



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"

Specializations: "Data Analysis in Applied Research", "Data Science
in Business", "Data Science in Finance"

Implementing unit: Faculty of Computer Science, HSE - Moscow
3 rd, 2025/2026 academic year

APPROVED

06.06.2025

Vice Rector

ROSHCHIN S.Y.

Signed with EDS

Length of Programme: 4 years

Years of Study: 2023/2024 - 2026/2027

Mode of Study: Full Time

Degree: Bachelor's degree

Block Code	Course	Subject type	Department	Period of execution	Credits	Total Academic Hours	Contact Hours	Allocation of Contact Hours				Additional Information
								1	2	3	4	
	Degree Programme				60,00	2 280	852	224	200	284	192	
	Data Culture				5,00	190	60		2	40	18	
1	External Examinations on Digital Skills. Final Level	C	отдел развития цифровых компетенций				2		2A			Foreign language
2	Deep Learning	C	Department of Big Data and Information Retrieval		4,00	152	56			40	16A	Foreign language
3	Data Science, AI and Generative Models Independent Test. Advanced Level	C	отдел развития цифровых компетенций		1,00	38	2				2A	Online Course, Foreign language
	Major				33,00	1 254	600	182	154	180	132	
	Core Professional Block (Major)				4,00	152	56	28	28			
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1	Optimization Methods	C	Department of Big Data and Information Retrieval		4,00	152	56	28	28A			Online Course, Foreign language
	Elective Professional Block (Major)				29,00	1 102	544	154	126	180	132	
	Elective Courses				4,00	152	68	28		60	28	
	Elective Courses (Block 1)				4,00	152	68			40	28	
1	Information Systems	E	Department of Big Data and Information Retrieval		4,00	152	60			60A		Online Course, Foreign language
2	Operations Research and Game Theory	E	Department of Big Data and Information Retrieval		4,00	152	68			40	28A	Foreign language
3	Advanced Statistical Methods	E	Department of Big Data and Information Retrieval		4,00	152	68			40	28A	Foreign language
	Compulsory Courses				13,00	494	288	84	84	60	60	
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		3,00	114	56	28	28A			Online Course, Foreign language
3	Machine Learning 1	C	Department of Big Data and Information Retrieval		3,00	114	56	28	28A			Foreign language

4	Stochastic processes and applications	C	Department of Big Data and Information Retrieval		3,00	114	56	28	28A			Foreign language
Specializations					12,00	456	188	42	42	60	44	
Educational track "Data Science in Business"					12,00	456	190	46	54	60	30	
1	Data Analysis in Business	C	Department of Big Data and Information Retrieval		4,00	152	72	32	40A			Foreign language
2	Research Seminar "Data Analysis in Business"	C	Department of Big Data and Information Retrieval		4,00	152	62	14	14	20A	14A	Foreign language
3	Investment Management for Business	C	Department of Big Data and Information Retrieval		4,00	152	56			40	16A	Foreign language
Educational Track "Data Analysis in Applied Research"					12,00	456	188	42	42	60	44	
1	Methods of Mathematic Modeling	C	Department of Big Data and Information Retrieval		4,00	152	56	28	28A			Foreign language
2	Research Seminar "Data Analysis in Applied Research"	C	Department of Data Analysis and Artificial Intelligence		4,00	152	64	14	14	20A	16A	Foreign language
3	Applied Statistics for Machine Learning	C	Department of Big Data and Information Retrieval		4,00	152	68			40	28A	Foreign language
Educational track "Data Science in Finance"					12,00	456	188	42	42	60	44	
1	Research Seminar "Data Science in Financial Economics"	C	Department of Big Data and Information Retrieval		4,00	152	64	14	14	20A	16A	Foreign language
2	Risk management in a bank	C	Department of Big Data and Information Retrieval		4,00	152	68			40	28A	Foreign language
3	Financial Mathematics	C	Department of Big Data and Information Retrieval		4,00	152	56	28	28A			Foreign language
Minor					10,00	380	112	28	28	40	16	
Flexible minor					10,00	380	112	28	28	40	16	
1	Minor	E			10,00	380	112	28	28A	40	16A	Foreign language
General Courses					4,00	152	76	12	16	24	24	
Optional General Courses					4,00	152	76	12	16	24	24	
1	Russian History	C	School of History		4,00	152	76	12	16A	24	24A	Online Course, Foreign language
Internship					8,00	304	4	2			2	
Project Internship					5,00	190	2				2	
1	Term paper	C		F	5,00	190	2				2A	Foreign language
Professional Internship					3,00	114	2	2				
1	Work Experience Internship	C		F	3,00	114						Foreign language
2	Educational Internship	C		F			2	2A				Foreign language

Curriculum agreed:

Academic Supervisor	Вознесенская Т.В.	04.06.2025
Dean	ARZHANTSEV I.V.	05.06.2025
Head of Centre for Educational Model Design	LEPESHKIN I.A.	06.06.2025

* Subject type:
Compulsory course

C

Elective course E

Period of execution:

Fixed F