



National Research University Higher School of Economics (HSE)

Curriculum

Field of study 09.04.01 Information Science and Computation
Technology

Educational Programme "Computer Systems and Networks"

Trajectories: "Computer Networks", "Computing Systems and
Complexes", "Highload Systems and Code Optimization",
"Information - Analytical Systems"

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

2 nd, 2023/2024 academic year

APPROVED

17.03.2023

Vice Rector

ROSHCHIN S.Y.

Signed with EDS

Length of Programme: 2 years

Years of Study: 2022/2023 - 2023/2024

Mode of Study: Full Time

Degree: Master's degree / MBA

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	224	78	78	12		
	Highload Systems and Code Optimization (Applied track)			60,00	2 280	296	96	102	94	4	
	Major			24,00	912	228	76	80	72		
	Обязательные дисциплины программы			24,00	912	228	76	80	72		
1	IT Product Management	C	School of Computer Engineering	6,00	228	48	24	24A			
2	Operating Systems	C	School of Computer Engineering	6,00	228	48		24	24A		
3	Industrial Programming in C/C++	C	School of Computer Engineering	3,00	114	48			48A		
4	Advanced Programming in Python	C	Department of Applied Mathematics	6,00	228	60	28	32A			
5	IT-Projects and IT-Processes Management	C	School of Computer Engineering	3,00	114	24	24A				
	Final State Certification (FSC)			3,00	114	2				2	
1	Final Qualification Paper	C		3,00	114	2				2A	
	Key Seminars			12,00	456	58	18	20	20		
1	Highload systems and code optimization	C	School of Computer Engineering	3,00	114	22	6A	8	8A		
2	Project Seminar	C	School of Computer Engineering	9,00	342	36	12	12	12A		
	Magolego			6,00	228						
1	All-university Pool MAGOLEGO Courses	E		6,00	228						

	Internship			15,00	570	8	2	2	2	2	
	Research Internship			9,00	342	2				2	
1	Graduation Thesis	C		9,00	342	2				2	
	Project Internship			2,00	76	6	2	2	2		
1	Project	E		2,00	76	6	2	2	2A		
	Professional Internship			4,00	152						
1	Graduation Internship	C		4,00	152						
	Computing Systems and Complexes (General track)			60,00	2 280	230	122	98	6	4	
	Major			21,00	798	168	96	72			
	Components of the Field of Study			3,00	114	24	24				
1	IT-Projects and IT-Processes Management	C	School of Computer Engineering	3,00	114	24	24A				
	Elective Courses			18,00	684	144	72	72			
1	The Architecture of the Computing Cores of Modern Microprocessors	E	School of Computer Engineering	6,00	228	34	12	22A			
2	Wireless Networks and Portable Systems	E	School of Computer Engineering	6,00	228	48	24	24A			
3	Neural Networks: Tasks and Computation	E	School of Computer Engineering	6,00	228	48	24	24A			
4	Architecture Features Support in the Operating Systems Development	E	School of Computer Engineering	6,00	228	48	24	24A			
	Final State Certification (FSC)			3,00	114	2				2	
1	Final Qualification Paper	C		3,00	114	2				2A	
	Key Seminars			12,00	456	56	26	26	4		
1	Research Seminar	C	School of Computer Engineering	6,00	228	28	14	14A			
2	Project Seminar	C	School of Computer Engineering	3,00	114	16	8	8A			
3	Mentor's Seminar "Computing Systems and Complexes"	C	School of Computer Engineering	3,00	114	12	4	4	4A		
	Magolego			9,00	342						
1	All-university Pool MAGOLEGO Courses	C		9,00	342						
	Internship			15,00	570	4			2	2	
	Research Internship			9,00	342	2				2	
1	Graduation Thesis	C		9,00	342	2				2	
	Professional Internship			6,00	228	2			2		
1	Work Experience Internship	C		6,00	228	2			2A		
	Information - Analytical Systems (General track)			60,00	2 280	230	122	98	6	4	
	Major			21,00	798	168	96	72			
	Components of the Field of Study			3,00	114	24	24				
1	IT-Projects and IT-Processes Management	C	School of Computer Engineering	3,00	114	24	24A				
	Elective Courses			18,00	684	144	72	72			
1	Security of Computer Systems and Computer Networks	E	School of Computer Engineering	6,00	228	48	24	24A			

2	Methodology and Technology of Development of Corporate Trainees of Expert Systems	E	Joint Department of Data Analysis Systems with JSC EC-leasing	6,00	228	48	24	24A			
3	Methods and Technologies for Working with Corporate Structured Data	E	Joint Department of Data Analysis Systems with JSC EC-leasing	6,00	228	48	24	24A			
4	Data Analysis Applications in the Development of Analytical Information Systems	E	Joint Department of Data Analysis Systems with JSC EC-leasing	6,00	228	48	24	24A			
Final State Certification (FSC)				3,00	114	2				2	
1	Final Qualification Paper	C		3,00	114	2				2A	
Key Seminars				12,00	456	56	26	26	4		
1	Research Seminar	C	School of Computer Engineering	6,00	228	28	14	14A			
2	Project Seminar	C	School of Computer Engineering	3,00	114	16	8	8A			
3	Mentor's seminar "Analytical Information Systems"	C	School of Computer Engineering	3,00	114	12	4	4	4A		
Magolego				9,00	342						
1	All-university Pool MAGOLEGO Courses	C		9,00	342						
Internship				15,00	570	4			2	2	
Research Internship				9,00	342	2				2	
1	Graduation Thesis	C		9,00	342	2				2	
Professional Internship				6,00	228	2			2		
1	Work Experience Internship	C		6,00	228	2			2A		
Computer Networks (General track)				60,00	2 280	230	122	98	6	4	
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Elective Courses				18,00	684	144	72	72			
1	Security of Computer Systems and Computer Networks	E	School of Computer Engineering	6,00	228	48	24	24A			
2	Wireless Networks and Portable Systems	E	School of Computer Engineering	6,00	228	48	24	24A			
3	Neural Networks: Tasks and Computation	E	School of Computer Engineering	6,00	228	48	24	24A			
4	Management and Monitoring of Computer Networks	E	School of Computer Engineering	6,00	228	48	24	24A			
Final State Certification (FSC)				3,00	114	2				2	
1	Final Qualification Paper	C		3,00	114	2				2A	
Key Seminars				12,00	456	56	26	26	4		
1	Research Seminar	C	School of Computer Engineering	6,00	228	28	14	14A			
2	Project Seminar	C	School of Computer Engineering	3,00	114	16	8	8A			
3	Mentor's Seminar "Computer Networks"	C	School of Computer Engineering	3,00	114	12	4	4	4A		

	Magolego			9,00	342						
1	All-university Pool MAGOLEGO Courses	C		9,00	342						
	Internship			15,00	570	4			2	2	
	Research Internship			9,00	342	2				2	
1	Graduation Thesis	C		9,00	342	2				2	
	Professional Internship			6,00	228	2			2		
1	Work Experience Internship	C		6,00	228	2			2A		

Curriculum agreed:

Academic Supervisor	VISHNEKOV A.V.	22.02.2023
Dean	KROUK E.A.	24.02.2023
Head of Centre for Educational Model Design	LEPESHKIN I.A.	10.03.2023

* Subject type:

Compulsory course

C

Elective course

E