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University: P. J	. Šafárik Univers	sity in Košice					
Faculty: Facult	y of Science						
Course ID: CJF PFAJAKA/07	P/ Course name: Academic English						
Course type, sc Course type: 1 Recommended Per week: 2 Pe Course metho	ope and the me Practice d course-load (h er study period: d: combined, pro	thod: tours): 28 esent					
Number of EC	FS credits: 2						
Recommended	semester/trime	ster of the cours	e:				
Course level: I.	, II., N						
Prerequisities:							
Conditions for Active classroot 12th/13th week of tests and pres FX 64% and less	course complet i m participation, 2), no retake. Mini sentation. Gradin	ion: 2 absences tolerat ipresentation on c 1g scale: A 93-100	ed (4x45 min.) to hosen topic. Fin 0%, B 86-92%, 0	olerated. 2 tests (5 al evaluation- ave C 79-85%, D 72-7	oth/6th week and rage assessment 78%, E 65-71%,		
Learning outco	mes:						
Brief outline of	the 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 languag English languag	ge: ge, level B2 acco	ording to CEFR.					
Notes:	,,						
Course assessm Total number of	Course assessment Total number of assessed students: 355						
А	В	B C D E FX					
31.55	31.55 23.1 15.77 10.7 7.04 11.83						
Provides: Paed	Dr. Gabriela Bed	náriková	1	·			
Date of last mo	dification: 04.10	0.2019					
Approved: prof	. RNDr. Viliam	Geffert, DrSc.					

University: D I	Šofárik Univers	ity in Kočico				
University: F. J		sity in Kosice				
Faculty: Facult	y of Science					
Course ID: ÚI	NF/ Course na	Course name: Administration of IBM AIX/Tivoli				
AIX1a/15						
Course type, sc	ope and the me	thod:				
Course type: 1	Lecture / Practice	2				
Recommende	d course-load (h	ours):				
Per week: 0 / 2	2 Per study peri	od: 0 / 28				
Course metho	d: present					
Number of EC	TS credits: 2					
Recommended	semester/trimes	ster of the cours	e: 3., 5.			
Course level: I.						
Prerequisities:						
Conditions for	course completi	ion:				
Learning outco	omes:					
Brief outline of	the course:					
Recommended	literature:					
Course languag	ge:					
Notes:						
Course assessm	nent					
Total number of assessed students: 66						
А	В	С	D	Е	FX	
71.21	1 24.24 4.55 0.0 0.0 0.0					
Provides: RNDr. Tomáš Horváth, PhD.						
Date of last mo	dification: 03.05	5.2015				
Approved: prof	Approved: prof. RNDr. Viliam Geffert, DrSc.					

University: P. J	. Šafárik Univers	sity in Košice					
Faculty: Facult	y of Science						
Course ID: ÚIN AIX1b/15	NF/ Course na	F/ Course name: Administration of IBM AIX/Tivoli					
Course type, scope and the method: Course type: Lecture / Practice Recommended course-load (hours): Per week: 0 / 2 Per study period: 0 / 28 Course method: present							
Number of EC	TS credits: 2						
Recommended	semester/trimes	ster of the cours	e: 4., 6.				
Course level: I.							
Prerequisities:							
Conditions for	course completi	on:					
Learning outco	omes:						
Brief outline of	the course:						
Recommended	literature:						
Course languag	ge:						
Notes:							
Course assessment Total number of assessed students: 43							
А	В	С	D	Е	FX		
65.12	13.95	11.63	2.33	6.98	0.0		
Provides: RNDr. Tomáš Horváth, PhD.							
Date of last mo	dification: 03.05	5.2015					
Approved: prof. RNDr. Viliam Geffert, DrSc.							

University: P. J.	. Šafárik Univer	sity in Košice				
Faculty: Faculty	y of Science					
Course ID: ÚIN PRR1a/15	Course ID: ÚINF/ Course name: Advanced programming PRR1a/15					
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 EC	FS credits: 2					
Recommended	semester/trime	ster of the cours	e:			
Course level: I.						
Prerequisities:						
Conditions for	course complet	ion:				
Learning outco	mes:					
Brief outline of	the course:					
Recommended	literature:					
Course languag	ge:					
Notes:						
Course assessment Total number of assessed students: 68						
А	В	C	D	Е	FX	
52.94	4 5.88 8.82 4.41 22.06 5.88					
Provides: RNDr. Rastislav Krivoš-Belluš, PhD.						
Date of last modification: 03.05.2015						
Approved: prof	Approved: prof. RNDr. Viliam Geffert, DrSc.					

University: P. J.	. Šafárik Univers	ity in Košice				
Faculty: Faculty	y of Science					
Course ID: ÚIN PRR1b/15	ÚINF/ Course name: Advanced programming					
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 EC	IS credits: 2					
Recommended	semester/trimes	ster of the cours	e:			
Course level: I.						
Prerequisities:						
Conditions for	course completi	ion:				
Learning outco	mes:					
Brief outline of	the course:					
Recommended	literature:					
Course languag	ge:					
Notes:						
Course assessment Total number of assessed students: 42						
А	В	С	D	Е	FX	
47.62	47.62 4.76 0.0 21.43 16.67 9.52					
Provides: RNDr. Rastislav Krivoš-Belluš, PhD., RNDr. Ladislav Mikeš, PhD.						
Date of last mo	dification: 03.05	5.2015				
Approved: prof	. RNDr. Viliam (Geffert, DrSc.				

University: P. J.	. Šafárik Univers	sity in Košice				
Faculty: Faculty	y of Science					
Course ID: ÚM ALGa/10	V/ Course na	V/ Course name: Algebra I				
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 EC	FS credits: 7					
Recommended	semester/trimes	ster of the cours	e: 1.			
Course level: I.						
Prerequisities:						
Conditions for According to th exam	course completing results from the	on: he semester and i	n view of the res	sults of the writt	en and oral final	
Learning outco To obtain basic concerning syst	mes: knowledge from ems of linear equ	n number theory lations. To be ab	concerning div le to apply it in c	isibility and from	m linear algebra es.	
Brief outline of Divisibility in Computing with	the course: Z. Fields. System matrices. Deter	ms of linear equ minants, Cramer	ations, Gauss e rule.	limination. Map	s, permutations.	
Recommended T.S Blyth, E.F. K. Jänich: Linea	literature: Robertson: Basic ar algebra, Sprin	e linear algebra, S ger Verlag, 1991.	Springer Verlag, 2	2001.		
Course languag Slovak	ge:					
Notes:	Notes:					
Course assessment Total number of assessed students: 1434						
А	В	С	D	Е	FX	
11.09	11.09 11.99 17.99 17.71 28.87 12.34					
Provides: prof. RNDr. Danica Studenovská, CSc., RNDr. Igor Fabrici, Dr. rer. nat., RNDr. Mária Maceková, PhD., RNDr. Mária Šurimová						
Date of last mo	Date of last modification: 31.01.2019					
Approved: prof	. RNDr. Viliam	Geffert, DrSc.				

Universitv: P. J	Šafárik Univers	itv in Košice					
Faculty: Facult	y of Science						
Course ID: ÚM ALG3b/10	V/ Course name: Algebra II for informaticians and physicists						
Course type, scope and the method: Course type: Lecture / Practice Recommended course-load (hours): Per week: 4 / 2 Per study period: 56 / 28 Course method: present							
Number of EC	FS credits: 7						
Recommended	semester/trimes	ster of the cours	se: 2.				
Course level: I.							
Prerequisities:	ÚMV/ALGa/10						
Conditions for Exam	course completi	on:					
Learning outco To provide deep	mes: per knowledge of	n vector spaces,	linear transforma	ations and Euclide	ean spaces.		
Brief outline of Vector spaces, spaces. The rar tranformations, transformations of linear transfor Affine spaces, s and quadrics.	the course: subspaces. A bank of a matrix. I matrices of su , regular matrice prmations. subspaces and th	sis, a dimensior inear transform ms and compos s. Similar matric eir positions. Eu	and a characte ations and their sitions of linear es. Characteristic clidean spaces, t	rization of n-dim matrices. Operations. tranformations. e vectors and charache the distance of sul	ensional vector ions with linear Regular linear acteristic values bspaces. Conics		
Recommended A. F. Beardon: G. Birkhoff, S.	literature: Algebra and Geo Mac Lane: A Su	metry, Cambridg	ge University Pro Algebra, New Yo	ess, 2005 ork 1965			
Course language: Slovak							
Notes:							
Course assessm Total number of	ent f assessed studen	ts: 351					
А	В	С	D	Е	FX		
11.68	9.4	9.97	14.81	39.6	14.53		
Provides: doc. 1	RNDr. Roman So	oták, PhD., RND	r. Mária Maceko	ová, PhD.	·		
Date of last mo	dification: 26.03	3.2020					
Approved: prof	. RNDr. Viliam	Geffert, DrSc.					

University: P. J.	Šafárik Univers	ity in Košice				
Faculty: Faculty	of Science					
Course ID: ÚIN ASU1/15	e ID: ÚINF/ Course name: Algorithms and data structures					
Course type, sco Course type: Lo Recommended Per week: 2 / 1 Course method	pe and the met ecture / Practice course-load (he Per study period : present	hod: ours): od: 28 / 14				
Number of ECT	S credits: 4					
Recommended s	emester/trimes	ter of the course	e: 6.			
Course level: I.						
Prerequisities: (ePAZ1b/15)	ÚINF/PAZ1a/15	5 or ÚINF/ePAZ1	a/15) and (ÚIN)	F/PAZ1b/15 or Ú	INF/	
Conditions for c	ourse completi	on:				
Learning outcom	nes:					
Brief outline of t	he course:					
Recommended l	iterature:					
Course language	2:					
Notes:						
Course assessme Total number of	ent assessed studen	ts: 125				
A	В	С	D	Е	FX	
12.8	6.4	17.6	23.2	36.8	3.2	
Provides: RNDr.	Rastislav Krivo	oš-Belluš, PhD.		<u> </u>		
Date of last mod	ification: 03.05	.2015				
Approved: prof.	RNDr. Viliam (Geffert, DrSc.				

University: P. J.	. Šafárik Univer	sity in Košice						
Faculty: Faculty	Faculty: Faculty of Science							
Course ID: ÚIN APS1/15	Durse ID: ÚINF/ Course name: Applied probability and statisticsPS1/15							
Course type, sc Course type: I Recommended Per week: 2 / 2 Course metho	ope and the me Lecture / Practic d course-load (1 2 Per study per d: present	ethod: e hours): iod: 28 / 28						
Number of EC	FS credits: 5							
Recommended	semester/trime	ester of the course	e: 5.					
Course level: I.								
Prerequisities:								
Conditions for	course complet	ion:						
Learning outco Acquired basic Brief outline of Events, probabi	 Learning outcomes: Acquired basic concepts and techniques of probability theory, statistics and corresponding software. Brief outline of the course: Events, probability. Laws of probability distributions, characteristics of location, variability and 							
smoothing. Bay	res theory of dec	cision. Pseudorand	om values and	Monte Carlo meth	nod.			
 Recommended literature: Cs. Török: Úvod do teórie pravdepodobnosti a matematickej štatistiky, Košice, 1992 M.R.Spiegel, J.J.Schiller, R.A.Srinivasan, Probability and Statistics, McGraw Hill, 2009 J. Maindonald, W.J. Braun, Data Analysis and Graphics Using R – an Example-Based 								
Course languag	ge:							
Notes:								
Course assessm Total number of	Course assessment Total number of assessed students: 61							
А	В	C	D	Е	FX			
14.75	19.67	22.95	11.48	29.51	1.64			
Provides: doc. 1	RNDr. Csaba Tö	orök, CSc.		·				
Date of last mo	dification: 03.0	5.2015						
Approved: prof	. RNDr. Viliam	Geffert, DrSc.						

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University: P. J.	Šafárik Univers	ity in Košice				
Faculty: Faculty	of Science					
Course ID: ÚINI AFJ1a/15	F/ Course na	Course name: Automata and formal languages				
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 ECT	S credits: 4					
Recommended s	emester/trimes	ster of the course	e: 4.			
Course level: I.						
Prerequisities:	,					
Conditions for c Oral examination	ourse completi 1.	on:				
Learning outcon To provide theore knowledge in the	nes: etical backgroun cory of automata	d for studying con a.	mputer science in	general, by givir	ng the necessary	
Brief outline of t Chomsky hierarc of a reduced aut Closure propertie forms. Pushdowr	he course: hy of grammars omaton. Finite- es of regular lan n automata, Pun	and languages. F state acceptors, r nguages. Context nping lemma. Clo	inite-state transd nondeterministic -free grammars, psure properties c	ucers and mappir acceptors, regul Chomsky and G of context-free la	ng, construction ar expressions. reibach normal nguages.	
Recommended literature: J.E. Hopcroft, R.Motwani, J.D. Ullman: Introduction to automata theory, languages, and computation, Addison-Wesley, 2001. J. Shallit: A second course in formal languages and automata theory, Cambridge University press, 2009. M. Sipser: Introduction to the theory of computation. Thomson Course Technology, 2006.						
Course language	2:					
Notes:						
Course assessment Total number of assessed students: 821						
A	В	С	D	Е	FX	
25.33	17.9	23.87	18.03	9.74	5.12	
Provides: Mgr. A	lexander Szaba	ri, PhD., prof. R	NDr. Viliam Geff	ert, DrSc.		
Date of last mod	ification: 24.08	3.2018				
Approved: prof.	RNDr. Viliam (Geffert, DrSc.				

University: P. J	. Šafárik Univer	sity in Košice					
Faculty: Facult	y of Science						
Course ID: ÚIN AFJ1b/15	NF/ Course n	Course name: Automata and formal languages					
Course type, sc Course type: 1 Recommended Per week: 2 / Course metho	ope and the me Lecture / Practic d course-load (I l Per study per d: present	thod: e iours): iod: 28 / 14					
Number of EC	FS credits: 5						
Recommended	semester/trime	ster of the cours	e: 5.				
Course level: I.							
Prerequisities:	ÚINF/AFJ1a/15						
Conditions for Test and oral ex	course complet	ion:					
Learning outco To provide theo knowledge in th	mes: retical backgrou neory of automa	nd for studying co	mputer science i	n general, by givin	ng the necessary		
Brief outline of Chomsky and lemma. Closur sensitive gramm machines. Post	the course: Greibach norma e properties of nars and linearly correspondence	l forms of conte context free and -bounded Turing problem. Undecid	xt free gramars deterministic o machines. Phras lable problems i	. Pushdown auto context free lang e-structure grammers of fo	omata. Pumping guages. Context mars and Turing rmal languages.		
Recommended J.E. Hopcroft, H computation, A J. Shallit: A sec 2009. M. Sipser: Intro	literature: C.Motwani, J.D. ddison-Wesley, cond course in for oduction to the th	Ullman: Introduc 2001. ormal languages at neory of computat	tion to automata nd automata theo ion, Thomson C	a theory, language ory, Cambridge U Course Technolog	es, and Jniversity press, y, 2006.		
Course languag	ge:						
Notes:							
Course assessm Total number o	ent f assessed studer	nts: 550					
А	В	C	D	E	FX		
38.36	15.45	19.64	17.64	6.18	2.73		
Provides: prof. Bednárová, PhD	RNDr. Viliam ().	effert, DrSc., Mg	r. Alexander Sza	abari, PhD., RND	r. Zuzana		
Date of last mo	dification: 01.0	6.2015					
Approved: prof	. RNDr. Viliam	Geffert, DrSc.					

University: P. J.	Šafárik Univers	ity in Košice				
Faculty: Faculty	of Science					
Course ID: ÚIN BPO/14	F/ Course name: Bachelor Thesis and its Defence					
Course type, sco Course type: Recommended Per week: Per Course method	ope and the met course-load (he study period: l: present	hod: ours):				
Number of ECI	S credits: 4					
Recommended s	semester/trimes	ter of the cours	2:			
Course level: 1.						
Prerequisities:						
Conditions for c	course completi	on:				
Learning outcom	mes:					
Brief outline of	the course:					
Recommended	literature:					
Course languag	e:					
Notes:						
Course assessme Total number of	ent assessed studen	ts: 81				
Α	В	С	D	E	FX	
45.68	45.68 24.69 16.05 8.64 4.94 0.0					
Provides:						
Date of last mod	lification: 09.01	.2019				
Approved: prof.	RNDr. Viliam C	Geffert, DrSc.				

University: P. J. Šafá	rik University in Košice
Faculty: Faculty of S	cience
Course ID: CJP/ PFAJKKA/07	Course name: Communicative Competence in English
Course type, scope a Course type: Practic Recommended cour Per week: 2 Per stu Course method: cor	and the method: ce rse-load (hours): ady period: 28 mbined, present
Number of ECTS cr	edits: 2
Recommended seme	ster/trimester of the course:
Course level: I., II., N	N
Prerequisities:	
Conditions for course Active participation is two classes at the mo 2 credit tests (presum selected topics. Final grade will be ca FX 64 % and less.	Se completion: in class and completed homework assignments. Students are allowed to miss ost. hably in weeks 6/7 and 12/13) and short academic presentations in English on lculated as follows: A 93-100 %, B 86-92%, C 79-85%, D 72-78%, E 65-71%,
Learning outcomes: Uplatnenie a aktívne situáciách. Zdokona a vecnej kompetenc výpovede, efektívne výpovede. Precvičov oslovenie), informatí časových vzťahov), r a hodnotiacich (nap budovania prakticke požiadavkám a kritér	e používanie svojich teoretických vedomostí v praktických komunikačných lenie jazykových vedomostí a zručností študenta, rečovej, pragmatickej ie, predovšetkým zlepšujú komunikáciu, schopnosť prijímať a formulovať vyjadrovať svoje myšlienky ako aj orientovať sa v obsahovom pláne vanie rečových intencií kontaktných (napr. pozdravy, oslovenia, pozvanie, vnych (napr. získavanie a podávanie informácií, vyjadrenie priestorových a regulačných (napr. prosba, poďakovanie, zákaz, pochvala, súhlas, nesúhlas) r. vyjadrenie vlastného názoru, stanoviska, želania, emócií). Výsledkom j jazykovej kompetencie majú byť vedomosti a zručnosti zodpovedajúce
Brief outline of the c Rodina, jej formy a p Vyjadrovanie pocitov Dom, bývanie a budú Formy a dialekty v au Život v meste a na vi Kolokácie a idiomy, z Prázdniny a sviatky v Životné prostredie a o Výnimky zo slovosle Frázové slovesá a ich Charakteristiky nefor	zourse: problémy y a dojmov icnosť nglickom jazyku dieku zaužívané slovné spojenia yo svete ekológia edu n použitie málneho 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

Notes:

Course assessment

Total number of assessed students: 237

А	В	С	D	Е	FX
38.4	22.36	19.41	9.7	6.75	3.38

Provides: Mgr. Barbara Mitríková

Date of last modification: 11.02.2020

Approved: prof. RNDr. Viliam Geffert, DrSc.

University: P. J.	. Šafárik Univers	ity in Košice				
Faculty: Faculty	y of Science					
Course ID: KG NJKK/07	ER/ Course na	Course name: Communicative Competence in German Language				
Course type, sc Course type: F Recommended Per week: 2 Po 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 EC	FS credits: 2					
Recommended	semester/trimes	ster of the cours	e:			
Course level: I.	, II.					
Prerequisities:						
Conditions for	course completi	on:				
Learning outco	mes:					
Brief outline of	the course:					
Recommended	literature:					
Course languag	ge:					
Notes:						
Course assessm Total number of	Course assessment Total number of assessed students: 44					
А	В	С	D	Е	FX	
59.09	59.09 13.64 6.82 4.55 13.64 2.27					
Provides: Mgr. Eva Černáková, PhD.						
Date of last modification: 03.05.2015						
Approved: prof. RNDr. Viliam Geffert, DrSc.						

University: P. J. Šafárik University in Košice							
Faculty: Faculty	of Science						
Course ID: CJP/ PFAJGA/07	Course name: Communicative Grammar in English						
Course type, sco Course type: Pr Recommended Per week: 2 Per Course method	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 ECT	S credits: 2						
Recommended s	emester/trimes	ster of the course	2:				
Course level: I.,	II., N						
Prerequisities:							
Conditions for co Active classroon week), no retake 86-92%, C 79-85	ourse completing participation c. Final evaluat 5%, D 72-78%,	on: (max. 2x90 min. ion- average asse E 65-71%, FX 64	absences tolera essment of tests % and less.	tted). 2 test (5th/6 s. Grading scale:	6th and 12/13th A 93-100%, B		
Learning outcon	nes:						
Brief outline of t	he course:						
Recommended la Vince M.: Macm McCarthy, O'Del C. Oxengen, C. I Misztal M.: Ther www.bbclearning ted.com/talks	Recommended literature: Vince M.: Macmillan Grammar in Context, Macmillan, 2008 McCarthy, O'Dell: English Vocabulary in Use, CUP, 1994 C. Oxengen, C. Latham-Koenig: New English File Advanced, Oxford 2010 Misztal M.: Thematic Vocabulary, Fragment, 1998 www.bbclearningenglish.com ted com/talks						
Course language	2:						
Notes:							
Course assessment Total number of assessed students: 406							
A	В	С	D	E	FX		
39.66	39.66 18.97 16.75 8.62 5.91 10.1						
Provides: PaedD	Provides: PaedDr. Gabriela Bednáriková						
Date of last mod	ification: 14.09	9.2019					
Approved: prof.	Approved: prof. RNDr. Viliam Geffert, DrSc.						

University: P. J	. Šafárik Univers	ity in Košice				
Faculty: Facult	y of Science					
Course ID: KG NJKG/07	ER/ Course na	Course name: Communicative Grammar in German Language				
Course type, sc Course type: I 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 EC	TS credits: 2					
Recommended	semester/trimes	ster of the cours	e:			
Course level: I.	, II.					
Prerequisities:						
Conditions for	course completi	ion:				
Learning outco	omes:					
Brief outline of	the course:					
Recommended	literature:					
Course languag	ge:					
Notes:						
Course assessment Total number of assessed students: 50						
А	В	С	D	Е	FX	
56.0	56.0 12.0 10.0 4.0 10.0 8.0					
Provides: PaedDr. Ingrid Puchalová, PhD.						
Date of last modification: 03.05.2015						
Approved: prof. RNDr. Viliam Geffert, DrSc.						

University: P. J	. Šafárik Univers	sity in Košice				
Faculty: Facult	y of Science					
Course ID: ÚIN TVY/15	JF/ Course name: Computability theory					
Course type, sc Course type: 1 Recommended Per week: 2 / 2 Course metho	cope and the me Lecture / Practice d course-load (h l Per study peri d: present	thod: e nours): iod: 28 / 14				
Number of EC	TS credits: 4					
Recommended	semester/trime	ster of the cours	e: 5.			
Course level: I.						
Prerequisities:						
Conditions for	course complet	ion:				
Learning outco To provide the students with ba	omes: oretical backgro asic knowledge	ound for studying	g computer scie	ence in general,	by familiarising	
Brief outline of Turing machine Kleene's norma machine, partia the halting prob	the course: e as a formalisate of a form theorem. I recursive and coolem of a Turing	ation of the notion The equivalences calculable by a con- machine and a co-	on of an algori of the notion of mputer program omputer program	ithm. Partial recu f a function calcul n. Algorithmical u n.	arsive functions. lable by a Turing undecidability of	
Recommended MACHTEY, M Holland, Amste BRIDGES, D. S	literature: . and YOUNG, l erdam 1978. S.: Computabilit	P.: An Introductio y, A Mathematica	n to the Genera Il Sketch book,	l Theory of Algo SpringerVerlag	rithms, North 1994	
Course languag	ge:					
Notes:						
Course assessm Total number o	nent f assessed studer	nts: 262				
А	В	С	D	Е	FX	
44.27	12.21	13.74	6.11	6.49	17.18	
Provides: doc.]	RNDr. Stanislav	Krajči, PhD.				
Date of last mo	dification: 03.0	5.2015				
Approved: prof	f. RNDr. Viliam	Geffert, DrSc.				

Faculty: Faculty of Science

Course ID: ÚINF/	Course name: Computer network Internet
PSIN/15	

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

Recommended course-load (hours): Per week: 3 / 1 **Per study period:** 42 / 14

Course method: present

Number of ECTS credits: 5

Recommended semester/trimester of the course: 4.

Course level: I.

Prerequisities: ÚINF/PAZ1a/15 or ÚINF/ePAZ1a/15 or ÚINF/PRG1/15

Conditions for course completion:

Activity at excercises (max 18 points), home work (max 18 points), test (max 30 points). Verbal exam (min 25 points, max 50 points). Required minimum for passing the course is 64 points.

Learning outcomes:

To understand ISO OSI reference model for network communication, to analyze communication channels parameters, to understand different access methods, to be familiar with the function of center network devices (hub, switch, router), to understand IP protocol, IP addresses and the transfer of internet packets, to understand reliable data transfer of the TCP protocol, to be able to use Sockets in won application, to know basic application protocols.

Brief outline of the course:

1. Introduction to computer networks, internet connection types, delay and loss in packet-switched networks, ISO OSI reference model and TCP/IP protocols family.

2. Application layer: Web and HTTP, protocol FTP, e-mail and SMTP, POP3, IMAP,

3. Application layer: domain names and DNS, Peer-to-peer applications. Security in computer networks.

4. Transport layer: services, multiplexing and demultiplexing, protocol UDP, reliable data transfer

5. Transport layer: connection oriented transport protocol TCP, flow and congestion control.

6. Network Layer: Internet protocol IPv4, virtual circuit and datagram networks, packet fragmentation, routing table, application protocol DHCP

7. Network Layer: network address translation NAT, ICMP protocol, internet protocol IPv6

8. Network Layer: routing algorithms and protocols, broadcast and multicast routing

9. Link layer: error detection, multiple access methods CSMA/CD and CSMA/CA, Ethernet, frames, protocols ARP and RARP, link layer addressing

10. Link Layer and wireless and mobile networks: hub, switch, virtual LAN, 802.11 Wireless LAN, Bluetooth 802.15, WiMAX 802.16, Mobile IP, mobility in GSM

11. Physical Layer: Communication channels parameters, digital and analog encoding.

Recommended literature:

- 1. J. F. Kurose, Keith W. Ross: Computer Networking: A Top-Down Approach, 7. edition, 2016
- 2. A. S. Tanenbaum: Computer Networks, 5. edition, Pearson, 2010
- 3. W. Stallings: Local and Metropolitan Area Networks, Prentice Hall, 2000

 E. Comer, R.E. Droms: Computer Networks and Internets, Prentice Hall, 2003 W. R. Stevens: TCP/IP Illustrated, Vol.1: The Protocols, Addison-Wesley, 1994 					
Course langua	ge:				
Notes:					
Course assessn Total number o	nent f assessed studen	ts: 743			
А	В	С	D	Е	FX
9.69	5.11 11.84 16.42 37.01 19.92				
Provides: RND	r. Peter Gurský, I	PhD.	•	•	
Date of last mo	dification: 06.02	2.2019			
Approved: pro:	f. RNDr. Viliam (Geffert, DrSc.			

University: P. J. Šafá	rik University in Košice						
Faculty: Faculty of S	cience						
Course ID: ÚINF/ KOPR/15	Course ID: ÚINF/ Course name: Concurrent programming KOPR/15						
Course type, scope a Course type: Practio Recommended cou Per week: 2 Per stu Course method: pre	nd the method: ce rse-load (hours): dy period: 28 esent						
Number of ECTS cr	edits: 2						
Recommended seme	ster/trimester of the course: 5.						
Course level: I.							
Prerequisities: ÚINF	/PAZ1a/15 or ÚINF/ePAZ1a/15						
Conditions for cours Final projects in area	e completion: of parallel and distributed programming						
Learning outcomes: Ability to create thre "Work stealing", inte	ad safe programs, cooperation and synchronization of threads, design pattern rruption of threads. Technologies SOAP and Akka.						
Brief outline of the c 1, Introduction to thr 2, Stale data and data 3, Composing thread 4, Concurrent collect 5, Thread coordinatio 6, Executors 7, ForkJoinPool - wo 8, Tasks cancellation 9, Threads in JavaFx 10, SOAP Web Servi 11, SOAP Web Servi 12, Actor model and	ourse: eads publication safe classes ions on rk stealing pattern ces - From code to WSDL ces - From WSDL to code Akka						
Recommended litera 1. B. Goetz, Tim Peie Concurrency in Pract 2. P. Hyde: Java Thre 3. T. White: Hadoop:	n ture: Erls, Joshua Bloch, Joseph Bowbeer, David Holmes, Doug Lea: Java ice; Addison-Wesley Professional, 2006 ead Programming; Sams, 1999 The Definitive Guide; Yahoo Press; Second Edition edition, 2010						
Course language:							

Notes:

Course assessment Total number of assessed students: 68							
А	В	С	D	Е	FX		
44.12	25.0	14.71	11.76	4.41	0.0		
Provides: RNDr. Peter Gurský, PhD.							
Date of last modification: 05.02.2019							
Approved: prof. RNDr. Viliam Geffert, DrSc.							

University: P. J. Šafárik University in Košice								
Faculty: Faculty	Faculty: Faculty of Science							
Course ID: ÚIN KRS/15	IF/ Course na	Course name: Cryptographic systems and their applications						
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 EC	FS credits: 6							
Recommended	semester/trimes	ster of the cours	e: 3., 5.					
Course level: I.,	, II							
Prerequisities:								
Conditions for	course completi	on:						
Learning outco	mes:							
Brief outline of	the course:							
Recommended	literature:							
Course languag	ge:							
Notes:								
Course assessment Total number of assessed students: 106								
A	В	С	D	Е	FX			
13.21	9.43	12.26	12.26	33.96	18.87			
Provides: doc. RNDr. Stanislav Krajči, PhD., RNDr. Rastislav Krivoš-Belluš, PhD.								
Date of last mo	Date of last modification: 03.05.2015							
Approved: prof	. RNDr. Viliam (Geffert, DrSc.						

Faculty: Faculty of Science								
Course ID: ÚINF/ Course name: Database systems DBS1a/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 ECTS credits: 5								
Recommended semester/trimester of the course: 3.								
Course level: I., II.								
Prerequisities:								
Conditions for course completion: Tests, assignments.								
Learning outcomes: Acquired basic concepts and techniques of relational database theory and a corresponding software.								
Brief outline of the course: Relational DB, SQL, Filtration, Grouping and Aggregation, Join, Three-Value Logic. Data and database models, database design, integrity, ER diagrams. DWH data warehouses, data cubes, pivot. Data science. Normalization 1.								
 Recommended literature: J. ULLMAN: Principles of database and knowledge – base systems, Comp. Sci. Press., 1988 R. Ramakrishnan, J. Gehrke, Database Management Systems, McGraw-Hill, 2003 HENDERSON, K.: The Guru's Guide to Transact SQL, Addison Wesley Professional, 2000 								
Course language:								
Notes:								
Course assessment Total number of assessed students: 829								
A B C D E FX								
10.98 9.17 17.73 22.56 32.45 7.12								
Provides: doc. RNDr. Csaba Török, CSc.								
Date of last modification: 26.02.2020								
Approved: prof. RNDr. Viliam Geffert, DrSc.								

University: P. J.	Šafárik Univers	ity in Košice						
Faculty: Faculty	of Science							
Course ID: ÚIN DBS1b/15	rse ID: ÚINF/ Course name: Database systems							
Course type, sco Course type: L Recommended Per week: 2 / 2 Course method	ope and the me ecture / Practice course-load (h Per study peri l: present	thod: c ours): od: 28 / 28						
Number of ECT	S credits: 6							
Recommended	semester/trimes	ster of the cours	e: 4.					
Course level: I.								
Prerequisities: 1	ÚINF/DBS1a/15	or ÚINF/DBdi/	15					
Conditions for o Tests, assignmen	course completi nts.	on:						
Learning outcome Advanced techn relational algebr	mes: iques of relation a. NoSQL	al databases and	theoretical funda	mentals of DB nc	ormalization and			
Stored procedur Set operations. V Relational algeb Big Data and No Sharding.	es, functions. Tr Window function ra. Functional D SQL, MongoDl	iggers. Views. C ns. Transactions. Dependencies and B, CRUD and Cu	TE, recursion an Cursors. B-trees Essential Tuple rsors, Aggregati	nd transitive closu s and indexes. XM NF. tons and Indexes,	rre. AL, JSON. Replication and			
Recommended - K. Chodorow, - Date C.J., Data - Itzik Ben-Gan, - L. Davidson, J APRESS, 2012	literature: MongoDB: The base Design and Microsoft SQL .M. Moss, Pro S	Definitive Guide d Relational Theo Server, 2012 T- QL Server 2012	e, O'Reilly, seco ory, O'Reilly, 20 SQL Fundament Relational datab	nd edition, 2013 12 als, O'Reilly, 201 base Design and I	2 mplementation,			
Course languag	e:							
Notes: If necessary, tea	ching, mid-term	and final evalua	tion will be by d	istance form.				
Course assessm Total number of	ent assessed studen	its: 687						
А	В	С	D	Е	FX			
10.33	8.3	11.5	23.44	35.81	10.63			
Provides: doc. R	NDr. Csaba Tör	rök, CSc.						
Date of last mod	lification: 30.03	3.2020						

Approved: prof. RNDr. Viliam Geffert, DrSc.

University: P. J	. Šafárik Univers	ity in Košice						
Faculty: Faculty of Science								
Course ID: ÚI DWA1/15	NF/ Course na	Course name: Developing web applications with JavaScript						
Course type, so Course type: 1 Recommender 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 EC	TS credits: 2							
Recommended	semester/trimes	ster of the cours	e: 5.					
Course level: I.	, II.							
Prerequisities:								
Conditions for	course completi	on:						
Learning outco	omes:							
Brief outline of Principles of Ja with asynchron Templates for components, sit	the course: waScript. Archite ous IO program web page gen te administration	ecture of modern ming using Nod eration. Fundan , integrations with	web application eJS and Mongo nentals of e-co h third-party serv	ns, client-server of DB. Securing w mmerce web s vices)	communications reb applications. sites (storefront			
Recommended	literature:							
Course languag	ge:							
Notes:								
Course assessment Total number of assessed students: 14								
А	В	С	D	Е	FX			
21.43	14.29	28.57	7.14	28.57	0.0			
Provides:					<u>.</u>			
Date of last mo	Date of last modification: 17.09.2015							
Approved: prot	f. RNDr. Viliam (Geffert, DrSc.						

University: P. J	. Šafárik Univers	sity in Košice					
Faculty: Facult	Faculty: Faculty of Science						
Course ID: ÚIN VMA1/15	NF/ Course name: Development of mobile applications						
Course type, sc Course type: I Recommended Per week: 3 Pe Course metho	ope and the me Practice d course-load (h er study period: d: present	thod: ours): : 42					
Number of EC	TS credits: 3						
Recommended	semester/trimes	ster of the cours	e: 4., 6.				
Course level: I.							
Prerequisities:							
Conditions for	course completi	ion:					
Learning outco	omes:						
Brief outline of	the course:						
Recommended	literature:						
Course languag	ge:						
Notes:							
Course assessment Total number of assessed students: 65							
А	В	С	D	Е	FX		
55.38	55.38 4.62 10.77 6.15 1.54 21.54						
Provides: RNDr. Róbert Novotný, PhD.							
Date of last modification: 02.07.2015							
Approved: prof. RNDr. Viliam Geffert, DrSc.							

University: P. J. Ša	fárik Univers	ity in Košice							
Faculty: Faculty of Science									
Course ID: ÚMV/ DSM3a/10	V/ Course name: Discrete mathematics for informaticians								
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 ECTS	credits: 4								
Recommended sen	nester/trimes	ster of the cours	e: 2.						
Course level: I.									
Prerequisities:									
Conditions for cou Based on results of Based on semestral	rse completi two semestra evaluation a	on: al tests. nd the result of e	xamination.						
Learning outcome To present the basic	s: es of combina	atorics and their a	applications in co	omputer science.					
Brief outline of the Mathematical indu k-permutations, co Recurrent equation graphs. Graph colo	Brief outline of the course: Mathematical induction and Dirichlet principle. The sum and the product rule. Permutations, k-permutations, combinations. Selections with repetitions. The inclusion/exclusion principle. Recurrent equations. Introduction to graph theory. Trees. Eulerian and Hamiltonian graphs. Planar graphs. Graph colourings								
 Recommended literature: 1. S. Jendrol', P. Mihók: Diskrétna matematika I., UPJŠ Košice 1992 2. J. Nešetřil, J. Matoušek: Kapitoly z diskrétni matematiky 3. E. R. Scheinerman: Mathematics - a discrete introduction, Brooks/Cole Publ. Comp. Pacific Grove 2000. 4. R.P. Grimaldi: Discrete and Computational Mathematics, Addison-Wesley Publ. CoRending 1994 									
Course language: Slovak									
Notes:									
Course assessment Total number of ass	sessed studen	ts: 615							
A	В	С	D	E	FX				
4.39	2.6	5.53	14.8	50.57	22.11				
Provides: prof. RN	Provides: prof. RNDr. Tomáš Madaras, PhD., RNDr. Mária Maceková, PhD.								
Date of last modifi	cation: 22.09	9.2019							

Approved: prof. RNDr. Viliam Geffert, DrSc.

University: P. J. Šafá	rik University in Košice						
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): ady period: 28 esent						
Number of ECTS cr	redits: 2						
Recommended seme	ester/trimester of the course: 4.						
Course level: I.							
Prerequisities:							
Conditions for course Active participation 2 2 classes at the most. Continuous assessme in English. In order to be admitt credit tests. The exam test results represent the other 50 The final grade for th	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 ted to the final exam, a student has to score at least 65 % as a sum of both represent 50% of the final grade for the course, continuous assessment results 0% of the final grade. he course will be calculated as follows:						
A 93-100, B 86-92, C Learning outcomes:	C 79-85, D 72-78, E 65-71, FX 64 and less.						
Enhancement of stud in English for specific with selected phonol competence (familia skills at B2 level (CE	ents' language skills (speaking, writing, reading and listening comprehension) c purposes and development of students' language competence (familiarization ogical, lexical and syntactic phenomena), improvement of students' pragmatic rization with selected language functions) and improvement of presentation EFR) with focus on terminology of English for natural science.						
Brief outline of the of ANGLICKÝ JAZYK Veda a výskum. Odb Planéta Zem. Naša sl Zemetrasenia, Sopeč Svetové oceány a ľao Životné prostredie a Počasie a klíma. ANGLICKÝ JAZYK Veda a výskum. Odb Životné prostredie. Z Sopečná činnosť, zer Great Pacific Garbag	Course: X PRE GEOGRAFOV: or geografia. Inečná sústava. ná činnosť. lovce. geografia. X PRE EKOLÓGOV: or ekológia. źnečistenie a dôsledky. netrasenia. ge 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, Každodenná chémia. Laboratórium a jeho vybavenie. Periodická tabuľka. Hmota a jej premeny. Životné prostredie a 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 Redman, S.: English Vocabulary in Use, Pre-intermetdiate, Intermediate. Cambridge University Press, 2003. 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.
P. Fitzgerald : English for ICT studies. Garnet Publishing, 2011.
https://worldservice/learningenglish, https://spectator.sme.sk
www.isllibrary.com

Course language:

Notes:

Course assessment

Total number of assessed students: 2582

А	В	С	D	Е	FX
36.91	25.17	17.04	10.3	8.37	2.21

Provides: PaedDr. Gabriela Bednáriková, Mgr. Zuzana Naďová, Mgr. Oľga Lešková, PhDr. Marianna Škultétyová

Date of last modification: 08.02.2020

Approved: prof. RNDr. Viliam Geffert, DrSc.

University: P. J	. Šafárik Univer	sity in Košice						
Faculty: Faculty of Science								
Course ID: ÚIN FUN1/15	IF/ Course name: Functional programming							
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 EC	FS credits: 4							
Recommended	semester/trime	ster of the cours	e: 5.					
Course level: I.								
Prerequisities:	ÚINF/PAZ1a/1:	5 or ÚINF/ePAZ1	a/15					
Conditions for	course complet	ion:						
Learning outco To learn bases of and basic metho	mes: of declarative produces of implement	gramming (as cor tations of functio	nplementary met nal programming	thod to procedura g languages.	l programming)			
Brief outline of Principles of the languages point Haskell: the strue and induction, the	the course: functional prog of view. Proper acture of the lang rees	ramming. Lambo ties of functional guage and basic co	la calculus fror programming lan pmputational rule	n the functional nguages. Progran e, basic data types	l programming nming language , lists, recursion			
Recommended literature: BIRD, R., WADLER, P.: Introduction to Functional Programming. Prentice Hall International, 1988. LIPOVAČA, M.: Learn You Haskell for Great Good!. Free from http://learnyouahaskell.com/								
Course languag	ge:							
Notes:								
Course assessment Total number of assessed students: 235								
А	В	С	D	Е	FX			
20.85	12.77	15.74	15.32	34.47	0.85			
Provides: doc.]	Provides: doc. Ing. Štefánia Gallová, CSc.							
Date of last mo	dification: 03.0	5.2015						
Approved: prof	. RNDr. Viliam	Geffert, DrSc.						
University: P. J.	Šafárik Univers	ity in Košice						
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Faculty: Faculty	of Science							
Course ID: ÚIN BSSI/15	F/ Course na	ame: Informatics	I.					
Course type, sco Course type: Recommended Per week: Per Course methoo	ope and the met course-load (h study period: l: present	thod: ours):						
Number of ECT	S credits: 4							
Recommended	semester/trimes	ster of the cours	e:					
Course level: I.								
Prerequisities: U and ÚINF/AFJ11	ÚINF/PAZ1b/15 b/15 and ÚINF/7	and ÚINF/DBS FVY/15	b/15 and ÚINF	/OSY1/15 and Ú	INF/PSIN/15			
Conditions for a	course completi	on:						
Learning outco	mes:							
Brief outline of	the course:							
Recommended	literature:							
Course languag	e:							
Notes:								
Course assessm Total number of	ent assessed studen	ıts: 51						
A	В	С	D	Е	FX			
31.37	23.53	23.53	11.76	7.84	1.96			
Provides:								
Date of last mod	lification: 18.06	5.2018						
Approved: prof.	RNDr. Viliam (Geffert, DrSc.						

University: P. J	. Šafárik Univers	sity in Košice			
Faculty: Facult	y of Science				
Course ID: ÚIN IBdi/15	NF/ Course na	ame: Information	n security princip	les	
Course type, sc Course type: I Recommended Per week: 2 Pe Course metho	ope and the me Practice d course-load (h er study period: d: present	thod: ours): 28			
Number of EC	FS credits: 3				
Recommended	semester/trime	ster of the cours	e: 6.		
Course level: I.					
Prerequisities:					
Conditions for	course complet	ion:			
Learning outco	mes:				
Brief outline of	the course:				
Recommended	literature:				
Course languag	ge:				
Notes:					
Course assessment Total number of assessed students: 28					
А	В	С	D	Е	FX
25.0	21.43	25.0	10.71	3.57	14.29
Provides: RNDr. JUDr. Pavol Sokol, PhD.					
Date of last modification: 03.05.2015					
Approved: prof. RNDr. Viliam Geffert, DrSc.					

University: P. J. Šafá	rik University in Košice			
Faculty: Faculty of S	cience			
Course ID: Dek. PF UPJŠ/USPV/13	Course name: Introduction	n to Study of Sciences		
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 ECTS cr	edits: 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:				
Notes:				
Course assessment Total number of assessed students: 1554				
abs n				
88.61 11.39				
Provides: prof. RNDr. Viliam Geffert, DrSc.				
Date of last modification: 25.09.2019				
Approved: prof. RNDr. Viliam Geffert, DrSc.				

University: P. J. Ša	fárik Univers	ity in Košice			
Faculty: Faculty of	f Science				
Course ID: ÚINF/ UGR1/15	Course na	me: Introduction	n to computer g	raphics	
Course type, scope Course type: Lec Recommended co Per week: 2 / 2 Po Course method: 1	e and the met ture / Practice ourse-load (he er study perio present	hod: ours): od: 28 / 28			
Number of ECTS	credits: 5				
Recommended ser	nester/trimes	ter of the course	e: 3.		
Course level: I., II					
Prerequisities:					
Conditions for cou	ırse completi	on:			
Learning outcome To provide the stu- graphics.	es: dents with know	owledge of graph	nics algorithms	and basic princip	les of computer
Graphics hardware drawing 2D primit spline forms, Bézie perspective and p Rendering technic computer animatio	, input and out ives. Filling a er curves, B-sp arallel projec jues, photore n, virtual real	put devices. Colo nd clipping. Cur plines, surfaces. I tions. Visible-su alism, textures, ity.	or models, palet ve modeling, in Homogenous co rface determin ray tracing, ra	tes. Raster graphic atterpolations and a pordinates, affine t ation, illumination adiosity. Object	s algorithms for approximations, ransformations, n and shading. representations,
Recommended lite FOLEY, J. D., van Practice, Addison- MORTENSON, M	e rature: DAM, A., FE Wesley, 1991 .E.: Geometri	CINER, S., HUGH	HES, J.: Compu ., Willey, 1997	ter Graphics: Prin	ciples and
Course language:					
Notes:					
Course assessmen Total number of as	t sessed studen	ts: 292			
Α	В	С	D	Е	FX
14.04	9.93	13.36	23.63	30.48	8.56
Provides: prof. RN	Dr. Gabriel S	emanišin, PhD., l	RNDr. Rastislav	v Krivoš-Belluš, P	hD.
Date of last modif	ication: 03.05	.2015			
Approved: prof. R	NDr. Viliam (Geffert, DrSc.			
L					

University: P. J	. Šafárik Univ	ersity in Košice			
Faculty: Facult	y of Science				
Course ID: ÚIN UPR1/15	NF/ Course	name: Introductio	on to law for info	rmatics	
Course type, sc Course type: 1 Recommender Per week: 2 / Course metho	ope and the Lecture / Prac d course-load l Per study p d: present	nethod: ice (hours): eriod: 28 / 14			
Number of EC	FS credits: 4				
Recommended	semester/tri	nester of the cours	se: 5.		
Course level: I.					
Prerequisities:					
Conditions for Written final ex	course comp am (score at l	etion: east 50%)			
Learning outco To provide theo knowledge in th	mes: retical backgr ne Slovak priv	ound for studying co ate and public law.	omputer science i	n general, by givi	ing the necessary
Brief outline of (1) Introduction (2) Introduction (3) Introduction (4) Introduction (5) Introduction (6) Introduction (7) Introduction	the course: to concepts of to Civil law to Commerc to Labor law to Administr to Tax law to criminal la	f law and legal the al law ative law	ory		
Recommended (1) Selected slo	literature: vak legislatio	1			
Course languag	ge:				
Notes:					
Course assessment Total number of assessed students: 12					
Α	В	C	D	Е	FX
25.0 16.67 16.67 16.67 25.0 0.0					
Provides: RND	Provides: RNDr. JUDr. Pavol Sokol, PhD.				
Date of last modification: 14.01.2020					
Approved: prof	. RNDr. Vilia	n Geffert, DrSc.			

University: P. J	. Šafári	k Univers	ity in Košice			
Faculty: Facult	y of Sc	ience				
Course ID: ÚIN UNS1/15	NF/	Course na	me: Introduction	to neural netwo	rks	
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 EC	TS cree	dits: 5				
Recommended	semes	ter/trimes	ster of the course	e: 3.		
Course level: I.	, II.					
Prerequisities:						
Conditions for	course	completi	on:			
Learning outco To understand a with software for	omes: and to h or neur	know appl al network	ications of basic a models.	paradigms of ne	ural networks. To	o learn working
Brief outline of Basic models of gates, perceptro networks, back neural networks	the co of com ons), the propag s to solv	urse: putational eir comput gation alg ving of pro	units - neurons tational capability orithm. Hopfield oblems. Genetic a	(linear thresho , algorithms of a neural network and evolution alg	old gates, polyno idaptations. Feed s. ART neural n gorithms.	omial threshold -forward neural etworks. Using
Recommended literature: J. Hertz, A.Krogh, R.G. Palmer: Introduction to the theory of neural computation, Addison Wesley, 1991 HASSOLIN M. H. Fundamentals of artificial neural networks. The MIT Press, 1995						
Course languag	ge:					
Notes:						
Course assessment Total number of assessed students: 420						
А		В	С	D	Е	FX
12.38	1	6.67	23.33	19.76	23.33	4.52
Provides: doc. RNDr. Gabriela Andrejková, CSc.						
Date of last mo	dificat	ion: 03.05	5.2015			
Approved: prof	f. RND	r. Viliam (Geffert, DrSc.			

University: P. J.	Šafárik Univers	sity in Košice					
Faculty: Faculty of Science							
Course ID: ÚIN UNV1/15	F/ Course n	ame: Introduction	n to neuroscienc	es			
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 ECT	'S credits: 5						
Recommended s	semester/trime	ster of the cours	e: 3., 5.				
Course level: I.							
Prerequisities:							
Conditions for c Examination	ourse complet	ion:					
Learning outcor Introduction to a different mental	nes: Inatomy and ph functions, and t	ysiology of huma to computational	an brain, to cogr tools used in neu	nitive processes co uroscience.	orresponding to		
motor cortex, le computational n tools for electro Computational a	neural centers earning and me nethods used in physiological to pplications of r	s of basic cort emory). Basic ph n neuroscience v prain activity rec neuroscience resea	ical functions sysiological, psy with focus on the ording and imagarch.	ychological, psycl he application of ging (e.g., magne	hophysical and computational etic resonance).		
 Recommended literature: 1. Gazzaniga M. (ed.): The New Cognitive Neurosciences. 2nd ed. MIT Press. 1999 2. Dayan P and LF Abbott: Theoretical Neuroscience - Computational and Mathematical Modeling of Neural Systems. MIT Press, 2001 3. Stillings et al.: Cognitive Science: An Introduction. 2nd ed. MIT Press. 1995 							
Course language Slovak or Englis	e: h						
Notes:	Notes:						
Course assessment Total number of assessed students: 26							
А	В	C	D	E	FX		
19.23	26.92	19.23	23.08	11.54	0.0		
Provides: doc. In	ng. Norbert Kop	očo, PhD.					
Date of last mod	lification: 19.1	0.2016					
Approved: prof.	RNDr. Viliam	Geffert, DrSc.					

University: P. J	. Šafárik Univers	ity in Košice			
Faculty: Facult	y of Science				
Course ID: ÚIN UIN1/15	NF/ Course na	me: Introduction	n to study of info	ormatics	
Course type, sc Course type: 1 Recommended Per week: 2 / 2 Course metho	cope and the met Lecture / Practice d course-load (h 2 Per study perio d: present	hod: ours): od: 28 / 28			
Number of EC	IS credits: 5				
Recommended	semester/trimes	ster of the cours	e: 1.		
Course level: I.					
Prerequisities:					
Conditions for	course completi	on:			
Learning outco	omes:				
Brief outline of	the course:				
Recommended	literature:				
Course languag	ge:				
Notes:					
Course assessm Total number of	nent f assessed studen	ts: 250			
А	В	С	D	Е	FX
40.0	16.8	15.2	9.6	3.6	14.8
Provides: doc. Szabari, PhD.	RNDr. Stanislav	Krajči, PhD., RN	Dr. Ondrej Kríd	llo, PhD., Mgr. Al	lexander
Date of last mo	dification: 03.05	5.2015			
Approved: prof	f. RNDr. Viliam (Geffert, DrSc.			

University: P. J. Šafá	rik University in Košice							
Faculty: Faculty of S	Faculty: Faculty of Science							
Course ID: ÚINF/ PAI1/13	Course name: Legal aspects of informatics							
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 ECTS cr	edits: 2							
Recommended seme	ster/trimester of the course: 4., 6.							
Course level: I.								
Prerequisities:								
Conditions for cours Written final exam (s	core at least 50%)							
Learning outcomes: To provide theoretica knowledge in the leg Brief outline of the c (1) Introduction to IC (2) Legal acts	l background for studying computer science in general, by giving the necessary al aspects of information and communications technologies (ICT law). ourse: CT law							
 (3) Electronic signatu (4) Electronic common (5) Consumer rights (6) Intelectual proper (7) Privacy and person (8) ISPs and their resonant the second s	res erce ty and software law mal data protection ponsibility; cyber security and digital forensics							
Recommended litera (1) Murray A. Inform Aug 22. (2) Lloyd IJ. Informa (3) Acts of EU law -	ture: nation technology law: the law and society. Oxford University Press; 2013 tion technology law. Oxford University Press; 2017. regulations and directives							
Course language:								

Notes:

Course assessment Total number of assessed students: 35							
А	В	С	D	Е	FX		
11.43	25.71	20.0	11.43	20.0	11.43		
Provides: RND	Provides: RNDr. JUDr. Pavol Sokol, PhD.						
Date of last modification: 14.01.2020							
Approved: prof. RNDr. Viliam Geffert, DrSc.							

University: P. J. S	Šafárik Univers	ity in Košice			
Faculty: Faculty	of Science				
Course ID: ÚMV LCO/10	7/ Course na	me: Linear and i	integer programm	ning	
Course type, sco Course type: Le Recommended Per week: 2 / 2 Course method	pe and the met ecture / Practice course-load (h Per study perio : present	thod: ; ours): od: 28 / 28			
Number of ECTS	S credits: 5				
Recommended se	emester/trimes	ster of the cours	e: 3., 5.		
Course level: I.					
Prerequisities: Ú	MV/ALGa/10				
Conditions for co Two tests, using s	ourse completi software CASS	on: IM, oral exam			
Learning outcom To learn the solvi	nes: ing methods of	linear programm	ing		
Brief outline of t Formulation of 1 and finiteness. I programming. Al	he course: linear and inte Duality and its gorithms for in	ger programs. C s economic inte teger programmi	Graphic solution rpretation. Sens ng.	. Simplex metho itivity analysis a	od, its variants and parametric
Recommended li Ch. Papadimitrio R.J. Vanderbei, L version: http://ww	terature: u – K. Steiglitz inear Program ww.princeton.ec	: Combinatorial (ning:Foundations lu/~rvdb/LPbook	Dptimization: Al s and Extentions	gorithms and Cor (Kluwer 2001), e	mplexity, 1984 electronic
Course language Slovak	:				
Notes:					
Course assessment Total number of assessed students: 152					
Α	В	С	D	Е	FX
22.37 13.82 21.05 21.05 21.05 0.66					
Provides: doc. RNDr. Roman Soták, PhD., RNDr. Andrej Gajdoš, PhD.					
Date of last modification: 03.05.2015					
Approved: prof.	RNDr. Viliam (Geffert, DrSc.			

Faculty: Faculty of Science Course ID: ÚINF/ LOPI/15 Course name: Logic programming LOPI/15 Course type, scope and the method: Course type: Lecture / Practice Recommended course-load (hours): Per weck: 2 / 2 Per study period: 28 / 28 Course method: present Number of ECTS credits: 5 Recommended semester/trimester of the course: 4., 6. Course level: 1, II. Prerequisities: Conditions for course completion: Learning outcomes: To learn bases of declarative programming (as complementary method to procedural programming) and basic methods of implementations of logic programming languages. Brief outline of the course: Facts and rules in Prolog. Unification of terms (Robinson's unification algorithm). Recursion and backtrack in Prolog. Computational step and computational tree. Classification of terms. Lists. Functors and operators in composed terms. Predicates for input and output. Dynamic database. Cycles (repeat-fail, for). Predicates related to backtrack. Cut. Predicates evaluating of arithmetic expressions. Recommended literature: Brates and rule sin Prolog. Programming and Prolog, John Wiley & Sons Lid. 1995 Nilsenou., Maluszynski J: Logic, Programming and Prolog, John Wiley & Sons Lid. 1995 Nilsenou., Maluszynski J: Logic, Programming and Prolog, John Wiley & Sons Lid. 1995 Nienhuys-Cheng Sh.H., Wolf R.: Foundations of Inductive Logic Programming, Springer-Verlag, 1997 Course language:	University: P. J. Šaf	árik Univers	ity in Košice					
Course ID: ÚINF/ LOPI/15 Course name: Logic programming Course type, scope and the method: Course type: Lecture / Practice Recommended course-load (hours): Per week: 2 / 2 Per study period: 28 / 28 Course method: present Number of ECTS credits: 5 Recommended semester/trimester of the course: 4., 6. Course level: 1, II. Prerequisities: Contraining outcomes: To learn bases of declarative programming (as complementary method to procedural programming) and basic methods of implementations of logic programming languages. Brief outline of the course: Facts and rules in Prolog. Unification of terms (Robinson's unification algorithm). Recursion and backtrack in Prolog. Computational step and computational tree. Classification of terms. Lists. Functors and operators in composed terms. Predicates for input and output. Dynamic database. Cycles (repeat-fail, for). Predicates related to backtrack. Cut. Predicates evaluating of arithmetic expressions. Recommended literature: Bratko, I.: Prolog – programming for artificial intelligence, third edition. Addison-Wesley, 2001 Nilsson U., Maluszynski J.: Logic, Programming and Prolog, John Wiley & Sons Ltd. 1995 Nienhuys-Cheng Sh.H., Wolf R.: Foundations of Inductive Logic Programming, Springer-Verlag, 1997 Course language: Votes: Total number of assessed students: 265 A B C D E FX 23.02 11.32 13.21 24.15 26.42	Faculty: Faculty of Science							
Course type, scope and the method: Course type: Lecture / Practice Recommended course-load (hours): Per week: 2 / 2 Per study period: 28 / 28 Course method: present Number of ECTS credits: 5 Recommended semester/trimester of the course: 4., 6. Course level: 1., 11. Prerequisities: Conditions for course completion: Learning outcomes: To learn bases of declarative programming (as complementary method to procedural programming) and basic methods of implementations of logic programming languages. Brief outline of the course: Facts and rules in Prolog. Unification of terms (Robinson's unification algorithm). Recursion and backtrack in Prolog. Computational step and computational tree. Classification of terms. Lists. Functors and operators in composed terms. Predicates for input and output. Dynamic database. Cycles (repeat-fail, for). Predicates related to backtrack. Cut. Predicates evaluating of arithmetic expressions. Recommended literature: Bratko, 1.: Prolog – programming for artificial intelligence, third edition. Addison-Wesley, 2001 Nilsson U., Maluszynski J.: Logic, Programming and Prolog, John Wiley & Sons Ltd. 1995 Nienhuys-Cheng Sh.H., Wolf R.: Foundations of Inductive Logic Programming, Springer-Verlag, 1997 Course language: Notes: Course language: Notes: Cala B D E <	Course ID: ÚINF/ LOP1/15	Course na	me: Logic progr	amming				
Number of ECTS credits: 5 Recommended semester/trimester of the course: 4., 6. Course level: 1., II. Prerequisities: Conditions for course completion: Learning outcomes: To learn bases of declarative programming (as complementary method to procedural programming) and basic methods of implementations of logic programming languages. Brief outline of the course: Facts and rules in Prolog. Unification of terms (Robinson's unification algorithm). Recursion and backtrack in Prolog. Computational step and computational tree. Classification of terms. Lists. Functors and operators in composed terms. Predicates for input and output. Dynamic database. Cycles (repeat-fail, for). Predicates related to backtrack. Cut. Predicates evaluating of arithmetic expressions. Recommended literature: Bratko, I.: Prolog – programming for artificial intelligence, third edition. Addison-Wesley, 2001 Nilsson U., Maluszynski J.: Logic, Programming and Prolog, John Wiley & Sons Ltd. 1995 Nienhuys-Cheng Sh.H., Wolf R.: Foundations of Inductive Logic Programming, Springer-Verlag, 1997 Course assessment Total number of assessed students: 265 A B C D E FX 23.02 11.32 13.21 24.15 26.42 1.89	Course type, scope Course type: Lectu Recommended cou Per week: 2 / 2 Per Course method: pr	and the met ire / Practice irse-load (h r study perioresent	thod: ours): od: 28 / 28					
Recommended semester/trimester of the course: 4., 6. Course level: 1., II. Prerequisities: Conditions for course completion: Learning outcomes: To learn bases of declarative programming (as complementary method to procedural programming) and basic methods of implementations of logic programming languages. Brief outline of the course: Facts and rules in Prolog. Unification of terms (Robinson's unification algorithm). Recursion and backtrack in Prolog. Computational step and computational tree. Classification of terms. Lists. Functors and operators in composed terms. Predicates for input and output. Dynamic database. Cycles (repeat-fail, for). Predicates related to backtrack. Cut. Predicates evaluating of arithmetic expressions. Recommended literature: Bratko, I.: Prolog – programming for artificial intelligence, third edition. Addison-Wesley, 2001 Nilsson U., Maluszynski J.: Logic, Programming and Prolog, John Wiley & Sons Ltd. 1995 Nienhuys-Cheng Sh.H., Wolf R.: Foundations of Inductive Logic Programming, Springer-Verlag, 1997 Course assessment Total number of assessed students: 265 A B C D E FX Q3.02 11.32 13.21 24.15 26.42 1.89 Provides: RNDr. O	Number of ECTS c	redits: 5						
Course level: I., II. Prerequisities: Conditions for course completion: Learning outcomes: To learn bases of declarative programming (as complementary method to procedural programming) and basic methods of implementations of logic programming languages. Brief outline of the course: Facts and rules in Prolog. Unification of terms (Robinson's unification algorithm). Recursion and backtrack in Prolog. Computational step and computational tree. Classification of terms. Lists. Functors and operators in composed terms. Predicates for input and output. Dynamic database. Cycles (repeat-fail, for). Predicates related to backtrack. Cut. Predicates evaluating of arithmetic expressions. Recommended literature: Bratko, I.: Prolog – programming for artificial intelligence, third edition. Addison-Wesley, 2001 Nilsson U., Maluszynski J.: Logic, Programming and Prolog, John Wiley & Sons Ltd. 1995 Nienhuys-Cheng Sh.H., Wolf R.: Foundations of Inductive Logic Programming, Springer-Verlag, 1997 Course language: Notes: Course assessment Total number of assessed students: 265 A B C D E FX 23.02 11.32 13.21 24.15 26.42 1.89 Provides: RNDr. Ondrej Kridlo, PhD. D E FX Dat of last modification: 03.05.2015 Approved: prof. RNDr. Viliam Geffert, DrSc. <	Recommended sem	ester/trimes	ster of the course	e: 4., 6.				
Prerequisities: Conditions for course completion: Learning outcomes: To learn bases of declarative programming (as complementary method to procedural programming) and basic methods of implementations of logic programming languages. Brief outline of the course: Facts and rules in Prolog. Unification of terms (Robinson's unification algorithm). Recursion and backtrack in Prolog. Computational step and computational tree. Classification of terms. Lists. Functors and operators in composed terms. Predicates for input and output. Dynamic database. Cycles (repeat-fail, for). Predicates related to backtrack. Cut. Predicates evaluating of arithmetic expressions. Recommended literature: Bratko, I.: Prolog – programming for artificial intelligence, third edition. Addison-Wesley, 2001 Nilson U., Maluszynski J.: Logic, Programming and Prolog, John Wiley & Sons Ltd. 1995 Nienhuys-Cheng Sh.H., Wolf R.: Foundations of Inductive Logic Programming, Springer-Verlag, 1997 Course language: Notes: Course assessment Total number of assessed students: 265 A B C D E FX 23.02 11.32 13.21 24.15 26.42 1.89 Provides: RNDr. Ondrej Kridlo, PhD.	Course level: I., II.							
Conditions for course completion: Learning outcomes: To learn bases of declarative programming (as complementary method to procedural programming) and basic methods of implementations of logic programming languages. Brief outline of the course: Facts and rules in Prolog. Unification of terms (Robinson's unification algorithm). Recursion and backtrack in Prolog. Computational step and computational tree. Classification of terms. Lists. Functors and operators in composed terms. Predicates for input and output. Dynamic database. Cycles (repeat-fail, for). Predicates related to backtrack. Cut. Predicates evaluating of arithmetic expressions. Recommended literature: Bratko, I.: Prolog – programming for artificial intelligence, third edition. Addison-Wesley, 2001 Nilsson U., Maluszynski J.: Logic, Programming and Prolog, John Wiley & Sons Ltd. 1995 Nienhuys-Cheng Sh.H., Wolf R.: Foundations of Inductive Logic Programming, Springer-Verlag, 1997 Course language: Notes: Course assessment Total number of assessed students: 265 A B C D E FX Z3.02 11.32 13.21 24.15 26.42 1.89 Provides: RNDr. Ondrej Kridlo, PhD. Date of last modification: 03.05.20	Prerequisities:							
Learning outcomes: To learn bases of declarative programming (as complementary method to procedural programming) and basic methods of implementations of logic programming languages. Brief outline of the course: Facts and rules in Prolog. Unification of terms (Robinson's unification algorithm). Recursion and backtrack in Prolog. Computational step and computational tree. Classification of terms. Lists. Functors and operators in composed terms. Predicates for input and output. Dynamic database. Cycles (repeat-fail, for). Predicates related to backtrack. Cut. Predicates evaluating of arithmetic expressions. Recommended literature: Bratko, I.: Prolog – programming for artificial intelligence, third edition. Addison-Wesley, 2001 Nilsson U., Maluszynski J.: Logic, Programming and Prolog, John Wiley & Sons Ltd. 1995 Nienhuys-Cheng Sh.H., Wolf R.: Foundations of Inductive Logic Programming, Springer-Verlag, 1997 Course language: Notes: Course assessment Total number of assessed students: 265 A B C D E FX 23.02 11.32 13.21 24.15 26.42 1.89 Provides: RNDr. Ondrej Krídlo, PhD.	Conditions for cour	se completi	on:					
Brief outline of the course: Facts and rules in Prolog. Unification of terms (Robinson's unification algorithm). Recursion and backtrack in Prolog. Computational step and computational tree. Classification of terms. Lists. Functors and operators in composed terms. Predicates for input and output. Dynamic database. Cycles (repeat-fail, for). Predicates related to backtrack. Cut. Predicates evaluating of arithmetic expressions. Recommended literature: Bratko, I.: Prolog – programming for artificial intelligence, third edition. Addison-Wesley, 2001 Nilsson U., Maluszynski J.: Logic, Programming and Prolog, John Wiley & Sons Ltd. 1995 Nienhuys-Cheng Sh.H., Wolf R.: Foundations of Inductive Logic Programming, Springer-Verlag, 1997 Course language: Notes: Course assessment Total number of assessed students: 265 A B C D E FX 23.02 11.32 13.21 24.15 26.42 1.89 Provides: RNDr. Ondrej Krídlo, PhD. D E FX Date of last modification: 03.05.2015 Approved: prof. RNDr. Viliam Geffert, DrSc.	Learning outcomes To learn bases of dec and basic methods o	: clarative prog f implement	gramming (as con ations of logic pr	nplementary me	thod to procedural guages.	l programming)		
Recommended literature: Bratko, I.: Prolog – programming for artificial intelligence, third edition. Addison-Wesley, 2001 Nilsson U., Maluszynski J.: Logic, Programming and Prolog, John Wiley & Sons Ltd. 1995 Nienhuys-Cheng Sh.H., Wolf R.: Foundations of Inductive Logic Programming, Springer-Verlag, 1997 Course language: Notes: Course assessment Total number of assessed students: 265 A B C D E FX 23.02 11.32 13.21 24.15 26.42 1.89 Provides: RNDr. Ondrej Krídlo, PhD. Date of last modification: 03.05.2015 Approved: prof. RNDr. Viliam Geffert, DrSc.	Facts and rules in P backtrack in Prolog Functors and operat Cycles (repeat-fail, expressions.	rolog. Unific . Computati tors in comp for). Predica	cation of terms (F onal step and co posed terms. Prec ates related to bac	Robinson's unifi mputational tre licates for inpu cktrack. Cut. Pr	cation algorithm). e. Classification of t and output. Dyn redicates evaluation	Recursion and of terms. Lists. namic database. ng of arithmetic		
Course language: Notes: Course assessment Total number of assessed students: 265 D E FX A B C D E FX 23.02 11.32 13.21 24.15 26.42 1.89 Provides: RNDr. Ondrej Krídlo, PhD. Date of last modification: 03.05.2015 Approved: prof. RNDr. Viliam Geffert, DrSc.	Recommended liter Bratko, I.: Prolog – Nilsson U., Maluszy Nienhuys-Cheng Sh 1997	ature: programmin /nski J.: Log .H., Wolf R.	g for artificial int ic, Programming : Foundations of	elligence, third and Prolog, Joł Inductive Logic	edition. Addison- in Wiley & Sons I e Programming, Sp	Wesley, 2001 Ltd. 1995 pringer-Verlag,		
Notes:Course assessmentTotal number of assessed students: 265ABCDEFX23.0211.3213.2124.1526.421.89Provides: RNDr. Ondrej Krídlo, PhD.Date of last modification: 03.05.2015Approved: prof. RNDr. Viliam Geffert, DrSc.	Course language:							
Course assessment Total number of assessed students: 265 A B C D E FX 23.02 11.32 13.21 24.15 26.42 1.89 Provides: RNDr. Ondrej Krídlo, PhD. Date of last modification: 03.05.2015 E Approved: prof. RNDr. Viliam Geffert, DrSc. E E	Notes:							
A B C D E FX 23.02 11.32 13.21 24.15 26.42 1.89 Provides: RNDr. Ondrej Krídlo, PhD. Date of last modification: 03.05.2015 E E Approved: prof. RNDr. Viliam Geffert, DrSc. 5 5 5 5	Course assessment Total number of ass	essed studen	ts: 265					
23.02 11.32 13.21 24.15 26.42 1.89 Provides: RNDr. Ondrej Krídlo, PhD. Date of last modification: 03.05.2015 Approved: prof. RNDr. Viliam Geffert, DrSc.	Α	В	С	D	Е	FX		
Provides: RNDr. Ondrej Krídlo, PhD. Date of last modification: 03.05.2015 Approved: prof. RNDr. Viliam Geffert, DrSc.	23.02	11.32	13.21	24.15	26.42	1.89		
Date of last modification: 03.05.2015 Approved: prof. RNDr. Viliam Geffert, DrSc.	Provides: RNDr. Or	drej Krídlo,	PhD.					
Approved: prof. RNDr. Viliam Geffert, DrSc.	Date of last modific	ation: 03.05	5.2015					
	Approved: prof. RN	Dr. Viliam (Geffert, DrSc.					

r					
University: P. J	. Šafárik Univer	sity in Košice			
Faculty: Facult	Faculty: Faculty of Science				
Course ID: ÚIN MTL/15	F/ Course name: MATLAB and neurocognition				
Course type, sc Course type: 1 Recommender Per week: 0/2 Course metho	ope and the me Lecture / Practic d course-load (l 2 Per study per d: present	thod: e nours): iod: 0 / 28			
Number of EC	TS credits: 2				
Recommended	semester/trime	ster of the cours	se: 3., 5.		
Course level: I.					
Prerequisities:					
Conditions for quizes, final example.	course complet am	ion:			
Learning outco Intro to program	mes: nming in MATL	AB with focus or	n its usage in Ne	ural and Cognitiv	e Science.
Intro to MATL functions, tool Generation of neurophyshiolo in MATLAB.	AB: navigation boxes. Scripts visual and a gical and neuro	and interaction, for human-com auditory stimuli maging (fMRI, F	, variables, vect puter interactic . Analysis and EEG, MEG) data	fors, matrices, op on in behavioral d visualization a. Cognitive and 1	n experiments. of behavioral, neural modeling
Recommended 1. Wallisch et a MATLAB. Aca 2. Duda, Hart, S Manual in MAT 3. Lewandowsk 4. Levine: Intro and Abbott: Th Systems. MIT I	literature: I. MATLAB for demic Press 200 Stork: Pattern Cl TLAB to accomp ty: Computation duction to Neura eoretical Neuros Press 2005.	Neuroscientists: 8. assification, 2nd bany Pattern Clas al Modeling in C al and Cognitive cience: Computa	An Introduction Edition, Wiley 2 sification, 2nd E ognition. Sage, 2 Modeling, Psycl tional and Mathe	to Scientific Con 2000 Stork, Yom- 2dition, Wiley, 200 2011 hology Press, 200 ematical Modelin	nputing in Tow: Computer 04 0 Dayan g of Neural
Course language: Slovak or English					
Notes:					
Course assessm Total number of	ent f assessed studer	nts: 8			
А	В	C	D	Е	FX
25.0	25.0	12.5	37.5	0.0	0.0
Provides: doc.	Ing. Norbert Koj	očo, PhD.	1	1	

Date of last modification: 03.05.2015

Approved: prof. RNDr. Viliam Geffert, DrSc.

	COURSE INFORMATION LETTER
University: P. J. Šafá	rik University in Košice
Faculty: Faculty of S	cience
Course ID: ÚMV/ MAN3a/10	Course name: Mathematical analysis I for informaticians and physicists
Course type, scope a Course type: Lectur Recommended cour Per week: 4 / 3 Per Course method: pre	nd the method: re / Practice rse-load (hours): study period: 56 / 42 esent
Number of ECTS cr	edits: 8
Recommended seme	ster/trimester of the course: 1.
Course level: I.	
Prerequisities:	
Conditions for cours Continuous assessme evaluation is given by	be completion: Int is taken the form of small tests and two main tests during the semester. Final y continuous assessment (50%), written and oral part of the exam (50%).
The course provides and computer scienc way of thinking and	students with the basics of mathematical analysis necessary to study physics e. The students also learn mathematical culture, notation and mathematical expression.
 Brief outline of the c 1. Introduction - lang 2. Real numbers and 3. Sequences - bound 4. Series - sum, tests 5. Functions of one reference 6. Continuous function 7. Derivative, difference calculus. 8. Using differential of 9. Other applications 10. Power series - radiseries. 	nourse: Juage of mathematics, basics of formal logic. sets - ordering, boundedness, infimum, supremum. ledness, monotonicity, convergence, subsequences. for convergence, absolute and relative convergence. eal variable - fundamental concepts, limits and operations with them. ons and their properties on the set (interval). Elementary functions. entiability, difference and differential, fundamental theorems of differential calculus for the investigation of properties of functions and their behavior. of derivative - calculation of limits, Taylor polynomials. dius and range of convergence, properties of the sum of power series, Taylor
Recommended litera 1. B. Mihalíková, J. C Košiciach, Košice, 20 2. Z. Došlá, J. Kuben Masarykova univerzi 3. D. Brannan: A Firs Cambridge, 2006. 4. K. A. Ross: Eleme 5. A. Banner: The ca	 hture: Dhriska: Matematická analýza 1, vysokoškolský učebný text, UPJŠ v D00 (in Slovak). Diferenciální počet funkcí jedné proměnné, vysokoškolský učebný text, ta v Brne, Brno, 2004 (in Czech). st Course in Mathematical Analysis, Cambridge University Press, ntary Analysis: The theory of Calculus, Springer, New York, 2010. lculus lifesaver, Princeton university press, Princeton, 2007.

6. B. S. Thomson, J. B. Bruckner, A. M. Bruckner: Elementary real analysis, Prentice Hall (Pearson), Lexington, 2008.

7. J. Stewart: Calculus: Early Transcendentals, Brooks Cole (Thomson), Toronto, 2008.

Course language:

slovak

Notes:

Course assessment

Total number of assessed students: 935

А	В	С	D	Е	FX
7.06	8.24	12.94	15.94	36.79	19.04
Provides: RNDr. Jaroslav Šupina, PhD., RNDr. Lenka Halčinová, PhD.					
Date of last modification: 17.09.2015					
Approved: prof. RNDr. Viliam Geffert, DrSc.					

Faculty: Faculty of Science

Course ID: ÚMV/	Course name: Mathematical analysis II for informaticians and physicists
MAN3b/10	

Course type, scope and the method: Course type: Lecture / Practice Recommended course-load (hours):

Per week: 4 / 3 **Per study period:** 56 / 42

Course method: present

Number of ECTS credits: 8

Recommended semester/trimester of the course: 2.

Course level: I.

Prerequisities: ÚMV/MAN3a/10

Conditions for course completion:

Continuous assessment is taken the form of small tests and two main tests during the semester. Final evaluation is given by continuous assessment (50%), written and oral part of the exam (50%).

Learning outcomes:

The course provides students with the basics of mathematical analysis necessary to study physics and computer science. The students also learn mathematical culture, notation and mathematical way of thinking and expression.

Brief outline of the course:

1. Integral calculus of functions of one real variable: a) Indefinite integral - primitive function and its properties, techniques of integration; b) Definite Riemann integral - definition, elementary properties, calculation methods, classes of integrable functions, applications; c) Improper integral.

2. Ordinary differential equations - basic concepts, the first order equations (separable, homogeneous, linear, Bernoulli), linear equations of the second order (also with constant coefficients).

3. Metric space - Euclidean space, some topological properties of points and sets.

4. Function of several real variables - basic concepts, limits and continuity.

5. Differential calculus of functions of several real variables - partial derivative, differentiability and total differential (also higher order), Taylor polynomials, directional derivative, local and global extrema, constrained local extrema.

6. Double (two dimensional) integral - definition, calculation methods, applications.

Recommended literature:

1. L. Kluvánek, I. Mišík, M. Švec: Matematika I, II, SVTL, Bratislava, 1959 (in Slovak).

2. Z. Došlá, O. Došlý: Diferenciální počet funkcí více proměnných, vysokoškolský učebný text, Masarykova univerzita v Brne, Brno, 2003 (in Czech).

3. J. Eliaš, J. Horváth, J. Kajan: Zbierka úloh z vyššej matematiky 2, 3, 4, Alfa, Bratislava, 1971 (in Slovak).

4. J. C. Robinson: An introduction to ordinary differential equations, Cambridge University Press, Cambridge, 2004.

5. R. E. Williamson, H. F. Trotter: Multivariable mathematics, Prentice Hall (Pearson), Upper Saddle River, 2004.

6. B. S. Thomson, J. B. Bruckner, A. M. Bruckner: Elementary Real Analysis, Prentice Hall (Pearson), Lexington, 2008.

7. J. Stewart: Calculus: Early Transcendentals, Brooks Cole (Thomson), Toronto, 2008.

Course language:

Slovak

Notes:

Course assessment

Total number of assessed students: 457

А	В	С	D	Е	FX
8.1	8.53	11.82	18.82	38.73	14.0
Provides: Mgr. Jozef Kisel'ák, PhD., RNDr. Jaroslav Šupina, PhD.					
Date of last modification: 03.05.2015					
Approved: prof. RNDr. Viliam Geffert, DrSc.					

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

Course ID: ÚMV/	Course name: Mathematical software
MSW/10	

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 ECTS credits: 3

Recommended semester/trimester of the course: 4., 6.

Course level: I.

Prerequisities:

Conditions for course completion:

Tests from both Excel and Maple Given at the basis of partial tests.

Learning outcomes:

To develop student's knowledge and skills to use numerical and grafical representations of data and modelling by solving of various types of mathematical problems in different mathematical environments – environment of spreadsheet, R language or environment of system of symbolic calculations Maple.

Brief outline of the course:

The creation and use of formulas with mathematical functions, graphical and numerical solving of equations and systems of equations, utilize of arithmetical, graphical and stochastic models by solving of mathematical problems, linear optimalization. Basic description of Maple software and R language, manipulation with matrices and vectors, working with data and data files. Basic programming techniques, creation of user functions and scripts, graphical possibilities for data visualization. Manipulations of mathematical expressions, finding solutions of equalities and inequalities, mathematical analysis, linear algebra, number, graph and set theory in Maple.

Recommended literature:

1. Shingareva, Lizárraga-Celaya: Maple and Mathematica. A problem solving approach for mathematics, Springer Wien NewYork, 2007

2. Eberhart: Maple problem solving handbook, University of Kentucky, 2009

3. Šťastný: Matematické a statistické výpočty v Microsoft Excelu, Computer Press 2001

Course language:

Slovak

Notes:

Course assessment					
Total number o	i assessed studen	ts: 155			
A B C D E FX					FX
18.71	21.94	25.81	21.94	8.39	3.23
Provides: doc. RNDr. Stanislav Lukáč, PhD., RNDr. Daniel Klein, PhD.					
Date of last modification: 26.03.2019					
Approved: prof. RNDr. Viliam Geffert, DrSc.					

University: P. J	University: P. J. Šafárik University in Košice				
Faculty: Facult	y of Science				
Course ID: ÚIN VKT/15	NF/ Course na	Course name: Modern information technologies in applications			
Course type, scope and the method: Course type: Lecture / Practice Recommended course-load (hours): Per week: 0 / 2 Per study period: 0 / 28 Course method: present					
Number of EC	IS credits: 2		A (
Recommended	semester/trimes	ster of the cours	e: 4., 6.		
Course level: 1.					
Prerequisities:					
Conditions for	course completi	on:			
Learning outco	omes:				
Brief outline of	the course:				
Recommended	literature:				
Course languag	ge:				
Notes:	Notes:				
Course assessment Total number of assessed students: 1					
А	В	С	D	Е	FX
100.0	0.0	0.0	0.0	0.0	0.0
Provides: RNDr. Peter Marcinčák					
Date of last modification: 03.05.2015					
Approved: prof	Approved: prof. RNDr. Viliam Geffert, DrSc.				

University: P. J. Šafá	University: P. J. Šafárik University in Košice			
Faculty: Faculty of S	Faculty: Faculty of Science			
Course ID: ÚINF/ OP/14	e ID: ÚINF/ Course name: Odborná prax			
Course type, scope a Course type: Practic Recommended course 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: 2t Course method: present			
Number of ECTS cr	edits: 2			
Recommended seme	ster/trimester of the cours	e: 3., 5.		
Course level: I.				
Prerequisities:				
Conditions for cours	e completion:			
Learning outcomes:				
Brief outline of the c	ourse:			
Recommended litera	iture:			
Course language:	Course language:			
Notes:	Notes:			
Course assessment Total number of assessed students: 10				
	abs n			
	100.0 0.0			
Provides: Mgr. Alexander Szabari, PhD.				
Date of last modification: 03.05.2015				
Approved: prof. RNI	Dr. Viliam Geffert, DrSc.			

University: P. J. Šafá	rik University in Košice
Faculty: Faculty of S	cience
Course ID: ÚINF/ OSY1/15	Course name: Operating systems
Course type, scope a Course type: Lectur Recommended cou Per week: 2 / 0 Per Course method: pro	and the method: re / Practice rse-load (hours): study period: 28 / 0 esent
Number of ECTS cr	edits: 3
Recommended seme	ester/trimester of the course: 3.
Course level: I.	
Prerequisities:	
Conditions for cours Test and oral exam	se completion:
To gain knowledge a multi-process CPU a To be able to apply ba resources for I / O op Understand the organ use the services of th	bout the basic architecture of the operating system. Understand algorithms for llocation, interprocess communication, and memory allocation. sic synchronization procedures and to solve problems of allocation of common berations. hization of files and their protection by access rights. To be able to practically e Unix and Windows operating system.
Brief outline of the of Operating system str Different kinds of op Multiprogramming, of Processes, process m (race condition, mutu Memory management I/O management, dev External memory (di File systems, file operation)	course: ucture and basic functions. erating systems and their history. context switching, interrupts, time sharing, interoperability. anagement, threads, scheduling, interprocess communication al exclusion, deadlock, starvation). at, relocation, segmentation, paging, virtual memory. vice drivers, interrupt handlers. sk) - direct and sequential access. erations, directories, access control, access rights.
Recommended litera 1. A. Silberschatz, G 2. A. S. Tanenbaum:	ature: . Gagne, P. Baer: Operating System Concepts, Wiley, 2002 Modern Operating Systems, Prentice-Hall, 2001
Course language:	
Notes:	

Course assessment Total number of assessed students: 228						
ABCDEFX					FX	
25.44	15.35 18.42 19.74 15.35 5.7					
Provides: doc. Ing. Štefánia Gallová, CSc., RNDr. PhDr. Peter Pisarčík						
Date of last modification: 14.01.2020						
Approved: prof. RNDr. Viliam Geffert, DrSc.						

University: P. J. Šafá	rik University in Košice
Faculty: Faculty of S	cience
Course ID: ÚFV/ FPI/15	Course name: Physics for Informaticists I
Course type, scope a Course type: Lectur Recommended cour Per week: 2 / 1 Per Course method: pre	nd the method: re / Practice rse-load (hours): study period: 28 / 14 esent
Number of ECTS cr	edits: 4
Recommended seme	ster/trimester of the course: 2., 4.
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	e completion: ng the calculus lessons ased on th results of : culus lessons (written tests, overall performance during the lessons)
Learning outcomes: Basic knowledge abo and fluids and gases.	ut the mechanics of point mass, system of particles, rigid body, elastic bodies
Brief outline of the c Basic knowledge of th relativity in the classi of rigid bodies. Defor	ourse: ne vector algebra. Standards and units. Kinematics. Dynamics. The principle of cal mechanics. Gravitation. Mechanics of many-particle systems. The motion rmation, elasticity. Mechanics of fluids and gases.
Recommended litera Hajko V., Daniel-Sza Veis Š., Maďar J., Ma Bratislava, 1987. Fuka J., Široká M.: C Hlavička A., a kol.: F Hajko V., a kol.: Fyzil Halliday, D., Resnick 2000 Krempaský J.: Fyzika	hture: bó J.: Základy fyziky, VEDA, Bratislava 1983. artišovits V.: Všeobecná fyzika I., Mechanika a molekulová fyzika, ALFA vbecná fyzika I / skriptum /, PF Univ. Palackého, Olomouc 1983. Syzika pre pedagogické fakulty, SPN, Praha 1971. ca v príkladoch, ALFA Bratislava 1983. G. R., Walker, J.: Fyzika, časť 1 Mechanika, VUT Brno, 2000 G. R., Walker, J.: Fyzika, časť 2 Mechanika - Termodynamika, VUT Brno, a, ALFA Bratislava 1982.
Course language:	
Slovak	
Notes:	

Course assessment Total number of assessed students: 20					
A B C D E FX					
25.0	35.0	25.0	5.0	10.0	0.0
Provides: doc. RNDr. Zuzana Ješková, PhD.					
Date of last modification: 03.05.2015					
Approved: prof. RNDr. Viliam Geffert, DrSc.					

University: P. J.	University: P. J. Šafárik University in Košice						
Faculty: Faculty	Faculty: Faculty of Science						
Course ID: ÚF PPLO/15	V/ Course name: Principles of Computers, Logic Circuits						
Course type, sc Course type: I Recommended Per week: 1 / 1 Course metho	Course type, scope and the method: Course type: Lecture / Practice Recommended course-load (hours): Per week: 1 / 1 Per study period: 14 / 14 Course method: present						
Number of EC	FS credits: 2						
Recommended	semester/trim	ester of the cours	e: 3.				
Course level: I.							
Prerequisities:							
Conditions for written exam, p	course comple resence at the l	tion: aboratory practice					
Learning outco Student will ob electronic circu knowledge to d measured result	Learning outcomes: Student will obtain knowledge about principles of functioning, analysis and synthesis of logical electronic circuits, as a basic unit of computing technology. Student will use his theoretical knowledge to design and to construct of electronic circuits and he/she will learn how to interpret measured results.						
Brief outline of 1. Combinatori operations of Bo BDC code, arith circuit as basic logical circuits (sequentional fun	Brief outline of the course: 1. Combinatorial logical circuits (definitions, laws of logical algebra, electronic models of operations of Boolean algebra, NAND, digital multiplexor and demultiplexor, detector of errors for BDC code, arithmetic addition of two one bit binary operands). 2. Digital memory circuits (bistable circuit as basic memory unit, synchronous and asynchronous switching circuits). 3. Sequentional logical circuits (sequentional behavior, structure and stability of sequentional logical circuits, basic sequentional functions and their realization, arithmetic unit of digital computer).						
Recommended literature: Petrovič P.: Elektronika I – Vybrané obvody číslicovej techniky. Skriptum PF, Edičné stredisko UPJŠ, Košice 2003. 2. vydanie: Vydavateľstvo UPJŠ, Košice, 2006.							
Course languag	Course language:						
Notes:	Notes:						
Course assessm Total number of	Course assessment Total number of assessed students: 51						
А	В	С	D	Е	FX		
35.29	47.06	15.69	1.96	0.0	0.0		
Provides: Mgr. Vladimír Komanický, Ph.D.							
Date of last mo	Date of last modification: 21.09.2015						
Approved: prof	Approved: prof. RNDr. Viliam Geffert, DrSc.						

University: P. J. Šafárik University in Košice Faculty: Faculty of Science
Faculty: Faculty of Science
Course ID: ÚINF/ PRP2/15Course name: Principles of computers
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 ECTS credits: 4
Recommended semester/trimester of the course: 2.
Course level: I.
Prerequisities:
Conditions for course completion:
 Learning outcomes: Know brief history of computer, classification and construction principles of computers of von Neumann type. Understand relation between real numbers, integers and their binary representation as well as be able to perform basic arithmetic and logic operations over binary represented numbers. Learn basics about logic gates, combination and sequence circuits and their structure. Understand principles of how basic circuits realize arithmetic-logic unit and other parts of computers e.g. memory. Know principles of communication of processor and other devices via interruptions and direct memory access. Get idea of device drivers, device controllers and their functionality.
Brief outline of the course: Brief outline of the course: - computers of von Neumann type, - history of computers, - binary encoding of real numbers and integers, - realization of computers parts by sequence and combination circuits, - principles of various memory cells and memory matrices, - types of memories, - architecture of processor on levels of digital logic, machine cycle, instruction cycle, - input and output devices, - principles of interruptions, - direct memory access, - device drivers, - device controllers, - peripheral devices.

1. W. Stallings: Computer Organization and Architecture, Prentice Hall, 2002

Course languag	Course language:					
Notes:						
Course assessm Total number of	Course assessment Total number of assessed students: 180					
А	В	С	D	Е	FX	
28.33	15.0	16.67	15.56	23.89	0.56	
Provides: doc.	Provides: doc. Ing. Štefánia Gallová, CSc., RNDr. Juraj Šebej, PhD.					
Date of last modification: 13.01.2020						
Approved: prof	Approved: prof. RNDr. Viliam Geffert, DrSc.					

University: P. J. Šafá	rik University in Košice				
Faculty: Faculty of S	Faculty: Faculty of Science				
Course ID: ÚINF/ PBS/15	Course name: Pro-semin	Course name: Pro-seminar to bachelor thesis			
Course type, scope a Course type: Practic Recommended cour Per week: 1 Per stu Course method: pre	nd the method: ce rse-load (hours): dy period: 14 esent				
Number of ECTS cr	edits: 1				
Recommended seme	ster/trimester of the cour	se: 4.			
Course level: I.					
Prerequisities:					
Conditions for cours	e completion:				
Learning outcomes:					
Brief outline of the c	ourse:				
Recommended litera	Recommended literature:				
Course language:	Course language:				
Notes:	Notes:				
Course assessment Total number of asses	ssed students: 272				
abs n					
93.38 6.62					
Provides: RNDr. Ľub	omír Antoni, PhD., RNDr.	Ondrej Krídlo, PhD.			
Date of last modifica	tion: 03.05.2015				
Approved: prof. RNI	Dr. Viliam Geffert, DrSc.				

University: P. J. Šafárik University in Košice					
Faculty: Faculty of Science					
Course ID: ÚINF/ JAC1/15	Course name: Programming language C				
Course type, scope a Course type: Practi Recommended cou Per week: 2 Per stu Course method: pro	and the method: ce rse-load (hours): ady period: 28 esent				
Number of ECTS cr	redits: 2				
Recommended seme	ester/trimester of the course: 3.				
Course level: I., II.					
Prerequisities:					
Conditions for cours Practics attendance a Final project.	se completion: nd activity. Home assigment				
Learning outcomes: Become skilled in la development in low-	nguage C and get knowledge of the theoretical concepts that are used in the level software.				
 Brief outline of the of 1. Installing and setter running. 2. Loops, conditions with `gcc` and setting 3. Functions. Statical 4. Basic I/O function 5. Dynamic memory arrays. Strings and fi 6. String manipulation 7. Working with bina 8. Custom data types 9. Dynamic data strue 10. Additional opera 11. Useful tricks and arrays. 12. Function pointers 	 course: ing up the development environment. Simple program in C, compiling and Introduction to arrays. Numeric functions from numeric library. Compiling g up the warnings and hints. Ily allocated arrays. Array gotchas in C. Makefiles for complex projects. is. Functions with array parameters and specifics. allocation as a mechanism for dynamic arrays. Strings as a special case of le I/O. on principles and functions from standard library. arry files. a. Structs. ctures. Linked lists. Stacks and operations with these structs. tions with dynamic data structures. Parameter passing with values and name. hints: passing parameters from operating system, exit codes. Multidimensional a. Generic pointers. Unions. 				
Recommended litera 1. A. D. Marshall: Pr <http: www.cs.cf.ac<br="">2. J. Maasen: C for J 3. Bruce Eckel: Thin</http:>	ature: rogramming in C: UNIX System Calls and Subroutines using C. [online] .uk/Dave/C/CE.html> ava Programmers. [online] <http: college="" dictaat.pdf="" www.cs.vu.nl="" ~jason=""> king in C. [online] <http: cds="" mindview.net="" thinkinginc=""></http:></http:>				
Course language:					

Notes:						
Course assessm Total number o	nent f assessed student	ts: 196				
А	B C D E FX					
36.22	18.37	15.82	14.29	10.71	4.59	
Provides: RND	Provides: RNDr. PhDr. Peter Pisarčík					
Date of last modification: 07.09.2015						
Approved: prof. RNDr. Viliam Geffert, DrSc.						

University: P I Šaf	ärik University in Košice			
Faculty: Faculty of S	Science			
Course ID: ÚINF/ PSW1/06	Course name: Programming of web-pages			
Course type, scope Course type: Pract Recommended cou Per week: 2 Per st Course method: pr	and the method: ice urse-load (hours): udy period: 28 resent			
Number of ECTS c	redits: 2			
Recommended sem	ester/trimester of the course: 4.			
Course level: I.				
Prerequisities:				
Conditions for cour	rse completion:			
Learning outcomes Acquire overview al pages with cascading on client side (JavaS security risks and kr	: bout modern technologies to make dynamic web pages. Be able to make web g styles according to W3C standards. Use technologies on server side (PHP) and cript). Understand relational databases (MySQL). Understand web applications now how to eliminate them.			
Brief outline of the Principle of making styles. Tools for cree pages. Programming MySQL database. C on server side and o	course: web pages. HTML language, W3C standards. Optimization of work, cascading eating the web. Programming in JavaScript. Simple scripts for dynamic web g on server side, script language PHP. Application based on PHP. Work with onjunction of used technologies. Selected problems resolvable by technologies n client side.			
Recommended liter GILMORE, W. Jaso York: Apress 2010	ature: on. Beginning PHP and MySQL: from novice to professional. 4th ed. New ISBN 978-143-0231-141.			

KOSEK, Jiří. PHP - tvorba interaktivních internetových aplikací: podrobný průvodce. Vyd. 1. Praha: Grada, 1999, 490 s. Průvodce (Grada). ISBN 80-716-9373-1.

SUEHRING, Steve a Janet VALADE. <i>PHP, MySQL, JavaScript</i>. Vyd. 1. Brno: Computer Press, 2006, xxiv, 692 pages. --For dummies. ISBN 978-1-118-21370-4.

HUSEBY, Sverre H. Zranitelný kód. Brno: Computer Press, 2006, 207 s. ISBN 80-251-1180-6. THE OWASP FOUNDATION. OWASP [online]. 2014 [cit. 2014-02-26]. Dostupné z: https://www.owasp.org/index.php/Main Page

Course language:

slovak

Notes:

Course assessment Total number of assessed students: 200						
A B C D E FX					FX	
9.5	8.5 9.5 9.0 22.5 41.0					
Provides: doc.	Provides: doc. RNDr. Ľubomír Šnajder, PhD., PaedDr. Ján Guniš, PhD.					
Date of last modification: 27.03.2020						
Approved: prof. RNDr. Viliam Geffert, DrSc.						

University: P. J. Šafá	University: P. J. Šafárik University in Košice					
Faculty: Faculty of S	cience					
Course ID: ÚINF/ PAZ1a/15	Course ID: ÚINF/Course name: Programming, algorithms, and complexityPAZ1a/15					
Course type, scope and the method: Course type: Lecture / Practice Recommended course-load (hours): Per week: 3 / 4 Per study period: 42 / 56 Course method: present						
Number of ECTS credits: 8						

Recommended semester/trimester of the course: 1.

Course level: I.

Prerequisities:

Conditions for course completion:

Get a prescribed minimum number of points for activities of continuous assessment and for solving tasks during final practical test.

Learning outcomes:

Brief outline of the course:

First part of the course (with turtle graphics): New Eclipse project, interactive communication with objects, simple turtle graphics, making user methods, local variables, variable types, arithmetic and logical expressions, random numbers, conditions, loops for and while, debugging, references, chars, Strings, arrays, instance variables, mouse events, simple array algorithms.

Second part of the course (without turtle graphics): Exceptions, using try-catch-finally block, files and directories, conversion from string variables, encapsulation, constructors with parameters, constructors hierarchy, getters and setters, interfaces, inheritance and polymorphism, abstract classes and methods, packages, visibility modifiers, sorting using Arrays.sort() and interfaces Comparable and Comparator, Java Collections Framework: autoboxing, interface List, ArrayList, LinkedList, interface Set and class HashSet, methods equals() and hashCode(), for-each loop, interface Map and class HashMap, custom Exceptions, rethrowing exceptions, exceptions' inheritance, Runtime exceptions, Errors, static variables and methods.

Recommended literature:

1. ECKEL, B.: Thinking in Java, Pearson, 2006, ISBN: 978-01-318-7248-6

2. PECINOVSKÝ, R.: OOP - Naučte se myslet a programovat objektově, Computer Press, a.s., Brno, 2010, ISBN: 978-80-251-2126-9

3. SIERRA, K., BATES, B. Head First Java, O'Reilly Media; 2nd edition, 2005, ISBN: 978-05-960-0920-5

Course language:

Slovak language, english language is required only to read Java API documentation.

Notes:

Course assessment Total number of assessed students: 665					
А	В	С	D	Е	FX
16.39	7.52	11.43	15.49	14.59	34.59
Provides: RNDr. František Galčík, PhD., RNDr. Matej Nikorovič, PhD., RNDr. Ľubomír Antoni, PhD., RNDr. Zuzana Bednárová, PhD., RNDr. Miroslav Opiela, RNDr. Juraj Šebej, PhD.					
Date of last modification: 03.05.2015					
Approved: prof. RNDr. Viliam Geffert, DrSc.					
University: P. J. Šafárik University in Košice					
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Faculty: Faculty of S	cience				
Course ID: ÚINF/ PAZ1b/15Course name: Programming, algorithms, and complexity					
Course type, scope and the method: Course type: Lecture / Practice Recommended course-load (hours): Per week: 2 / 4 Per study period: 28 / 56 Course method: present					
Number of ECTS credits: 7					
Recommended semester/trimester of the course: 2.					

Course level: I.

Prerequisities: ÚINF/PAZ1a/15

Conditions for course completion:

Get a given minimum number of points for activities of continuous assessment and for solving tasks during final practical test. The final practical test focuses on application of known algorithms and techniques of efficient algorithm design.

Learning outcomes:

Brief outline of the course:

Recursion and its applications, fractals. Binary search and simple sorting algorithm with quadratic time complexity. Time and space complexity of algorithms, analysis of time complexity, O-notation. Basic data structures and their applications: linked list, stack, and queue. Hierarchical data and their representation, trees, tree traversals, binary search trees. Arithmetic expressions, evaluation of an arithmetic expression. Efficient sorting algorithm: QuickSort, MergeSort, and HeapSort. Backtrack. Techniques "divide and conquer" and dynamic programming as methods for design of efficient algorithms. Basic graph algorithms for unweighted graphs (Breadth-first search, Depth-first search, graph connectivity, graph components, graph bridges, topological sort) and for weighted graphs (shortest paths: Bellman-Ford algorithm, Dijkstra algorithm, Floyd-Warshallov algorithm; minimum spanning tree: Prim algorithm, Kruskal algorithm). String algorithms. Greedy algorithms.

Recommended literature:

WRÓBLEWSKI, P.: Algoritmy, datové struktury a programovací techniky. Computer Press, Brno, 2004

CORMEN, T.H., LEISERSON, Ch.E., RIVEST, R.L, STEIN, C. Introduction to Algorithms. The MIT Press, 2009.

KLEINBERG, J., TARDOS, E.: Algorithm Design, Cornell University, Addison Wesley, New York, 2006.

Course language:

Slovak language, literature is available in english and czech language.

Notes:

Course assessment						
Total number o	f assessed studen	ts: 1142				
A B C D E FX						
12.17 6.48 9.28 20.05 22.85 29.16						
Provides: doc. RNDr. Gabriela Andrejková, CSc., RNDr. František Galčík, PhD., PaedDr. Ján Guniš, PhD.						
Date of last modification: 03.05.2015						
Approved: prof. RNDr. Viliam Geffert, DrSc.						

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

Course ID: ÚINF/	Course name: Programming, algorithms, and complexity
PAZ1c/15	

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

Number of ECTS credits: 5

Recommended semester/trimester of the course: 3.

Course level: I.

Prerequisities:

Conditions for course completion:

Learning outcomes:

Gain skills to design and implement complex application with three-layer architecture and well-known design patterns.

Brief outline of the course:

1. Food vending machine as an example of small project. Class identification. Use-cases. Method and instance variable identification. Unit testing in JUnit.

2. Designing CRUD application. Quote Database application example. Entity identification and design. Entity identity. Designing interfaces for Data Access Objects and demo implementation. Three-layered architecture.

3. Bussiness logics in classes. Designing a simple layered application. Class relationships with static association. Pros and cons in hardwired associations.

4. Implementing Factory design pattern as an abstraction of hardwired association. Examples and usage of factory. Briefly about MVC design pattern. Models and view in Swing. Model examples: static, dynamic, refreshing model.

5. Interface as a contract between client and class. Contract in code: input and output parameters, exceptions. Preconditions, postconditions, invariants. Favouring interface over implementation. Inheritance vs composition dilemma. Pros and cons of inheritance, choosing a suitable inheritance candidate. Favouring composition over inheritance.

6. Encapsulation: definition and real use. Best practices for enforcing encapsulation. More about pros and cons of inheritance with examples. Liskov Substitution principle. Delegation as a hybrid between inheritance and composition.

7. Associations between classes. Cardinalities: 1:1, 1:M, 1:N. Design and realization in the code.

8. Exceptions: designing exceptions, exceptions classes and best practices. Three types of exception handling. Logging with default tools and with `slf4j` library. Logging best practices.

9. Service classes: two design approaches. Configuration vs input parameters.

10. Database access with Spring JDBC Template. Mapping objects and relationships.

Recommended literature:

SIERRA, K., BATES, B.: Head First Java (2nd Edition), 2005 ECKEL, B.: Thinking in Java (4th Edition), 2006

Course language:						
Notes:	Notes:					
Course assessment Total number of assessed students: 282						
А	B C D E FX					
35.11	19.5	15.96	13.83	10.64	4.96	
Provides: RNDr. Róbert Novotný, PhD., RNDr. Peter Gurský, PhD.						
Date of last modification: 19.01.2017						
Approved: prof	Approved: prof. RNDr. Viliam Geffert, DrSc.					

University: P. J.	. Šafárik Univers	sity in Košice			
Faculty: Faculty	y of Science				
Course ID: ÚIN PRO1a/15	Course ID: ÚINF/ Course name: Project I. PRO1a/15				
Course type, sc Course type: H Recommended Per week: 4 Pe Course metho	ope and the me Practice d course-load (h er study period d: present	thod: tours): 56			
Number of EC	TS credits: 4				
Recommended	semester/trime	ster of the cours	e: 4.		
Course level: I.					
Prerequisities:					
Conditions for	course complet	ion:			
Learning outco	mes:				
Brief outline of	the course:				
Recommended	literature:				
Course languag	ge:				
Notes:				=	
Course assessm Total number of	ent f assessed studer	nts: 80			
А	В	C	D	Е	FX
72.5	72.5 6.25 10.0 10.0 0.0 1.25				
Provides: Mgr. Alexander Szabari, PhD.					
Date of last mo	dification: 29.0	3.2019			
Approved: prof	. RNDr. Viliam	Geffert, DrSc.			

University: P. J.	. Šafárik Univers	ity in Košice			
Faculty: Faculty	y of Science				
Course ID: ÚIN PRO1b/15	Course ID: ÚINF/ Course name: Project II. PRO1b/15				
Course type, sc Course type: F Recommended Per week: 4 Pe Course method	ope and the me Practice I course-load (h er study period: d: present	thod: ours): 56			
Number of EC	FS credits: 4				
Recommended	semester/trimes	ster of the cours	e: 5.		
Course level: I.					
Prerequisities:					
Conditions for	course completi	on:			
Learning outco	mes:				
Brief outline of	the course:				
Recommended	literature:				
Course languag	ge:				
Notes:					
Course assessm Total number of	ent f assessed studen	its: 60			
А	В	С	D	Е	FX
65.0	65.0 11.67 10.0 3.33 3.33 6.67				
Provides: Mgr. Alexander Szabari, PhD., RNDr. Róbert Novotný, PhD.					
Date of last mo	dification: 03.05	5.2015			
Approved: prof	. RNDr. Viliam	Geffert, DrSc.			

University: P. J. Šafá	arik University in Košice				
Faculty: Faculty of S	Science				
Course ID: ÚTVŠ/ ÚTVŠ/CM/13	Course name: Seaside Aer	robic 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 ECTS cr	edits: 2				
Recommended seme	ester/trimester of the cours	e:			
Course level: I., II.					
Prerequisities:					
Conditions for cour Conditions for cours Attendance	se completion: e completion:				
Learning outcomes: Students will be pro- conditions actively a Students will acquire the aim to improve the	ovided an overview of pos and their skills in work and e practical experience in org he stay and to create positive	sibilities how to spend leisure time in seaside communication with clients will be improved. anising the cultural and art-oriented events, with experiences for visitors.			
Brief outline of the o Brief outline of the of 1. Basics of seaside a 2. Morning exercises 3. Pilates and its app 4. Exercises for the s 5. Yoga basics 6. Sport as a part of b 7. Application of pro (children, young peo 8. Application of sea	course: ourse: aerobics lication in seaside conditions spine leisure time jects of productive spending pple, elderly) uside cultural and art-oriented	of leisure time for different age and social groups d activities in leisure time			
Recommended literature:					
Course language:					
Notes:					
Course assessment Total number of assessed students: 42					
	abs	n			
	11.9	88.1			

Provides: Mgr. Alena Buková, PhD., Mgr. Agata Horbacz, PhD.

Date of last modification: 15.03.2019

Approved: prof. RNDr. Viliam Geffert, DrSc.

University: P. J	. Šafárik Univers	sity in Košice			
Faculty: Facult	y of Science				
Course ID: ÚF TMS/10	se ID: ÚFV/ Course name: Secrets of microworld				
Course type, sc Course type: 1 Recommended Per week: 2 P Course metho	ope and the me Lecture I course-load (h er study period d: present	thod: nours): : 28			
Number of EC	FS credits: 3				
Recommended	semester/trime	ster of the cours	e: 4., 6.		
Course level: I.					
Prerequisities:					
Conditions for term project	course complet	ion:			
Learning outco To give a review level.	mes: 7 of the recent res	sults form the elen	nentary particle	physics for non-ph	nysicists layman
Brief outline of Introduction to elementary part un subnuclear p	the course: the topics. Atom icles. Methods an hysics - BNL, C	nucleus and the b nd approaches in 1 ERN, JINR Dub	oasic forces in N nicro objects res na.	ature. Quarks and search. Contenpor	classification of ary experiments
Recommended 1.Frank Close: 2. Ljubimov A. 3. J.Žáček: Úvo 4. R. Mackintos	literature: The cosmic onio , Kiss D.: Vvede d do fyziky elen sh et al. : Jádro -	n, Heinemann Ec nie v experiment nentárních částic, cesta do srdce hr	lucational Book al'nuju fiziku ča Karolinum, Pra noty, Academia	s Ltd, 1990 stic, Dubna, 1999 ha, 2005 , Praha, 2003	
Course languag slovak	ge:				
Notes:					
Course assessm Total number of	ent f assessed studer	nts: 67			
А	В	C	D	Е	FX
73.13	16.42	10.45	0.0	0.0	0.0
Provides: doc. Vrláková, PhD.	RNDr. Jozef Urb	án, CSc., prof. R	NDr. Stanislav	Vokál, DrSc., doc.	. RNDr. Janka
Date of last mo	dification: 03.0	5.2015			
Approved: prof	. RNDr. Viliam	Geffert, DrSc.			

University: P. J.	Šafárik Univers	ity in Košice			
Faculty: Faculty	of Science				
Course ID: ÚIN BSI1a/15	ID: ÚINF/ Course name: Seminar in informatics				
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 ECT	S credits: 2				
Recommended s	semester/trimes	ster of the course	e: 3.		
Course level: I.					
Prerequisities:					
Conditions for c Presentation of a to the bachalor t	course completi Ilgorithms for pr heses, known an	on: oblems of a high d own results.	er complexity. F	Presentation of res	sults connecting
Learning outcor To inform studer	nes: nts about new re	sults in informati	cs with the goal	using them in ba	chalor theses.
Brief outline of The seminar has present results of	the course: a connection to f their work onc	the bachalor these e in semester at le	es and to the repo	etitorium in inform	matics. Students
Recommended I Sources of probl www.ksp.sk www.ksp.sk/MC Special research	l iterature: ems:)P/ literature accore	ding to bachalor t	heses.		
Course language	e:				
Notes:					
Course assessment Total number of assessed students: 214					
А	В	С	D	E	FX
21.5	18.22	24.3	17.29	16.82	1.87
Provides: doc. R	Provides: doc. RNDr. Gabriela Andrejková, CSc.				
Date of last mod	lification: 03.05	5.2015			
Approved: prof.	RNDr. Viliam (Geffert, DrSc.			

University: P. J	. Šafárik Univers	sity in Košice			
Faculty: Facult	y of Science				
Course ID: ÚIN BSI1b/15	ID: ÚINF/ Course name: Seminar in informatics				
Course type, sc Course type: 1 Recommended Per week: 2 Pe Course metho	cope and the me Practice d course-load (h er study period d: present	thod: nours): : 28			
Number of EC	TS credits: 2				
Recommended	semester/trime	ster of the cours	e: 4., 6.		
Course level: I.					
Prerequisities:					
Conditions for	course complet	ion:			
Learning outco To inform stude To repeat import	omes: ents about new r rtant knowledges	results in informations in informations.	tics with the goa	al using them in	bachalor theses.
Brief outline of The seminar has present results developed num	the course: s a connection to of their work or ber of points fro	the bachalor these nce in semester a m repetitorium.	es and to the rep t least. To get o	etitorium in infor credits, it is nece	matics. Students essary to get the
Recommended Sources of prob www.ksp.sk www.ksp.sk/Mt Special research	literature: blems: OP/ h literature accor	ding to bachelor	heses.		
Course languag	ge:				
Notes:					
Course assessment Total number of assessed students: 127					
А	В	C	D	Е	FX
26.77	21.26	25.98	14.96	9.45	1.57
Provides: doc.	RNDr. Gabriela	Andrejková, CSc.		<u>.</u>	
Date of last mo	dification: 03.0	5.2015			
Approved: prof	f. RNDr. Viliam	Geffert, DrSc.			

University: P. J	. Šafárik Univers	sity in Košice			
Faculty: Facult	y of Science				
Course ID: ÚI SPG1/15	NF/ Course n	F/ Course name: Seminar on computer graphics			
Course type, so Course type: 1 Recommende Per week: 2 P Course metho	cope and the me Practice d course-load (h er study period d: present	thod: nours): : 28			
Number of EC	TS credits: 3				
Recommended	semester/trime	ster of the cours	e: 4.		
Course level: I.					
Prerequisities:					
Conditions for	course complet	ion:			
Learning outco	omes:				
Brief outline of Seminar is conr presents actual algorithms of co Knowledge from	the course: hecte to the lectur theoretical and in omputer graphic m the lecture UC	e UGR Introducti mplementation pr s, geometric mod FR and good prog	on to computer g oblems. Main go elling and realist rammers experie	raphics. In semin al in interest is o ic drawing of sco nce are supposed	ar form students priented to quick enes. d.
Recommended	literature:				
Course languag	ge:				
Notes:					
Course assessm Total number o	nent f assessed studer	nts: 37			
А	В	C	D	Е	FX
72.97	13.51	8.11	2.7	0.0	2.7
Provides: RND	r. Rastislav Kriv	oš-Belluš, PhD.,	doc. RNDr. Joze	f Jirásek, PhD.	
Date of last mo	dification: 03.0	5.2015			
Approved: prof	f. RNDr. Viliam	Geffert, DrSc.			
L					

University: P. J. Šafá	rik University in Košice
Faculty: Faculty of S	cience
Course ID: ÚINF/ OSS/15	Course name: Seminar to operation systems
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 ECTS cr	edits: 2
Recommended seme	ster/trimester of the course: 3.
Course level: I.	
Prerequisities: ÚINF	/PAZ1a/15
Conditions for course Develop two final pro-	e completion: ojects: PowerShell script (Windows) or Shellscript (Linux)
Learning outcomes: To work with shells of	of Windowsu and GNU/Linux. Scripting in both platforms.
Brief outline of the c Block "Windows She	ourse: Il Scripting"
PowerShell scripting Cmdlet as a fundame Cmdlet parameters at pipelines. Data model, classes and .NET platform. Developing complex programming in Pow Function and filters. Block "Linux Shell S	environment and basic concepts. ntal unit and its usage. nd documentation. Standard input and output. Pipes. Combining cmdlets via and objects. Object properties. Relation between PowerShell object model . scripts in the PowerShell ISE environment. Fundamentals of procedural erShell. Providers: WMI, registers. Developing custom cmdlets in C#. kcripting"
Linux Shell Scripting Standard input and or Common filters for s Basic programming of Shell Expansions: ari Accessing information Creating complex and	 Bash and fundamental concepts. atput. Pipes and I/O redirection. tandard I/O. constructs: conditions and loops. Exit codes as a basic for procedural elements thmetic environment, subshells, variables. on structures and Linux filesystem. d secure scripts best practices.
Recommended litera [1] Bruce Payette, W Manning 2011 [2] Richard Siddaway	n ture: indows PowerShell in Action, Second Edition, ISBN 9781935182139, y, PowerShell in Practice, ISBN: 9781935182009, Manning 2010

[3] Shell Command Language. In: The Open Group Base Specification Issue 6. [online] Available online http://pubs.opengroup.org/onlinepubs/009695399/utilities/xcu_chap02.html
[4] Steve Parker, Shell Scripting: Expert Recipes for Linux, Bash and more, ISBN: 978-1-1181-6633-8, Wrox 2011

7/0-1-1101-0055-0, WIOX 2011								
Course language: English								
Notes:								
Course assessment Total number of assessed students: 59								
А	В	C	D	Е	FX			
67.8	20.34	3.39	3.39	0.0	5.08			
Provides: RNDr. Róbert Novotný, PhD.								
Date of last modification: 03.05.2015								
Approved: pro	of. RNDr. Viliam	Geffert, DrSc.						

University: P. J	University: P. J. Šafárik University in Košice						
Faculty: Facult	y of Science						
Course ID: ÚI SWI1a/15	rse ID: ÚINF/ Course name: Software engineering						
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 EC	TS credits: 2						
Recommended	semester/trimes	ster of the cours	e: 4.				
Course level: I.							
Prerequisities:	ÚINF/DBS1a/15	or ÚINF/DBdi/1	15				
Conditions for	course completi	on:					
Learning outco To provide info products.	omes: ormation concern	ing the principal	activities related	l to the developm	nent of software		
Brief outline of System, subsys Requirements methodologies.	Brief outline of the course: System, subsystem, software system. Software processes. Introduction to project management. Requirements gathering. Software modeling. Software architectures. Software development methodologies. Verification and validation. Resource management.						
 Recommended literature: 1. BERKUN, S. The Art Of Project Management. O Reilly, 2005. 2. BJORNER, D. Software engineering 1,2,3. Springer-Verlag Berlin, 2006. 3. SOMMERVILLE, I. Software Engineering. Addison-Wesley, 2007. 							
Course languag	ge:						
Notes:							
Course assessment Total number of assessed students: 279							
А	В	С	D	Е	FX		
16.49	20.43	20.07	19.35	22.22	1.43		
Provides: prof.	RNDr. Gabriel S	emanišin, PhD.,	Mgr. Alexander	Szabari, PhD.	·		
Date of last mo	dification: 03.05	5.2015					

Approved: prof. RNDr. Viliam Geffert, DrSc.

University: P. J. Ša	afárik Univers	ity in Košice					
Faculty: Faculty of	f Science						
Course ID: ÚINF/ SWI1b/15	ourse ID: ÚINF/ Course name: Software engineering WI1b/15						
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 ECTS	credits: 3						
Recommended ser	mester/trimes	ter of the cours	e: 5.				
Course level: I.							
Prerequisities: ÚI	NF/SWI1a/15						
Conditions for cou	urse completi	on:					
Learning outcome To learn principl development and i	es: les and to d mplementation	eveloped funda n.	mental skills co	oncerning softw	vare modelling,		
Brief outline of the Software modellin Model Driven Arch engineering. Patter	e course: ng in UML - 1 hitecture. Sele rn design.	the syntax and t cted aspects of p	he semantics of roject manageme	UML diagrams. int. Selected lega	. Foundation of aspects of SW		
Recommended lite	erature:						
Course language:							
Notes:							
Course assessment Total number of assessed students: 236							
Α	В	С	D	Е	FX		
47.03	16.53	12.29	8.47	14.41	1.27		
Provides: Mgr. Ale	Provides: Mgr. Alexander Szabari, PhD., prof. RNDr. Gabriel Semanišin, PhD.						
Date of last modif	ication: 03.05	.2015					
Approved: prof. R	NDr. Viliam (Geffert, DrSc.					

University: P. J. Šafá	rik University in Košice						
Faculty: Faculty of Science							
Course ID: ÚINF/ BZP1a/15	F/ Course name: Special seminar to bachelor thesis						
Course type, scope a Course type: Practic Recommended cour Per week: 2 Per stu Course method: pre	Course type, scope and the method: Course type: Practice Recommended course-load (hours): Per week: 2 Per study period: 28 Course method: present						
Number of ECTS cr	edits: 2						
Recommended seme	ster/trimester of the cour	se: 5.					
Course level: I.							
Prerequisities: UINF	2/PBS/15						
Conditions for cours	e completion:						
Learning outcomes:							
Brief outline of the c	ourse:						
Recommended litera 1. KATUŠČÁK, D.: 1 2. ISO 690: 1987 Do 3. ISO 2145: 1978 Do documents. 4. Special and resarch supervisor.	 Recommended literature: 1. KATUŠČÁK, D.: Ako písať vysokoškolské a kvalifikačné práce, 2. vydanie Bratislava, 1998 2. ISO 690: 1987 Documentation - Bibliographic references. Content, form and structure. 3. ISO 2145: 1978 Documentation - Numbering of divisions and subdivisions in written documents. 4. Special and resarch literature connected to Bachalor theses according to recommendations of supervisor. 						
Course language:							
Notes:							
Course assessment Total number of asse	Course assessment Total number of assessed students: 113						
	abs	n					
	95.58 4.42						
Provides: RNDr. Fran PhD.	ntišek Galčík, PhD., RNDr.	Ľubomír Antoni, PhD., RNDr. Ondrej Krídlo,					
Date of last modifica	tion: 09.01.2019						
Approved: prof. RNI	Dr. Viliam Geffert, DrSc.						

U						
University: P. J. Safarik University in Kosice						
Faculty: Faculty of S	cience					
Course ID: ÚINF/ BZP1b/15	Course ID: UINF/ BZP1b/15 Course name: Special seminar to bachelor thesis					
Course type, scope and the method: Course type: Practice Recommended course-load (hours): Per week: 2 Per study period: 28 Course method: present						
Number of ECTS cr	edits: 2					
Recommended seme	ster/trimester of the cours	e: 6				
Course level: I.						
Prerequisities: ÚINF	/BZP1a/15					
Conditions for cours	e completion:					
Learning outcomes:						
Brief outline of the c	ourse:					
Recommended litera 1. KATUŠČÁK, D.: . 2. ISO 690: 1987 Do 3. ISO 2145: 1978 Do documents. 4. Specia recommendations of	 Recommended literature: 1. KATUŠČÁK, D.: Ako písať vysokoškolské a kvalifikačné práce, 2. vydanie Bratislava, 1998 2. ISO 690: 1987 Documentation - Bibliographic references. Content, form and structure. 3. ISO 2145: 1978 Documentation - Numbering of divisions and subdivisions in written documents. 4. Special and research literature connected to Bachalor theses according to recommendations of supervisor. 					
Course language:						
Notes:						
Course assessment Total number of asses	ssed students: 98					
	abs	n				
	98.98	1.02				
Provides: RNDr. Ľub	Provides: RNDr. Ľubomír Antoni, PhD., RNDr. Ondrej Krídlo, PhD.					
Date of last modifica	tion: 03.05.2015					
Approved: prof. RNI	Dr. Viliam Geffert, DrSc.					

University: P. J. Šafá	rik University in Košice
Faculty: Faculty of S	Science
Course ID: ÚTVŠ/ TVa/11	Course name: Sports Activities I.
Course type, scope a Course type: Practi Recommended cou Per week: 2 Per stu Course method: pr	and the method: ce rse-load (hours): ady period: 28 esent
Number of ECTS cr	redits: 2
Recommended seme	ester/trimester of the course: 1.
Course level: I., I.II.	, II.
Prerequisities:	
Conditions for cours Conditions for cours Min. 80% of active p	se completion: e completion: participation in classes.
Learning outcomes: Learning outcomes: Increasing physical	condition and performance within individual sports. Strengthening the

relationship of students to the selected sports activity and its continual improvement.

Brief outline of the course:

Brief outline of the course:

Within the optional subject, the Institute of Physical Education and Sports of Pavol Jozef Šafárik University provides for students the following sports activities: aerobics, basketball, badminton, floorball, yoga, pilates, swimming, body-building, indoor football, self-defence and karate, table tennis, sports for unfit persons, streetball, tennis, and volleyball.

In the first two semesters of the first level of education students will master basic characteristics and particularities of individual sports, motor skills, game activities, they will improve level of their physical condition, coordination abilities, physical performance, and motor performance fitness. Last but not least, the important role of sports activities is to eliminate swimming illiteracy and by means of a special program of medical physical education to influence and mitigate unfitness. In addition to these sports, the Institute offers for those who are interested winter and summer

physical education trainings with an attractive program and organises various competitions, either at the premises of the faculty or University or competitions with national or international participation.

Recommended literature:

Course language:

Notes:

Course assessment Total number of assessed students: 12947								
abs	abs-A	abs-B	abs-C	abs-D	abs-E	n	neabs	
88.64	0.06	0.0	0.0	0.0	0.03	7.22	4.05	
Provides: doc. PhDr. Ivan Šulc, CSc., Mgr. Zuzana Küchelová, PhD., Mgr. Peter Bakalár, PhD., doc. PaedDr. Ivan Uher, PhD., Mgr. Agata Horbacz, PhD., Mgr. Marek Valanský, prof. RNDr. Stanislav Vokál, DrSc., Mgr. Dávid Kaško, Mgr. Aurel Zelko, PhD., Mgr. Dana Dračková, PhD., Mgr. Marcel Čurgali, PaedDr. Jana Potočníková, PhD.								
Date of last modification: 18.03.2019								
Approved: prof. RNDr. Viliam Geffert, DrSc.								

University: P. J. Šafárik University in Košice						
Faculty: Faculty of S	Faculty: Faculty of Science					
Course ID: ÚTVŠ/ TVb/11	Course ID: ÚTVŠ/ Course name: Sports Activities II. IVb/11					
Course type, scope and the method: Course type: Practice Recommended course-load (hours): Per week: 2 Per study period: 28 Course method: present						
Number of ECTS credits: 2						
Recommended semester/trimester of the course: 2.						
Course level: I., I.II., II.						

Prerequisities:

Conditions for course completion:

Conditions for course completion:

Final assessment and active participation in classes - min. 75%.

Learning outcomes:

Learning outcomes:

Increasing physical condition and performance within individual sports. Strengthening the relationship of students to the selected sports activity and its continual improvement.

Brief outline of the course:

Brief outline of the course:

Within the optional subject, the Institute of Physical Education and Sports of Pavol Jozef Šafárik University provides for students the following sports activities: aerobics, basketball, badminton, floorball, yoga, pilates, swimming, body-building, indoor football, self-defence and karate, table tennis, sports for unfit persons, streetball, tennis, and volleyball.

In the first two semesters of the first level of education students will master basic characteristics and particularities of individual sports, motor skills, game activities, they will improve level of their physical condition, coordination abilities, physical performance, and motor performance fitness. Last but not least, the important role of sports activities is to eliminate swimming illiteracy and by means of a special program of medical physical education to influence and mitigate unfitness.

In addition to these sports, the Institute offers for those who are interested winter and summer physical education trainings with an attractive program and organises various competitions, either at the premises of the faculty or University or competitions with national or international participation.

Recommended literature:

Course language:

Notes:

Course assessment Total number of assessed students: 11186								
abs abs-A abs-B abs-C abs-D abs-E n neabs								
85.58	0.55	0.02	0.0	0.0	0.05	9.99	3.8	
Provides: doc. PhDr. Ivan Šulc, CSc., Mgr. Zuzana Küchelová, PhD., doc. PaedDr. Ivan Uher, PhD., Mgr. Peter Bakalár, PhD., Mgr. Agata Horbacz, PhD., Mgr. Marek Valanský, prof. RNDr. Stanislav Vokál, DrSc., Mgr. Dávid Kaško, Mgr. Aurel Zelko, PhD., Mgr. Dana Dračková, PhD., Mgr. Marcel Čurgali, PaedDr. Jana Potočníková, PhD.								
Date of last modification: 18.03.2019								
Approved: prof. RNDr. Viliam Geffert, DrSc.								

University:	University: P. J. Šafárik University in Košice						
Faculty: Fa	culty of S	cience					
Course ID: TVc/11	Course ID: ÚTVŠ/ Course name: Sports Activities III.						
Course type, scope and the method: Course type: Practice Recommended course-load (hours): Per week: 2 Per study period: 28 Course method: present							
Recommen	ded seme	ster/trimester	of the cours	e: 3.			
Course leve	el: 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 lan	guage:						
Notes:							
Course asso Total numb	e ssment er of asses	ssed students: 7	741				
abs	abs-A	abs-B	abs-C	abs-D	abs-E	n	neabs
90.03	0.04	0.01	0.0	0.0	0.03	4.04	5.85
Provides: doc. PhDr. Ivan Šulc, CSc., Mgr. Zuzana Küchelová, PhD., doc. PaedDr. Ivan Uher, PhD., Mgr. Peter Bakalár, PhD., Mgr. Agata Horbacz, PhD., Mgr. Marek Valanský, prof. RNDr. Stanislav Vokál, DrSc., Mgr. Dávid Kaško, Mgr. Aurel Zelko, PhD., Mgr. Dana Dračková, PhD., Mgr. Marcel Čurgali, PaedDr. Jana Potočníková, PhD.							
Date of last	modifica	tion: 03.05.201	15				
Approved:	prof. RNI	Dr. Viliam Geff	ert, DrSc.				

University:	University: P. J. Šafárik University in Košice						
Faculty: Fa	culty of S	cience					
Course ID: TVd/11	Course ID: ÚTVŠ/ Course name: Sports Activities IV.						
Course type, scope and the method: Course type: Practice Recommended course-load (hours): Per week: 2 Per study period: 28 Course method: present							
Recommen	ded seme	ster/trimester	of the cours	e: 4.			
Course leve	el: 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:						
Notes:							
Course asso Total numb	essment er of asses	ssed students: 5	086	1			
abs	abs-A	abs-B	abs-C	abs-D	abs-E	n	neabs
85.19	0.29	0.04	0.0	0.0	0.0	6.78	7.69
Provides: doc. PhDr. Ivan Šulc, CSc., Mgr. Zuzana Küchelová, PhD., Mgr. Peter Bakalár, PhD., doc. PaedDr. Ivan Uher, PhD., Mgr. Agata Horbacz, PhD., Mgr. Marek Valanský, prof. RNDr. Stanislav Vokál, DrSc., Mgr. Lucia Kršňáková, PhD., Mgr. Dávid Kaško, Mgr. Aurel Zelko, PhD., Mgr. Dana Dračková, PhD., Mgr. Marcel Čurgali, PaedDr. Jana Potočníková, PhD.							
Date of last	modifica	tion: 03.05.201	15				
Approved:	prof. RNI	Dr. Viliam Geff	ert, DrSc.				

University: P. J. S	Šafárik Univers	ity in Košice			
Faculty: Faculty	of Science				
Course ID: ÚINF SVK1/15	F/ Course na	me: Student sci	entific conferenc	e	
Course type, sco Course type: Recommended Per week: Per s Course method	pe and the met course-load (he study period: : present	hod: ours):			
Number of ECT	S credits: 4				
Recommended se	emester/trimes	ter of the cours	e: 8.		
Course level: I.,	ll				
Prerequisities:					
Conditions for co	ourse completi	on:			
Learning outcon	nes:				
Brief outline of t	he course:				
Recommended li	terature:				
Course language	•				
Notes:					
Course assessme Total number of a	nt assessed studen	ts: 171			
A	В	С	D	E	FX
100.0	0.0	0.0	0.0	0.0	0.0
Provides:			1		<u>I</u>
Date of last mod	ification: 03.05	.2015			
Approved: prof.	RNDr. Viliam (Geffert, DrSc.			

University: P. J. Šafá	rik University in Košice
Faculty: Faculty of S	cience
Course ID: ÚTVŠ/ LKSp/13	Course name: Summer Course-Rafting of TISA River
Course type, scope a Course type: Practic Recommended cour Per week: Per stud Course method: pre	nd the method: ce cse-load (hours): y period: 36s esent
Number of ECTS cr	edits: 2
Recommended seme	ster/trimester of the course:
Course level: I., II.	
Prerequisities:	
Conditions for course Conditions for course Attendance Final assessment: Rat	e completion: completion: ft control on the waterway (attended/not attended)
Learning outcomes: Learning outcomes: Students have knowled	edge of rafts (canoe) and their control on waterway.
Brief outline of the c Brief outline of the co 1. Assessment of diff 2. Safety rules for raf 3. Setting up a crew 4. Practical skills trai 5. Canoe lifting and co 6. Putting the canoe i 7. Getting in the canoe 8. Exiting the canoe 9. Taking the canoe o 10. Steering a) The pry stroke (on b) The draw stroke 11. Capsizing 12. Commands	ourse: ourse: iculty of waterways ting ning using an empty canoe arrying n the water without a shore contact ice ut of the water fast waterways)
Recommended litera	ture:
Course language:	
Notes:	

Course assessment				
abs	n			
45.03	54.97			
Provides: Mgr. Peter Bakalár, PhD.				
Date of last modification: 18.03.2019				
Approved: prof. RNDr. Viliam Geffert, DrSc.				

University: P. J. Šafán	rik University in Košice
Faculty: Faculty of S	cience
Course ID: ÚTVŠ/ KP/12	Course name: Survival Course
Course type, scope a Course type: Practic Recommended cour Per week: Per stud Course method: pre	nd the method: ce rse-load (hours): y period: 36s esent
Number of ECTS cro	edits: 2
Recommended seme	ster/trimester of the course:
Course level: I., II.	
Prerequisities:	
Conditions for course Conditions for course Attendance Final assessment: cor	e completion: completion: ntinuous fulfilment of all tasks within the course
Learning outcomes: Learning outcomes: Students will be fan conditions as they wi and demanding situa course develops team require overcoming o	niliarized with principles of safe stay and movement in extreme natural ll obtain theoretical knowledge and practical skills to solve the extraordinary tions connected with survival and minimization of damage to health. The n work and students will learn how to manage and face the situations that f obstacles.
 Brief outline of the c Brief outline of the cc Lectures: 1. Principles of behave 2. Preparation and leat 3. Objective and subjing 4. Principles of hygical Exercises: 1. Movement in terration 2. Preparation of imp 3. Water treatment and 	ourse: burse: viour and safety for movement and stay in unknown mountains adership of tour ective danger in mountains ne and prevention of damage to health in extreme conditions in, orientation and navigation in terrain (compasses, GPS) rovised overnight stay d food preparation.
Recommended litera	ture:
Course language:	
Notes:	

Course assessment Total number of assessed students: 392				
abs	n			
44.39	55.61			
Provides: Mgr. Marek Valanský, MUDr. Peter Do	ombrovský			
Date of last modification: 15.03.2019				
Approved: prof. RNDr. Viliam Geffert, DrSc.				

University: P. J.	Šafárik Univer	sity in Košice						
Faculty: Faculty of Science								
Course ID: ÚIN SLO1a/15	VF/ Course n	Course name: Symbolic logic						
Course type, sc Course type: I Recommended Per week: 2 / 1 Course method	ope and the me Lecture / Practic l course-load (l Per study per d: present	ethod: e hours): iod: 28 / 14						
Number of EC	FS credits: 5							
Recommended	semester/trime	ester of the cours	e: 4.					
Course level: I.								
Prerequisities:								
Conditions for	course comple	tion:						
To understand provability, satis	basic notions sfiability, term, the course: – logic languag	of sentence and formula.	predicate logic	c - sentence, sen	ntence scheme,			
Interpretation, t	ruth, model. Co	rrectness of the pr	edicate logic.					
Recommended GOLDSTERN Mathematical L http://cs.ics.upjs	literature: M., JUDAH H. .ogic, A K Peter s.sk/~krajci/sko	The Incompleten s, Wellesley, Mas la/vyucba/ucebne	ess Phenomenor sachusetts, 1995 Texty/logika/log	n, A New Course ika.pdf	in			
Course languag	ge:							
Notes:								
Course assessm Total number of	ent f assessed stude	nts: 394						
А	В	C	D	E	FX			
24.87	9.9	12.44	11.68	27.92	13.2			
Provides: doc. I	RNDr. Stanislav	Krajči, PhD., RN	Dr. Ondrej Kríd	llo, PhD.				
Date of last mo	dification: 03.0	5.2015						
Approved: prof	. RNDr. Viliam	Geffert, DrSc.						

University: P. J	. Šafárik Univer	sity in Košice					
Faculty: Faculty	y of Science						
Course ID: ÚIN SLO1b/15	NF/ Course n	7/ Course name: Symbolic logic					
Course type, sc Course type: 1 Recommender Per week: 2 / 2 Course metho	cope and the me Lecture / Practic d course-load (l 1 Per study per d: present	thod: e nours): iod: 28 / 14					
Number of EC	TS credits: 5						
Recommended	semester/trime	ster of the cours	e: 5.				
Course level: I.							
Prerequisities:	ÚINF/SLO1a/1	5					
Conditions for	course complet	ion:					
Learning outco To understand b	omes: basic notions of	predicate logic –	inductive struture	es, completeness.			
Brief outline of Boolean algebra	the course: as. Syntactic mo	del, completeness	of predicate logi	c. Inductive struc	tures in general.		
Recommended GOLDSTERN Mathematical L http://cs.ics.upja	literature: M., JUDAH H.: .ogic, A K Peter s.sk/~krajci/skol	The Incompleten s, Wellesley, Mas a/vyucba/ucebne	less Phenomenor sachusetts, 1995 Texty/logika/logi	ı, A New Course ka.pdf	in		
Course languag	ge:						
Notes:							
Course assessm Total number of	nent f assessed stude	nts: 60					
А	В	C	D	Е	FX		
28.33	11.67	21.67	5.0	13.33	20.0		
Provides: doc. 1	Provides: doc. RNDr. Stanislav Krajči, PhD., RNDr. Ondrej Krídlo, PhD.						
Date of last mo	dification: 03.0	5.2015					
Approved: prof	f. RNDr. Viliam	Geffert, DrSc.					

University D I	Čafáril: Univer	ritu in Vačiaa			
University: P. J		sity in Kosice			
Faculty: Facult	y of Science				
Course ID: ÚIN SPR1a/15	NF/ Course n	ame: System pro	gramming		
Course type, sc Course type: I Recommended Per week: 2 / 2 Course metho	ope and the mo Lecture / Practic d course-load (2 Per study per d: present	ethod: e hours): iod: 28 / 28			
Number of EC	FS credits: 5				
Recommended	semester/trime	ester of the cours	se: 6.		
Course level: I.					
Prerequisities:	ÚINF/JAC1/15				
Conditions for Implementation	course complete of final project	tion: and its oral defer	ıse.		
Learning outco Provide and der	mes: nonstrate basic	concepts of Linux	x and Android s	ystem programmin	ng.
Brief outline of Programming la	the course: anguage C.				
Recommended 1. Mark L. Mite ISBN: 978-073 2. Mark L. Mur 2009. ISBN: 97 3. W. Frank Ab Edition. Mannin	literature: chell, Alex Sam 5710436. phy: The Busy '8-0981678009 leson, Robi Sen ng, 2011. ISBN	uel, Jeffrey Oldha Coder's Guide to , Chris King and 9781617290503	um: Advanced L Android Develo C. Enrique Ortiz	inux Programming pment. Commons z: Android in Actio	g. Sams, 2001. Ware, LLC, on Third
Course languag English	ge:				
Notes:					
Course assessm Total number of	ent f assessed stude	nts: 164			
А	В	C	D	Е	FX
43.29	17.07	10.98	6.1	11.59	10.98
Provides: doc. 1	Ing. Štefánia Ga	llová, CSc., RND	r. PhDr. Peter P	isarčík	
Date of last mo	dification: 02.0	7.2015			
Approved: prof	. RNDr. Viliam	Geffert, DrSc.			

University: P. J. S	Šafárik Univers	ity in Košice					
Faculty: Faculty	of Science						
Course ID: ÚINF TYS1/15	F/ Course na	Course name: Typographical systems					
Course type, sco Course type: Pr Recommended Per week: 2 Per Course method	pe and the met actice course-load (h • study period: : present	hod: ours): 28					
Number of ECTS	S credits: 2						
Recommended se	emester/trimes	ster of the cours	e:				
Course level: I.							
Prerequisities:							
Conditions for co	ourse completi	on:					
Learning outcom To provide the mathematical for	nes: basic informa mulas in Plain	ation on princi TeX, AMS-TeX,	ples for types and LaTeX.	setting of docum	nents containing		
Brief outline of t Typesetting of a p text and footnote of mathematical t Making tables a Contents, bibliog	he course: plain text, speci command. Para formulas in text nd pictures. D raphy, sections	al text symbols, meter setting det and displays, al efinitions, theor in a document.	using of text for ermining the ap igning formula ems, and proc	onts. TeX macros. opearance of the pa s. Definitions of T ofs in a mathema	Enumerations in ages. Typesetting TeX macros. atical document.		
Recommended li	terature:						
Course language	:						
Notes:							
Course assessme Total number of a	nt assessed studen	ts: 246					
Α	В	С	D	E	FX		
47.97	18.29	19.51	6.5	6.91	0.81		
Provides: doc. RI	NDr. Stanislav	Krajči, PhD.		·	-		
Date of last modi	ification: 03.05	5.2015					
Approved: prof.	RNDr. Viliam (Geffert, DrSc.					
L							

University: P. J. Šafá	rik University in Košice
Faculty: Faculty of S	cience
Course ID: ÚINF/ POS2/15	Course name: User environments of operating systems
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 ECTS cr	edits: 2
Recommended seme	ster/trimester of the course: 1.
Course level: I.	
Prerequisities:	
Conditions for cours - written final theoret - written final practic	e completion: ical exam (score at least 50%), al exam (score at least 50%)
Learning outcomes: To provide theoretic necessary knowledge	al and practical background for studying computer science, by giving the in the usage of Unix/Linux operating systems.
Brief outline of the c (1) Introduction to Un (2) Linux ommand lin (3) Text processing to (4) Managing files (5) Managing users, g (6) Managing process (7) Managing softwar (8) Administering the (9) Basic networking (10) Managing networ (11) Managing disk p	ourse: nix/Linux systems ne pols groups and rights ses re and packages e system - system booting, jobs, logging prk interfaces partitions
Recommended litera (1) LPIC-1 Linux Pro 102-400 4th Edition (2) The Linux Docum (3) The Linux Comm	ture: ofessional Institute Certification Study Guide Exam 101-400 and Exam nentation Project (https://www.tldp.org/) and Line, 2nd Edition: A Complete Introduction 2nd Edition
Course language:	

Notes:

Course assessment Total number of assessed students: 83							
A B C D E FX							
44.58	7.23 24.1 9.64 12.05 2.41						
Provides: RND	Provides: RNDr. JUDr. Pavol Sokol, PhD.						
Date of last modification: 14.01.2020							
Approved: prof. RNDr. Viliam Geffert, DrSc.							

University: P. J. Šafá	rik University in Koši	ice		
Faculty: Faculty of S	cience			
Course ID: ÚTVŠ/ ZKLS//13	Course name: Winte	er Ski Training Course		
Course type, scope a Course type: Practic Recommended cour Per week: 36 Per st Course method: pre	nd the method: ce rse-load (hours): udy period: 504 esent			
Number of ECTS cr	edits: 2			
Recommended seme	ster/trimester of the	course:		
Course level: I., II.				
Prerequisities:				
Conditions for cours	e completion:			
Learning outcomes:				
Brief outline of the c	ourse:			
Recommended litera	iture:			
Course language:				
Notes:				
Course assessment Total number of asses	ssed students: 97			
	abs		n	
	32.99		67.01	
Provides: doc. PhDr.	Ivan Šulc, CSc., Mgr	. Marek Valanský		
Date of last modifica	tion: 03.05.2015			
Approved: prof. RNI	Dr. Viliam Geffert, Dr	Sc.		