



National Research University Higher School of Economics (HSE)

Curriculum

Field of study 01.04.04 Applied Mathematics,

01.04.02 Applied Mathematics and Informatics

Educational Programme "Systems Analysis and Mathematical Technologies"

Trajectories: "Management Systems and Information Processing in Engineering", "Mathematical Methods and Computer Technologies", "Supercomputer Simulations in Science and Engineering"

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

2 nd, 2025/2026 academic year

APPROVED

20.05.2025

Vice Rector

ROSHCHIN S.Y.

Signed with EDS

Length of Programme: 2 years

Years of Study: 2024/2025 - 2025/2026

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	200	30	78	94	4	
	Mathematical Methods and Computer Technologies (Applied track)			60,00	2 280	232	100	106	22	4	
	Major			18,00	684	176	86	90			
	Обязательные дисциплины программы			18,00	684	176	86	90			
1	Methods of Noncommutative Analysis	C	Department of Applied Mathematics	6,00	228	60	28	32A			
2	Multiscale Modeling and Supercomputer Architectures	C	Department of Applied Mathematics	6,00	228	56	28	28A			Foreign language
3	Models of Complex Systems	C	Department of Applied Mathematics	6,00	228	60	30	30A			
	Final State Certification (FSC)			3,00	114	2				2	
1	Final Qualification Paper	C		3,00	114	2				2A	
	Key Seminars			9,00	342	50	14	16	20		
1	Mathematical methods and computer technology (mentor seminar)	C	Department of Applied Mathematics	9,00	342	50	14A	16	20A		
	Magolego			6,00	228						
1	All-university Pool MAGOLEGO Courses	E		6,00	228						
	Internship			24,00	912	4			2	2	
	Research Internship			15,00	570	2				2	
1	Graduation Thesis	C		15,00	570	2				2A	

	Professional Internship			9,00	342	2			2		
1	Work Experience Internship	C		9,00	342	2			2A		
	Management Systems and Information Processing in Engineering (Applied track)			60,00	2 280	206	30	78	94	4	
	Major			18,00	684	150	16	62	72		
	Compulsory Courses			18,00	684	150	16	62	72		
1	Methods and Tools for Big Data Processing	C	Department of Applied Mathematics	6,00	228	52		20	32A		
2	Network Modeling	C	Department of Applied Mathematics	6,00	228	68		28	40A		
3	Basics of cybersecurity	C	Department of Applied Mathematics	6,00	228	30	16	14A			Online Course
	Final State Certification (FSC)			3,00	114	2				2	
1	Final Qualification Paper	C		3,00	114	2				2A	
	Key Seminars			9,00	342	50	14	16	20		
1	Control and information processing systems (mentor seminar)	C	Department of Applied Mathematics	9,00	342	50	14A	16	20A		
	Magolego			6,00	228						
1	All-university Pool MAGOLEGO Courses	E		6,00	228						
	Internship			24,00	912	4			2	2	
	Research Internship			15,00	570	2				2	
1	Graduation Thesis	C		15,00	570	2				2A	
	Professional Internship			9,00	342	2			2		
1	Work Experience Internship	C		9,00	342	2			2A		
	Supercomputer Simulations in Science and Engineering (Applied track)			60,00	2 280	212	92	94	22	4	
	Major			18,00	684	156	78	78			
	Compulsory Courses			18,00	684	156	78	78			
1	Multiscale Modeling and Supercomputer Architectures	C	Department of Applied Mathematics	6,00	228	56	28	28A			Foreign language
2	Models of Complex Systems	C	Department of Applied Mathematics	6,00	228	60	30	30A			
3	Management Information System Design	C	Department of Applied Mathematics	6,00	228	40	20	20A			
	Final State Certification (FSC)			3,00	114	2				2	
1	Final Qualification Paper	C		3,00	114	2				2A	
	Key Seminars			9,00	342	50	14	16	20		
1	Supercomputer Simulation in Science and Engineering (mentor seminar)	C	Department of Applied Mathematics	9,00	342	50	14A	16	20A		
	Magolego			6,00	228						
1	All-university Pool MAGOLEGO Courses	E		6,00	228						
	Internship			24,00	912	4			2	2	
	Research Internship			15,00	570	2				2	
1	Graduation Thesis	C		15,00	570	2				2A	
	Professional Internship			9,00	342	2			2		
1	Work Experience Internship	C		9,00	342	2			2A		

Curriculum agreed:

Academic Supervisor	Сластников С.А.	11.03.2025
Dean	Kovalenko D.G.	17.03.2025
Head of Centre for Educational Model Design	LEPESHKIN I.A.	20.05.2025

*** Subject type:**

Compulsory course

C

Elective course

E