



National Research University Higher School of Economics (HSE)

Curriculum
Speciality 10.05.01 Cyber Security
Educational Programme "Cyber Security"
Implementing unit: Tikhonov Moscow Institute of Electronics and
Mathematics, HSE - Moscow
4 th, 2023/2024 academic year

APPROVED
26.01.2023
Vice Rector
ROSHCHIN S.Y.
Signed with EDS

Length of Programme: 5 years 6 months
Years of Study: 2020/2021 - 2025/2026
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	
Вся образовательная программа				18,00	684	94	126	178	180	132	
Block 1. Courses (Modules)				6,00	228	54	116	168	170	122	
General Programme Part				6,00	228	54		12	28	14	
1	Project Management	C	Department of Computer Security	3,00	114	24		12	12A		Online Course
2	Philosophy	C	Школа философии и культурологии	3,00	114	30			16	14A	Online Course
Professional Programme Part (Major)							116	156	142	108	
Basic Components				25,00	950	302	102	128	46	26	
1	Cryptographic Methods of Information Security	C	Department of Computer Security	7,00	266	96	24	24A	24	24A	
2	Cryptographic Methods of Information Security	C				2				2A	
3	Computer Security Models	C	Department of Computer Security	5,00	190	40	20	20A			
4	Operating Systems	C	Department of Applied Mathematics	5,00	190	62	28	34A			
5	Systems and Networks of Information Transfer	C	School of Electronic Engineering	4,00	152	60	30	30A			
6	Database Management Systems	C	Department of Computer Security	4,00	152	42		20	22A		Foreign language
Вариативная профильная часть, включая дисциплины специализаций и дисциплины по выбору				3,00	114	52	14	16	22		
1	English for Research and Publication Purposes	C	School of Foreign Languages	3,00	114	52	14A	16	22A		Foreign language
Elective Courses				14,00	532	168		12	74	82	
Elective Courses 1				14,00	532	178		12	54	94	

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	82			40	42A
4	Information Security Management	E	Department of Computer Security	3,00	114	32		12	20A	
Elective Courses 2				14,00	532	156	20	20	60	56
1	Methods of Information Security in Financial and Banking Activities	E	Department of Computer Security	3,00	114	32			16	16A
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
Block 2. Practice(s), Project and(or) Research work				12,00	456	40	10	10	10	10
Internships				5,00	190					
1	Work Experience Internship	C		5,00	190					
Project Activity				7,00	266	40	10	10	10	10
Projects and Project Seminar				7,00	266	40	10	10	10	10
1	Project	E		4,00	152	8	2	2	2	2A
2	Project Seminar	C	Department of Computer Security	3,00	114	32	8	8	8	8A

Curriculum agreed:

Academic Supervisor	LOS A.B.	23.01.2023
Dean	KROUK E.A.	23.01.2023
Head of Centre for Educational Model Design	LEPESHKIN I.A.	25.01.2023

* Subject type:

Compulsory course

C

Elective course

E