



National Research University Higher School of Economics (HSE)

Curriculum

Field of study 01.03.02 Applied Mathematics and Information Science

Educational Programme "Applied Data Analysis and Artificial Intelligence"

Specializations: "Applied Data Analysis", "Data Analysis in Finance", "Machine Learning Architecture"

Implementing unit: St. Petersburg School of Mathematics, Physics and Computer Science, HSE, HSE - Saint Petersburg

2 nd, 2023/2024 academic year

APPROVED

05.05.2023

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	
<b>Degree Programme</b>				<b>60,00</b>	<b>2 442</b>	<b>1 144</b>	<b>254</b>	<b>242</b>	<b>344</b>	<b>300</b>	
<b>Data Culture</b>						<b>6</b>				<b>2</b>	
1	External Examinations on Digital Skills. Entry-level	C	отдел развития цифровых компетенций			2		2A			
2	External Examinations on Digital Skills. Intermediate Level	C	отдел развития цифровых компетенций			2				2A	
3	Independent Programming Test. Advanced Level	C	отдел развития цифровых компетенций			2				2A	Online Course
<b>Major</b>				<b>41,00</b>	<b>1 558</b>	<b>800</b>	<b>168</b>	<b>156</b>	<b>260</b>	<b>216</b>	
<b>Core Professional Block (Major)</b>				<b>34,00</b>	<b>1 292</b>	<b>640</b>	<b>140</b>	<b>132</b>	<b>200</b>	<b>168</b>	
1	Computer Architecture	C	Joint Department with Yandex	5,00	190	70	34	36A			
2	Discrete Mathematics	C	Informatics Department	4,00	152	124	28A	24A	40	32A	
3	Differential Equations	C	Informatics Department	3,00	114	52	28	24A			
4	Calculus 2	C	Informatics Department	5,00	190	98	50	48A			
5	Operating Systems	C	Joint Department with Yandex	6,00	228	80			40	40A	
6	Probability Theory and Mathematical Statistics	C	Informatics Department	8,00	304	144			80	64A	
7	Numerical and Optimization Methods	C	Informatics Department	3,00	114	72			40	32A	
<b>Elective Professional Block (Major)</b>				<b>7,00</b>	<b>266</b>	<b>160</b>	<b>28</b>	<b>24</b>	<b>60</b>	<b>48</b>	
<b>Compulsory Courses</b>				<b>7,00</b>	<b>266</b>	<b>160</b>	<b>28</b>	<b>24</b>	<b>60</b>	<b>48</b>	
1	Databases	C	Informatics Department	3,00	114	52	28	24A			
2	Machine Learning: Basic Concepts	C	Informatics Department	4,00	152	108			60A	48A	
<b>Minor</b>				<b>10,00</b>	<b>380</b>	<b>120</b>	<b>28</b>	<b>32</b>	<b>32</b>	<b>28</b>	

1	Minor	C		10,00	380	120	28	32A	32	28A	
	<b>English</b>										
	<b>Optional Courses</b>										
1	English	O		6,00	228	104	28	32	44A		Foreign language, Credits only to the cumulative rating
	<b>General Courses</b>			<b>5,00</b>	<b>352</b>	<b>214</b>	<b>58</b>	<b>54</b>	<b>52</b>	<b>50</b>	
	<b>Optional General Courses</b>			<b>4,00</b>	<b>152</b>	<b>30</b>	<b>16</b>	<b>14</b>			
1	Elective General Course	E		4,00	152	30	16	14A			
	<b>Core General Courses</b>			<b>1,00</b>	<b>200</b>	<b>184</b>	<b>42</b>	<b>40</b>	<b>52</b>	<b>50</b>	
1	Physical Training	C	Department of Physical Training	1,00	200	184	42	40A	52	50A	Online Course
	<b>Internship</b>			<b>4,00</b>	<b>152</b>	<b>4</b>				<b>4</b>	
	<b>Project Internship</b>			<b>1,00</b>	<b>38</b>	<b>2</b>				<b>2</b>	
1	Project	C		1,00	38	2				2A	
	<b>Professional Internship</b>			<b>3,00</b>	<b>114</b>	<b>2</b>				<b>2</b>	
1	Educational Internship	C		3,00	114	2				2A	

**Curriculum agreed:**

Academic Supervisor	MUKHIN M.S.	26.04.2023
Dean		26.04.2023
Deputy Director	KUZMIN P.V.	27.04.2023
Head of Centre for Educational Model Design	LEPESHKIN I.A.	04.05.2023

\* Subject type:

Compulsory course

C

Elective course

E

Optional course

O