National Research University Higher School of Economics (HSE)

Curriculum
Field of study 09.03.04 Software Engineering
Educational Programme "Software Engineering"
Specializations: "Industrial Software Engineering", "System Programming", "Tools for Software Analysis and Development"
Implementing unit: Faculty of Computer Science, HSE - Moscow
1 st, 2022/2023 academic year

Length of Programme: 4 years
Years of Study: 2022/2023 - 2025/2026
Mode of Study: Full Time
Degree: Bachelor's degree

Block Code	Course	Subject type	Department	Credits	Total Academic Hours	Contact Hours	Allocation of Contact Hours				Additional Information
							1	2	3	4	
	Degree Progamme			**60,00**	**2 480**	**317**	**270**	**328**	**396**	**331**	
	Data Culture					**3**				**3**	
1	Independent Digital Literacy Test	C	Center for Support and Monitoring of Degree Programs			3				3A	
	Major			**55,00**	**2 090**	**120**	**216**	**292**	**344**	**276**	
	Core Professional Block (Major)			**46,00**	**1 748**		**204**	**244**	**284**	**276**	
	Core Disciplines 1 year			**36,00**	**1 368**	**460**	**92**	**116**	**124**	**116**	
1	Алгебра	C	Department of Big Data and Information Retrieval	11,00	418	140	24	32A	44	40A	
2	Introduction into Software Engineering	C	Department of Software Engineering	4,00	152	40	16	24A			
3	Discrete Mathematics	C	Department of Big Data and Information Retrieval	10,00	380	140	28	32A	40	40A	
4	Calculus	C	Department of Mathematics	11,00	418	140	24	32A	44	40A	
	Programming			**10,00**	**380**	**280**	**56**	**64**	**80**	**80**	
1	Algorithms and Algorithmic Languages	C	Joint System Programming Department with Institute for System Programming of the Russian Academy of Sciences	5,00	190	120	56A	64A			
2	Computer Architecture and Assembly Language	C	Joint System Programming Department with Institute for System Programming of the Russian Academy of Sciences	5,00	190	160			80A	80A	
	Programming			**10,00**	**380**	**280**	**56**	**64**	**80**	**80**	
1	C++ Programming Basics	C	Department of Software Engineering	3,00	114	80				80A	

#	Course	Type	Department							
2	C# Programming	C	Department of Software Engineering	7,00	266	200	56A	64A	80A		
	Elective Professional Block (Major)			**9,00**	**342**	**120**	**12**	**48**	**60**		
	Computer-based Workshop			**6,00**	**228**	**76**		**36**	**40**		
	Computer-based Workshop on Algebra			**3,00**	**114**	**38**		**18**	**20**		
1	Computer-based Workshop on Algebra in Matlab	E	Department of Software Engineering	3,00	114	38		18	20A		
2	Computer Practicum on Algebra in Python	E	Department of Software Engineering	3,00	114	38		18	20A		
	Computer-based Workshop on Mathematical Analysis			**3,00**	**114**	**38**		**18**	**20**		
1	Computer-based Workshop on Mathematical Analysis in Matlab	E	Department of Software Engineering	3,00	114	38		18	20A		
2	Computer Practicum on Mathematical Analysis in Python	E	Department of Software Engineering	3,00	114	38		18	20A		
	Научно-исследовательский семинар, 1 курс			**3,00**	**114**	**44**	**12**	**12**	**20**		
1	Research Seminar "Automata and Process Models"	E	Department of Software Engineering	3,00	114	44	12	12	20A		
2	Research Seminar "Data analysis in Python"	E	Department of Software Engineering	3,00	114	44	12	12	20A		
3	Research Seminar "Introduction to cloud technology"	E	Department of Software Engineering	3,00	114	44	12	12	20A		
4	Research Seminar "Geographic Information Systems"	E	Department of Software Engineering	3,00	114	44	12	12	20A		
5	Research Seminar "Linux software distribution"	E	Department of Software Engineering	3,00	114	44	12	12	20A		
6	Research Seminar "Neuroinformatics"	E	Department of Software Engineering	3,00	114	44	12	12	20A		
7	Research seminar "Neural Network Technologies"	E	Department of Software Engineering	3,00	114	44	12	12	20A		
8	Research Seminar "Development of Cyber-Physical Systems"	E	Department of Software Engineering	3,00	114	44	12	12	20A		
	English					**2**				**2**	
	Optional Courses										
1	English Language	O		8,00	304	128	20	28A	40	40A	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			**5,00**	**390**	**192**	**54**	**36**	**52**	**50**	
	Optional General Courses			**4,00**	**152**	**30**			**16**	**14**	
1	Economics	C	Department of Theoretical Economics	4,00	152	30			16	14A	Online Course
	Core General Courses			**1,00**	**238**	**162**	**54**	**36**	**36**	**36**	
1	Safe Living Basics	C	центр поддержки студенческих инициатив	1,00	38	18	18A				Online Course
2	Physical Training	C	Department of Physical Training		200	144	36	36	36	36A	

Curriculum agreed:

Academic Supervisor	AVETISYAN A.I.	19.05.2022
Dean	ARZHANTSEV I.V.	19.05.2022
Head of Degree Programmes Development Office	MAMONOVA M.A.	27.05.2022

* Subject type:

Compulsory course	C
Elective course	E
Optional course	O