of labworks involves analysis of different phenomena followed by the data processing and written report							
 Recommended literature: 1. Halliday, Hajko, V., Daniel-Szabó, J.: Základy fyziky, Veda Bratislava 1983 2. Veis, Š., Maďar, J., Martišovitš, V.: Všeobecná fyzika 1, Alfa, Bratislava, 1987 3. Hlavička, A. a kol.: Fyzika pre pedagogické fakulty, SPN Praha, 1971 4. Halliday, D., Resnick, R., Walker, J.: Fyzika, part1-4. VUT Brno, 2000 							
Course languag Slovak	ge:						
Course assessment Total number of assessed students: 10							
А	В	С	D	Е	FX		
60.0	0.0	40.0	0.0	0.0	0.0		
Provides: doc. I	RNDr. Zuzana Je	šková, PhD., doc	. RNDr. Marián	Kireš, PhD.			
Date of last modification: 23.02.2017							
Approved: Gua	ranteeprof. RND	r. Peter Kollár, D	rSc.Guaranteep	rof. RNDr. Pavol	l Mártonfi, PhD.		

University: P. J	. Šafárik Univers	ity in Košice				
Faculty: Facult	y of Science					
Course ID: KPPaPZ/PUDB	/15 Course na	Course name: Drug Addiction Prevention in University Students				
Course type, sc Course type: 1 Recommended Per week: 2 P Course metho	cope and the met Practice d course-load (h er study period: d: present	thod: ours): 28				
Number of cree	dits: 2					
Recommended	semester/trimes	ster of the cours	e: 3., 5.			
Course level: I.						
Prerequisities:						
Conditions for	course completi	on:				
Learning outco	omes:					
Brief outline of	the course:			-		
Recommended	literature:					
Course languag	ge:					
Course assessm Total number of	nent f assessed studen	ts: 172				
А	В	С	D	E	FX	
68.6	28.49	2.91	0.0	0.0	0.0	
Provides: prof. Štefaňáková, M	PhDr. Ol'ga Oros gr. Bohuš Hajduo	sová, CSc., Mgr. ch	Marta Kulanová	, PhD., Mgr. Mar	cela	
Date of last mo	dification: 16.02	2.2017				
Approved: Gua	aranteeprof. RND	r. Peter Kollár, I	DrSc.Guaranteep	rof. RNDr. Pavol	Mártonfi, PhD.	

University: P. J.	Šafárik Univers	sity in Košice					
Faculty: Faculty	of Science						
Course ID: KPE Pg/15	E/ Course name: Pedagogy						
Course type, sco Course type: L Recommended Per week: 2 Pe Course method	ope and the me Lecture I course-load (h er study period: d: present	thod: ours): 28					
Number of cred	lits: 2						
Recommended	semester/trime	ster of the cours	e: 3., 5.				
Course level: I.							
Prerequisities:							
Conditions for a	course completi	ion:					
Learning outco	mes:						
Brief outline of	the course:						
Recommended	literature:						
Course languag	je:						
Course assessm Total number of	ent	its: 298					
A	В	С	D	Е	FX		
23.49	23.49 19.13 23.83 18.46 13.76 1.34						
Provides: Mgr. Katarína Petríková, PhD.							
Date of last mo	dification: 07.02	2.2017					
Approved: Guar	ranteeprof. RNE	Dr. Peter Kollár, D	PrSc.Guaranteep	rof. RNDr. Pavol	Mártonfi, PhD.		

University: P. J.	. Šafárik Univers	ity in Košice				
Faculty: Faculty	y of Science					
Course ID: KPPaPZ/Ps/15	15 Course name: Psychology					
Course type, sc Course type: I Recommended Per week: 2 Pe Course metho	ope and the met Lecture l course-load (h er study period: d: present	thod: ours): 28				
Number of crea	lits: 2					
Recommended	semester/trimes	ster of the cours	e: 1., 3., 5.			
Course level: I.						
Prerequisities:	,					
Conditions for	course completi	on:				
Learning outco	mes:					
Brief outline of	the course:					
Recommended	literature:					
Course languag	ge:					
Course assessm Total number of	ent f assessed studen	ts: 236				
А	В	С	D	Е	FX	
15.25	11.02	25.42	23.73	20.76	3.81	
Provides: prof. et PhD.	PhDr. Ol'ga Oros	sová, CSc., PhDr	. Anna Janovská,	PhD., Mgr. Joze	f Benka, PhD.	
Date of last modification: 16.02.2017						
Approved: Gua	ranteeprof. RND	r. Peter Kollár, I	DrSc.Guaranteepr	of. RNDr. Pavol	Mártonfi, PhD.	

University: P. J.	Šafárik Univers	sity in Košice					
Faculty: Faculty	of Science						
Course ID: ÚFV SDFM1/15	Irse ID: ÚFV/ FM1/15Course name: Methods of Data Processing in Physics						
Course type, sco Course type: L Recommended Per week: 2 / 1 Course method	Course type, scope and the method: Course type: Lecture / Practice Recommended course-load (hours): Per week: 2 / 1 Per study period: 28 / 14 Course method: present						
Number of cred	its: 3						
Recommended s	semester/trime	ster of the cours	e: 3.				
Course level: 1.							
Prerequisities:							
Conditions for c Five tasks in Ma Exam interview	course complet tlab/Octave. - 60%, tasks - 4	on: 0%.					
Learning outcome Methods of data	nes: processing in p	hysics.					
Brief outline of 1. Numerical me 2. Regression an 3. Computationa	the course: ethods. alysis. Il physics.						
Recommended literature: Buchanan J. L., Turner P. R.: Numerical Methods and Analysis. McGraw-Hill, Inc., New York, 1992. Siegel A. F.: Statistics and Data Analysis. An Introduction. J. Wiley&Sons, NY, 1988.							
Course language: slovak, basics of english							
Course assessment Total number of assessed students: 0							
A	В	С	D	Е	FX		
0.0	0.0 0.0 0.0 0.0 0.0 0.0						
Provides: doc. RNDr. Erik Čižmár, PhD.							
Date of last mod	Date of last modification: 24.02.2017						
Approved: Guaranteeprof. RNDr. Peter Kollár, DrSc.Guaranteeprof. RNDr. Pavol Mártonfi, PhD.							

University: P. J. Š	Safárik Univers	ity in Košice				
Faculty: Faculty of	of Science					
Course ID: KPO/ SPKVV/15	Course ID: KPO/ Course name: Social and Political Context of Education SPKVV/15					
Course type, scop Course type: Le Recommended o Per week: 2 Per Course method:	pe and the met octure course-load (h study period: present	thod: ours): 28				
Number of credit	ts: 2					
Recommended se	emester/trimes	ster of the cours	e: 4., 6.			
Course level: I.						
Prerequisities:						
Conditions for co	ourse completi	on:				
Learning outcom	ies:					
Brief outline of th	he course:					
Recommended li	terature:					
Course languages	:					
Course assessmen Total number of a	nt issessed studen	ts: 11				
Α	В	С	D	Е	FX	
9.09	9.09 0.0 45.45 36.36 9.09 0.0					
Provides: Mgr. A	lexander Onufi	rák, PhD.		<u> </u>		
Date of last modi	fication: 17.02	2.2017				
Approved: Guara	inteeprof. RND	r. Peter Kollár, E	DrSc.Guaranteepr	of. RNDr. Pavol	Mártonfi, PhD.	

University: P. J.	Šafárik Univers	sity in Košice						
Faculty: Faculty	of Science							
Course ID: ÚFV STA1N/15	V/ Course name: Statistical Physics							
Course type, sco Course type: L Recommended Per week: 2 / 2 Course method	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 cred	its: 4							
Recommended s	semester/trime	ster of the course	e: 6.					
Course level: I.								
Prerequisities: (JFV/KVM/08 o	r ÚFV/KVM/15						
Conditions for c Written test - ma Oral exam . max	ourse complet aximum 30 poin amum 70 points	i on: ts. s						
Learning outcor To acquaint stud its applications i	nes: ents with basic n selected cases	principles of stati	stical mechanic	es and to illustrate	possibilities of			
Brief outline of t Basic laws of t canonical invaria hypothesis. Micr theorem. Applica	the course: thermodynamic: ance of the pha rocanonical, can ations of statisti	s. The phase spa se volume. Liou onical and grandc cal physics.	ace, statistical ville theorem, r anonical eneser	ensemble, distrib the ergodic proble nbles. The virial a	oution function, em and Tolman nd equipartition			
Recommended I 1) L. Reichl, A r Weinheim (2009 2.) R.K. Pathria,	iterature: nodern Course i). Statistical Mec	in Statistical Mec	hanics, Wiley-V rth.Heinemann,	/CH Verlag GmbI Oxford (2001).	H & Co. KGaA,			
Course languag Slovak, English	Course language: Slovak, English							
Course assessme	Course assessment							
	assessed studer	C			EV			
A 25.0	D 10 75	21.25	12.5	E 12.5	<u>ГА</u> 0.0			
23.0	<u>25.0</u> <u>18.75</u> <u>31.25</u> <u>12.5</u> <u>0.0</u>							
Provides: prof. F	Provides: prof. RNDr. Michal Jaščur, CSc., RNDr. Jana Čisárová, PhD.							
Date of last mod	lification: 21.02	2.2017	~ ~					
Approved: Guaranteeprof. RNDr. Peter Kollár, DrSc.Guaranteeprof. RNDr. Pavol Mártonfi, PhD.								

University: P. J. Š	afárik Univers	sity in Košice				
Faculty: Faculty of	of Science					
Course ID: ÚBEV SVK/01	D: ÚBEV/ Course name: Student Scientific Conference					
Course type, scop Course type: Recommended c Per week: Per s Course method: Number of credit	e and the me ourse-load (h tudy period: present s: 4	thod: ours):				
Rumber of credit	mostor/trimo	stor of the cours	so. 1 6			
Course levels L. H		ster of the cours	e: 4., 0.			
Course level: 1., 1						
Prerequisities:						
Conditions for co	urse completi	ion:				
Learning outcom	es:					
Brief outline of th	e course:					
Recommended lit	erature:					
Course language:						
Course assessmer Total number of a	it ssessed studen	its: 230				
A	В	С	D	E	FX	
100.0	100.0 0.0 0.0 0.0 0.0					
Provides:				·		
Date of last modif	fication: 24.02	2.2017				
Approved: Guara	nteeprof. RND	r. Peter Kollár, I	DrSc.Guaranteep	cof. RNDr. Pavol	Mártonfi, PhD.	

University: P. J. Šafá	rik University in Košice						
Faculty: Faculty of S	Faculty: Faculty of Science						
Course ID: ÚFV/ SVL1/03	Course ID: ÚFV/ SVL1/03Course name: Structure and Properties of Solids						
Course type, scope a Course type: Lectur Recommended cour Per week: 3 Per stu Course method: pre	nd the method: re rse-load (hours): dy period: 42 esent						
Number of credits: 5							
Recommended seme	ster/trimester of the course: 5.						
Course level: I.							
Prerequisities:							
Conditions for cours 50% maintained outp 50% final exam	e completion: but, written test						
Learning outcomes: To explain basic prob type of lattices, syme mechanical properties specialized topis of C Experimental method	blems of Solid State physics. The course is mainly oriented on fundamental etry and crystal structure, X.ray diffractometry, Thermal properties, s and conductivity of solids. The course alows to continue education in Condensed Matter like: Magnetic properties, Low temperature physics, ls of CM, Semiconductors atc.						
Brief outline of the c Periodic array of ato crystal structure. Sym constants. Wave diff conditions, scatering sphere, Diffraction of factor. Thermal prop- Energy bands. Semic	nourse: Ins. Fundamental type of lattices. Index systems for crystal planes. Simple netry and crystal structure. Point and space groups. Crystal binding and elastic fraction and the reciprocal lattice. X.ray diffractometry. Brag's law, Laue of x-rays, Neutrons and neutron scattering, CW - diffractometer, Ewald's n powder samples, Structure factor, Ocupation factor, Atomic displacement erties. Phonon heat capacity, thermal conductivity. Free electron Fermi gas. onductor crystals. Superconductivity.						
Recommended litera 1. Ch. Kittel, Solid St 3.Fundamentals of Po Pecharsky & Peter Y. 4.Structure Determin L.B. McCusker, C. B	nture: tate Physics,Springer,1985. owder Diffraction and Structural Characterization of Materials, Vitalij K. Zavalij, Kluwer Academic Publishers, 2003. ation from Powder Diffraction Data, Edited by W.I.F. David, K. Shankland, ärlocher, Oxford University Press, 2006						
Course language: english							

Course assessment

Total number of assessed students: 41

А	В	С	D	Е	FX	
46.34	17.07	19.51	12.2	2.44	2.44	

Provides: prof. RNDr. Pavol Sovák, CSc.

Date of last modification: 24.02.2017

Approved: Guaranteeprof. RNDr. Peter Kollár, DrSc.Guaranteeprof. RNDr. Pavol Mártonfi, PhD.

University: P. J. Šafá	rik University in Košice					
Faculty: Faculty of S	cience					
Course ID: ÚBEV/ TCB1/03	Course ID: ÚBEV/ Course name: Fieldworks from Botany CB1/03					
Course type, scope and the method: Course type: Practice Recommended course-load (hours): Per week: Per study period: 5d Course method: present						
Number of credits: 2	· · · · · · · · · · · · · · · · · · ·					
Recommended seme	ster/trimester of the cours	e: 2.				
Course level: I.						
Prerequisities:						
Conditions for cours	e completion:					
Learning outcomes: Study of methods for	identification and determination	ation of common central-europaean plants.				
Brief outline of the c Plant identification in	ourse: different habitats. Plant det	ermination. Floristic records.				
Recommended literature: Dostál J., Červenka M.: Veľký kľúč na určovanie rastlín I. a II Veda, Bratislava 1991 a 1992. Kubát K. (ed.): Klíč ke květeně České republiky Academia, Praha, 2002. Marhold K. a Hindák F. (eds.): Zoznam nižších a vyšších rastlín Slovenska. Checklist of non- vascular and vascular plants of Slovakia Veda, Bratislava 1998. Krejča J. (ilustr.): Veľká kniha rastlín Bratislava (various editions).						
Course language:						
Course assessment Total number of assessed students: 1005						
abs n						
99.9 0.1						
Provides: prof. RNDr. Pavol Mártonfi, PhD., prof. RNDr. Martin Bačkor, DrSc., Mgr. Vladislav Kolarčik, PhD.						
Date of last modification: 24.02.2017						

Approved: Guaranteeprof. RNDr. Peter Kollár, DrSc.Guaranteeprof. RNDr. Pavol Mártonfi, PhD.

University: P. J. Šafá	rik University in Košice					
Faculty: Faculty of S	cience					
Course ID: ÚBEV/ TCZ/03	Course name: Fieldwork t	from zoology				
Course type, scope and the method: Course type: Practice Recommended course-load (hours): Per week: Per study period: 5d Course method: present						
Number of credits: 2	2					
Recommended seme	ster/trimester of the cours	e: 4.				
Course level: I.						
Prerequisities:						
Conditions for cours	e completion:					
Learning outcomes: Practical observation	of morphology of vertebrat	es.				
Brief outline of the c Systematic and phyl- amphibians, reptiles,	ourse: ogenetic relationships of ve bidrs and mammals - observ	ertebrate. Review of important groups of fishes, vation, and laboratory work.				
Recommended litera	iture:					
Course language:						
Course assessment Total number of assessed students: 716						
	abs	n				
99.16 0.84						
Provides: RNDr. Peter L'uptáčik, PhD., doc. RNDr. L'ubomír Panigaj, CSc., RNDr. Andrej Mock, PhD.						
Date of last modification: 24.02.2017						
Approved: Guaranteeprof. RNDr. Peter Kollár, DrSc.Guaranteeprof. RNDr. Pavol Mártonfi, PhD.						

University: P. J.	Šafárik Univer	sity in Košice						
Faculty: Faculty	Faculty: Faculty of Science							
Course ID: ÚF TEP1/03	FV/ Course name: Theory of the Electromagnetic Field							
Course type, sc Course type: I Recommended Per week: 3 / 1 Course method	ope and the mo Lecture / Practic l course-load (Per study per d: present	ethod: e hours): iod: 42 / 14						
Number of crea	lits: 5							
Recommended	semester/trim	ester of the cours	e: 4.					
Course level: I.								
Prerequisities:	ÚFV/VFM1b/1	5 or ÚFV/VF1b/0	3					
Conditions for Two tests to dea Examination.	course completed with specific	t ion: tasks theory of the	e electromagneti	c field.				
Learning outco To acquaint stud	mes: dents with princ	iples of a theory of	of the electromag	gnetic field.				
Brief outline of Maxwell equation Static magnetic Electromagnetic	the course: ons in vacuum. field. Maxwell c waves. Radiat	Scalar and vector equations in macr ion of electromag	potentials. Cons oscopic media. netic waves.	ervation laws. Ele Quasistatic electro	ectrostatic field. omagnetic field.			
Recommended 1. Jackson J.D.: 2. Rao N.N.: Ba 3. Greiner W.: C	literature: Classical Elect sic Electromag Classical Electro	rodynamics, John netics with Applic odynamics, Spring	Wiley, New Yo cations, Prentice er-Verlag, New	rk, 1975. -Hall, New Jersey York, 1998.	v, 1972.			
Course languag 1. Slovak, 2. English	ge:							
Course assessment Total number of assessed students: 269								
А	В	C	D	E	FX			
27.14	27.14 7.43 16.73 23.79 16.36 8.55							
Provides: prof.	Provides: prof. RNDr. Andrej Bobák, DrSc., RNDr. Tomáš Lučivjanský, PhD.							
Date of last mo	dification: 21.0	2.2017						
Approved: Gua	ranteeprof. RN	Dr. Peter Kollár, E	DrSc.Guaranteep	rof. RNDr. Pavol	Mártonfi, PhD.			
Faculty: Faculty of Science Course ID: ÚFV/ Course name: Theoretical Mechanics Course type, scope and the method: Course type: Lecture / Practice Recommended course-load (hours): Per week: 2 / 1 Per study period: 28 / 14 Course type: Lecture / Practice Recommended semester/trimester of the course: 3. Recommended semester/trimester of the course: 3. Recommended semester/trimester of the course: 3. Course level: I Prerequisities: ÚFV/VF1a/12 or ÚFV/VFM1a/15 Conditions for course completion: Two tests to deal with specific tasks mechanics. Final examination. Earning outcomes: To acquaint students with principles of the theoretical mechanics. Brief outline of the course: Mechanics of particle system with constraints. Principle of virtual work and d'Alembert's principle. Lagrange's equations of motion. Hamilton's principle, Hamilton's function and Hamilton's connical equations of motion. Mechanics of rigid body. Kinematics and dynamics of rigid body. Recommended literature: 1. 1. Metrovitch L.: Methods of Analytical dynamics, McGraw-Hill, New York, 1970. 2. Taylor T.T: Mechanics: Classical and Quantum, Pergamon Press, Oxford, 1976. 3. Strelkov S.P: Mechanics, Mir Publishers, Moscow, 1985. 4. Greiner W: Classical Mechanics, Addison-Wesley, London, 1970. 6. Barger V., Olsson M.: Classical Mechanics: A Mode	University: P. J.	Šafárik Univers	ity in Košice					
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Course ID: ÚFV/ TMEU/15 Course type: Lecture / Practice Recommended course-load (hours): Per week: 2 / 1 Per study period: 28 / 14 Course method: present Number of credits: 3 Recommended semester/trimester of the course: 3. Course level: 1. Preved: 21 Per study period: 28 / 14 Course nethod: present Number of credits: 3 Recommended semester/trimester of the course: 3. Course level: 1. Prerequisities: ÚFV/VF1a/12 or ÚFV/VFM1a/15 Conditions for course completion: Two tests to deal with specific tasks mechanics. Final examination. Learning outcomes: To acquaint students with principles of the theoretical mechanics. Brief outline of the course: Mechanics of particle system with constraints. Principle of virtual work and d'Alembert's principle. Lagrange's function and Lagrange's equations of motion. Hamilton's principle, Hamilton's function and Hamilton's canonical equations of motion. Mechanics of rigid body. Kinematics and dynamics of rigid body. Recommended literature: 1. Meirovitch L.: Methods of Analytical dynamics, McGraw-Hill, New York, 1970. 2. Taylor T.T.: Mechanics: Classical Mechanics, Springer-Verlag, Berlin, 2010. 5. Goldstein H.: Classical Mechanics, Addison-Wesley, London, 1970. 6. Barger V., Olsson M.: Classical Mechanics: A Modern Perspective, McGraw-Hill, London, 1973.	Faculty: Faculty	of Science						
Course type: Lecture / Practice Recommended course-load (hours): Per week: 2/ 1 Per study period: 28 / 14 Course method: present Number of credits: 3 Recommended semester/trimester of the course: 3. Course level: I. Prerequisities: ÚFV/VF1a/12 or ÚFV/VFM1a/15 Conditions for course completion: Two tests to deal with specific tasks mechanics. Frial examination. Learning outcomes: To acquaint students with principles of the theoretical mechanics. Brief outline of the course: Mechanics of particle system with constraints. Principle of virtual work and d'Alembert's principle. Lagrange's function and Lagrange's equations of motion. Hamilton's principle, Hamilton's function and Hamilton's function. 1. Meirovitch L.: Methods of Analytical dynamics, McGraw-Hill, New York, 1970. 2. Taylor T.T.: Mechanics: Classical and Quantum, Pergamon Press, Oxford, 1976. 3. Strelkov S.P.: Mechanics, Springer-Verlag, Berlin, 2010. 5. Goldstein H.: Classical Mechanics: A Modern Perspective, McGraw-Hill, London, 1973. Course language: Slovak Course assessment Total number of assesed students: 10	Course ID: ÚFV TMEU/15	ourse ID: ÚFV/ MEU/15Course name: Theoretical Mechanics						
Number of credits: 3 Recommended semester/trimester of the course: 3. Course level: 1. Prerequisities: ÚFV/VF1a/12 or ÚFV/VFM1a/15 Conditions for course completion: Two tests to deal with specific tasks mechanics. Final examination. Learning outcomes: To acquaint students with principles of the theoretical mechanics. Brief outline of the course: Mechanics of particle system with constraints. Principle of virtual work and d'Alembert's principle. Lagrange's function and Lagrange's equations of motion. Hamilton's principle, Hamilton's function and Hamilton's canonical equations of motion. Mechanics of rigid body. Kinematics and dynamics of rigid body. Recommended literature: 1. Meirovitch L.: Methods of Analytical dynamics, McGraw-Hill, New York, 1970. 2. Taylor T.: Mechanics, Springer-Verlag, Berlin, 2010. 5. Goldstein H.: Classical Mechanics, Addison-Wesley, London, 1970. 6. Barger V., Olsson M.: Classical Mechanics: A Modern Perspective, McGraw-Hill, London, 1973. Course language: Slovak Course assessment Total number of assessed students: 10 A B C D E A B C A B C <td>Course type, sco Course type: Le Recommended Per week: 2 / 1 Course method</td> <td>pe and the met ecture / Practice course-load (he Per study perio : present</td> <td>hod: ours): od: 28 / 14</td> <td></td> <td></td> <td></td>	Course type, sco Course type: Le Recommended Per week: 2 / 1 Course method	pe and the met ecture / Practice course-load (he Per study perio : present	hod: ours): od: 28 / 14					
Recommended semester/trimester of the course: 3. Course level: I. Prerequisities: ÚFV/VF1a/12 or ÚFV/VFM1a/15 Conditions for course completion: Two tests to deal with specific tasks mechanics. Final examination. Learning outcomes: To acquaint students with principles of the theoretical mechanics. Brief outline of the course: Mechanics of particle system with constraints. Principle of virtual work and d'Alembert's principle. Lagrange's function and Lagrange's equations of motion. Hamilton's principle, Hamilton's function and Hamilton's canonical equations of motion. Mechanics of rigid body. Kinematics and dynamics of rigid body. Recommended literature: 1. Meirovitch L.: Methods of Analytical dynamics, McGraw-Hill, New York, 1970. 2. Taylor T.T.: Mechanics: Classical and Quantum, Pergamon Press, Oxford, 1976. 3. Strelkov S.P.: Mechanics, Mir Publishers, Moscow, 1985. 4. Greiner W.: Classical Mechanics, Springer-Verlag, Berlin, 2010. 5. Goldstein H.: Classical Mechanics, Addison-Wesley, London, 1970. 6. Barger V., Olsson M.: Classical Mechanics: A Modern Perspective, McGraw-Hill, London, 1973. Course language: Slovak Course assessment Total number of assessed students: 10 A B C D E FX 40.0 20.0 0.0 30.0 0.0 10.0 A B C D E FX 40.0 20.0 0.0 30.0 0.0 10.0 Provides: prof. RNDr. Andrej Bobák, DrSc. Date of last modification: 21.02.2017 Approved: Guaranteeprof. RNDr. Peter Kollár, DrSc.Guaranteeprof. RNDr. Pavol Mártonfi, PhD.	Number of credi	ts: 3						
Course level: I. Prerequisities: ÚFV/VF1a/12 or ÚFV/VFM1a/15 Conditions for course completion: Two tests to deal with specific tasks mechanics. Final examination. Learning outcomes: To acquaint students with principles of the theoretical mechanics. Brief outline of the course: Mechanics of particle system with constraints. Principle of virtual work and d'Alembert's principle. Lagrange's function and Lagrange's equations of motion. Hamilton's principle, Hamilton's function and Hamilton's canonical equations of motion. Mechanics of rigid body. Kinematics and dynamics of rigid body. Recommended literature: 1. Meirovitch L.: Methods of Analytical dynamics, McGraw-Hill, New York, 1970. 2. Taylor T.T.: Mechanics: Classical and Quantum, Pergamon Press, Oxford, 1976. 3. Strelkov S.P.: Mechanics, Springer-Verlag, Berlin, 2010. 5. Goldstein H.: Classical Mechanics: A Modern Perspective, McGraw-Hill, London, 1973. Course language: Slovak Course language: Slovak Course assessment Total number of assessed students: 10 A B C D E FX A0.0 20.0 0.0 IE FX Date of last modification: 21.02.2017 A B C D E FX A	Recommended s	emester/trimes	ter of the cours	e: 3.				
Prerequisities: ÚFV/VF1a/12 or ÚFV/VFM1a/15 Conditions for course completion: Two tests to deal with specific tasks mechanics. Final examination. Learning outcomes: To acquaint students with principles of the theoretical mechanics. Brief outline of the course: Mechanics of particle system with constraints. Principle of virtual work and d'Alembert's principle. Lagrange's function and Lagrange's equations of motion. Hamilton's principle, Hamilton's function and Hamilton's canonical equations of motion. Mechanics of rigid body. Kinematics and dynamics of rigid body. Recommended literature: 1. Meirovitch L.: Methods of Analytical dynamics, McGraw-Hill, New York, 1970. 2. Taylor T.T.: Mechanics: Classical and Quantum, Pergamon Press, Oxford, 1976. 3. Strelkov S.P.: Mechanics, Springer-Verlag, Berlin, 2010. 5. Goldstein H.: Classical Mechanics, Addison-Wesley, London, 1970. 6. Barger V., Olsson M.: Classical Mechanics: A Modern Perspective, McGraw-Hill, London, 1973. Course language: Slovak Course assessment Total number of assessed students: 10 A B C A B C A B C 40.0 20.0 0.0 30.0 0.0 <	Course level: I.							
Conditions for course completion: Two tests to deal with specific tasks mechanics. Final examination. Learning outcomes: To acquaint students with principles of the theoretical mechanics. Brief outline of the course: Mechanics of particle system with constraints. Principle of virtual work and d'Alembert's principle. Lagrange's function and Lagrange's equations of motion. Hamilton's principle, Hamilton's function and Hamilton's canonical equations of motion. Mechanics of rigid body. Kinematics and dynamics of rigid body. Recommended literature: 1. Meirovitch L.: Methods of Analytical dynamics, McGraw-Hill, New York, 1970. 2. Taylor T.T.: Mechanics: Classical and Quantum, Pergamon Press, Oxford, 1976. 3. Strelkov S.P.: Mechanics, Springer-Verlag, Berlin, 2010. 5. Goldstein H.: Classical Mechanics, Addison-Wesley, London, 1970. 6. Barger V., Olsson M.: Classical Mechanics: A Modern Perspective, McGraw-Hill, London, 1973. Course language: Slovak Course language: Slovak A B C D E FX 40.0 20.0 0.0 30.0 0.0 10.0 Provides: prof. RNDr. Andrej Bobák, DrSc. Dat of last modification: 21.02.2017	Prerequisities: Ú	FV/VF1a/12 or	ÚFV/VFM1a/1	5				
Learning outcomes: To acquaint students with principles of the theoretical mechanics. Brief outline of the course: Mechanics of particle system with constraints. Principle of virtual work and d'Alembert's principle. Lagrange's function and Lagrange's equations of motion. Hamilton's principle, Hamilton's function and Hamilton's canonical equations of motion. Mechanics of rigid body. Kinematics and dynamics of rigid body. Recommended literature: 1. Meirovitch L.: Methods of Analytical dynamics, McGraw-Hill, New York, 1970. 2. Taylor T.T.: Mechanics: Classical and Quantum, Pergamon Press, Oxford, 1976. 3. Strelkov S.P.: Mechanics, Mir Publishers, Moscow, 1985. 4. Greiner W.: Classical Mechanics, Springer-Verlag, Berlin, 2010. 5. Goldstein H.: Classical Mechanics: A Modern Perspective, McGraw-Hill, London, 1973. Course language: Slovak Course assessment Total number of assessed students: 10 A B C D E FX 40.0 20.0 0.0 30.0 0.0 10.0 Provides: prof. RNDr. Andrej Bobák, DrSc. D E FX 40.0 A D E FX 40.0 20.017 Approved: Guaranteeprof. RNDr. Peter Kollár, DrSc.Guaranteeprof. RNDr. Pavol Mártonfi, PhD. E FX	Conditions for c Two tests to deal Final examinatio	ourse completion with specific ta n.	on: sks mechanics.					
Brief outline of the course: Mechanics of particle system with constraints. Principle of virtual work and d'Alembert's principle. Lagrange's function and Lagrange's equations of motion. Hamilton's principle, Hamilton's function and Hamilton's canonical equations of motion. Mechanics of rigid body. Kinematics and dynamics of rigid body. Recommended literature: 1. Meirovitch L.: Methods of Analytical dynamics, McGraw-Hill, New York, 1970. 2. Taylor T.T.: Mechanics: Classical and Quantum, Pergamon Press, Oxford, 1976. 3. Strelkov S.P.: Mechanics, Mir Publishers, Moscow, 1985. 4. Greiner W.: Classical Mechanics, Springer-Verlag, Berlin, 2010. 5. Goldstein H.: Classical Mechanics, Addison-Wesley, London, 1970. 6. Barger V., Olsson M.: Classical Mechanics: A Modern Perspective, McGraw-Hill, London, 1973. 700 Course language: Slovak Slovak 50 Modern Perspective, McGraw-Hill, London, 1970. 7. A B C D E FX 40.0 20.0 0.0 30.0 0.0 10.0 Provides: prof. RNDr. Andrej Bobák, DrSc. 5. D E FX 40.0 20.017 Approved: Guaranteeprof. RNDr. Peter Kollár, DrSc.Guaranteeprof. RNDr. Pavol Mártonfi, PhD.	Learning outcon To acquaint stude	nes: ents with princip	ples of the theore	tical mechanics	3.			
Recommended literature: 1. Meirovitch L.: Methods of Analytical dynamics, McGraw-Hill, New York, 1970. 2. Taylor T.T.: Mechanics: Classical and Quantum, Pergamon Press, Oxford, 1976. 3. Strelkov S.P.: Mechanics, Mir Publishers, Moscow, 1985. 4. Greiner W.: Classical Mechanics, Springer-Verlag, Berlin, 2010. 5. Goldstein H.: Classical Mechanics, Addison-Wesley, London, 1970. 6. Barger V., Olsson M.: Classical Mechanics: A Modern Perspective, McGraw-Hill, London, 1973. Course language: Slovak Course assessment Total number of assessed students: 10 A B C D E FX 40.0 20.0 0.0 30.0 0.0 10.0 Provides: prof. RNDr. Andrej Bobák, DrSc. Date of last modification: 21.02.2017 Approved: Guaranteeprof. RNDr. Peter Kollár, DrSc.Guaranteeprof. RNDr. Pavol Mártonfi, PhD.	Brief outline of t Mechanics of par Lagrange's functi and Hamilton's c of rigid body.	he course: ticle system wit on and Lagrang anonical equation	h constraints. Pri e's equations of r ons of motion. M	nciple of virtua notion. Hamilto echanics of rigi	l work and d'Alem on's principle, Han d body. Kinematio	nbert's principle. nilton's function cs and dynamics		
Course language: Slovak Course assessment Total number of assessed students: 10 A B C D E FX 40.0 20.0 0.0 30.0 0.0 10.0 Provides: prof. RNDr. Andrej Bobák, DrSc. Date of last modification: 21.02.2017 Approved: Guaranteeprof. RNDr. Peter Kollár, DrSc.Guaranteeprof. RNDr. Pavol Mártonfi, PhD.	Recommended li 1. Meirovitch L.: 2. Taylor T.T.: M 3. Strelkov S.P.: 4. Greiner W.: Cl 5. Goldstein H.: 6. Barger V., Ols 1973.	iterature: Methods of An echanics: Class Mechanics, Mir assical Mechan Classical Mecha son M.: Classica	alytical dynamic ical and Quantur Publishers, Mos ics, Springer-Ver mics, Addison-V al Mechanics: A	es, McGraw-Hil n, Pergamon Pr cow, 1985. clag, Berlin, 201 Vesley, London, Modern Perspe	l, New York, 1970 ess, Oxford, 1976 10. 1970. ctive, McGraw-H	0. ill, London,		
Course assessment Total number of assessed students: 10ABCDEFX40.020.00.030.00.010.0Provides: prof. RNDr. Andrej Bobák, DrSc.Date of last modification: 21.02.2017Approved: Guaranteeprof. RNDr. Peter Kollár, DrSc.Guaranteeprof. RNDr. Pavol Mártonfi, PhD.	Course language Slovak	:						
ABCDEFX40.020.00.030.00.010.0Provides: prof. RNDr. Andrej Bobák, DrSc.Date of last modification: 21.02.2017Approved: Guaranteeprof. RNDr. Peter Kollár, DrSc.Guaranteeprof. RNDr. Pavol Mártonfi, PhD.	Course assessme Total number of	nt assessed student	ts: 10					
40.020.00.030.00.010.0Provides: prof. RNDr. Andrej Bobák, DrSc.Date of last modification: 21.02.2017Approved: Guaranteeprof. RNDr. Peter Kollár, DrSc.Guaranteeprof. RNDr. Pavol Mártonfi, PhD.	Α	В	С	D	E	FX		
Provides: prof. RNDr. Andrej Bobák, DrSc. Date of last modification: 21.02.2017 Approved: Guaranteeprof. RNDr. Peter Kollár, DrSc.Guaranteeprof. RNDr. Pavol Mártonfi, PhD.	40.0	20.0	0.0	30.0	0.0	10.0		
Date of last modification: 21.02.2017Approved: Guaranteeprof. RNDr. Peter Kollár, DrSc.Guaranteeprof. RNDr. Pavol Mártonfi, PhD.	Provides: prof. R	NDr. Andrej Bo	obák, DrSc.					
Approved: Guaranteeprof. RNDr. Peter Kollár, DrSc.Guaranteeprof. RNDr. Pavol Mártonfi, PhD.	Date of last mod	ification: 21.02	.2017					
	Approved: Guara	anteeprof. RND	r. Peter Kollár, E	PrSc.Guaranteep	orof. RNDr. Pavol	Mártonfi, PhD.		

University: P. J.	Šafárik Univers	ity in Košice				
Faculty: Faculty	Faculty: Faculty of Science					
Course ID: KPE TVE/08	/ Course na	me: Theory of E	Education			
Course type, sco Course type: Pr Recommended Per week: 2 Per Course method	pe and the met ractice course-load (h r study period: l: present	thod: ours): 28				
Number of credi	its: 2					
Recommended s	semester/trimes	ster of the cours	e: 4., 6.			
Course level: I.						
Prerequisities:						
Conditions for c	ourse completi	on:				
Learning outcor	nes:					
Brief outline of t	the course:					
Recommended l	iterature:					
Course language	e:					
Course assessme Total number of	ent assessed studen	ts: 318				
A	В	С	D	Е	FX	
25.16	35.85	26.1	7.55	2.2	3.14	
Provides: Mgr. Katarína Petríková, PhD., PaedDr. Renáta Orosová, PhD.						
Date of last modification: 07.02.2017						
Approved: Guar	Approved: Guaranteeprof. RNDr. Peter Kollár, DrSc.Guaranteeprof. RNDr. Pavol Mártonfi, PhD.					

University:	P. J. Šafá	rik University i	n Košice				
Faculty: Fa	culty of S	cience					
Course ID: TVa/11	ÚTVŠ/	Course name	: Sports Acti	vities I.			
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						
Recommen	ded seme	ster/trimester	of the cours	e: 1.			
Course leve	e l: I., I.II.,	II.					
Prerequisit	ies:						
Conditions	for cours	e completion:					
Learning o	utcomes:						
Brief outlin	e of the c	ourse:					
Recommen	ded litera	ture:					
Course lang	guage:						
Course asso Total numb	essment er of asses	ssed students: 1	0457				
abs	abs-A	abs-B	abs-C	abs-D	abs-E	n	neabs
88.25	0.0	0.0	0.0	0.0	0.02	7.81	3.92
Provides: Mgr. Peter Bakalár, PhD., Mgr. Dana Dračková, PhD., Mgr. Agata Horbacz, PhD., Mgr. Dávid Kaško, Mgr. Zuzana Küchelová, PhD., PaedDr. Jana Potočníková, PhD., doc. PaedDr. Ivan Uher, PhD., Mgr. Marek Valanský, prof. RNDr. Stanislav Vokál, DrSc., Mgr. Aurel Zelko, PhD., Mgr. Marcel Čurgali, doc. PhDr. Ivan Šulc, CSc.							
Date of last	modifica	tion: 23.02.201	17				

University:	P. J. Šafár	ik University i	n Košice			1	
Faculty: Fa	culty of Sc	ience					
Course ID: TVb/11	ÚTVŠ/	Course name:	Sports Acti	vities II.			
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						
Recommen	ded semes	ter/trimester	of the cours	e: 2.			
Course leve	el: I., I.II., I	[I					
Prerequisit	ies:						
Conditions	for course	completion:					
Learning of	utcomes:						
Brief outlin	e of the co	ourse:					
Recommen	ded literat	ure:					
Course lang	guage:						
Course asse Total numb	essment er of asses	sed students: 9	779				
abs	abs-A	abs-B	abs-C	abs-D	abs-E	n	neabs
85.09	0.61	0.02	0.0	0.0	0.02	10.36	3.9
Provides: Mgr. Peter Bakalár, PhD., Mgr. Dana Dračková, PhD., Mgr. Agata Horbacz, PhD., Mgr. Dávid Kaško, Mgr. Zuzana Küchelová, PhD., PaedDr. Jana Potočníková, PhD., doc. PaedDr. Ivan Uher, PhD., Mgr. Marek Valanský, prof. RNDr. Stanislav Vokál, DrSc., Mgr. Aurel Zelko, PhD., Mgr. Marcel Čurgali, doc. PhDr. Ivan Šulc, CSc.							
Date of last	modificat	ion: 23.02.201	17				

University:	P. J. Šafár	ik University i	n Košice				
Faculty: Fa	culty of Sc	eience					
Course ID: TVc/11	rse ID: ÚTVŠ/ Course name: Sports Activities III.						
Course typ Course typ Recomme Per week: Course mo	e, scope an pe: Practic nded cour 2 Per stud ethod: pres	nd the method e se-load (hours ly period: 28 sent	: \$):				
Number of	credits: 2						
Recommen	ded semes	ter/trimester	of the cours	e: 3.			
Course leve	el: I., I.II.,	II.					
Prerequisit	ies:						
Conditions	for course	e completion:					
Learning o	utcomes:						
Brief outlin	e of the co	ourse:					
Recommen	ded litera	ture:					
Course lang	guage:						
Course asso Total numb	essment er of asses	sed students: 6	188			<u> </u>	
abs	abs-A	abs-B	abs-C	abs-D	abs-E	n	neabs
89.66	0.03	0.0	0.0	0.0	0.0	4.36	5.95
Provides: P Dana Dračk PhD., doc. F Mgr. Aurel	aedDr. Jan ová, PhD., PaedDr. Iva Zelko, PhI	a Potočníková Mgr. Agata H in Uher, PhD.,)., doc. PhDr. I	, PhD., Mgr. orbacz, PhD Mgr. Marek (van Šulc, C	Marcel Čurg ., Mgr. Dávid Valanský, pr Sc.	gali, Mgr. Pe l Kaško, Mg rof. RNDr. S	ter Bakalár, I r. Zuzana Ki tanislav Vok	PhD., Mgr. ichelová, ál, DrSc.,
Date of last	modificat	tion: 23.02.201	17				

University:	P. J. Šafár	ik University i	n Košice				
Faculty: Fa	culty of Sc	ience					
Course ID: TVd/11	ÚTVŠ/	Course name:	: Sports Acti	vities IV.			
Course typ Course tyj Recomme Per week: Course me	e, scope ar pe: Practic nded cour 2 Per stuc ethod: pres	nd the method e se-load (hours ly period: 28 sent	l: s):				
Number of	credits: 2						
Recommen	ded semes	ter/trimester	of the cours	e: 4.			
Course leve	el: I., I.II., I	[I.					
Prerequisit	ies:						
Conditions	for course	completion:					
Learning o	utcomes:						
Brief outlin	e of the co	ourse:					
Recommen	ded literat	ture:					
Course lan	guage:						
Course asso Total numb	essment er of asses	sed students: 4	.644				
abs	abs-A	abs-B	abs-C	abs-D	abs-E	n	neabs
85.66	0.32	0.04	0.0	0.0	0.0	6.61	7.36
Provides: Mgr. Marcel Čurgali, Mgr. Peter Bakalár, PhD., Mgr. Dana Dračková, PhD., Mgr. Agata Horbacz, PhD., Mgr. Dávid Kaško, Mgr. Zuzana Küchelová, PhD., PaedDr. Jana Potočníková, PhD., doc. PaedDr. Ivan Uher, PhD., Mgr. Marek Valanský, prof. RNDr. Stanislav Vokál, DrSc., Mgr. Aurel Zelko, PhD., doc. PhDr. Ivan Šulc, CSc.							

University: P. J	. Šafárik Univers	sity in Košice				
Faculty: Facult	y of Science					
Course ID: ÚF UAS/13	ourse ID: ÚFV/ Course name: Introduction to Astronomy AS/13 AS/13					
Course type, sc Course type: 1 Recommended Per week: 2 Pe Course metho	ope and the me Lecture d course-load (h er study period: d: present	thod: ours): 28				
Number of crea	lits: 3					
Recommended	semester/trimes	ster of the cours	e: 4.			
Course level: I.						
Prerequisities:						
Conditions for 2 tests during te Oral examination	course complet erm. Each test for on and test.	i on: r 15 points. Mini	mal amounts of J	points for an exan	n is 20.	
Learning outco Acquaint studer system, formati	mes: nts with basic ast on and evolution	ronomy and astronomy and gala	ophysic contncep axies	os, celestial coord	inates, Solar	
Brief outline of Subject of astro of 2 bodies, As stars and their e	the course: nomy, celestial of tronomical teleso volution, galaxie	coordinates and t copes, Solar systees.	heir transformat em, radiation of	ions, time and cal stars and spectru	lendar, problem n, properties of	
Recommended 1. Čeman, R., P 2. Čeman, R., P 3. Grygar, J., H 4. Kleczek, J., 2 5. Pittich, E., K 6. Vanýsek, V.:	literature: Pittich, E., 2002, Pittich, E., 2003, orský, Z., Mayer 2002, Velká ency almančok, D., 19 1980, Základy a	Vesmír 1 - Slneč Vesmír 2 - Hviez , P., 1979, Vesmí klopedie vesmíru 981, Obloha na d stronomie a astro	ná sústava, MAP dy - Galaxie, Ma r, Mladá fronta 1, Academia lani, Obzor ofyziky, Academi	A Slovakia APA Slovakia ia		
Course languag	ge:					
Course assessm Total number of	ent f assessed studen	its: 28				
А	В	С	D	E	FX	
100.0	0.0	0.0	0.0	0.0	0.0	
Provides: doc. 1	Mgr. Štefan Parin	nucha, PhD.				
Date of last mo	dification: 21.02	2.2017				
Approved: Gua	ranteeprof. RND	Dr. Peter Kollár, I	DrSc.Guaranteep	rof. RNDr. Pavol	Mártonfi, PhD.	

University: P. J. Šafá	rik University in Košice				
Faculty: Faculty of S	cience				
Course ID: Dek. PF UPJŠ/USPV/13	Course ID: Dek. PF Course name: Introduction to Study of Sciences UPJŠ/USPV/13				
Course type, scope and the method: Course type: Lecture / Practice Recommended course-load (hours): Per week: Per study period: 12s / 3d Course method: present					
Number of credits: 2					
Recommended seme	ster/trimester of the cours	e: 1.			
Course level: I.					
Prerequisities:					
Conditions for cours	e completion:				
Learning outcomes:					
Brief outline of the c	ourse:				
Recommended litera	iture:				
Course language:					
Course assessment Total number of asses	ssed students: 1136				
	abs	n			
91.37 8.63					
Provides: doc. RNDr. Gabriel Semanišin, PhD.					
Date of last modification: 13.02.2017					
Approved: Guaranteeprof. RNDr. Peter Kollár, DrSc.Guaranteeprof. RNDr. Pavol Mártonfi, PhD.					

University: P. J.	. Šafárik Univers	sity in Košice						
Faculty: Faculty	y of Science							
Course ID: ÚF UVF/05	Course ID: ÚFV/ UVF/05Course name: Introduction to General Physics							
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 cred	lits: 2							
Recommended	semester/trime	ster of the cours	e: 1.					
Course level: I.								
Prerequisities:								
Conditions for Active presenta Solved assignm Positive results	course complet tion during the le ents at two written te	ion: essons twice a ye ests	ar					
Learning outco Conceptual und gained with the inevitable preco student will be a	mes: erstanding of the help of problem ondition for the f able to follow w	e key concepts of solving, physica urther study at U ith the courses pr	The topics of Me l experiments and niversity level. A oceeding from th	chanics and Mol d multimedial su t the end of this he course General	ecular Physics pport that is course the l Physics I.			
Brief outline of The subject is a Physics. The co school experime The aim is to h previous study t	the course: a supportive sub ontent involves k ents, interactive elp students to o towards the conc	ject to the cours ey concepts in m multimedial teac overcome difficu ceptual understan	e General physic nechanics and mo ching materials a lties connected w ing of the Univer	es 1 - Mechanics blecular physics nd physical tasks with knowlege gates rsity course conte	and Molecular with the help of s and problems. tined during the ent.			
 Recommended literature: 1. Sutton, R.M., Demonstration Experiments in Physics, AAPT, 2003 2. Pizzo, J.: Interactive Physics demonstration, AAPT, 2001 3. Cunningham, J, Herr, N.: Hands on Physics Activities, Jossey-Bass A Wiley Imprint, 1994 4. Halliday D., Resnick R., Walker J.: Fyzika. Část 1- 5., Vysokoškolská učebnica fyziky, VUTIUM, Brno, 2000 5. Walker, J.: The Flying Circus of Physics with answers, John Wiley&Sons, 2005 6 Haiko V Daniel-Szabó J a kol Fyzika v príkladoch Alfa 1983 								
Course languag Slovak	ge:							
Course assessm	l ent fassessed studer	nts [.] 233						
A	B	C	D	Е	FX			
37.34	18.45	23.61	14.16	6.01	0.43			

Provides: doc. RNDr. Zuzana Ješková, PhD., doc. RNDr. Marián Kireš, PhD.

Date of last modification: 23.02.2017

University: P. J.	University: P. J. Šafárik University in Košice							
Faculty: Faculty	y of Science							
Course ID: ÚF UVF2/07	V/ Course na	me: Introduction	n to General Phys	sics II				
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 cred	lits: 2							
Recommended	semester/trimes	ster of the cours	e: 2.					
Course level: I.								
Prerequisities:								
Conditions for Active presenta Solved assignm Postive results a	course completi tions duringf the ents at two written tes	on: lessons twice a y ts.	/ear					
Learning outco Conceptual und the help of prob precondition for able to follow w	mes: erstanding of the lem solving, phy the further stud with the courses,	e key concepts of vsical experiment y at University le proceeding from	the topics of Ele s and multimedia evel. At the end o the course Gener	ctricity and Mag al support that is of the course the s ral physics II.	netism with inevitable studnet will be			
Brief outline of The subject is a The content inve interactive mult students to ove towards the con	the course: a supportive subj olves key concep timedial teaching rcome difficultion ceptual understa	ect to the course ts of electricity a g materials and p es connected with nding of the Univ	General Physics nd magntism with physical tasks an th knowledge ga versity course co	s 2 - Electricity a h the help of scho d problems. The ined during the ntent.	and Magnetism. ool experiments, e aim is to help previous study			
 Recommended literature: 1. Sutton, R.M., Demonstration Experiments in Physics, AAPT, 2003 2. Pizzo, J.: Interactive Physics demonstration, AAPT, 2001 3. Cunningham, J, Herr, N.: Hands on Physics Activities, Jossey-Bass A Wiley Imprint, 1994 4. Halliday D., Resnick R., Walker J.: Fyzika. Část 1- 5., Vysokoškolská učebnica fyziky, VUTIUM, Brno, 2000 5. Walker J.: The Flying Circus of Physics with answers. John Wiley&Sons. 2005 								
Course languag Slovak	ge:							
Course assessm Total number of	ent f assessed studen	ts: 192						
А	В	С	D	Е	FX			
41.15	19.27	22.4	8.33	8.85	0.0			

Provides: doc. RNDr. Zuzana Ješková, PhD.

Date of last modification: 23.02.2017

University: P. J.	Šafárik Univers	ity in Košice				
Faculty: Faculty	Faculty: Faculty of Science					
Course ID: ÚBE VB1/01	EV/ Course name: General botany					
Course type, sco	pe and the met	hod:				
Course type: Le	ecture / Practice					
Recommended	course-load (h	ours):				
Per week: 3 / 2	Per study perio	od: 42 / 28				
Course method	: present					
Number of credi	its: 6					
Recommended s	emester/trimes	ster of the cours	e: 2.			
Course level: I.						
Prerequisities: Ú	JBEV/CYT1/02	or ÚBEV/CYT1	/15			
Conditions for co	ourse completi	on:				
Learning outcon This subject enab to enhance stude	nes: ples to understan nt's ability to de	nd the structure a escribe the biolog	nd function of pl gical role of plant	ant cells, tissues is for life on eart	and organs and h.	
Brief outline of t The structure and and organization that are necessar organs and funct	the course: d function of pl . Plant reproduct y for understar ions plant orgar	ant cells and tiss option and ground uding of relations tism en bloc.	ues. Plant organs ing in embryolog ship between int	, their structure, gy. Basic inform ernal structure a	function, shape ation and terms nd functions of	
Recommended li	iterature:					
Course language	2:					
Course assessme Total number of	ent assessed studen	ts: 1690				
A	В	С	D	Е	FX	
19.29	22.13 27.1 17.99 9.53 3.96					
Provides: prof. R	NDr. Pavol Má	rtonfi, PhD., Mg	r. Vladislav Kola	ırčik, PhD.		
Date of last mod	ification: 24.02	2.2017				
Approved: Guara	anteeprof. RND	r. Peter Kollár, D	PrSc.Guaranteepr	of. RNDr. Pavol	Mártonfi, PhD.	

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

Course ID: ÚFV/	Course name: General Biophysics I
VBFM1/15	

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

Recommended course-load (hours):

Per week: 3 Per study period: 42

Course method: present

Number of credits: 3

Recommended semester/trimester of the course: 3.

Course level: I.

Prerequisities:

Conditions for course completion:

Exam.

Learning outcomes:

To provide information about the object, significance and role of biophysics in science. The main emphasis will be given on the understanding of the principles determining the structure and function of the most important biological structures (nucleis acids, proteins, biomembranes) as well as on the thermodynamics and kinetics of selected chemical and biophysical processes.

Brief outline of the course:

The definition of biophysics and its role in the science. Intra- and inter-molecular interactions in biological systems. Function and structure of the important biomacromolecules (nucleic acids, proteins, biomembranes, sugars). Conformational transitions in biopolymers: helix-coil transition in DNA, denaturation of proteins, phase transitions in biomembranes.

Thermodynamics of biological processes. Gibbs energy and chemical equilibrium, chemical potential, binding constants of the ligand-macromolecule intractions, cooperativity of the binding between biological important molecules, membrane potential.

Kinetics of the chemical and biophysical processes. The principles of chemical kinetics, enzymatic reactions, inhibition of the enzymes, membrane transport, introduction to the pharmacokinetics.

Cell biophysics. The basic bioenergetic processes, oxidative phosphorylation, photosynthesis. Mechanisms of regulations and control processes in cells-the basic principles.

Medicinal biophysics. Biophysical principles of selected diagnostic and therapeutical methods. Radiation and environmental biophysics. The influence of physico-chemical factors of the environment on the living systems.

Recommended literature:

- 1. M. B. Jackson, Molecular and cellular biophysics, Cambridge University Press, 2006.
- 2. M. Daune, Molecular biophysics Structures in motion, Oxford University Press, 2004.
- 3. R. Glaser, Biophysics, Springer Verlag, 2001.
- 4. M.V. Volkenštein, Biofizika, Nauka, Moskva 1988.
- 5. W.Hoppe and W. Lohmann, Biophysics, Springer Verlag, 1988.
- 6. D.G. Nichols and S.J. Ferguson, Bioenergetics 3, Academic Press, Elsevier Science Ltd., 2002.
- 7. D. T. Haynie, Biological thermodynamics, Cambridge University Press, 2001.

Course languag Slovak	ge:				
Course assessm Total number of	ent assessed studen	ts: 5			
А	В	С	D	Е	FX
20.0	40.0 40.0 0.0 0.0 0.0				
Provides: doc. N	Provides: doc. Mgr. Daniel Jancura, PhD.				
Date of last modification: 24.02.2017					
Approved: Gua	ranteeprof. RND	r. Peter Kollár, D	PrSc.Guaranteepi	of. RNDr. Pavol	Mártonfi, PhD.

University: P. J. S	Šafárik Univers	ity in Košice			
Faculty: Faculty	of Science				
Course ID: ÚBE VEK1/03	V/ Course na	me: Introduction	n to Ecology		
Course type, sco Course type: Le Recommended Per week: 2 Per Course method Number of credi	pe and the met ecture course-load (h study period: present ts: 3	hod: ours): 28			
Recommended se	emester/trimes	ter of the cours	e:		
Course level: I., I	II.				
Prerequisities:					
Conditions for co	ourse completi	on:			
Learning outcom Fundamental para	nes: ameters and rela	ations in ecologic	cal science.		
Brief outline of the Ecological factor on individuals (ne ecosystems (imparts))	he course: rs and relations norphological a act assessment)	in environment daptations, beha conservation an	(air, water, soil) vioral reactions) d biodiversity.	; influence of ec ; populations an	cological factors d communities;
Recommended literature: Begon, M., Harper, J. L., Townsend, C. L.: Ecology: individuals, populations, and communities. Blackwell Sci. Publ., 1990					
Course language					
Course assessme Total number of a	Course assessment Total number of assessed students: 1461				
A	В	С	D	Ε	FX
19.78	15.54	24.44	18.34	12.66	9.24
Provides: prof. R	Provides: prof. RNDr. Igor Hudec, CSc.				
Date of last modification: 24.02.2017					
Approved: Guara	Approved: Guaranteeprof. RNDr. Peter Kollár, DrSc.Guaranteeprof. RNDr. Pavol Mártonfi, PhD.				

University: P. J. Šafá	rik University in Košice
Faculty: Faculty of S	cience
Course ID: ÚFV/ VFM1a/15	Course name: General Physics I
Course type, scope a Course type: Lectur Recommended cou Per week: 4 / 2 Per Course method: pre	and the method: re / Practice rse-load (hours): study period: 56 / 28 esent
Number of credits: 6	5
Recommended seme	ester/trimester of the course: 1.
Course level: I.	
Prerequisities:	
Conditions for cours Monitoring tests duri 1. in the 6th week 2.in the 12th week Final assessment is b - oral examination assessment of the cal	se completion: ing the calculus lessons ased on th results of : culus lessons (written tests, overall performance during the lessons)
Learning outcomes: Basic knowledge abo	out the mechanics, molecular physics and thermodynamics.
Brief outline of the of Basic knowledge of the principle of relativity The motio of rigid by gases. Kinetic theory Molecular phenomer	course: the calculus, vector algebra. Standards and units. Kinematics. Dynamics. The in the classical mechanics. Gravitation. Mechanics of many-particle systems. odies. Deformation, elasticity. Mechanics of fluids and gases. Laws of ideal v. The thermodynamic laws. Statistical character of the second law. Entropy. na in liquids and solids. Phase transitions.
Recommended litera Hajko V., Daniel-Sza Veis Š., Maďar J., M Bratislava, 1987. Fuka J., Široká M.: C Hlavička A., a kol.: H Hajko V., a kol.:Fyzi Ilkovič D.: Fyzika, S Slaviček V., Wagner Krempaský J.: Fyzik	ature: bó J.: Základy fyziky, VEDA, Bratislava 1983. artišovits V.: Všeobecná fyzika I., Mechanika a molekulová fyzika, ALFA Obecná fyzika I / skriptum /, PF Univ. Palackého, Olomouc 1983. Fyzika pre pedagogické fakulty, SPN, Praha 1971. ka v príkladoch, ALFA Bratislava 1983. VTL Bratislava, 1962. J.: Fyzika pro chemiky, SNTL Praha 1971. a, ALFA Bratislava 1982.
Course language: Slovak	
Course assessment Total number of asse	ssed students: 179

А	В	С	D	Е	FX
27.93	18.44	18.99	10.61	20.67	3.35
Provides: doc.]	Provides: doc. RNDr. Zuzana Ješková, PhD.				
Date of last modification: 23.02.2017					
Approved: Guaranteeprof. RNDr. Peter Kollár, DrSc.Guaranteeprof. RNDr. Pavol Mártonfi, PhD.					

University: P. J. S	Šafárik Univers	ity in Košice			
Faculty: Faculty	of Science				
Course ID: ÚFV/ VFM1b/15	Course na	me: General Ph	ysics II		
Course type, sco Course type: Le Recommended Per week: 4 / 2 Course method	pe and the met ecture / Practice course-load (h Per study perio : present	hod: ours): od: 56 / 28			
Number of credi	ts: 6				
Recommended se	emester/trimes	ter of the cours	e: 2.		
Course level: I.					
Prerequisities: Ú	FV/VF1a/12 or	ÚFV/VFM1a/1	5		
Conditions for co Test. Oral examination	ourse completi	on:			
Learning outcom To obtain a gener problems of this s	nes: ral view on basi subject.	c electric magne	tic phenomena a	and ability to solv	e basic
Brief outline of the Electric field in the steady current. Consider the Magnetic field in the steady electric field in steady electric field with ac current. No Magnetic propert Magnetic ordering the magnetic ordering the steady electric field is t	he course: he free space. V urrent in electro the free space. eld. Electromag Aultiphase AC o ies of the substa g. Ferromagnet	Vork of the force olytes, semicond The interaction of netic induction. current. Rotating ancies. Magnetic ism.	es in the electros uctors, gasses ar of moving charg Energy of magn magnetic field. polarization. D	static field. Electron nd vacuum. Therm ses with the electri etic field. AC curr Electric effects in iamagnetism and	ostatic field and noelctric effects. c current. Quasi rent and circuits n the substances. paramagnetism,
Recommended li I. S. Grant, W.R.	terature: Phillips, Electr	omagnetism, Joł	n Wiley&Sons,	Ltd, England, 199	90
Course language english	:				
Course assessme Total number of a	nt assessed studen	ts: 15			
A	В	С	D	E	FX
33.33	6.67	33.33	6.67	0.0	20.0
Provides: prof. R Erik Čižmár, PhD	NDr. Peter Kol	lár, DrSc., doc. I	RNDr. Adriana Z	Zeleňáková, PhD.,	, doc. RNDr.
Date of last modi	ification: 24.02	.2017			

University: P. J	. Šafárik Univers	sity in Košice			
Faculty: Facult	y of Science				
Course ID: ÚF VFM1c/15	V/ Course n	ame: General Ph	ysics III		
Course type, sc Course type: 1 Recommender Per week: 4/2 Course metho	ope and the me Lecture / Practice d course-load (h 2 Per study peri d: present	thod: e oours): od: 56 / 28			
Number of cree	dits: 6				
Recommended	semester/trime	ster of the cours	e: 3.		
Course level: I.					
Prerequisities:	ÚFV/VF1b/03 o	r ÚFV/VFM1b/1	5		
Conditions for Exam+ 2 succe	course complet sfull test from se	ion: minars			
Learning outco The objective is	mes: s to acquaint the	students with the	basis of oscilati	ions, waves and o	ptics.
Undamped osc Fourier transfor Huyghens print Geometrical op Light as electr Photon's theory	ilations, Mather mation, Forced ciple. Reflection tics. Mirrors, len omagnetic wave of light. Law of	natical, Physical oscilations. Wave , difraction. Dop s. Fotometry. e. Dispersion, al cemision and abso	and Torsional es, their generat pler effect. Wav bsorption, inter orption, Planck's	pendulum, Damp ion, waves equati res speed in mater ference, difractio s law of radiation.	ped oscilations, on.Interference. rials. Acoustics. n, polarization. Lasers.
Recommended 1. A. Hlavička 2. R.P. Feynma 3. D. Halliday e 4. J. Fuka, B. H 5. A. Štrba, Vše	literature: et al., Fyzika pro n et al., Feynmar et al.,Fyzika-Vys avelka, Optika a eobecná Fyzika 3	pedagogické fak nove prednášky z okoškolská učeb atómová fyzika, 5 – Optika, ALFA	culty, SPN, 1971 Fyziky I,II,III, nice obecné fyzi SPN,1961 4, 1979	ALFA, 1985 ky, VUTIUM, 20	10
Course languag slovak	ge:				
Course assessm Total number o	nent f assessed studer	nts: 50			
А	В	С	D	Е	FX
34.0	20.0	26.0	14.0	6.0	0.0
Provides: prof.	RNDr. Rastislav	Varga, DrSc.	·	·	
Date of last mo	dification: 24.02	2.2017			
Approved: Gua	ranteeprof. RNI	Dr. Peter Kollár, I	DrSc.Guaranteep	orof. RNDr. Pavol	Mártonfi, PhD.

University• P I	Šafárik l	Univers	ity in Košice			
Faculty. Facult	v of Scier					
Course ID: ÚF VFM1d/15	V/ Co	ourse na	me: General Phy	ysics IV		
Course type, sc Course type: 1 Recommended Per week: 4 / 2 Course metho	ope and Lecture / 1 d course- 2 Per stud d: presen	the met Practice load (h dy perio	thod: ours): od: 56 / 28			
Number of cree	dits: 6					
Recommended	semester	r/trimes	ster of the cours	e: 4.		
Course level: I.						
Prerequisities:	ÚFV/VF	1c/10 or	r ÚFV/VF1c/12 (or ÚFV/VFM1c/	15	
Conditions for written tests exam	course co	ompleti	on:			
Learning outco Basic knowledg Basic experime	omes: ge about the ntal methe	he atom ods in r	ic structure and a nuclear physics a	spectra and nucle	i, and elementar	y particles. rough media.
Brief outline of Wave character Structure and m characteristics radioactivity. N interactions. Re	the court of partic odels of a of the ato uclear rea sonances.	rse: cles. De atoms. A omic nu actions. . Cosmie	e Broglie waves Atomic spectra. M Iclei. Nuclear fo Elementary parti c rays. Passage of	. Experimental of fagnetic propertion rces and models icles, basic prope f particles through	evidence for de es of atoms. X-ra . Radioactivity. rties and classifient n matter. Detector	Broglie waves. y spectra. Basic Applications of cation. Types of rs. Accelerators.
 Recommended literature: 1. Beiser A., Úvod do moderní fyziky, Praha, 1975. 2. Vanovič J.: Atómová fyzika, Bratislava, 1980. 3. Griffiths D., Introduction to Elementary Particles, WILEY, 1987. 4. Úlehla I., Suk M., Trka Z.: Atómy, jádra, částice, Praha, 1990. 5. Síleš E., Martinská G.: Všeobecná fyzika IV, skriptá PF UPJŠ, 2. vydanie, Košice, 1992. 5. Hajko V. and team of authors, Physics in experiments, Bratislava, 1997. 6. Nosek D., Jádra a částice (Řešené příklady), Matfyzpress, MFF UK, Praha 2005, 7. Brandt S., The harvest of a century, Discoveries of modern physics in 100 episodes, Oxford, 2009 						
Course languages slovak and engli	ge: lish					
Course assessm Total number o	nent f assessed	l studen	ts: 9			
А	В		С	D	Е	FX
77.78	0.0)	22.22	0.0	0.0	0.0

Provides: prof. RNDr. Stanislav Vokál, DrSc., RNDr. Janka Vrláková, PhD., RNDr. Adela Kravčáková, PhD.

Date of last modification: 20.02.2017

University: P. J.	Šafárik Univers	sity in Košice			
Faculty: Faculty	of Science				
Course ID: KFa VKFV/07	DF/ Course na Introducti	ame: Selected To on)	pics in Philosop	hy of Education (General
Course type, sco Course type: Recommended Per week: Per Course method	ope and the me course-load (h study period: l: present	thod: .ours):			
Number of cred	its: 2				
Recommended s	semester/trime	ster of the cours	e: 3., 5.		
Course level: I.					
Prerequisities: F	KFaDF/DF1/05				
Conditions for c	course completi	ion:			
Learning outco	mes:				
Brief outline of	the course:				
Recommended	literature:				
Course languag	e:				
Course assessme Total number of	ent assessed studer	its: 0			
A	В	С	D	E	FX
0.0	0.0	0.0	0.0	0.0	0.0
Provides: doc. PhDr. Pavol Tholt, PhD., mim. prof.					
Date of last mod	lification: 24.02	2.2017			
Approved: Guar	anteeprof. RNE	Dr. Peter Kollár, I	DrSc.Guaranteep	rof. RNDr. Pavol	Mártonfi, PhD.

University: P. J. Šafá	rik University in Košice
Faculty: Faculty of S	cience
Course ID: ÚCHV/ ZAC2/10	Course name: Basic Chemistry
Course type, scope a Course type: Lectur Recommended cour Per week: 2 / 2 Per Course method: pre	nd the method: re / Practice rse-load (hours): study period: 28 / 28 esent
Number of credits: 6	$\tilde{\mathbf{b}}$
Recommended seme	ster/trimester of the course: 3.
Course level: I.	
Prerequisities:	
Conditions for course inorganic part: one test organic part: one test At least 50% of point Terminal examination from organic parts.	est in 6th week; 50 points. in 12th week; 50 points. its required from both. n by written form, 100 points; 50 points from inorganic part and 50 points
Learning outcomes: The main goal of this for biology students.	subject is to provide a basic overview of inorganic and organic chemistry
Brief outline of the c Introduction to gener Chemical bonds. Rela and non transition el Elements essential fo Introduction to organ Heterocyclic compou Nucleic acids. Metab	ourse: al and inorganic chemistry. Periodic systems of elements. Atomic structure. ationship between structure and properties of substances. Solutions. Transition ements and their compounds. Coordination and biocoordination compounds. or living organisms and their function. Biometals. Biominerals. hic chemistry. Saturated and unsaturated hydrocarbons and their derivatives. unds. Carbohydrates. Lipids. Aminoacids and proteins. Enzyms and vitamins. holism and energy.
Recommended litera 1. Caret C. R., Denni Organic and Biologia 2. R.Chang: Chemist 3. K. C. Timberlake: Cummings Publishin	ston K.J., Topping J. J.: Principles and Applications of Inorganic, cal Chemistry. WCB, Boston 1997. ry, McGRAW-HILL,Inc., New York 1991. Organic and Biological Chemistry, Structure of Life. Benjamin g Company, Inc., San Francisco 2002.
Course language:	
Course assessment Total number of asse	ssed students: 1056

А	В	С	D	Е	FX
19.89	25.47	26.8	17.23	10.04	0.57

Provides: doc. RNDr. Zuzana Vargová, Ph.D., RNDr. Mária Vilková, PhD.

Date of last modification: 24.02.2017

University: P. J. Šafá	rik University in Košice
Faculty: Faculty of S	cience
Course ID: ÚFV/ ZFP1a/03	Course name: Physics Practical I
Course type, scope a Course type: Practiv Recommended cou Per week: 3 Per stu Course method: pre	and the method: ce rse-load (hours): ady period: 42 esent
Number of credits: 3	}
Recommended seme	ster/trimester of the course: 2.
Course level: I.	
Prerequisities:	
Conditions for cours The active work duri Vindication of report	se completion: ng semester and hand in all reports. s.
Learning outcomes: Developing proper la	boratory habits, skills and verify their theoretical knowledge.
Brief outline of the of The goal of this labor with kinds and calcu- results. The students introductory physics Laboratory assignme 1. Density measurem 2. Radius measurem 3. Gravitational acce and physical pendulu 4. Moment of inertia pendulum. 5. Measurements of 2 6. Measurement of the 8. Measurement of the 8. Measurements of 1 9. Measurements of 1 10. Measurements of 1 11. Measurement of the 10. Measurement of the 11. Measurement	ourse: pratory exercises is to familiarize the students with measurement methods, lus of mistakes, with measured results processing, and with presentation of gain practical skills, and verify their theoretical knowledge of first semester course. They develop proper laboratory habits. nt: ents of liquids and solids. ents of spherical cap. Measurements of eter. leration measurements using mathematical im. measurement using physical and torsion Young's modulus. pefficient of viscosity. le speed of sound. general gas constant and Boltzmann constant. hermal expansivity of air. 'thermal capacity of matter. the surface tension.
Recommended litera Degro, J., Ješková, Z measurements I), Ed Standards STN ISO 3 standards in Bratislav	nture: ., Onderová, Ľ., Kireš, M.: Základné fyzikálne praktikum I. (Basic physical . PF UPJŠ Košice 2007. 31. Slovenský inštitút normalizácie v Bratislave (Slovak institute of technical va),1997.

Ješková, Z.: Computer based experiments in thermodynamics using IP COACH,ed. PF UPJŠ in Košice, 2004.

Course language: english							
Course assessment Total number of assessed students: 212							
А	B C D E FX						
57.08	25.47 12.26 4.25 0.94 0.0						
Provides: doc. RNDr. Adriana Zeleňáková, PhD., doc. RNDr. Zuzana Ješková, PhD., doc. RNDr. Marián Kireš, PhD., doc. RNDr. Ján Füzer, PhD., doc. RNDr. Jozef Hanč, PhD.							
Date of last modification: 24.02.2017							
Approved: Gua	Approved: Guaranteeprof. RNDr. Peter Kollár, DrSc.Guaranteeprof. RNDr. Pavol Mártonfi, PhD.						

University: P. J	University: P. J. Šafárik University in Košice							
Faculty: Faculty	y of Science							
Course ID: ÚF ZFP1b/03	ourse ID: ÚFV/ Course name: Physics Practical II FP1b/03							
Course type, scope and the method: Course type: Practice Recommended course-load (hours): Per week: 3 Per study period: 42 Course method: present								
Number of crea	lits: 3							
Recommended	semester/trime	ster of the course	e: 3.					
Course level: I.								
Prerequisities:	ÚFV/ZFP1a/03							
Conditions for Meausirnig of e Further evaluation	course complet experimental task ion is also a goo	ion: cs, their appreciati d theoretical prepa	ion in the form o aration for the m	of a written repor- neasurement of th	t, defending. e task.			
The objectives a. To gain some b. To gain some c. To gain exper	of the laboratory physical inside practice in data rience and repor	are: into some of the c collection, analys t writing presentat	concepts present sis and interpretation and results.	ted in the lectures ation of resumand	s. ce.			
Brief outline of Students on pra electromagnetic	the course: actical exercises and magnetic p	are working in pare pare soft matter	airs experimenta	al tasks in the fie	eld of electrical,			
Recommended Tumanski S, Ha Fiorillo F, Char	literature: andbook of maga acterization and	netic measuremen Measurement of I	ts, CRC press, 2 Magnetic Mater	2011. ials, Elsevier, 200)4.			
Course languag Slovak	ge:							
Course assessment Total number of assessed students: 179								
А	A B C D E FX							
62.57	62.57 21.23 13.97 1.68 0.0 0.56							
Provides: doc. RNDr. Adriana Zeleňáková, PhD., doc. RNDr. Ján Füzer, PhD.								
Date of last mo	Date of last modification: 24.02.2017							
Approved: Gua	ranteeprof. RNI	Dr. Peter Kollár, D	orSc.Guaranteep	rof. RNDr. Pavol	Mártonfi, PhD.			

University: P. J. Šafárik University in Košice								
Faculty: Faculty	y of Science							
Course ID: ÚF ZFP1c/14	Course ID: ÚFV/ Course name: Physics Practical III ZFP1c/14							
Course type, scope and the method: Course type: Practice Recommended course-load (hours): Per week: 3 Per study period: 42 Course method: present								
Number of cred	lits: 3							
Recommended	semester/trime	ster of the cours	e: 4.					
Course level: I.								
Prerequisities:								
Conditions for Measurements of must be defended measurement of	course complet of experimental t ed. As a part of e f the task.	ion: tasks, their evaluation there is	ation in the form s is also a good th	of a written reported a written reported a written reported a second strain a second strain a second strain a s	rt, which ation for the			
Learning outco To gain some pl practice in data report writing p	mes: hysical inside int collection, analy resentation and p	to some of the conversion of t	ncepts presented ation of resumance	in the lectures. b e. c. To gain exp	. To gain some perience and			
Brief outline of Oscilations. Per sound. Refractiv of waves. Polar	the course: adulum. Composive index. Lense' ization. The spec	sition and decomp s focal length. Int ed of light. Quant	position of oscilla terference. Diffra um optics.	ations. Resonanc	e. The speed of n and reflection			
Recommended literature: Degro,J., Ješková, Z., Onderová,Ľ., Kireš,M.: Základné fyzikálne praktikum I, PF UPJŠ Košice, 2006 P. Kollár a kol. Základné fyzikálne praktikum II, PF UPJŠ Košice, 2006 J. Brož Základy fysikálních měření SPN Praha 1981								
Course languag slovak or englis	Course language: slovak or english							
Course assessment Total number of assessed students: 32								
A	A B C D E FX							
84.38	84.38 6.25 3.13 3.13 0.0							
Provides: doc. RNDr. Marián Kireš, PhD., doc. RNDr. Ján Füzer, PhD.								
Date of last modification: 23.02.2017								
Approved: Gua	ranteeprof. RNI	Dr. Peter Kollár, D	PrSc.Guaranteepr	of. RNDr. Pavol	Mártonfi, PhD.			

University: P. J.	University: P. J. Šafárik University in Košice								
Faculty: Faculty	y of Science								
Course ID: ÚF ZFP1d/14	V/ Course name: Physics Practical IV								
Course type, scope and the method: Course type: Practice Recommended course-load (hours): Per week: 3 Per study period: 42 Course method: present									
Number of crea	lits: 3								
Recommended	semester/trime	ster of the course	e: 5.						
Course level: I.									
Prerequisities:									
Conditions for good theoretical experimental tas	course complet l preparation for sks, written repo	on: measurement of rts of measureme	the tasks, writter nts	n tests,measurem	ents of the				
Learning outco Practice in nucl	mes: ear physics.								
Brief outline of Introduction to by random coir selection. Abso spectrometer. D detector. France absorption coef	Brief outline of the course: Introduction to measurements. Dosimetry measurements. Analysing power of coincidence circuit by random coincidences. Statistic distribution of measured quantities. Measurement time scale selection. Absorption of beta rays. Backward scattering of beta rays. Scintillation gamma spectrometer. Determination of 60Co preparat activity using beta-gamma coincidences. Emulsion detector. Franck Hertz experiment. Beta - spectroscopy.Energy dependence of the gamma-								
Recommended literature: 1. J.Vrláková, S.Vokál: Základné fyzikálne praktikum III, skriptá PF UPJŠ, Košice, 2012, dostupné na http://www.upjs.sk/public/media/5596/Zakladne-fyzikalne-praktikum-III.pdf									
Course language: slovak									
Course assessment Total number of assessed students: 37									
А	B C D E FX								
83.78 10.81 2.7 2.7 0.0 0.0									
Provides: RNDr. Janka Vrláková, PhD., RNDr. Adela Kravčáková, PhD.									
Date of last modification: 20.02.2017									
Approved: Guaranteeprof. RNDr. Peter Kollár, DrSc.Guaranteeprof. RNDr. Pavol Mártonfi, PhD.									

University: P. J. Šafárik University in Košice								
Faculty: Faculty	Faculty: Faculty of Science							
Course ID: ÚFV ZMF/17	V/ Course name: Introduction to Mathematics for Physicists							
Course type, scope and the method: Course type: Lecture / Practice Recommended course-load (hours): Per week: 1 / 2 Per study period: 14 / 28 Course method: present								
Number of credi	ts: 3							
Recommended se	emester/trimes	ster of the cours	e: 1.					
Course level: I.								
Prerequisities:								
Conditions for co	ourse completi	on:						
Learning outcom	nes:							
Brief outline of t	he course:							
Recommended li	iterature:							
Course language								
Course assessment Total number of assessed students: 208								
A	A B C D E FX							
42.79 18.75 18.27 10.58 9.62 0.0								
Provides: RNDr. Tomáš Lučivjanský, PhD., doc. RNDr. Jozef Hanč, PhD.								
Date of last modification: 21.02.2017								
Approved: Guara	Approved: Guaranteeprof. RNDr. Peter Kollár, DrSc.Guaranteeprof. RNDr. Pavol Mártonfi, PhD.							

University: P. J.	University: P. J. Šafárik University in Košice							
Faculty: Faculty	of Science							
Course ID: ÚBI ZO1/15	Course ID: ÚBEV/ Course name: Zoology I 201/15							
Course type, scope and the method: Course type: Lecture / Practice Recommended course-load (hours): Per week: 2 / 2 Per study period: 28 / 28 Course method: present								
Recommended	semester/trimes	ter of the cours	a• 3					
Course level: I								
Prerequisities:	ÚBEV/PMZ/10							
Conditions for	course completi	on:						
Learning outco Basis of Inverte chosen individu	mes: brata taxonomy al taxons. Phylog	including taxonor genetic relations.	my of Monocyto:	zoa. Importance	and function of			
Brief outline of Anatomy, morp Cnidaria, Plath Characteristic sp	Brief outline of the course: Anatomy, morphology and development of separate groups of Invertebrates – especially Porifera, Cnidaria, Plathelminthes, Nemathelminthes, Mollusca, Anelida, Arthropoda, Echinodermata. Characteristic species.							
Recommended	literature:							
Course languag	je:							
Course assessment Total number of assessed students: 194								
А	A B C D E FX							
6.7 20.1 19.07 26.8 19.07 8.25								
Provides: doc. RNDr. Ľubomír Panigaj, CSc., RNDr. Peter Ľuptáčik, PhD.								
Date of last modification: 24.02.2017								
Approved: Guaranteeprof. RNDr. Peter Kollár, DrSc.Guaranteeprof. RNDr. Pavol Mártonfi, PhD.								

University: P. J. Ša	afárik Univers	ity in Košice			University · P. I. Šafárik University in Košice					
Faculty: Faculty of	f Science	.,								
Course ID: ÚBEV ZO1/03	BEV/ Course name: Zoology I									
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	s: 5									
Recommended ser	mester/trimes	ster of the cours	e: 3.							
Course level: I.										
Prerequisities: ÚE	BEV/PMZ/10									
Conditions for cou	urse completi	on:								
Learning outcome Basis of Invertebra Phylogenetic relati	e s: ata taxonomy- ions.	Importance and	function of chose	en individual taxo	ons.					
Brief outline of the course: Anatomy, morphology and development of separate groups of Invertebrates – especially Porifera, Cnidaria, Plathelminthes, Nemathelminthes, Mollusca, Anelida, Arthropoda, Echinodermata. Characteristic species.										
Recommended lite	erature:									
Course language:										
Course assessment Total number of assessed students: 978										
A	В	С	D	Е	FX					
7.87	7.87 15.34 20.76 20.04 25.77 10.22									
Provides: doc. RNDr. Ľubomír Panigaj, CSc., RNDr. Peter Ľuptáčik, PhD.										
Date of last modification: 24.02.2017										
Approved: Guaranteeprof. RNDr. Peter Kollár, DrSc.Guaranteeprof. RNDr. Pavol Mártonfi, PhD.										

University: P. J. Šafárik University in Košice								
Faculty: Faculty of Science								
Course ID: ÚB ZOG1/03	Course ID: ÚBEV/ Course name: Zoogeography ZOG1/03							
Course type, scope and the method: Course type: Lecture / Practice Recommended course-load (hours): Per week: 2 / 2 Per study period: 28 / 28 Course method: present								
Number of crea	lits: 6							
Recommended	semester/trime	ster of the cours	e:					
Course level: I.	, II.							
Prerequisities:								
Conditions for Active participa Preparation of c Semestral writte Oral examination	Conditions for course completion: Active participation in seminars. Preparation of oral presentation to selected topic. Semestral written test. Oral examination							
Learning outco The main goal of animals on the on the faunal di	mes: of the subject is Earth, zoogeogra stribution in the	to get knowledge aphic regionalizat history.	on the basic reas	ons of recent dis s surface and hur	tribution of the nan influence			
Brief outline of the course: This course will review our current understanding of the patterns of animal distribution and the processes that influence distributions of species and their attributes. Zoogeography will integrate information on the historical and current ecology, genetics, and physiology of animals and their interaction with environmental processes (continental drift, climate) in regulating geographic distributions. The course will emphasize descriptive and analytical approaches useful in hypothesis testing in zoogeography and will illustrate applied aspects of zoogeography (e.g. refuge design in conservation).								
Recommended literature: Buchar, J., 1983: Zoogeografie. SPN Praha Darlington, P.J., 1998: Zoogeography: The geographical distribution of animals. Krieger, USA Lomolino M.V., Brown J.H., Riddle B. R., 2005: Biogeography. Sinauer Associates, 1-845 Plesník, P., Zatkalík, F., 1996: Biogeografia. Vysokoškolské skriptá, PríFUK Bratislava								
Course language:								
Course assessm Total number of	ent f assessed stude	nts: 845						
А	В	C	D	Е	FX			
23.2	23.55	24.85	18.22	8.17	2.01			

Provides: doc. RNDr. Ľubomír Kováč, CSc.

Date of last modification: 24.02.2017

University: P. J. Šafárik University in Košice							
Faculty: Faculty of	Faculty: Faculty of Science						
Course ID: ÚBEV ZOO1/03	EV/ Course name: Zoology II						
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 credit	ts: 5						
Recommended se	emester/trimes	ster of the cours	e: 4.				
Course level: I.							
Prerequisities: Ú	BEV/PMZ/10						
Conditions for co	ourse completi	on:					
Learning outcom Fundamental info	nes: ormation on tax	onomy and morp	hology of verteb	rates			
Brief outline of the Systematic and p amphibians, repti	he course: bhylogenetic re les, bidrs and n	lationships of ve nammals.	rtebrate. Review	of important g	roups of fishes,		
Recommended li	terature:						
Course language	•						
Course assessment Total number of assessed students: 843							
A	В	С	D	Е	FX		
22.66	26.69	19.69	16.73	10.44	3.8		
Provides: doc. RNDr. Marcel Uhrin, PhD., RNDr. Peter L'uptáčik, PhD.							
Date of last modification: 24.02.2017							
Approved: Guara	anteeprof. RND	r. Peter Kollár, D	PrSc.Guaranteepr	of. RNDr. Pavol	Mártonfi, PhD.		
COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice Faculty: Faculty of Science			
Faculty: Faculty of Science			
ZOO1/15			
Course type, scope and the method: Course type: Lecture / Practice Recommended course-load (hours): Per week: 2 / 2 Per study period: 28 / 28 Course method: present			
Number of credits: 4			
Recommended semester/trimester of the course: 4.			
Course level: I.			
Prerequisities: ÚBEV/PMZ/10			
Conditions for course completion:			
Learning outcomes: Fundamental information on taxonomy and morphology of vertebrates			
Brief outline of the course: Systematic and phylogenetic relationships of vertebrate. Review of important groups of fishes, amphibians, reptiles, bidrs and mammals.			
Recommended literature:			
Course language:			
Course assessment Total number of assessed students: 127			
A B C D E FX			
A B C D E FX 0.79 22.05 18.9 19.69 25.98 12.6			
A B C D E FX 0.79 22.05 18.9 19.69 25.98 12.6 Provides: doc. RNDr. Marcel Uhrin, PhD., RNDr. Peter Ľuptáčik, PhD. Value Value Value			
A B C D E FX 0.79 22.05 18.9 19.69 25.98 12.6 Provides: doc. RNDr. Marcel Uhrin, PhD., RNDr. Peter Ľuptáčik, PhD. Date of last modification: 24.02.2017 E FX			

COURSE INFORMATION LETTER

University: P. J. Šafárik University in Košice			
Faculty: Faculty of Science			
Course ID: ÚTVŠ/ ÚTVŠ/CM/13	Course name: Seaside Aerobic Exercise		
Course type, scope and the method: Course type: Practice Recommended course-load (hours): Per week: Per study period: 36s Course method: present			
Number of credits: 2			
Recommended semester/trimester of the course:			
Course level: I., II.			
Prerequisities:			
Conditions for course completion:			
Learning outcomes:			
Brief outline of the course:			
Recommended literature:			
Course language:			
Course assessment Total number of assessed students: 15			
	abs	n	
26.67		73.33	
Provides: Mgr. Alena Buková, PhD., Mgr. Agata Horbacz, PhD.			
Date of last modification: 23.02.2017			
Approved: Guaranteeprof. RNDr. Peter Kollár, DrSc.Guaranteeprof. RNDr. Pavol Mártonfi, PhD.			