National Research University Higher School of Economics (HSE)

Curriculum
Field of study 09.03.04 Software Engineering
Educational Programme "Software Engineering"
Specializations: "System Programming"
Implementing unit: Faculty of Computer Science, HSE - Moscow
2 nd, 2022/2023 academic year

Length of Programme: 4 years
Years of Study: 2021/2022 - 2024/2025
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			**56,00**	**2 128**	**934**	**198**	**248**	**278**	**210**	
	Data Culture										
1	Independent Programming Test. Advanced Level	C	Center for Support and Monitoring of Degree Programs			3				3A	
	Major			**37,00**	**1 406**	**532**	**96**	**140**	**160**	**136**	
	Core Professional Block (Major)			**34,00**	**1 292**	**488**	**84**	**128**	**140**	**136**	
	Subject Areas			**34,00**	**1 292**	**488**	**84**	**128**	**140**	**136**	
	Algorithms and Data Structures			**8,00**	**304**	**132**	**28**	**32**	**36**	**36**	
1	Алгоритмы и структуры данных	E	Department of Software Engineering	4,00	152	60	28A	32A			
2	Algorithms and Data Structures (additional topics)	E	Joint System Programming Department with Institute for System Programming of the Russian Academy of Sciences	4,00	152	60	28A	32A			
3	Databases (part 1)	E	Joint System Programming Department with Institute for System Programming of the Russian Academy of Sciences	4,00	152	72			36	36A	
4	Design and Analysis of Algorithms	E	Department of Software Engineering	4,00	152	72			36	36A	
	Software Engineering			**8,00**	**304**	**104**		**32**	**36**	**36**	
1	Software Design	E	Department of Software Engineering	8,00	304	104		32	36A	36A	
2	Java Programming	E	Joint System Programming Department with Institute for System Programming of the Russian Academy of Sciences	8,00	304	104		32	36A	36A	

No.	Course	Type	Department								Notes
	Organization of Computations			8,00	304	120	28	32	32	28	
1	Computer System Architecture	E	Department of Software Engineering	4,00	152	60	28	32A			
2	Operating Systems	E	Department of Software Engineering	4,00	152	60			32	28A	
3	Foundations of Operating Systems	E	Joint System Programming Department with Institute for System Programming of the Russian Academy of Sciences	4,00	152	60	28	32A			
4	Formal Languages and Translations	E	Joint System Programming Department with Institute for System Programming of the Russian Academy of Sciences	4,00	152	60			32	28A	
	Development and Analysis of Requirements										
1	Group Dynamics and Communication in Software Engineering Professional Practice	C	Department of Software Engineering	4,00	152	28	28A				
	Probability Theory and Mathematical Statistics			10,00	380	132	28	32	36	36	
1	Applied methods of mathematical statistics	C	Department of Applied Economics	5,00	190	72			36	36A	Online Course
2	Probability Theory and Mathematical Statistics	C	Department of Mathematics	5,00	190	60	28	32A			
	Elective Professional Block (Major)			3,00	114	44	12	12	20		
	Research seminar			3,00	114	44	12	12	20		
	Research seminar			3,00	114	44	12	12	20		
1	Research Seminar "Information Security Methods and Algorithms"	E	Department of Big Data and Information Retrieval	3,00	114	44	12	12	20A		
2	Research Seminar "Neuroinformatics. Additional Chapters"	E	Department of Software Engineering	3,00	114	44	12	12	20A		
3	Research Seminar "Parallelism in Algorithms and Programming"	E	Department of Software Engineering	3,00	114	44	12	12	20A		
4	Research Seminar "Immersion in iOS App Development"	E	Department of Software Engineering	3,00	114	44	12	12	20A		
5	Research Seminar "Programmable Crypto Economics"	E	Department of Software Engineering	3,00	114	44	12	12	20A		
6	Research Seminar "PHP Web Application Development"	E	Department of Software Engineering	3,00	114	44	12	12	20A		Foreign language
7	Research Seminar "Cloud and Mobile Application Development for Google Android Platform"	E	Department of Software Engineering	3,00	114	44	12	12	20A		
8	Research Seminar "Digital Imaging"	E	Department of Software Engineering	3,00	114	44	12	12	20A		
9	Research Seminar "Software Development Methodologies"	E	базовая кафедра фирмы 1С	3,00	114	44	12	12	20A		
	Minor			10,00	380	152	38	38	38	38	
1	Minor	E		10,00	380	152	38	38A	38	38A	

#	Subject	Type	Department								Notes
	English					104	28	32	44		
	Optional Courses					104	28	32	44		
1	English	O		6,00	228	104	28	32A	44		Foreign language, Credits only to the cumulative rating
	General Courses			1,00	38	144	36	36	36	36	
	Core General Courses			1,00	38	144	36	36	36	36	
1	Physical Training	C	Department of Physical Training	1,00	38	144	36	36	36	36A	
	Internship			8,00	304	2		2			
	Project Internship			5,00	190	2		2			
1	Term Project	C	Department of Software Engineering	5,00	190	2		2	2	2	
	Professional Internship			3,00	114						
1	Technological Internship	C		3,00	114						

Curriculum agreed:

Academic Supervisor	SHILOV V.V.	16.05.2022
Dean	ARZHANTSEV I.V.	16.05.2022
Head of Centre for Educational Model Design	LEPESHKIN I.A.	17.05.2022

* Subject type:

Compulsory course	C
Elective course	E
Optional course	O