



National Research University Higher School of Economics (HSE)

Curriculum

Field of study 01.03.04 Applied Mathematics

Educational Programme "Applied Mathematics"

Specializations: "Applied methods of stochastic analysis",  
"Mathematical and computer methods for modern technologies",  
"Mathematical modelling, control and information processing"

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

4 th, 2024/2025 academic year

APPROVED

19.04.2024

Vice Rector

ROSHCHIN S.Y.

Signed with EDS

Length of Programme: 4 years

Years of Study: 2021/2022 - 2024/2025

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	
<b>Degree Programme</b>				<b>60,00</b>	<b>2 280</b>	<b>540</b>	<b>208</b>	<b>174</b>	<b>156</b>	<b>4</b>	
<b>Data Culture</b>				<b>5,00</b>	<b>190</b>	<b>92</b>	<b>32</b>	<b>38</b>	<b>22</b>		
1	Data Analysis and Machine Learning	C	Department of Applied Mathematics	4,00	152	90	32	38A	20A		Online Course
2	Data Science, AI and Generative Models Independent Test. Advanced Level	C	отдел развития цифровых компетенций	1,00	38	2			2A		Online Course
<b>Major</b>				<b>31,00</b>	<b>1 178</b>	<b>380</b>	<b>150</b>	<b>100</b>	<b>130</b>		
<b>Core Professional Block (Major)</b>				<b>8,00</b>	<b>304</b>	<b>84</b>	<b>56</b>	<b>28</b>			
<b>Subject Areas</b>				<b>8,00</b>	<b>304</b>	<b>84</b>	<b>56</b>	<b>28</b>			
<b>Algorithmisation</b>				<b>3,00</b>	<b>114</b>	<b>28</b>	<b>28</b>				
1	Numerical Methods	C	Department of Applied Mathematics	3,00	114	28	28A				Online Course, Foreign language
<b>Real, Complex and Functional Analysis</b>				<b>5,00</b>	<b>190</b>	<b>56</b>	<b>28</b>	<b>28</b>			
1	Control Theory	C	Department of Applied Mathematics	5,00	190	56	28	28A			
<b>Elective Professional Block (Major)</b>				<b>23,00</b>	<b>874</b>	<b>296</b>	<b>94</b>	<b>72</b>	<b>130</b>		
<b>Блок дисциплин по выбору</b>				<b>20,00</b>	<b>760</b>	<b>268</b>	<b>66</b>	<b>72</b>	<b>130</b>		
<b>"Математические и компьютерные методы для современных технологий"</b>				<b>20,00</b>	<b>760</b>	<b>202</b>	<b>38</b>	<b>70</b>	<b>94</b>		
1	Elective Courses	E		17,00	646	174	30	60A	84A		
2	Research Seminar	C	Department of Applied Mathematics	3,00	114	28	8	10	10A		
<b>"Математическое моделирование, управление и обработка информации"</b>				<b>20,00</b>	<b>760</b>	<b>268</b>	<b>66</b>	<b>72</b>	<b>130</b>		

1	Elective Courses	E		17,00	646	240	58	62A	120A		
2	Research Seminar	C	Department of Applied Mathematics	3,00	114	28	8	10	10A		
<b>"Прикладные методы стохастического анализа"</b>				<b>20,00</b>	<b>760</b>	<b>280</b>	<b>38</b>	<b>102</b>	<b>140</b>		
1	Elective Courses	E		17,00	646	252	30	92A	130A		
2	Research Seminar	C	Department of Applied Mathematics	3,00	114	28	8	10	10A		
<b>Дисциплины по выбору ОП</b>				<b>3,00</b>	<b>114</b>	<b>28</b>	<b>28</b>				
1	Workshop "Information Systems"	C	Department of Applied Mathematics	3,00	114	28	28A				
<b>English</b>				<b>1,00</b>	<b>38</b>					<b>2</b>	
<b>Optional Courses</b>											
1	Academic English Writing	O		2,00	76	48		28	20A		Foreign language, Credits only to the cumulative rating
<b>Examinations</b>				<b>1,00</b>	<b>38</b>					<b>2</b>	
1	Project Proposal	C	School of Foreign Languages	1,00	38	2			2A		Foreign language
<b>Final State Certification (FSC)</b>				<b>3,00</b>	<b>114</b>	<b>2</b>					<b>2</b>
<b>Thesis Work</b>				<b>3,00</b>	<b>114</b>	<b>2</b>					<b>2</b>
1	Presenting of Graduation Thesis	C		3,00	114	2					2A
<b>General Courses</b>				<b>8,00</b>	<b>304</b>	<b>60</b>	<b>24</b>	<b>36</b>			
<b>Optional General Courses</b>				<b>8,00</b>	<b>304</b>	<b>60</b>	<b>24</b>	<b>36</b>			
1	Legal Literacy	C	департамент теории права и сравнительного правоведения	4,00	152	30	10	20A			Online Course
2	Economics	C	Department of Theoretical Economics	4,00	152	30	14	16A			Online Course
<b>Internship</b>				<b>12,00</b>	<b>456</b>	<b>6</b>	<b>2</b>		<b>2</b>	<b>2</b>	
<b>Research Internship</b>				<b>9,00</b>	<b>342</b>	<b>2</b>					<b>2</b>
1	Preparation of Graduation Thesis	C		9,00	342	2					2
<b>Professional Internship</b>				<b>3,00</b>	<b>114</b>	<b>4</b>	<b>2</b>			<b>2</b>	
1	Graduation Internship	C		3,00	114	2			2A		
2	Work Experience Internship	C				2	2A				

**Curriculum agreed:**

Academic Supervisor	Presnova A.P.	26.03.2024
Dean	KROUK E.A.	26.03.2024
Head of Centre for Educational Model Design	LEPESHKIN I.A.	18.04.2024

\* Subject type:

Compulsory course

C

Elective course

E

Optional course

0