CIT Department's Curriculum for the 2019-2020 Academic Year -- Master's Degree 122 "Computer Science" (1 year and 4 months)

No. of discipline	DISCIPLINE TITLE	Semester control		Coursework	Course project	ECTS credits	Hours						Number of classroom hours in semesters		
							Total amount	Classroom training				Independent	1 course		2 course
		Exams	Tests					Total	Lectures	Lab. work	Practical training		1	2	3
													15	18	15
1	2	3	4	5	6	7	8	9	10	11	12	13	27	28	29
1 MANDATORY EDUCATIONAL DISCIPLINES															
1.1 Disciplines of general training															
1.1.1	Intellectual property		1			2,0	60	14	10		5	46	1		
1.1.2	Methodology and organization of scientific research		1			2,0	60	30	15		15	30	2,0		
1.1.3	Methods for quality assurance of computer system components		2			4,0	120	36	18	18		84		2	
1.1.4	Labor protection in the industry and civil protection	1				3,0	90	30	15		15	60	2		
1.1.5	Physical education					2,0	60,0	15			15	45			
	Physical education		1			2,0	60	15			15	45	2+c		
	Physical education		2F*				C * - section classes, F * - optional							C*	
Total p.1.1.:						**13,0**	**390,0**	**125,0**	**58,0**	**18,0**	**50,0**	**265,0**	**5,0**	**2,0**	**0,0**
1.2 Disciplines of professional training															
1.2.1	Theory of computerized design	1				4,5	135	45	30	15		90	3		
1.2.2	Computational intelligence technologies	2				4,5	135	54	18	36		81		3	
1.2.3	Distributed computer systems and networks		2			4,5	135	54	18	36		81		3	
1.2.4	Modern methods of designing programmable systems based on OOP	1				5,0	150	60	30	30		90	4		
	Modern methods of designing programmable systems based on OOP (Coursework)			2		1,0	30	18			18	12		1	
Total p.1.2.:						**19,5**	**585,0**	**231,0**	**96,0**	**117,0**	**18,0**	**354,0**	**7,0**	**7,0**	**0,0**
1.3 Practical training															
1.3.1	Research practice		1			5,0	150	1 day a week in 1 semester (90 hours)							
1.3.2	Pre-diploma practice		3			6,0	180	4 weeks + 1 day a week in 3 semesters (90 hours)							
1.3.3	Master's thesis		3			21,0	630								
Total p.1.3.:						**32,0**	**960**								

1.4 State certification															
1.4.1	Protection of Master's thesis	3				3,0	90	2 weeks in semester 3							
Total p.1.4.:						**3,0**	**90**								
Total for the regulatory disciplines						**67,5**	**2025,0**	**356,0**	**154,0**	**135,0**	**68,0**	**619,0**	**12,0**	**9,0**	**0,0**
2. SELECTIVE DISCIPLINES															
2.1 Disciplines of general training															
Discipline 1 semester			1			1,5	45	30	15		15	15	2		
Discipline 2 semester - 1			2			2,0	60	36			20	24		2	
Discipline 2 semester - 2		2				5,0	150	54	36		18	96		3	
Total p.1.1						**8,5**	**255,0**	**120,0**	**51,0**	**0,0**	**53,0**	**135,0**	**2,0**	**5,0**	**0,0**
Set of disciplines №1															
2.1.1	Foreign language (for professional purposes)					3,5	105	66			66	39			
	Foreign language (for professional purposes)		1			1,5	45	30			30	15	2		
	Foreign language (for professional purposes)		2			2,0	60	36			36	24		2	
2.1.2	Modern methods of organization and analysis of data	2				5,0	150	54	36		18	96		3	
Set of disciplines №2															
2.1.3	Evaluation of the effectiveness of design solutions		1			1,5	45	30	15		15	15	2		
2.1.4	Scientific work and principles of its organization		2			2,0	60	36	18		18	24		2	
2.1.5	System analysis of the subject area	2				5,0	150	54	36		18	96		3	
2.2 Disciplines of professional training															
Discipline 1 semester - 1		2				5,0	150	54	18	36		96		3	
Discipline 1 semester+ - 2			1			5,0	150	45	15	30		105	3		
Discipline 2 semester			2			4,0	120	54	36	18		66		3	
Total p.2.2.:						**14,0**	**420,0**	**153,0**	**69,0**	**84,0**	**0,0**	**267,0**	**3,0**	**6,0**	**0,0**
Set of disciplines №1															
2.2.1	Calculations and computer-aided design of optimal structures	2				5,0	150	54	18	36		96		3	
2.2.2	Planning and processing of research results		1			5,0	150	45	15	30		105	3		
2.2.3	Virtual and augmented reality technologies		2			4,0	120	54	36	18		66		3	

Set of disciplines №2															
2.2.4	Regenerative engineering and design of optimal structures	2				5,0	150	54	18	36		96		3	
2.2.5	Mathematical modeling in biotechnical systems		1			5,0	150	45	15	30		105	3		
2.2.6	Virtual and augmented reality technologies		2			4,0	120	54	36	18		66		3	
Total for the selective disciplines						**22,5**	**675,0**	**273,0**	**120,0**	**84,0**	**53,0**	**402,0**	**5,0**	**11,0**	**0,0**
Total															
Total amount:						**90,0**	**2700,0**	**629,0**	**274,0**	**219,0**	**121,0**	**1021,0**	**17,0**	**20,0**	**0,0**
							Number of exams						3	3	
							Number of tests						5	4	1
							Number of course projects and courseworks							1	KPM
							No. of semester						1	2	3
													30,0	**30,0**	**30,0**

Head of CIT dept. _____ O. Tarasov

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