



National Research University Higher School of Economics (HSE)

Basic Curriculum

Field of study 01.04.02 Applied Mathematics and Informatics

Educational Programme "Master of Data Science"

Trajectories: "Master of Data Science"

Implementing unit: Faculty of Computer Science, HSE - Moscow

Years of Study: 2024/2025 - 2025/2026

Length of Programme: 2 years

Mode of Study: Full Time

Degree: Master's degree / MBA

APPROVED

12.11.2024

Vice Rector

ROSHCHIN S.Y.

Signed with EDS

Block Code	Course	Subject type	Credits	Credits by Years		Planned Educational Programme Development Results
				1	2	
	Degree Programme		120,00	60,00	60,00	
	Master of Data Science (Applied track)		120,00	60,00	60,00	
	Key Seminars		30,00	15,00	15,00	
1	Research Seminar "Artificial Intelligence in Business" (offered in a foreign language)	C	6,00		6,00	GPC-1.AMI, GPC-4.AMI, PC-1, PC-7, UC-1
2	Mentor's Seminar (offered in a foreign language)	C	15,00	6,00	9,00	GPC-3.AMI, PC-1, PC-8
3	Research Seminar "Product Approach in Data Analytics" (offered in a foreign language)	C	9,00	9,00		GPC-1.AMI, GPC-4.AMI, PC-1, PC-11, PC-7, UC-1
	Internship		30,00	12,00	18,00	
	Project Internship		12,00	12,00		
1	Exploration Data Analysis (offered in a foreign language)	C	12,00	12,00		GPC-1.AMI, GPC-4.AMI, PC-11, PC-4, PC-9, UC-1
	Professional Internship					
	Research Internship		18,00		18,00	
1	Final Qualification Paper Preparation (offered in a foreign language)	C	18,00		18,00	GPC-1.AMI, GPC-2.AMI, GPC-3.AMI, GPC-4.AMI, PC-1, PC-10, PC-11, PC-2, PC-3, PC-4, PC-5, PC-6, PC-7, PC-8, PC-9, UC-1, UC-2, UC-3, UC-4, UC-5, UC-6
	Major		48,00	33,00	15,00	
1	Introduction to Python for Data Science (offered in a foreign language)	C	3,00	3,00		GPC-1.AMI, GPC-3.AMI, PC-10, PC-7
2	Introduction to Python (offered in a foreign language)	C	3,00	3,00		GPC-3.AMI, PC-10, PC-7

3	Data Bases and Data Warehouses (offered in a foreign language)	C	6,00	6,00		GPC-3.AMI, PC-10, PC-11, PC-4, PC-9
4	Machine Learning (offered in a foreign language)	C	6,00	6,00		GPC-2.AMI, GPC-3.AMI, GPC-4.AMI, PC-10, PC-11, PC-4, PC-9, UC-1
5	Probability Theory and Mathematical Statistics (offered in a foreign language)	C	6,00	6,00		GPC-1.AMI, GPC-2.AMI, GPC-3.AMI, PC-1, PC-10, PC-11, PC-4, UC-1
6	Discrete Mathematics (offered in a foreign language)	C	3,00	3,00		GPC-1.AMI, GPC-3.AMI, PC-11
7	Linear Algebra (offered in a foreign language)	C	3,00	3,00		GPC-1.AMI, GPC-3.AMI, PC-11
8	Calculus (offered in a foreign language)	C	3,00	3,00		GPC-1.AMI, GPC-3.AMI, PC-10, PC-11
9	Neural Networks and Deep Learning (offered in a foreign language)	C	6,00		6,00	GPC-1.AMI, GPC-2.AMI, GPC-3.AMI, PC-10, PC-11, PC-4, PC-9, UC-1
10	Time Series Analysis and Forecasting (offered in a foreign language)	C	3,00		3,00	GPC-1.AMI, GPC-2.AMI, GPC-3.AMI, PC-10, PC-11, PC-4, PC-9, UC-1
11	Machine Learning (offered in a foreign language)	C	6,00		6,00	GPC-2.AMI, GPC-3.AMI, GPC-4.AMI, PC-10, PC-11, PC-4, PC-9, UC-1
	Magolego		9,00		9,00	
1	All-university Pool MAGOLEGO Courses (offered in a foreign language)	E	9,00		9,00	GPC-1.AMI, GPC-2.AMI, GPC-3.AMI, GPC-4.AMI, PC-10, PC-4, PC-9, UC-1
	Final State Certification (FSC)		3,00		3,00	
1	Final Qualification Paper (offered in a foreign language)	C	3,00		3,00	GPC-1.AMI, GPC-2.AMI, GPC-3.AMI, GPC-4.AMI, PC-1, PC-10, PC-11, PC-2, PC-3, PC-4, PC-5, PC-6, PC-7, PC-8, PC-9, UC-1, UC-2, UC-3, UC-4, UC-5, UC-6
	Master of Data Science (Applied track)		120,00	60,00	60,00	
	Key Seminars		30,00	15,00	15,00	
1	Research Seminar "Artificial Intelligence in Business"	C	6,00		6,00	GPC-1.AMI, GPC-4.AMI, PC-1, PC-7, UC-1
2	Research Seminar "Product Approach in Data Analytics"	C	9,00	9,00		GPC-1.AMI, GPC-4.AMI, PC-1, PC-11, PC-7, UC-1
3	Mentor's Seminar	C	15,00	6,00	9,00	GPC-3.AMI, PC-1, PC-8
	Internship		30,00	12,00	18,00	
	Project Internship		12,00	12,00		
1	Exploratory Data Analysis	C	12,00	12,00		GPC-1.AMI, GPC-4.AMI, PC-11, PC-4, PC-9, UC-1
	Professional Internship					
	Research Internship		18,00		18,00	
1	Подготовка выпускной квалификационной работы	C	18,00		18,00	GPC-1.AMI, GPC-2.AMI, GPC-3.AMI, GPC-4.AMI, PC-1, PC-10, PC-11, PC-2, PC-3, PC-4, PC-5, PC-6, PC-7, PC-8, PC-9, UC-1, UC-2, UC-3, UC-4, UC-5, UC-6
	Major		48,00	33,00	15,00	

1	Neural Networks and Deep Learning	C	6,00		6,00	GPC-1.AMI, GPC-2.AMI, GPC-3.AMI, PC-10, PC-11, PC-4, PC-9, UC-1
2	Time Series Analysis and Forecasting	C	3,00		3,00	GPC-1.AMI, GPC-2.AMI, GPC-3.AMI, PC-10, PC-11, PC-4, PC-9, UC-1
3	Machine Learning	C	6,00		6,00	GPC-2.AMI, GPC-3.AMI, GPC-4.AMI, PC-10, PC-11, PC-4, PC-9, UC-1
4	Introduction to Python	C	3,00	3,00		GPC-3.AMI, PC-10, PC-7
5	Introduction to Python for Data Science	C	3,00	3,00		GPC-1.AMI, GPC-3.AMI, PC-10, PC-7
6	Data Bases and Data Warehouses	C	6,00	6,00		GPC-3.AMI, PC-10, PC-11, PC-4, PC-9
7	Machine Learning	C	6,00	6,00		GPC-2.AMI, GPC-3.AMI, GPC-4.AMI, PC-10, PC-11, PC-4, PC-9, UC-1
8	Discrete Mathematics	C	3,00	3,00		GPC-1.AMI, GPC-3.AMI, PC-11
9	Linear Algebra	C	3,00	3,00		GPC-1.AMI, GPC-3.AMI, PC-11
10	Calculus	C	3,00	3,00		GPC-1.AMI, GPC-2.AMI, PC-10, PC-11
11	Probability Theory and Mathematical Statistics	C	6,00	6,00		GPC-1.AMI, GPC-2.AMI, GPC-3.AMI, PC-1, PC-10, PC-11, PC-4, UC-1
	Magolego		9,00		9,00	
1	All-university Pool MAGOLEGO Courses	E	9,00		9,00	GPC-1.AMI, GPC-2.AMI, GPC-3.AMI, GPC-4.AMI, PC-10, PC-4, PC-9, UC-1
	Final State Certification (FSC)		3,00		3,00	
1	Final Qualification Paper	C	3,00		3,00	GPC-1.AMI, GPC-2.AMI, GPC-3.AMI, GPC-4.AMI, PC-1, PC-10, PC-11, PC-2, PC-3, PC-4, PC-5, PC-6, PC-7, PC-8, PC-9, UC-1, UC-2, UC-3, UC-4, UC-5, UC-6

**Curriculum agreed:**

Academic Supervisor	Волощук П.В.	29.10.2024
Dean	ARZHANTSEV I.V.	29.10.2024
Head of Centre for Educational Model Design	LEPESHKIN I.A.	30.10.2024

\* Subject type:

Compulsory course	C
Elective course	E