CIT Department's Curriculum for the 2018-2019 Academic Year -- Bachelor`s Degree 122 "Computer Science" (4 year)

No. of discipline	DISCIPLINE TITLE	Semester control		Coursework	Course project	ECTS credits	Hours						Number of 1 course	
							Total amount	Classroom training				Independent	1	2
		Exams	Tests					Total	Lectures	Lab. work	Practical training		Number of	
													15	18
1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*14*	*15*
1 MANDATORY EDUCATIONAL DISCIPLINES														
1.1 Disciplines of general training														
1.1.1	Introduction to the educational process		1			2,0	60	30	15		15	30	2	
1.1.2	History of Ukraine	1				3,0	90	45	30		15	45	3	
1.1.3	History of Ukrainian culture (4a)		4a			2,0	60	27	18		9	33		
1.1.4	Algorithmization and programming	1				3	90	45	30	15		45	3	
1.1.5	Foreign language (for professional purposes)					4,0	120	66			66	54		
	Foreign language (for professional purposes)		1			2,0	60	30			30	30	2	
	Foreign language (for professional purposes)		2			2,0	60	36			36	24		2
1.1.6	Discrete mathematics					6,0	180	96	48	48	48	84		
	Discrete mathematics		1			4,0	120	60	30	30		60	4	
	Discrete mathematics	2				2,0	60	36	18	18		24		2
1.1.7	Higher mathematics					12,0	360	198	99		99	162		
	Higher mathematics	1				6,0	180	90	45		45	90	6	
	Higher mathematics	2				6,0	180	108	54		54	72		6
1.1.8	Probability theory, probabilistic processes and mathematical statistics	3				3,0	90	45	30		15	45		
1.1.9	Ukrainian language (for professional purposes)	2a				3,0	90	27			27	63		1,5
1.1.10	Physics					11,0	330	165	99	33	33	165		
	Physics	2				6,0	180	90	54	18	18	90		5
	Physics	3				5,0	150	75	45	15	15	75		
1.1.11	Philosophy	4				3,5	105	54	36		18	51		
1.1.12	Physical education					12,0	360	264	12		252	96		
	Physical education		1			3,0	90	60	8		52	30	4	
	Physical education		2			3,0	90	72			72	18		4
	Physical education		3			3,0	90	60	4		56	30		
	Physical education		4			3,0	90	72			72	18		
	Physical education		5,6,7,8				section sessions							
1.1.13	Theory of algorithms	3				**3,0**	**90**	**45**	**30**	**15**		**45**		
1.1.14	Theory of algorithms (Coursework)				4	1,0	30	18		18		**12**		
Total p.1.1.:						**68,5**	**2055,0**	**1125,0**	**447,0**	**129,0**	**597,0**	**930,0**	**24**	**21**
1.2 Disciplines of professional training														
1.2.1	Numerical methods		4			4,0	120	54	36	18		66		
1.2.2	System analysis	5				4,0	120	60	30	30		60		
1.2.3	Mathematical methods of operations research	5				4,0	120	60	30	30		60		
1.2.4	Mathematical methods of operations research (Coursework)				6	1,0	30	18			18	12		
1.2.5	Decision-making theory	6				4,0	120	72	18	36		48		
1.2.6	Systems modeling					6,0	180	84	28	56		96		
	Systems modeling		7			3,0	90	45	15	30		45		
	Systems modeling	8				3,0	90	39	13	26		51		
1.2.7	Electronics and computer circuitry	3				4,0	120	60	30	30		60		
1.2.8	Computer networks	4				4,0	120	54	26	28		66		
1.2.9	Components of modern computer systems	5				4,0	120	60	30	30		60		
1.2.10	Object-oriented programming	2				4,5	135	72	36	36		63		4
1.2.11	Operating systems and system programming	4				4,0	120	54	26	28		66		
1.2.12	Web-technologies and web-design		4			4	120	54	18	36		66		
1.2.13	Organization of databases and knowledge bases	5				4,0	120	60	30	30		60		
1.2.14	Organization of databases and knowledge bases (Coursework)				6	1,0	30	18			18	12		
1.2.15	Technology of software products development					5,0	150	84	42	42		66		
	Technology of software products development		6			3,0	90	54	27	27		36		
	Technology of software products development	7				2,0	60	30	15	15		30		
1.2.16	Technology of software products development (Coursework)				7	1,0	30	15			15	15		
1.2.17	Artificial intelligence systems and data mining		6			6,0	180	90	44	46		90		
1.2.18	Artificial intelligence systems and data mining (Coursework)				8	1,0	30	13			13	17		

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1.2.19	Technologies of distributed systems and parallel computing	7				4,0	120	65	32	33		55		
1.2.20	Cross-platform programming and information security	8				4,0	120	60	30	30		60		
1.2.21	Design of information systems	8				4,0	120	52	26	26		68		
1.2.22	Geometric modeling and computer graphics		2			3,5	105	54	27	27		51		3
1.2.23	CAD technologies	5				4,0	120	60	30	30		60		
1.2.24	CAD technologies (Coursework)			5		1,0	30	15			15	15		
Total p.1.2.:						**86,0**	**2580,0**	**1288,0**	**569,0**	**622,0**	**79,0**	**1292,0**	**0**	**7**
1.3 Practical training														
1.3.1	Computer practice		2			4,0	120							*
1.3.2	Industrial practice		4			4,5	135							
1.3.3	Industrial practice		6			5,0	150							
1.3.4	Pre-diploma practice		8			4,5	135							
1.3.5	Bachelor`s thesis		8			6,0	180							
4. State attestation														
1.4.1	Protection of Bachelor's thesis	8				1,5	Protection degree project - 45 hours							
Total pp.1.2…1.3:						**25,5**	**765**						0	0
Total for the regulatory disciplines						**180,0**	**5400**	**2413**	**1016**	**751**	**676**	**2222**	**24**	**28**
2. SELECTIVE DISCIPLINES														
2.1 Disciplines of general training														
Discipline 1 semester			1			3,0	90	45	30		15	45	3	
Discipline 3 semester			3			3,0	90	45	30		15	45		
Discipline 3 semester			3			2,5	75	30	20		10	45		
Discipline 4 semester			4			2,5	75	36	18		18	39		
Discipline 5 semester			5			2,5	75	30	20		10	45		
Discipline 6 semester 1		6				4,0	120	54	36	9	9	66		
Discipline 6 semester 2			6			2,5	75	36	18		18	39		
Discipline 7 semester 1			7			3,0	90	45	30		15	45		
Discipline 7 semester 2			7			2,0	60	30	20		10	30		
Discipline 7 semester			7			3,0	90	45	30		15	45		
Discipline 8 semester			8			2,0	60	26	13		13	34		
Total p.2.1:						30,0	**900,0**	**422,0**	**265,0**	**9,0**	**148,0**	**478,0**	**3**	**0**
Set of disciplines №1														
2.1.1	Basics of descriptive geometry and engineering graphics		1			3,0	90	45	15		30	45	3	
2.1.2	Fundamentals of labor protection and life safety	6				4,0	120	54	36	9	9	66		
2.1.3	Entrepreneurship and enterprise economics		7			3,0	90	45	30		15	45		
2.1.4	Fundamentals of engineering calculations		3			3,0	90	45	30		15	45		
2.1.5	Foreign language (for professional purposes)		3			2,5	75	36	18		18	39		
	Foreign language (for professional purposes)		4			2,5	75	30	20		10	45		
	Foreign language (for professional purposes)		5			2,5	75	30	18		18	45		
	Foreign language (for professional purposes)		6			2,5	75	36	20		10	39		
	Foreign language (for professional purposes)		7			2,0	60	45	30		15	15		
	Foreign language (for professional purposes)		8			2,0	60	26	13		13	34		
2.1.6	Hardware Internet of Things		7			3,0	90	45	30	15		45		
Set of disciplines №2														
2.1.7	Engineering graphics and design		1			3,0	90	45	15		30	45	3	
2.1.8	Labor protection in IT companies	6				4,0	120	54	36	9	9	66		
2.1.9	Economy and business		7			3,0	90	45	30		15	45		
2.1.10	Technical mechanics		3			3,0	90	45	30		15	45		
2.1.11	Foreign language (for professional purposes)		3			2,5	75	36	18		18	39		
	Foreign language (for professional purposes)		4			2,5	75	30	20		10	45		
2.1.12	History of science and technology		5			2,5	75	30	18		18	45		
2.1.13	Sociology		6			2,5	75	36	20		10	39		
2.1.14	Politology		7			2,0	60	45	30		15	15		
2.1.15	Professional ethics		8			2,0	60	26	13		13	34		
2.1.16	Modern computer hardware and mobile devices		7			3,0	90	45	30	15		45		
2.2 Disciplines of professional training														
Discipline 3 semester			3			4,0	120	60	30	30		60		
Discipline 4 semester			5			5,0	150	75	30	45		75		
Discipline 5 semester			6			5,0	150	72	36	36		78		
Discipline 7 semester			7			4,0	120	60	30	30		60		
Discipline 7 semester			7			4,0	120	60	30	30		60		
Discipline 8 semester			8			4,0	120	52	26	26		68		

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Discipline 8 semester			8			4,0	120	52	26	26		68		
Total p.3.2.:						**30,0**	**900,0**	**431,0**	**208,0**	**223,0**	**0,0**	**469,0**	**0,0**	**0,0**
Set of disciplines №1														
2.2.1	Principles of interface construction for mobile systems		3			4,0	120	60	30	30		60		
2.2.2	Algorithms in discrete structures		7			4,0	120	60	30	30		60		
2.2.3	Computer-aided design and calculation of structures		5			5,0	150	75	45	30		75		
2.2.4	Work with remote databases		6			5,0	150	72	36	36		78		
2.2.5	Probabilistic processes and mathematical statistics in automated systems		8			4,0	120	52	26	26		68		
2.2.6	Development of web-oriented application systems		7			4,0	120	60	30	30		60		
2.2.7	Fundamentals of scientific research and technical creativity		8			4,0	120	52	26	26		68		
Set of disciplines №2														
2.2.8	Biomedical systems, materials and technologies		3			4,0	120	60	30	30		60		
2.2.9	Biomechanics		5			5,0	150	75	30	45				
2.2.10	Digital processing of biomedical signals		5			4,0	120	60	30	30				
2.2.11	Methods of mathematical processing of medical biological data		6			5,0	150	72	36	36		78		
2.2.12	IT in medicine		7			4,0	120	60	30	30				
2.2.13	Technologies for receiving and transmitting medical data		8			4,0	120	52	26	26		68		
2.2.14	Designing and manufacturing of medical products		8			4,0	120	52	26	26		68		
Set of disciplines №3														
2.2.15	Principles of interface construction for mobile systems		3			4,0	120	60	30	30		60		
2.2.16	Algorithms in discrete structures		7			4,0	120	72	36	36				
2.2.17	Development of web-oriented systems based on frameworks and web-services		5			5,0	150	60	30	30		90		
2.2.18	Working with remote databases		6			5,0	150	72	30	30		78		
2.2.19	Development of web-oriented application systems		7			4,0	120	60	30	30		60		
2.2.20	Internet of Things Technologies		8			4,0	120	52	26	26		68		
2.2.21	Fundamentals of scientific research and technical creativity		8			4,0	120	52	26	26		68		
Total for the selective disciplines						**60,0**	**1800**	**853**	**473**	**232**	**148**	**947**	**3**	**0**
Total														
Total amount:						**240,0**	**7200**	**3266**	**1489**	**983**	**824**	**3169**	**27**	**28**

Course	1 course	
Number of hours per week	**27**	**27,5**
Number of exams	3	5
Number of tests	5	4
Number of course projects and courseworks		
No. of semester	1	2
	60,0	

Head of CIT dept. _____ **O. Tarasov**

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