CIT Department's Curriculum for the 2020-2021 academic year -- Master's degree 122 "Computer Science in Engineering, Business and Medicine" (1 year and 4 months)

No. of discipline	DISCIPLINES TITLE	Semester control		Coursework	Course project	ECTS credits	Total amount	Classroom training				Independent	Number of classroom hours in semesters		
		Exams	Tests					Total	Lectures	Lab. work	Practical training		1 course		2 course
													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	Foreign language (for professional purposes)					3,0	90	48			48	42			
	Foreign language (for professional purposes)		1			2,0	60	30			30	30	2		
	Foreign language (for professional purposes)	2				1,0	30	18			18	12			1
1.1.2	Methodology and organization of educational process and scientific research		1			3,5	105	60	30		30	45	4		
1.1.3	Labor protection in the industry and civil protection	1				3,0	90	30	15		15	60	2		
1.1.4	Methods for quality assurance of computer system components		2			3,0	90	45	15	15	15	45	3		
	Total p.1.1.:					**12,5**	**375,0**	**183,0**	**60,0**	**15,0**	**108,0**	**192,0**	**11,0**	**1,0**	**0,0**
1.2 Disciplines of professional training															
1.2.1	Theory of computerized design	1				5,0	150	60	30	15	15	90	4		
1.2.2	Distributed computer systems and networks		1			4,5	135	45	30	15		90	3		
1.2.3	Modern methods of designing programmable systems based on OOP	2				6,5	195	54	36	18		141		3	
1.2.4	Modern methods of designing programmable systems based on OOP (Coursework)			2		1,0	30	18			18	12		1	
1.2.5	Computational intelligence technologies	1				5,0	150	45	15	15	15	105	3		
	Total p.1.2.:					**22,0**	**660**	**222**	**111**	**63**	**48**	**438**	**10,0**	**4,0**	**0,0**
1.3 Practical training															
1.3.1	Research practice					11,0	330								
	Research practice		1			3,0	90	1 day a week in 1 semester (90 hours)							
	Research practice		3			8,0	240	4 weeks + 1 day a week in 3 semesters (66 hours)							
	Total p.1.3.:					**11,0**	**330**								
1.4 Certification															
1.4.1	Master's thesis	3				22,0	660								
	Total p.1.4.:					**22,0**	**660**								

					67,5	2025,0	405,0	171,0	78,0	156,0	630,0	21,0	5,0	0,0
Total for the regulatory disciplines:															

2. SELECTIVE DISCIPLINES															
2.1 Disciplines of general training															
Discipline 2 semester - 1				2			3,0	90	36	18		18	54		2
Discipline 2 semester - 2				2			3,0	90	36	18		18	54		2
Total p.1.1:							**6,0**	**180,0**	**72,0**	**36,0**	**0,0**	**36,0**	**108,0**	**0,0**	**4,0**	**0,0**
2.1.1	Modern methods of organization and analysis of data			2			3,0	90	36	18		18	54		2
2.1.2	Foreign language (for professional purposes)			2			3,0	90	36	18		18	54		2
2.1.3	System analysis of the subject area			2			3,0	90	36	18		18	54		2
2.1.4	Intellectual property			2			3,0	90	36	18		18	54		2
2.1.5	Evaluating the effectiveness of design solutions			2			3,0	90	36	18		18	54		2
2.1.6	*Disciplines from other educational programs of the DSEA*			2			3,0	90	36	18		18	54		2
2.2 Disciplines of professional training															
Discipline 2 semester - 3		2					5,5	165	72	36		36	93		4
Discipline 2 semester - 4		2					5,5	165	72	36		36	93		4
Discipline 2 semester - 5		2					5,5	165	72	36		36	93		4
Total p.2.2:							**16,5**	**495,0**	**216,0**	**108,0**		**108,0**	**279,0**		**12,0**	
2.2.1	Calculations and computer-aided design of optimal structures	2					5,5	165	72	36		36	93		4
2.2.2	Planning and processing of research results	2					5,5	165	72	36		36	93		4
2.2.3	Modern database management systems	2					5,5	165	72	36		36	93		4
2.2.4	Regenerative engineering and design of optimal structures	2					5,5	165	72	36		36	93		4
2.2.5	Mathematical modeling in biotechnical systems	2					5,5	165	72	36		36	93		4
2.2.6	Virtual and augmented reality technologies	2					5,5	165	72	36		36	93		4
2.2.7	Methods of image processing and computer vision	2					5,5	165	72	36		36	93		4
2.2.8	Cloud technologies and services	2					5,5	165	72	36		36	93		4
2.2.9	Distributed systems hardware and software	2					5,5	165	72	36		36	93		4
Total for the selective disciplines:							**22,5**	**675,0**	**288,0**	**144,0**		**144,0**	**387,0**		**16,0**	
Total															
Total amount:							**90,0**	**2700,0**	**693,0**	**315,0**	**78,0**	**300,0**	**1017,0**	**21,0**	**21,0**	**0,0**

Number of exams	3	5	
Number of tests	5	2	
Number of course projects and courseworks		1	
No. of semester	1	2	3
	30,0	30,0	30,0

№	Name														
1	Physical education*	1F, 2F										S	S	
	* Note: S - sectional classes; O - optional													
2	Ukrainian as a foreign language (for foreign citizens and stateless persons)	2	1			6	180	99			99	81	3	3	

Guarantor of the educational program   _____   P. Sahaida

Head of CIT dept.   _____   O. Tarasov

FAMIT's Dean   _____   S. Podlesnij