



National Research University Higher School of Economics (HSE)

Curriculum  
 Speciality 10.05.01 Cyber Security  
 Educational Programme "Cyber Security"  
 Specializations: "Mathematical methods of information security"  
 Implementing unit: Tikhonov Moscow Institute of Electronics and  
 Mathematics, HSE - Moscow  
 4 th, 2024/2025 academic year

APPROVED  
 03.05.2024  
 Vice Rector  
 ROSHCHIN S.Y.  
 Signed with EDS

Length of Programme: 5 years 6 months  
 Years of Study: 2021/2022 - 2026/2027  
 Mode of Study: Full Time  
 Degree: Specialist's degree

Block Code	Course	Subject type	Department	Credits	Total Academic Hours	Contact Hours	Allocation of Contact Hours				Additional Information
							1	2	3	4	
<b>Вся образовательная программа</b>				<b>60,00</b>	<b>2 280</b>	<b>464</b>	<b>164</b>	<b>220</b>	<b>228</b>	<b>190</b>	
<b>Data Culture</b>				<b>1,00</b>	<b>38</b>	<b>2</b>				<b>2</b>	
1	Data Science, AI and Generative Models Independent Test. Intermediate	C	отдел развития цифровых компетенций	1,00	38	2				2A	Online Course
<b>Major</b>				<b>46,00</b>	<b>1 748</b>	<b>428</b>	<b>164</b>	<b>220</b>	<b>212</b>	<b>170</b>	
<b>Basic</b>				<b>19,00</b>	<b>722</b>	<b>248</b>	<b>98</b>	<b>128</b>	<b>22</b>		
<b>по информатике и программированию</b>				<b>11,00</b>	<b>418</b>	<b>166</b>	<b>78</b>	<b>88</b>			
1	Computer Networks	C	School of Computer Engineering	3,00	114	44	20	24A			
2	Operating Systems	C	Department of Applied Mathematics	4,00	152	62	28	34A			
3	Systems and Networks of Information Transfer	C	School of Electronic Engineering	4,00	152	60	30	30A			
<b>по компьютерной безопасности</b>				<b>8,00</b>	<b>304</b>	<b>82</b>	<b>20</b>	<b>40</b>	<b>22</b>		
1	Computer Security Models	C	Department of Computer Security	5,00	190	40	20	20A			
2	Database Management Systems	C	Department of Applied Mathematics	3,00	114	42		20	22A		Foreign language
<b>Elective Components</b>				<b>27,00</b>	<b>1 026</b>	<b>180</b>	<b>66</b>	<b>92</b>	<b>190</b>	<b>170</b>	
1	English for Research and Publication Purposes	C	School of Foreign Languages	3,00	114	52	14A	16	22A		Foreign language
<b>Elective Courses</b>				<b>14,00</b>	<b>532</b>						
<b>Elective Courses 1</b>				<b>14,00</b>	<b>532</b>						
1	How to Process and Store Big Data and Machine Learning	E	Department of Computer Security	3,00	114	32				32A	

2	Methods for searching for vulnerabilities and penetration into information systems	E	Department of Computer Security	4,00	152	32				32A	
3	Microcontroller Systems	E	School of Computer Engineering	4,00	152	86			44	42A	
4	Information Security Management	E	Department of Computer Security	3,00	114	32		12	20A		
<b>Elective Courses 2</b>				<b>14,00</b>	<b>532</b>						
1	Methods of Information Security in Financial and Banking Activities	E	Department of Computer Security	3,00	114	32		12	20A		
2	Number Theory Methods in Cryptography	E	Department of Computer Security	4,00	152	42			22	20A	
3	Theory of Coding, Compression and Data Recovery	E	Department of Computer Security	4,00	152	40	20	20A			
4	Theory of Pseudo-random Generators	E	Department of Computer Security	3,00	114	42			22	20A	
5	Cryptographic Methods of Information Security	C	Department of Computer Security	7,00	266	96	24	24A	32	16A	
6	Project Seminar	C	Department of Computer Security	3,00	114	32	8	8	8	8A	
<b>ДОЦ</b>				<b>3,00</b>	<b>114</b>	<b>30</b>			<b>16</b>	<b>14</b>	
<b>Дополнительные дисциплины ДОЦ</b>				<b>3,00</b>	<b>114</b>	<b>30</b>			<b>16</b>	<b>14</b>	
1	Philosophy	C	Школа философии и культурологии	3,00	114	30			16	14A	Online Course
<b>Internship</b>				<b>10,00</b>	<b>380</b>	<b>4</b>				<b>4</b>	
<b>Научно-исследовательская</b>						<b>2</b>				<b>2</b>	
1	Cryptographic Methods of Information Security	C				2				2A	
<b>Проектная</b>				<b>4,00</b>	<b>152</b>	<b>2</b>				<b>2</b>	
1	Проект	C		4,00	152	2				2A	
<b>Профессиональная</b>				<b>6,00</b>	<b>228</b>						
1	Work Experience Internship	C		6,00	228						

**Curriculum agreed:**

Academic Supervisor	LOS A.B.	17.04.2024
Dean	KROUK E.A.	18.04.2024
Head of Centre for Educational Model Design	LEPESHKIN I.A.	26.04.2024

\* Subject type:

Compulsory course

C

Elective course

E

Optional course

O