National Research University Higher School of Economics (HSE)

Curriculum
Field of study 09.03.04 Software Engineering
Educational Programme "Software Engineering"
Specialization: "Industrial Software Engineering", "System Programming"
Implementing unit: Faculty of Computer Science, HSE - Moscow
1 st, 2021/2022 academic year

Length of Programme: 4 years
Years of Study: 2021/2022 - 2024/2025
Mode of Study: Full Time
Degree: Bachelor's degree

Number of Students: 300
Number of Groups: 10

Block Code	Course	Subject type	Department	Credits	Total Academic Hours	Contact Hours	Allocation of Contact Hours				Additional Information
							1	2	3	4	
	Degree Progamme			**60**	**4 104**	**1 909**	**280**	**342**	**382**	**362**	
	Data Culture					**3**					
1	Independent Digital Competence Assessment. Digital Literacy	C	центр поддержки и мониторинга образовательных программ			3				3A	
	Major				**3 610**	**1 568**	**226**	**306**	**330**	**310**	
	Core Professional Block (Major)			**52**	**2 128**	**1 020**	**226**	**270**	**290**	**310**	
	Subject Areas			**52**	**2 128**	**1 020**	**226**	**270**	**290**	**310**	
	Algebra				**418**	**140**	**28**	**40**	**50**	**60**	
1	Алгебра	C	Department of Big Data and Information Retrieval	11	418	140	24	32A	44	40A	
	Discrete Mathematics				**380**	**140**	**28**	**32**	**40**	**40**	
1	Discrete Mathematics	C	Department of Big Data and Information Retrieval	10	380	140	28	32A	40	40A	
	Mathematical Analysis				**418**	**140**	**28**	**40**	**50**	**60**	
1	Calculus	C	Department of Mathematics	11	418	140	24	32A	44	40A	
	Programming				**760**	**560**	**126**	**134**	**150**	**150**	
	Programming			**10**	**380**	**280**	**70**	**70**	**70**	**70**	
1	Algorithms and Algorithmic Languages	E	базовая кафедра фирмы 1C	5	190	120	56A	64A			
2	Computer Architecture and Assembly Language	E	базовая кафедра фирмы 1C	5	190	160			80A	80A	
	Programming			**10**	**380**	**280**	**56**	**64**	**80**	**80**	
1	C++ Programming Basics	C	Department of Software Engineering	3	114	80				80A	
2	C# Programming	C	Department of Software Engineering	7	266	200	56A	64A	80A		

№	Course	Type	Department	Credits	Total	H1	H2	H3	H4	H5	Notes
	Software Project Management			**4**	**152**	**40**	**16**	**24**			
1	Introduction into Software Engineering	C	Department of Software Engineering	4	152	40	16	24A			
	Elective Professional Block (Major)			**9**	**1 482**	**548**		**36**	**40**		
	Computer-based Workshop			**6**	**456**	**152**		**36**	**40**		
	Computer-based Workshop on Algebra				**228**	**76**		**18**	**20**		
1	Computer-based Workshop on Algebra in Matlab	E	Department of Software Engineering	3	114	38		18	20A		
2	Computer Practicum on Algebra in Python	E	Department of Software Engineering	3	114	38		18	20A		
	Computer-based Workshop on Mathematical Analysis				**228**	**76**		**18**	**20**		
1	Computer-based Workshop on Mathematical Analysis in Matlab	E	Department of Software Engineering	3	114	38		18	20A		
2	Computer Practicum on Mathematical Analysis in Python	E	Department of Software Engineering	3	114	38		18	20A		
	Research seminar			**3**	**1 026**	**396**					
	Research seminar				**1 026**	**396**					
1	Research Seminar "Cloud Services of the Mir Payment System. Business Technology Service Design"	E	Department of Software Engineering	3	114	44	12	12	20A		
2	Research Seminar "Automata and Process Models"	E	Department of Software Engineering	3	114	44	12	12	20A		
3	Research Seminar "Data analysis in Python"	E	Department of Software Engineering	3	114	44	12	12	20A		
4	Research Seminar "Introduction to Microsoft Cloud Technologies"	E	Department of Software Engineering	3	114	44	12	12	20A		
5	Research Seminar "Geographic Information Systems"	E	Department of Software Engineering	3	114	44	12	12	20A		
6	Research Seminar "Linux software distribution"	E	Department of Software Engineering	3	114	44	12	12	20A		
7	Research Seminar "Neuroinformatics"	E	Department of Software Engineering	3	114	44	12	12	20A		
8	Research seminar "Neural Network Technologies"	E	Department of Software Engineering	3	114	44	12	12	20A		
9	Research Seminar "Development of Cyber-Physical Systems"	E	Department of Software Engineering	3	114	44	12	12	20A		
	English				**304**	**146**				**2**	
	Optional Courses				**304**	**144**					
1	English	O		8	304	144	24	32A	44	44A	Foreign language, Credits only to the cumulative rating
	Examinations					**2**				**2**	
1	English Language Integrative Exam	C	School of Foreign Languages			2				2A	Foreign language
	General Courses			**5**	**190**	**192**	**54**	**36**	**52**	**50**	
	Optional General Courses			**4**	**152**	**30**			**16**	**14**	
1	Economics	C	Department of Theoretical Economics	4	152	30			16	14A	Online Course
	Core General Courses			**1**	**38**	**162**	**54**	**36**	**36**	**36**	

1	Safe Living Basics	C	центр поддержки студенческих инициатив	1	38	18	18A				Online Course
2	Physical Training	C	Department of Physical Training			144	36	36	36	36A	

Curriculum agreed:

Academic Supervisor	SHILOV V.V.	27.04.2021
Dean	ARZHANTSEV I.V.	27.04.2021
Head of Degree Programmes Development Office	MAMONOVA M.A.	30.04.2021

* Subject type:
Compulsory course   C
Elective course   E
Optional course   O