



National Research University Higher School of Economics (HSE)

Basic Curriculum

Field of study 01.03.01 Mathematics
Educational Programme "Mathematics"

Implementing unit: Faculty of Mathematics, HSE - Moscow

APPROVED
10.06.2021
Vice Rector
ROSHCHIN S.Y.
Signed with EDS

Years of Study: 2021/2022 - 2024/2025

Length of Programme: 4 years

Mode of Study: Full Time

Degree: Bachelor's degree

Block Code	Course	Subject type	Credits	Credits by Years				Planned Educational Programme Development Results
				1	2	3	4	
	Degree Programme		240,00	60,00	63,00	63,00	54,00	
	Major		177,00	54,00	47,00	34,00	42,00	
	Core Professional Block (Major)		75,00	45,00	20,00	10,00		
	Subject Areas		75,00	45,00	20,00	10,00		
	Algebra		11,00	11,00				
1	Algebra	C	11,00	11,00				GPC-1, GPC-3, GPC-4, PC-2, PC-3, PC-4, UC-1, UC-2, UC-3, UC-5, UC-6
	Discrete Mathematics		4,00	4,00				
1	Discrete Mathematics	C	4,00	4,00				GPC-1, GPC-2, GPC-3, GPC-4, PC-1, PC-3, PC-4, UC-1, UC-2, UC-3, UC-5, UC-6
	Geometry and Topology		19,00	19,00				
1	Geometry	C	11,00	11,00				GPC-1, GPC-2, GPC-3, GPC-4, PC-1, PC-2, PC-3, UC-1, UC-2, UC-3, UC-5, UC-6
2	Introduction to Topology	C	8,00	8,00				GPC-1, GPC-2, GPC-3, GPC-4, PC-1, PC-2, PC-3, PC-4, UC-1, UC-2, UC-4, UC-5, UC-6, UC-7
	Analysis		26,00	11,00	15,00			
1	Calculus	C	11,00	11,00				GPC-1, GPC-2, GPC-3, GPC-4, PC-1, PC-2, PC-3, PC-4, UC-1, UC-2, UC-3, UC-4, UC-5, UC-6
2	Theory of Complex Functions	C	5,00		5,00			GPC-1, GPC-2, GPC-3, GPC-4, PC-1, PC-2, PC-3, UC-1, UC-2, UC-3, UC-5, UC-6

3	Measure and Integral	C	5,00		5,00			GPC-1, GPC-2, GPC-3, GPC-4, PC-1, PC-2, PC-3, PC-4, UC-1, UC-10, UC-2, UC-3, UC-4, UC-5, UC-6
4	Fourier Analysis	C	5,00		5,00			GPC-1, GPC-2, GPC-3, GPC-4, PC-1, PC-2, PC-3, PC-4, UC-1, UC-10, UC-2, UC-3, UC-4, UC-5, UC-6
	Differential Equations and Dynamical Systems		5,00		5,00			
1	Differential Equations	C	5,00		5,00			UC-1
	Probability Theory		10,00			10,00		
1	Probability Theory	C	7,00			7,00		GPC-2, GPC-4, PC-4, UC-1, UC-3
2	Independent Exam "Mathematics. Licenciatus"	C	3,00			3,00		UC-1, UC-6
	Elective Professional Block (Major)		102,00	9,00	27,00	24,00	42,00	
	-		5,00			5,00		
1	Logic and Algorithms	E	5,00			5,00		GPC-1, GPC-3, PC-2, PC-4, UC-11, UC-2, UC-7, UC-9
2	Mechanics	E	5,00			5,00		GPC-2, GPC-4, PC-2, PC-3, UC-1, UC-10, UC-2, UC-5, UC-6, UC-9
	-		5,00			5,00		
1	Algebra	E	5,00			5,00		UC-1, UC-10, UC-11, UC-4, UC-7, UC-8
2	Introduction into Python	E	5,00			5,00		GPC-1, GPC-4, PC-2, UC-1, UC-2
	курсы по выбору		14,00			14,00		
1	-	E	14,00			14,00		GPC-1, GPC-2, PC-2, PC-3, UC-1, UC-10, UC-11, UC-2, UC-8, UC-9
	Elective courses from the general faculty list and/or NISA from the Cadaver of faculty disciplines, projects		42,00				42,00	
1	Introduction to Enumerative Combinatorics (offered in a foreign language)	E	6,00				6,00	GPC-4, PC-2, PC-4, UC-2
2	-	E	42,00				42,00	PC-2
	Научно-исследовательские семинары из РУПа факультетских дисциплин, сервисные, прикладные и исследовательские проекты на 6 з.е.		6,00	6,00				
1	Научно-исследовательские семинары из РУПа факультетских дисциплин, сервисные, прикладные и исследовательские проекты на 6 з.е.	E	6,00	6,00				GPC-2, GPC-3, PC-2, UC-1, UC-2
	Тривиум		3,00	3,00				
1	Research Seminar "Trivium. Mathematics"	C	3,00	3,00				GPC-1, GPC-2, GPC-3, GPC-4, PC-1, PC-2, PC-3, PC-4, UC-1, UC-2, UC-3, UC-5, UC-6, UC-7
	Научно-исследовательские семинары по выбору		5,00		5,00			
1	Research Seminar "Mechanics"	E	5,00		5,00			GPC-2, GPC-3, PC-3, UC-1, UC-5, UC-7, UC-8
2	Research Seminar "Logic and Algorithms"	E	5,00		5,00			GPC-2, GPC-3, PC-1, PC-2, UC-1, UC-4, UC-7

	Курсы по выбору из этого или из общефакультетского списка		9,00		9,00			
1	-	E	9,00		9,00			GPC-2, GPC-3, PC-1, PC-2, UC-1, UC-11, UC-2, UC-4, UC-6, UC-8, UC-9
2	Introduction to Galois Theory (offered in a foreign language)	E	6,00		6,00			GPC-3, GPC-4, PC-2, PC-3, PC-4, UC-1, UC-6
3	Jacobi modular forms: 30 ans apres (offered in a foreign language)	E	3,00		3,00			GPC-3, GPC-4, PC-3, PC-4, UC-1, UC-6, UC-7
	Курсы по выбору из списка		5,00		5,00			
1	Algebra	E	5,00		5,00			GPC-1, GPC-3, GPC-4, PC-2, PC-3, PC-4, UC-1, UC-2, UC-3, UC-4, UC-5, UC-6
2	Introduction into Python	E	5,00		5,00			UC-1
	Research seminar		8,00		8,00			
1	Research Seminar "Smooth Manifolds"	C	8,00		8,00			GPC-2, GPC-3, PC-3, UC-1, UC-2, UC-3
	Internship		21,00	5,00	5,00	5,00	6,00	
	Research Internship		21,00	5,00	5,00	5,00	6,00	
1	Preparation of Graduation Thesis	C	6,00				6,00	UC-1
2	Term Paper	C	5,00	5,00				GPC-1, GPC-2, GPC-3, GPC-4, PC-1, PC-2, PC-3, PC-4, UC-1, UC-2, UC-3, UC-4, UC-5, UC-6
3	Term Paper	C	10,00		5,00	5,00		UC-1
	General Courses		14,00	1,00	1,00	8,00	4,00	
	Core General Courses		2,00	1,00	1,00			
1	Safe Living Basics	C	1,00	1,00				GPC-4, UC-1, UC-2, UC-3, UC-4, UC-5, UC-6, UC-8
2	Physical Training	C	1,00		1,00			UC-1
	Optional General Courses		12,00			8,00	4,00	
1	Economics	C	4,00			4,00		GPC-3, PC-2, PC-3, UC-1
2	Legal Literacy	C	4,00			4,00		GPC-2, GPC-4, PC-1, PC-4, UC-4, UC-5, UC-7, UC-8
3	Philosophy	C	4,00				4,00	GPC-4, PC-2, UC-1, UC-2, UC-4
	Minor		20,00		10,00	10,00		
1	Minor	C	20,00		10,00	10,00		UC-1
	English		1,00				1,00	
	Examinations		1,00				1,00	
1	Independent English Exam (offered in a foreign language)	C						UC-2
2	Project Proposal (offered in a foreign language)	C	1,00				1,00	UC-2
3	English Language Integrative Exam (offered in a foreign language)	C						GPC-2, GPC-4, UC-1, UC-2, UC-3, UC-4, UC-5, UC-6, UC-7, UC-8
	Optional Courses							
1	Academic English Writing (offered in a foreign language)	O	2,00				2,00	GPC-4, PC-2, UC-2, UC-6

