



National Research University Higher School of Economics (HSE)

Curriculum

Field of study 01.03.02 Applied Mathematics and Information Science

Educational Programme "Applied Mathematics and Information Science"

Implementing unit: St. Petersburg School of Mathematics, Physics and Computer Science, HSE, HSE - Saint Petersburg
3 rd, 2024/2025 academic year

APPROVED

27.05.2024

Vice Rector

ROSHCHIN S.Y.

Signed with EDS

Length of Programme: 4 years

Years of Study: 2022/2023 - 2025/2026

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	
Degree Programme				60,00	2 280	680	140	182	194	164	
Data Culture				4,00	152	28		26		2	
1	Introduction to Machine Learning	C	Informatics Department	3,00	114	24		24A			
2	External Examinations on Digital Skills. Final Level	C	отдел развития цифровых компетенций			2		2A			
3	Data Science, AI and Generative Models Independent Test. Advanced Level	C	отдел развития цифровых компетенций	1,00	38	2				2A	Online Course
Major				39,00	1 482	526	112	124	160	130	
Core Professional Block (Major)				17,00	646	268	56	76	80	56	
1	Machine Learning	C	Informatics Department	3,00	114	24		24A			
2	Parallel Programming	C	Informatics Department	3,00	114	68			40	28A	
3	Software Development	C	Informatics Department	6,00	228	124	28A	28A	40	28A	
4	Probability Theory and Mathematical Statistics	C	Informatics Department	5,00	190	52	28A	24A			
Elective Professional Block (Major)				22,00	836	258	56	48	80	74	
Elective Courses				10,00	380	104	56	48			
1	Alternative Languages for the JVM	E	Informatics Department	5,00	190	30	14	16A			
2	Databases	E	Informatics Department	5,00	190	52	28	24A			
3	Graphical Interfaces	E	Informatics Department	5,00	190	44	20	24A			
4	Compilers	E	Informatics Department	5,00	190	52	28	24A			
5	Molecular Biology	E	Informatics Department	5,00	190	52	28	24A			Foreign language
6	Numerical Methods	E	Informatics Department	5,00	190	44	20	24A			
Elective Courses				10,00	380	136			80	56	
1	Algorithms in Bioinformatics	E	Informatics Department	5,00	190	60			32	28A	

2	Deep Learning	E	Informatics Department	5,00	190	60			32	28A	
3	Optimization Methods	E	Informatics Department	5,00	190	60			32	28A	
4	Mobile Development	E	Informatics Department	5,00	190	38			18	20A	
5	Programming Languages Semantics	E	Informatics Department	5,00	190	68			40	28A	
6	Computer Systems Technology	E	Informatics Department	5,00	190	68			40	28A	
7	Types and Programming Languages	E	Informatics Department	5,00	190	38			18	20A	
Research seminar				1,00	38	10				10	
1	Research Seminar	C	Informatics Department	1,00	38	10				10A	
Project Seminar				1,00	38	8				8	
1	Project Seminar	C	Informatics Department	1,00	38	8				8A	
Minor				10,00	380	120	28	32	32	28	
1	Minor	E		10,00	380	120	28	32A	32	28A	
English						2			2		
Examinations						2			2		
1	Independent English Exam	C	School of Foreign Languages			2			2A		Foreign language
Internship				7,00	266	4				4	
Project Internship				3,00	114	2				2	
1	Project	C		3,00	114	2				2A	
Professional Internship				4,00	152	2				2	
1	Work Experience Internship	C		4,00	152	2				2A	

Curriculum agreed:

Academic Supervisor	OMELCHENKO A.V.	13.05.2024
Dean		13.05.2024
Deputy Director	KUZMIN P.V.	13.05.2024
Head of Centre for Educational Model Design	LEPESHKIN I.A.	22.05.2024

* Subject type:

Compulsory course

C

Elective course

E

Optional course

O