



# 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  
2 nd, 2021/2022 academic year

APPROVED

01.06.2021

Vice Rector

ROSHCHIN Y.S.

Signed with EDS

Length of Programme: 4 years

Years of Study: 2020/2021 - 2023/2024

Mode of Study: Full Time

Degree: Bachelor's degree

Number of Students: 260

Number of Groups: 8

Block Code	Course	Subject type	Department	Credits	Total Academic Hours	Contact Hours	Allocation of Contact Hours				Additional Information
							1	2	3	4	
	<b>Degree Programme</b>			<b>60</b>	<b>3 420</b>	<b>1 377</b>	<b>226</b>	<b>246</b>	<b>238</b>	<b>219</b>	
	<b>Major</b>				<b>2 470</b>	<b>972</b>	<b>152</b>	<b>172</b>	<b>164</b>	<b>140</b>	
	<b>Core Professional Block (Major)</b>			<b>38</b>	<b>1 444</b>	<b>576</b>	<b>140</b>	<b>160</b>	<b>144</b>	<b>140</b>	
	<b>Subject Areas</b>			<b>38</b>	<b>1 444</b>	<b>576</b>	<b>140</b>	<b>160</b>	<b>144</b>	<b>140</b>	
	<b>Algorithms and Data Structures</b>			<b>8</b>	<b>304</b>	<b>132</b>	<b>28</b>	<b>32</b>	<b>40</b>	<b>40</b>	
1	Algorithms and Data Structures	C	Department of Software Engineering	4	152	60	28A	32A			
2	Design and Analysis of Algorithms	C	Department of Software Engineering	4	152	72			36	36A	
	<b>Software Engineering</b>			<b>8</b>	<b>304</b>	<b>132</b>	<b>28</b>	<b>32</b>	<b>36</b>	<b>36</b>	
1	Software Design	C	Department of Software Engineering	8	304	132	28	32A	36	36A	
	<b>Organization of Computations</b>			<b>8</b>	<b>304</b>	<b>120</b>	<b>28</b>	<b>32</b>	<b>32</b>	<b>28</b>	
1	Computer System Architecture	C	Department of Software Engineering	4	152	60	28	32A			
2	Operating Systems	C	Department of Software Engineering	4	152	60			32	28A	
	<b>Probability Theory and Mathematical Statistics</b>			<b>10</b>	<b>380</b>	<b>132</b>	<b>28</b>	<b>32</b>	<b>36</b>	<b>36</b>	
1	Applied methods of mathematical statistics	C	Department of Applied Economics	5	190	72			36	36A	Online Course
2	Probability Theory and Mathematical Statistics	C	Department of Mathematics	5	190	60	28	32A			
	<b>Software Project Management</b>			<b>4</b>	<b>152</b>	<b>60</b>	<b>28</b>	<b>32</b>			
1	Group Dynamics and Communication in Software Engineering Professional Practice	C	Department of Software Engineering	4	152	60	28	32A			

	<b>Elective Professional Block (Major)</b>				<b>1 026</b>	<b>396</b>	<b>12</b>	<b>12</b>	<b>20</b>		
	<b>Research seminar</b>			<b>3</b>	<b>1 026</b>	<b>396</b>	<b>132</b>	<b>132</b>	<b>220</b>		
	<b>Research seminar</b>				<b>1 026</b>	<b>396</b>	<b>12</b>	<b>12</b>	<b>20</b>		
1	Research Seminar "Information Security Methods and Algorithms"	E	Department of Big Data and Information Retrieval	3	114	44	12	12	20A		
2	Research Seminar "Neuroinformatics"	E	Department of Software Engineering	3	114	44	12	12	20A		
3	Research Seminar "Parallelism in Algorithms and Programming"	E	Department of Software Engineering	3	114	44	12	12	20A		
4	Research Seminar "Programmable Crypto Economics"	E	Department of Software Engineering	3	114	44	12	12	20A		
5	Research Seminar "PHP Web Application Development"	E	Department of Software Engineering	3	114	44	12	12	20A		Foreign language
6	Research Seminar "Cloud and Mobile Application Development for Google Android Platform"	E	Department of Software Engineering	3	114	44	12	12	20A		
7	Research Seminar "Development of applications for the Apple iOS platform"	E	Department of Software Engineering	3	114	44	12	12	20A		
8	Research Seminar "Digital Imaging"	E	Department of Software Engineering	3	114	44	12	12	20A		
9	Research Seminar "Software Development Methodologies"	E	базовая кафедра фирмы 1C	3	114	44	12	12	20A		
	<b>Minor</b>			<b>10</b>	<b>380</b>	<b>152</b>	<b>38</b>	<b>38</b>	<b>38</b>	<b>38</b>	
1	Minor	E		10	380	152	38	38A	38	38A	
	<b>English</b>				<b>228</b>	<b>107</b>				<b>3</b>	
	<b>Optional Courses</b>				<b>228</b>	<b>104</b>					
1	English	O		6	228	104	28	32A	44A		Foreign language, Credits only to the cumulative rating
	<b>Examinations</b>					<b>3</b>				<b>3</b>	
1	Independent English Language Test	C	центр поддержки и мониторинга образовательных программ			3				3A	
	<b>General Courses</b>			<b>1</b>	<b>38</b>	<b>144</b>	<b>36</b>	<b>36</b>	<b>36</b>	<b>36</b>	
	<b>Core General Courses</b>			<b>1</b>	<b>38</b>	<b>144</b>	<b>36</b>	<b>36</b>	<b>36</b>	<b>36</b>	
1	Physical Training	C	Department of Physical Training	1	38	144	36	36	36	36A	
	<b>Internship</b>			<b>8</b>	<b>304</b>	<b>2</b>				<b>2</b>	
	<b>Project Internship</b>			<b>5</b>	<b>190</b>	<b>2</b>				<b>2</b>	
1	Курсовой проект 1	C	Department of Software Engineering	5	190	2				2A	
	<b>Professional Internship</b>			<b>3</b>	<b>114</b>						
1	Technological Internship	C		3	114						

Curriculum agreed:

Academic Supervisor	SHILOV V.V.	26.05.2021
Dean	ARZHANTSEV I.V.	26.05.2021
Head of Degree Programmes Development Office	MAMONOVA M.A.	31.05.2021

\* Subject type:

Compulsory course

C

Elective course

E

Optional course

O