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
4 th, 2024/2025 academic year

APPROVED

19.06.2024

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	
	Degree Progamme			60,00	2 280	560	192	182	220	6	
	Data Culture			4,00	152	68		28	40		
1	Statistical Methods for Market Research	C	Department of Big Data and Information Retrieval	4,00	152	68		28	40A		Foreign language
	Major			39,00	1 482	484	190	154	180		
	Elective Professional Block (Major)			39,00	1 482	484	190	154	180		
	Major Courses			12,00	456	152	56	56	40		
1	Machine Learning 2	C	Department of Big Data and Information Retrieval	4,00	152	56	28	28A			Foreign language
2	Game Theory and Industrial Organization	C	Department of Big Data and Information Retrieval	4,00	152	56	28	28A			Foreign language
3	Game Theory and Strategic Management	C	Department of Big Data and Information Retrieval	4,00	152	40			40A		Foreign language
	Elective Courses (Block 1)			4,00	152	56	28	28			
1	Quantitative Finance	E	Department of Big Data and Information Retrieval	4,00	152	56	28	28A			Foreign language
2	Agile Basics: Product Management and Teamwork	E	Department of Big Data and Information Retrieval	4,00	152	56	28	28A			Foreign language
	Elective Courses (Block 2)			10,00	380	40			80		
1	Generative Models in Machine Learning	E	Department of Big Data and Information Retrieval	5,00	190	40			40A		Foreign language
2	Information Systems	E	Department of Big Data and Information Retrieval	5,00	190	60			60A		Online Course, Foreign language
3	Computer Vision	E	Department of Big Data and Information Retrieval	5,00	190	40			40A		Foreign language
	Elective Courses (Block 3)			6,00	228	96	28	28	40		
1	Core Management Concepts	E	Department of Big Data and Information Retrieval	6,00	228	96	28	28A	40A		Foreign language

№	Name	Type	Department	Credits	Hours						Language
2	Asset Pricing and Financial Markets	E	Department of Big Data and Information Retrieval	6,00	228	96	28	28A	40A		Foreign language
	Elective Courses (Block 4)			**3,00**	**114**	**36**	**36**				
1	Introduction to the Study of Language for Computer Scientists	E	Department of Big Data and Information Retrieval	3,00	114	36	36A				Foreign language
2	Marketing Analytics	E	Department of Big Data and Information Retrieval	3,00	114	28	28A				Foreign language
3	Philosophy of Artificial Intelligence	E	Department of Big Data and Information Retrieval	3,00	114	28	28A				Foreign language
	Научно-исследовательский семинар 4 курс			**4,00**	**152**	**48**	**14**	**14**	**20**		
1	Research Seminar "Data Analysis in the Natural Sciences"	E	Department of Big Data and Information Retrieval	4,00	152	48	14	14	20A		Foreign language
2	Research Seminar "Data Science in Financial Markets"	E	Department of Big Data and Information Retrieval	4,00	152	48	14	14	20A		Foreign language
3	Research Seminar "Risk-Management"	E	Department of Big Data and Information Retrieval	4,00	152	48	14	14	20A		Foreign language
4	Research Seminar "Data analysis in complex systems"	E	Department of Data Analysis and Artificial Intelligence	4,00	152	48	14	14	20A		Foreign language
	Final State Certification (FSC)			**3,00**	**114**	**2**				**2**	
	Thesis Work			**3,00**	**114**	**2**				**2**	
1	Presenting of Graduation Thesis	C		3,00	114	2				2A	Foreign language
	Internship			**14,00**	**532**	**6**	**2**			**4**	
	Research Internship			**14,00**	**532**	**4**				**4**	
1	Preparation of Graduation Thesis	C		8,00	304	2				2	Foreign language
2	Graduation Internship	C		6,00	228	2				2A	Foreign language
	Professional Internship					**2**	**2**				
1	Work Experience Internship	C				2	2A				Foreign language

Curriculum agreed:

Academic Supervisor	VOZNESENSKAYA T.V.	23.04.2024
Dean	ARZHANTSEV I.V.	23.04.2024
Head of Centre for Educational Model Design	LEPESHKIN I.A.	19.06.2024

* Subject type:
Compulsory course   C
Elective course   E