



National Research University Higher School of Economics (HSE)

Curriculum

Field of study 11.03.02 Infocommunication Technologies and Systems

Educational Programme "Infocommunication Technologies and Systems"

Implementing unit: Tikhonov Moscow Institute of Electronics and Mathematics, HSE - Moscow

4 th, 2023/2024 academic year

APPROVED

17.02.2023

Vice Rector

ROSHCHIN S.Y.

Signed with EDS

Length of Programme: 4 years

Years of Study: 2020/2021 - 2023/2024

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 Programme				60,00	2 280	476	142	140	190	4	
Major				40,00	1 520	438	128	124	186		
Elective Professional Block (Major)				40,00	1 520	438	128	124	186		
Compulsory Courses of the Educational Track (1/3)				24,00	912	260	80	80	100		
Quantum Infocommunication Technologies				24,00	912	272	80	92	100		
1	Introduction to quantum algorithms	E	School of Electronic Engineering	4,00	152	40			40A		
2	Introduction to quantum processes and devices	E	School of Electronic Engineering	4,00	152	28	28A				Foreign language
3	Quantum solid systems	E	School of Electronic Engineering	4,00	152	52	24	28A			
4	Manetism and spintronics, magnonics, photonics	E	School of Electronic Engineering	4,00	152	52		28	24A		
5	Devices for quantum computing and communication	E	School of Electronic Engineering	4,00	152	72		36	36A		
6	Photonic integrated circuits for quantum computing, communications and metrology	E	School of Electronic Engineering	4,00	152	28	28A				
Electronics of Infocommunication Technologies and Communication Systems				24,00	912	238	74	64	100		
1	Integrated circuits for telecommunication devices	E	School of Electronic Engineering	4,00	152	36		16	20A		
2	Communication Devices Components	E	School of Electronic Engineering	4,00	152	56	28	28A			
3	Devices of functional electronic	E	School of Electronic Engineering	4,00	152	28	28A				

4	Design of electronic components and devices for telecommunication equipment	E	School of Electronic Engineering	4,00	152	40			40A		
5	Digital Devices and Microprocessors	E	School of Electronic Engineering	4,00	152	38	18	20A			
6	Power Supply Devices and Telecommunications	E	School of Electronic Engineering	4,00	152	40			40A		
Infocommunication Technologies and Internet of Things							86	80	100		
1	Antenna systems and devices	E	School of Electronic Engineering	4,00	152	30	30A				
2	Information security and protection of infocommunication systems	E	School of Electronic Engineering	4,00	152	40			40A		
3	Optoelectronic infocommunication systems	E	School of Electronic Engineering	4,00	152	40		20	20A		
4	IoT hardware design fundamentals	E	School of Electronic Engineering	4,00	152	28	28A				
5	Foundations of the theory of automatic control in technical systems	E	School of Electronic Engineering	4,00	152	72		32	40A		
6	Electromagnetic compatibility infocommunication and related systems	E	School of Electronic Engineering	4,00	152	56	28	28A			
Вариативная часть (по выбору ОП)				12,00	456	116	28	24	64		
1	Wireless Communication Systems	C	School of Electronic Engineering	4,00	152	40			40A		
2	Machine Learning	C	School of Electronic Engineering	4,00	152	48		24	24A		Foreign language
3	Digital systems for information transmitting and receiving	C	School of Electronic Engineering	4,00	152	28	28A				
Научно-исследовательский семинар/Проектный семинар				4,00	152	62	20	20	22		
1	Project Seminar	C	School of Electronic Engineering	4,00	152	62	20	20	22A		
English				1,00	38	2			2		
Optional Courses											
1	Academic English Writing	O		2,00	76	48		28	20A		Foreign language, Credits only to the cumulative rating
Examinations				1,00	38	2			2		
1	Project Proposal	C	School of Electronic Engineering	1,00	38	2			2A		Foreign language
Final State Certification (FSC)				3,00	114	2				2	
Thesis Work				3,00	114	2				2	
1	Presenting of Graduation Thesis	C		3,00	114	2				2A	
General Courses				4,00	152	30	14	16			
Optional General Courses				4,00	152	30	14	16			
1	Economics	C	Department of Theoretical Economics	4,00	152	30	14	16A			Online Course
Internship				12,00	456	4			2	2	
Research Internship				6,00	228	2			2		

1	Graduation Internship	C		6,00	228	2			2A	
	Project Internship			6,00	228	2				2
1	Preparation of Graduation Thesis	C		6,00	228	2				2

Curriculum agreed:

Academic Supervisor ELIZAROV A.A. 02.02.2023

Dean KROUK E.A. 03.02.2023

Head of Centre for Educational Model Design LEPESHKIN I.A. 16.02.2023

* Subject type:

Compulsory course

C

Elective course

E

Optional course

O