



National Research University Higher School of Economics (HSE)

Curriculum

Field of study 01.04.01 Mathematics

Educational Programme "Mathematics"

Trajectories: "Algebra, Logic and Number Theory", "Analysis, Dynamical Systems and Probability Theory", "Mathematical Physics", "Topology, Combinatorics and Representation Theory"

Implementing unit: Faculty of Mathematics, HSE - Moscow  
2 nd, 2024/2025 academic year

APPROVED

19.04.2024

Vice Rector

ROSHCHIN S.Y.

Signed with EDS

Length of Programme: 2 years

Years of Study: 2023/2024 - 2024/2025

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	
<b>Degree Programme</b>				<b>63,00</b>	<b>2 394</b>	<b>188</b>	<b>40</b>	<b>41</b>	<b>55</b>	<b>52</b>	
<b>Algebra, Logic and Number Theory (Research track)</b>				<b>63,00</b>	<b>2 394</b>	<b>188</b>	<b>40</b>	<b>41</b>	<b>55</b>	<b>52</b>	
<b>Major</b>				<b>24,00</b>	<b>912</b>	<b>72</b>	<b>16</b>	<b>14</b>	<b>22</b>	<b>20</b>	
<b>Elective Courses</b>				<b>24,00</b>	<b>912</b>	<b>72</b>	<b>16</b>	<b>14</b>	<b>22</b>	<b>20</b>	
1	Introduction to Enumerative Combinatorics	E	Faculty of Mathematics	6,00	228	8	2	6A			Online Course, Foreign language
2	-	E		24,00	912	72	16A	14A	22A	20A	
<b>Final State Certification (FSC)</b>				<b>3,00</b>	<b>114</b>	<b>2</b>				<b>2</b>	
1	Final Qualification Paper	C		3,00	114	2				2A	
<b>Key Seminars</b>				<b>9,00</b>	<b>342</b>	<b>102</b>	<b>24</b>	<b>21</b>	<b>33</b>	<b>24</b>	
<b>Модуль "Ключевые семинары"</b>				<b>3,00</b>	<b>114</b>	<b>36</b>	<b>8</b>	<b>7</b>	<b>11</b>	<b>10</b>	
1	Academic Mentor's Seminar "Algebra, Logic and Number Theory"	C	Faculty of Mathematics	3,00	114	36	8	7	11	10A	Foreign language
<b>-</b>				<b>6,00</b>	<b>228</b>	<b>66</b>	<b>16</b>	<b>14</b>	<b>22</b>	<b>14</b>	
1	Research Seminar "Geometric Structures on Manifolds 1"	E	Laboratory of Algebraic Geometry and its Applications	3,00	114	30	16	14A			
2	Research Seminar "Geometric Structures on Manifolds 2"	E	Laboratory of Algebraic Geometry and its Applications	3,00	114	36			22	14A	
3	Research Seminar "Modern Problems of Mathematical Logic 1"	E	Faculty of Mathematics	3,00	114	30	16	14A			
4	Research Seminar "Modern Problems of Mathematical Logic 2"	E	Faculty of Mathematics	3,00	114	36			22	14A	

5	Research Seminar "Representation Theory 1"	E	Faculty of Mathematics	3,00	114	30	16	14A			
6	Research Seminar "Representation Theory 2"	E	Faculty of Mathematics	3,00	114	36			22	14A	
7	-	E		6,00	228	72	16A	14A	22A	20A	
<b>Magolego</b>				<b>3,00</b>	<b>114</b>						
1	All-university Pool MAGOLEGO Courses	E		3,00	114						
<b>Internship</b>				<b>24,00</b>	<b>912</b>	<b>12</b>		<b>6</b>		<b>6</b>	
<b>Research Internship</b>				<b>18,00</b>	<b>684</b>	<b>6</b>				<b>6</b>	
1	Preparation of the Graduate Thesis	C		18,00	684	6				6	
<b>Project Internship</b>				<b>1,00</b>	<b>38</b>	<b>2</b>		<b>2</b>			
<b>Project activity</b>				<b>1,00</b>	<b>38</b>	<b>2</b>		<b>2</b>			
1	Practices of Research Presentations and Scientific Communicatons	E	Faculty of Mathematics	1,00	38	2		2A			Foreign language
2	Modern Typing of Mathematics	E	Faculty of Mathematics	1,00	38	2		2A			
<b>Professional Internship</b>				<b>5,00</b>	<b>190</b>	<b>4</b>		<b>4</b>			
1	Teaching Internship	C		5,00	190	4		4A			
<b>Analysis, Dynamical Systems and Probability Theory (Research track)</b>				<b>63,00</b>	<b>2 394</b>	<b>196</b>	<b>42</b>	<b>41</b>	<b>55</b>	<b>52</b>	
<b>Major</b>				<b>24,00</b>	<b>912</b>	<b>80</b>	<b>18</b>	<b>14</b>	<b>22</b>	<b>20</b>	
<b>Elective Courses</b>				<b>24,00</b>	<b>912</b>	<b>80</b>	<b>18</b>	<b>14</b>	<b>22</b>	<b>20</b>	
1	Introduction to Enumerative Combinatorics	E	Faculty of Mathematics	6,00	228	8	2	6A			Online Course, Foreign language
2	-	E		24,00	912	72	16A	14A	22A	20A	
<b>Final State Certification (FSC)</b>				<b>3,00</b>	<b>114</b>	<b>2</b>				<b>2</b>	
1	Final Qualification Paper	C		3,00	114	2				2A	
<b>Key Seminars</b>				<b>9,00</b>	<b>342</b>	<b>102</b>	<b>24</b>	<b>21</b>	<b>33</b>	<b>24</b>	
<b>Модуль "Ключевые семинары"</b>				<b>3,00</b>	<b>114</b>	<b>36</b>	<b>8</b>	<b>7</b>	<b>11</b>	<b>10</b>	
1	Academic Mentor's Seminar "Analysis, Dynamical Systems and Probability Theory"	C	Faculty of Mathematics	3,00	114	36	8	7	11	10A	Foreign language
<b>-</b>				<b>6,00</b>	<b>228</b>	<b>66</b>	<b>16</b>	<b>14</b>	<b>22</b>	<b>14</b>	
1	Research Seminar "Dynamical Systems 1"	E	Faculty of Mathematics	3,00	114	30	16	14A			
2	Research Seminar "Dynamical Systems 2"	E	Faculty of Mathematics	3,00	114	36			22	14A	
3	Research Seminar "Representations and Probability 1"	E	Faculty of Mathematics	3,00	114	30	16	14A			Foreign language
4	Research Seminar "Representations and Probability 2"	E	Faculty of Mathematics	3,00	114	36			22	14A	Foreign language
5	Research Seminar "Functional Analysis and Noncommutative Geometry 1"	E	Faculty of Mathematics	3,00	114	30	16	14A			

6	Research Seminar "Functional Analysis and Noncommutative Geometry 2"	E	Faculty of Mathematics	3,00	114	36			22	14A	
7	-	E		6,00	228	72	16A	14A	22A	20A	
	<b>Magolego</b>			<b>3,00</b>	<b>114</b>						
1	All-university Pool MAGOLEGO Courses	E		3,00	114						
	<b>Internship</b>			<b>24,00</b>	<b>912</b>	<b>12</b>		<b>6</b>		<b>6</b>	
	<b>Research Internship</b>			<b>18,00</b>	<b>684</b>	<b>6</b>				<b>6</b>	
1	Preparation of the Graduate Thesis	C		18,00	684	6				6	
	<b>Project Internship</b>			<b>1,00</b>	<b>38</b>	<b>2</b>		<b>2</b>			
	<b>Project activity</b>			<b>1,00</b>	<b>38</b>	<b>2</b>		<b>2</b>			
1	Practices of Research Presentations and Scientific Communicatons	E	Faculty of Mathematics	1,00	38	2		2A			Foreign language
2	Modern Typing of Mathematics	E	Faculty of Mathematics	1,00	38	2		2A			
	<b>Professional Internship</b>			<b>5,00</b>	<b>190</b>	<b>4</b>		<b>4</b>			
1	Teaching Internship	C		5,00	190	4		4A			
	<b>Mathematical Physics (Research track)</b>			<b>63,00</b>	<b>2 394</b>	<b>188</b>	<b>40</b>	<b>41</b>	<b>55</b>	<b>52</b>	
	<b>Major</b>			<b>24,00</b>	<b>912</b>	<b>72</b>	<b>16</b>	<b>14</b>	<b>22</b>	<b>20</b>	
	<b>Дисциплины по выбору</b>			<b>24,00</b>	<b>912</b>	<b>72</b>	<b>16</b>	<b>14</b>	<b>22</b>	<b>20</b>	
1	Introduction to Enumerative Combinatorics	E	Faculty of Mathematics	6,00	228	8	2	6A			Online Course, Foreign language
2	-	E		24,00	912	72	16A	14A	22A	20A	
	<b>Final State Certification (FSC)</b>			<b>3,00</b>	<b>114</b>	<b>2</b>				<b>2</b>	
1	Final Qualification Paper	C		3,00	114	2				2A	
	<b>Key Seminars</b>			<b>9,00</b>	<b>342</b>	<b>102</b>	<b>24</b>	<b>21</b>	<b>33</b>	<b>24</b>	
	<b>Модуль "Ключевые семинары"</b>			<b>3,00</b>	<b>114</b>	<b>36</b>	<b>8</b>	<b>7</b>	<b>11</b>	<b>10</b>	
1	Academic Mentor's Seminar "Mathematical Physics"	C	Faculty of Mathematics	3,00	114	36	8	7	11	10A	Foreign language
	-			<b>6,00</b>	<b>228</b>	<b>66</b>	<b>16</b>	<b>14</b>	<b>22</b>	<b>14</b>	
1	Research Seminar "Mathematical Physics 1"	E	Faculty of Mathematics	3,00	114	30	16	14A			
2	Research Seminar "Mathematical Physics 2"	E	Faculty of Mathematics	3,00	114	36			22	14A	
3	-	E		6,00	228	72	16A	14A	22A	20A	
	<b>Magolego</b>			<b>3,00</b>	<b>114</b>						
1	All-university Pool MAGOLEGO Courses	E		3,00	114						
	<b>Internship</b>			<b>24,00</b>	<b>912</b>	<b>12</b>		<b>6</b>		<b>6</b>	
	<b>Research Internship</b>			<b>18,00</b>	<b>684</b>	<b>6</b>				<b>6</b>	
1	Preparation of the Graduate Thesis	C		18,00	684	6				6	
	<b>Project Internship</b>			<b>1,00</b>	<b>38</b>	<b>2</b>		<b>2</b>			
	<b>Project activity</b>			<b>1,00</b>	<b>38</b>	<b>2</b>		<b>2</b>			

1	Practices of Research Presentations and Scientific Communicatons	E	Faculty of Mathematics	1,00	38	2		2A			Foreign language
2	Modern Typing of Mathematics	E	Faculty of Mathematics	1,00	38	2		2A			
<b>Professional Internship</b>				<b>5,00</b>	<b>190</b>	<b>4</b>		<b>4</b>			
1	Teaching Internship	C		5,00	190	4		4A			
<b>Topology, Combinatorics and Representation Theory (Research track)</b>				<b>63,00</b>	<b>2 394</b>	<b>194</b>	<b>40</b>	<b>41</b>	<b>55</b>	<b>58</b>	
<b>Major</b>				<b>24,00</b>	<b>912</b>	<b>72</b>	<b>16</b>	<b>14</b>	<b>22</b>	<b>20</b>	
<b>Elective Courses</b>				<b>24,00</b>	<b>912</b>	<b>72</b>	<b>16</b>	<b>14</b>	<b>22</b>	<b>20</b>	
1	Introduction to Enumerative Combinatorics	E	Faculty of Mathematics	6,00	228	8	2	6A			Online Course, Foreign language
2	-	E		24,00	912	72	16A	14A	22A	20A	
<b>Final State Certification (FSC)</b>				<b>3,00</b>	<b>114</b>	<b>2</b>				<b>2</b>	
1	Final Qualification Paper	C		3,00	114	2				2A	Foreign language
<b>Key Seminars</b>				<b>9,00</b>	<b>342</b>	<b>108</b>	<b>24</b>	<b>21</b>	<b>33</b>	<b>30</b>	
<b>Модуль "Ключевые семинары"</b>				<b>3,00</b>	<b>114</b>	<b>36</b>	<b>8</b>	<b>7</b>	<b>11</b>	<b>10</b>	
1	Academic Mentor's Seminar "Topology, Combinatorics and Representation Theory"	C	Faculty of Mathematics	3,00	114	36	8	7	11	10A	Foreign language
<b>-</b>				<b>6,00</b>	<b>228</b>	<b>72</b>	<b>16</b>	<b>14</b>	<b>22</b>	<b>20</b>	
1	Research Seminar "Combinatorics of Invariants 1"	E	Faculty of Mathematics	3,00	114	30	16	14A			Foreign language
2	Research Seminar "Combinatorics of Invariants 2"	E	Faculty of Mathematics	3,00	114	36			22	14A	Foreign language
3	Research Seminar "Representation Theory 1"	E	Faculty of Mathematics	3,00	114	30	16	14A			
4	Research Seminar "Representation Theory 2"	E	Faculty of Mathematics	3,00	114	36			22	14A	
5	-	E		6,00	228	72	16A	14A	22A	20A	
<b>Magolego</b>				<b>3,00</b>	<b>114</b>						
1	All-university Pool MAGOLEGO Courses	E		3,00	114						
<b>Internship</b>				<b>24,00</b>	<b>912</b>	<b>12</b>		<b>6</b>		<b>6</b>	
<b>Research Internship</b>				<b>18,00</b>	<b>684</b>	<b>6</b>				<b>6</b>	
1	Preparation of the Graduate Thesis	C		18,00	684	6				6	
<b>Project Internship</b>				<b>1,00</b>	<b>38</b>	<b>2</b>		<b>2</b>			
<b>Project activity</b>				<b>1,00</b>	<b>38</b>	<b>2</b>		<b>2</b>			
1	Practices of Research Presentations and Scientific Communicatons	E	Faculty of Mathematics	1,00	38	2		2A			Foreign language
2	Modern Typing of Mathematics	E	Faculty of Mathematics	1,00	38	2		2A			
<b>Professional Internship</b>				<b>5,00</b>	<b>190</b>	<b>4</b>		<b>4</b>			
1	Teaching Internship	C		5,00	190	4		4A			

**Curriculum agreed:**

Academic Supervisor	GORODENTSEV A.L.	04.04.2024
Dean	SKRIPCHENKO A.S.	04.04.2024
Head of Centre for Educational Model Design	LEPESHKIN I.A.	18.04.2024

\* Subject type:

Compulsory course

C

Elective course

E