



National Research University Higher School of Economics (HSE)

Curriculum

Field of study 01.03.02 Applied Mathematics and Information Science

Educational Programme "Data Science and Business Analytics"

Implementing unit: Faculty of Computer Science, HSE - Moscow

3 rd, 2023/2024 academic year

APPROVED

14.06.2023

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>818</b>	<b>198</b>	<b>196</b>	<b>268</b>	<b>154</b>	
<b>Data Culture</b>				<b>1,00</b>	<b>38</b>	<b>2</b>				<b>2</b>	
1	Independent Data Science Test. Advanced Level	C	отдел развития цифровых компетенций	1,00	38	2				2A	Online Course, Foreign language
<b>Major</b>				<b>36,00</b>	<b>1 368</b>	<b>512</b>	<b>126</b>	<b>126</b>	<b>168</b>	<b>90</b>	
<b>Core Professional Block (Major)</b>				<b>5,00</b>	<b>190</b>	<b>56</b>	<b>28</b>	<b>28</b>			
<b>Subject Areas</b>				<b>5,00</b>	<b>190</b>	<b>56</b>	<b>28</b>	<b>28</b>			
<b>Optimization Methods</b>				<b>5,00</b>	<b>190</b>	<b>56</b>	<b>28</b>	<b>28</b>			
1	Optimization Methods	C	Department of Big Data and Information Retrieval	5,00	190	56	28	28A			Online Course, Foreign language
<b>Elective Professional Block (Major)</b>				<b>31,00</b>	<b>1 178</b>	<b>456</b>	<b>98</b>	<b>98</b>	<b>168</b>	<b>90</b>	
<b>Major Courses</b>				<b>15,00</b>	<b>570</b>	<b>224</b>	<b>28</b>	<b>28</b>	<b>120</b>	<b>48</b>	
1	Business analytics, applied modelling and prediction	C	Department of Big Data and Information Retrieval	4,00	152	56			40	16A	Foreign language
2	Deep Learning	C	Department of Big Data and Information Retrieval	4,00	152	56			40	16A	Foreign language
3	Econometrics	C	Department of Big Data and Information Retrieval	7,00	266	112	28	28A	40	16A	Foreign language
<b>Elective Courses (Block 1)</b>				<b>4,00</b>	<b>152</b>	<b>56</b>	<b>28</b>	<b>28</b>			
1	Introduction to Statistical Learning	E	Department of Big Data and Information Retrieval	4,00	152	56	28	28A			Foreign language
2	Fundamentals of Statistical Learning	E	Department of Big Data and Information Retrieval	4,00	152	56	28	28A			Foreign language
<b>Elective Courses (Block 2)</b>				<b>4,00</b>	<b>152</b>	<b>56</b>			<b>28</b>	<b>28</b>	
1	Data Analysis in Business	E	Department of Big Data and Information Retrieval	4,00	152	48			40	8A	Foreign language
2	Operations Research and Game Theory	E	Department of Mathematics	4,00	152	80			40	40A	Foreign language

3	Investment Management for Business	E	Department of Big Data and Information Retrieval	4,00	152	56			40	16A	Foreign language
<b>Elective Courses (Block 3)</b>				<b>4,00</b>	<b>152</b>	<b>56</b>	<b>28</b>	<b>28</b>			
1	Sociology of Financial Behavior	E	International College of Economics and Finance	4,00	152	64	32	32A			Foreign language
2	Financial Economics	E	International College of Economics and Finance	4,00	152	64	32	32A			Foreign language
3	Financial Engineering	E	Department of Big Data and Information Retrieval	4,00	152	56	28	28A			Foreign language
<b>Research Seminar 3rd Year</b>				<b>4,00</b>	<b>152</b>	<b>64</b>	<b>14</b>	<b>14</b>	<b>20</b>	<b>14</b>	
1	Research Seminar "Data Science in scientific"	E	Department of Data Analysis and Artificial Intelligence	4,00	152	64	14	14	20	16A	Foreign language
2	Research Seminar "Data Science in Financial Economics"	E	Department of Big Data and Information Retrieval	4,00	152	64	14	14	20	16A	Foreign language
3	Research Seminar "Risk-Management in Banking"	E	базовая кафедра ПАО Сбербанк "Финансовые технологии и анализ данных"	4,00	152	48	14	14	20A		Foreign language
<b>Minor</b>				<b>12,00</b>	<b>456</b>	<b>260</b>	<b>70</b>	<b>70</b>	<b>60</b>	<b>60</b>	
1	Time Series Analysis	C	Department of Big Data and Information Retrieval	4,00	152	120			60	60A	Foreign language
2	Databases	C	Department of Software Engineering	4,00	152	56	28	28A			Online Course, Foreign language
3	Stochastic processes and applications	C	Department of Big Data and Information Retrieval	4,00	152	84	42	42A			Foreign language
<b>General Courses</b>				<b>3,00</b>	<b>114</b>	<b>40</b>			<b>40</b>		
<b>Optional General Courses</b>				<b>3,00</b>	<b>114</b>	<b>40</b>			<b>40</b>		
1	History	C	Department of Big Data and Information Retrieval	3,00	114	40			40A		Foreign language
<b>Internship</b>				<b>8,00</b>	<b>304</b>	<b>4</b>	<b>2</b>			<b>2</b>	
<b>Project Internship</b>				<b>5,00</b>	<b>190</b>	<b>2</b>				<b>2</b>	
1	Term Project 2	C		5,00	190	2				2A	Foreign language
<b>Professional Internship</b>				<b>3,00</b>	<b>114</b>	<b>2</b>	<b>2</b>				
1	Work Experience Internship	C		3,00	114						Foreign language
2	Educational Internship	C				2	2A				Foreign language

**Curriculum agreed:**

Academic Supervisor VOZNESENSKAYA T.V. 07.06.2023

Dean ARZHANTSEV I.V. 08.06.2023

Head of Centre for Educational Model Design LEPESHKIN I.A. 09.06.2023

\* Subject type:  
Compulsory course

C

Elective course

E