



National Research University Higher School of Economics (HSE)

Basic Curriculum

Field of study 01.04.02 Applied Mathematics and Informatics

Educational Programme "Data Analytics and Social Statistics"

Trajectories: "Applied Statistics and Data Science", "Computational Social and Network Sciences"

Implementing unit: Faculty of Social Sciences, HSE - Moscow

APPROVED

24.04.2024

Vice Rector

ROSHCHIN S.Y.

Signed with EDS

Years of Study: 2024/2025 - 2025/2026

Length of Programme: 2 years

Mode of Study: Full Time

Degree: Master's degree / MBA

Block Code	Course	Subject type	Credits	Credits by Years		Planned Educational Programme Development Results
				1	2	
	Degree Programme		120,00	60,00	60,00	
	Computational Social and Network Sciences (General track)		120,00	60,00	60,00	
	Key Seminars		15,00	7,00	8,00	
1	Research Seminar "Computational Social and Network Sciences" (offered in a foreign language)	C	6,00	6,00		GPC-1.AMI, GPC-2.AMI, GPC-4.AMI, PC-1, PC-2, PC-4, UC-1, UC-2, UC-4
2	Mentor's Seminar (offered in a foreign language)	C	3,00	1,00	2,00	GPC-1.AMI, GPC-2.AMI, GPC-3.AMI, PC-3, PC-4, PC-5, UC-2, UC-3, UC-4, UC-6
3	Working with Network Data (offered in a foreign language)	C	3,00		3,00	GPC-2.AMI, GPC-4.AMI, PC-1, PC-2, PC-3, PC-5, UC-1, UC-2, UC-3
4	Project Seminar (offered in a foreign language)	C	3,00		3,00	GPC-1.AMI, GPC-2.AMI, GPC-4.AMI, PC-2, PC-3, PC-4, UC-2, UC-3, UC-4
	Internship		30,00	5,00	25,00	
	Research Internship		30,00	5,00	25,00	
1	Term Paper (offered in a foreign language)	C	5,00	5,00		GPC-1.AMI, GPC-2.AMI, PC-3, PC-4, PC-5, UC-1, UC-4, UC-5
2	Work Experience Internship (offered in a foreign language)	C	9,00		9,00	GPC-1.AMI, GPC-2.AMI, GPC-4.AMI, PC-1, PC-2, PC-3, PC-4, PC-5, UC-2, UC-4, UC-6
3	Project Activity (offered in a foreign language)	C	4,00		4,00	GPC-1.AMI, GPC-2.AMI, GPC-4.AMI, PC-1, PC-2, PC-4, UC-2, UC-4, UC-6
4	Final Thesis Preparation (offered in a foreign language)	C	12,00		12,00	GPC-3.AMI, GPC-4.AMI, PC-1, PC-2, PC-3, PC-4, PC-5, UC-2, UC-5, UC-6
	Major		57,00	39,00	18,00	

Compulsory Courses			42,00	33,00	9,00	
1	Introduction to Network Analysis (offered in a foreign language)	C	3,00	3,00		GPC-1.AMI, GPC-2.AMI, GPC-4.AMI, PC-1, PC-2, PC-5, UC-1, UC-2, UC-4
2	Introduction to Statistics (offered in a foreign language)	C	3,00	3,00		GPC-1.AMI, GPC-2.AMI, GPC-3.AMI, PC-2, PC-3, PC-4, UC-1, UC-2, UC-3
3	Data Mining (offered in a foreign language)	C	3,00	3,00		GPC-1.AMI, GPC-2.AMI, GPC-4.AMI, PC-2, PC-3, PC-4, UC-1, UC-2, UC-4, UC-6
4	Programming in R and Python (offered in a foreign language)	C	3,00	3,00		GPC-1.AMI, GPC-2.AMI, GPC-4.AMI, PC-1, PC-3, PC-4, UC-2, UC-4, UC-6
5	Applied Linear Models (offered in a foreign language)	C	6,00	6,00		GPC-2.AMI, GPC-3.AMI, GPC-4.AMI, PC-1, PC-3, PC-4, UC-2, UC-4, UC-6
6	Contemporary Data Analysis: Methodology and Methods of Interdisciplinary Research (offered in a foreign language)	C	3,00	3,00		GPC-1.AMI, GPC-2.AMI, GPC-4.AMI, PC-3, UC-1, UC-2, UC-4
7	Contemporary Decision Sciences: an Integrated Perspective (offered in a foreign language)	C	6,00	6,00		GPC-1.AMI, GPC-2.AMI, GPC-4.AMI, PC-2, PC-4, PC-5, UC-2, UC-3, UC-5
8	Methodology and Logic of Sociological Research Design (offered in a foreign language)	C	3,00	3,00		GPC-1.AMI, GPC-2.AMI, GPC-4.AMI, PC-3, PC-5, UC-1, UC-2, UC-4
9	Probability Theory (offered in a foreign language)	C	3,00	3,00		GPC-2.AMI, GPC-3.AMI, GPC-4.AMI, PC-1, PC-2, PC-4, UC-2, UC-3, UC-4
10	Methods of Statistical Consulting (offered in a foreign language)	C	3,00		3,00	GPC-1.AMI, GPC-2.AMI, GPC-3.AMI, PC-3, PC-5, UC-1, UC-3, UC-4
11	Structural Equation Modeling (offered in a foreign language)	C	6,00		6,00	GPC-2.AMI, GPC-3.AMI, GPC-4.AMI, PC-2, PC-4, UC-1, UC-2, UC-4
Elective Courses			6,00	6,00		
1	Categorical Data Analysis (offered in a foreign language)	E	3,00	3,00		GPC-2.AMI, GPC-3.AMI, GPC-4.AMI, PC-2, PC-3, PC-4, PC-5, UC-2, UC-4, UC-6
2	Machine Learning (offered in a foreign language)	E	3,00	3,00		GPC-1.AMI, GPC-2.AMI, GPC-4.AMI, PC-1, PC-2, PC-3, UC-1, UC-2, UC-4
3	Multidimensional Data Analysis (offered in a foreign language)	E	3,00	3,00		GPC-1.AMI, GPC-2.AMI, GPC-3.AMI, PC-2, PC-3, PC-4, PC-5, UC-2, UC-4, UC-6
4	Advanced Methods of Network Analysis in Pajek (offered in a foreign language)	E	3,00	3,00		GPC-1.AMI, GPC-2.AMI, GPC-4.AMI, PC-2, PC-3, PC-4, UC-1, UC-2, UC-4, UC-6
Elective Courses			9,00		9,00	
1	Time Series Analysis (offered in a foreign language)	E	6,00		6,00	GPC-1.AMI, GPC-2.AMI, GPC-3.AMI, PC-1, PC-2, UC-1, UC-2, UC-3, UC-4
2	Unstructured Data Analysis (offered in a foreign language)	E	6,00		6,00	GPC-1.AMI, GPC-3.AMI, GPC-4.AMI, PC-3, PC-4, UC-2, UC-4, UC-6

3	Bayesian Data Analysis (offered in a foreign language)	E	3,00		3,00	GPC-1.AMI, GPC-2.AMI, GPC-3.AMI, PC-2, UC-1, UC-2, UC-5
4	Multilevel Models (offered in a foreign language)	E	3,00		3,00	GPC-1.AMI, GPC-2.AMI, GPC-3.AMI, PC-3, UC-2, UC-3, UC-4
5	Network Analysis: Statistical Approaches (offered in a foreign language)	E	3,00		3,00	GPC-1.AMI, GPC-2.AMI, GPC-4.AMI, PC-1, PC-2, PC-5, UC-1, UC-2, UC-3
6	Stochastic Models (offered in a foreign language)	E	3,00		3,00	GPC-2.AMI, GPC-3.AMI, GPC-4.AMI, PC-2, PC-3, UC-2, UC-3, UC-4
	Magolego		15,00	9,00	6,00	
1	All-university Pool MAGOLEGO Courses (offered in a foreign language)	E	15,00	9,00	6,00	GPC-1.AMI, GPC-2.AMI, GPC-3.AMI, PC-2, PC-3, PC-4, PC-5
	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, PC-1, PC-2, PC-3, PC-4, PC-5, UC-2
	Applied Statistics and Data Science (Applied track)		120,00	60,00	60,00	
	Key Seminars		15,00	7,00	8,00	
1	Applied Statistics and Data Science (offered in a foreign language)	C	6,00	6,00		GPC-1.AMI, GPC-2.AMI, GPC-4.AMI, PC-1, PC-2, PC-3, PC-5, UC-1, UC-2, UC-4
2	Mentor's Seminar (offered in a foreign language)	C	3,00	1,00	2,00	GPC-1.AMI, GPC-2.AMI, GPC-3.AMI, PC-3, PC-4, PC-5, UC-2, UC-3, UC-4, UC-6
3	Project Seminar (offered in a foreign language)	C	3,00		3,00	GPC-1.AMI, GPC-2.AMI, GPC-4.AMI, PC-2, PC-3, PC-4, UC-2, UC-3, UC-4
4	Working with Network Data (offered in a foreign language)	C	3,00		3,00	GPC-1.AMI, GPC-2.AMI, GPC-4.AMI, PC-2, PC-3, PC-4, UC-1, UC-2, UC-4
	Internship		30,00	5,00	25,00	
	Research Internship		30,00	5,00	25,00	
1	Work Experience Internship (offered in a foreign language)	C	9,00		9,00	GPC-1.AMI, GPC-2.AMI, GPC-4.AMI, PC-1, PC-2, PC-3, PC-4, PC-5, UC-2, UC-4, UC-6
2	Term Paper (offered in a foreign language)	C	5,00	5,00		GPC-1.AMI, GPC-2.AMI, PC-3, PC-4, PC-5, UC-1, UC-4, UC-5
3	Project Work (offered in a foreign language)	C	4,00		4,00	GPC-1.AMI, GPC-2.AMI, GPC-4.AMI, PC-1, PC-2, PC-4, UC-2, UC-4, UC-6
4	Final Thesis Preparation (offered in a foreign language)	C	12,00		12,00	GPC-3.AMI, GPC-4.AMI, PC-1, PC-2, PC-3, PC-4, PC-5, UC-2, UC-5, UC-6
	Major		57,00	39,00	18,00	
	Compulsory Courses		42,00	33,00	9,00	
1	Introduction to Network Analysis (offered in a foreign language)	C	3,00	3,00		GPC-1.AMI, GPC-2.AMI, GPC-4.AMI, PC-1, PC-2, PC-5, UC-1, UC-2, UC-3
2	Introduction to Statistics (offered in a foreign language)	C	3,00	3,00		GPC-1.AMI, GPC-2.AMI, GPC-3.AMI, PC-2, PC-3, PC-4, UC-1, UC-2, UC-3

3	Data Mining (offered in a foreign language)	C	3,00	3,00		GPC-1.AMI, GPC-2.AMI, GPC-4.AMI, PC-2, PC-3, PC-4, UC-1, UC-2, UC-4, UC-6
4	Programming in R and Python (offered in a foreign language)	C	3,00	3,00		GPC-1.AMI, GPC-2.AMI, GPC-4.AMI, PC-1, PC-3, PC-4, UC-2, UC-4, UC-6
5	Applied Linear Models (offered in a foreign language)	C	6,00	6,00		GPC-2.AMI, GPC-3.AMI, GPC-4.AMI, PC-1, PC-3, PC-4, UC-2, UC-4, UC-6
6	Contemporary Data Analysis: Methodology and Methods of Interdisciplinary Research (offered in a foreign language)	C	3,00	3,00		GPC-1.AMI, GPC-2.AMI, GPC-4.AMI, PC-3, UC-1, UC-2, UC-4
7	Methodology and Logic of Sociological Research Design (offered in a foreign language)	C	3,00	3,00		GPC-2.AMI, GPC-3.AMI, GPC-4.AMI, PC-3, PC-5, UC-1, UC-4
8	Contemporary Decision Sciences: an Integrated Perspective (offered in a foreign language)	C	6,00	6,00		GPC-1.AMI, GPC-2.AMI, GPC-4.AMI, PC-2, PC-4, PC-5, UC-2, UC-3, UC-5
9	Probability Theory (offered in a foreign language)	C	3,00	3,00		GPC-2.AMI, GPC-3.AMI, GPC-4.AMI, PC-1, PC-2, PC-4, UC-2, UC-3, UC-4
10	Methods of Statistical Consulting (offered in a foreign language)	C	3,00		3,00	GPC-1.AMI, GPC-2.AMI, GPC-3.AMI, PC-3, PC-5, UC-1, UC-3, UC-4
11	Structural Equation Modeling (offered in a foreign language)	C	6,00		6,00	GPC-2.AMI, GPC-3.AMI, GPC-4.AMI, PC-2, PC-4, UC-1, UC-2, UC-4
Elective Courses			6,00	6,00		
1	Categorical Data Analysis (offered in a foreign language)	E	3,00	3,00		GPC-2.AMI, GPC-3.AMI, GPC-4.AMI, PC-2, PC-3, PC-4, PC-5, UC-2, UC-4, UC-6
2	Machine Learning (offered in a foreign language)	E	3,00	3,00		GPC-1.AMI, GPC-2.AMI, GPC-4.AMI, PC-1, PC-2, UC-1, UC-2, UC-4
3	Multidimensional Data Analysis (offered in a foreign language)	E	3,00	3,00		GPC-1.AMI, GPC-2.AMI, GPC-3.AMI, PC-2, PC-3, PC-4, UC-2, UC-4, UC-6
4	Advanced Methods of Network Analysis in Pajek (offered in a foreign language)	E	3,00	3,00		GPC-1.AMI, GPC-2.AMI, GPC-4.AMI, PC-2, PC-3, PC-4, UC-1, UC-2, UC-4, UC-6
Elective Courses			9,00	9,00		
1	Time Series Analysis (offered in a foreign language)	E	6,00		6,00	GPC-1.AMI, GPC-2.AMI, GPC-3.AMI, PC-1, PC-2, UC-1, UC-2, UC-3, UC-4
2	Unstructured Data Analysis (offered in a foreign language)	E	6,00		6,00	GPC-1.AMI, GPC-2.AMI, PC-3, PC-4
3	Bayesian Data Analysis (offered in a foreign language)	E	3,00		3,00	GPC-1.AMI, GPC-2.AMI, GPC-3.AMI, PC-2, UC-1, UC-2, UC-5
4	Multilevel Models (offered in a foreign language)	E	3,00		3,00	GPC-1.AMI, GPC-2.AMI, GPC-3.AMI, PC-3, UC-2, UC-3, UC-4
5	Network Analysis: Statistical Approaches (offered in a foreign language)	E	3,00		3,00	GPC-1.AMI, GPC-2.AMI, GPC-4.AMI, PC-1, PC-2, PC-5, UC-1, UC-2, UC-3

6	Stochastic Models (offered in a foreign language)	E	3,00		3,00	GPC-2.AMI, GPC-3.AMI, GPC-4.AMI, PC-2, PC-3, UC-2, UC-3, UC-4
	Magolego		15,00	9,00	6,00	
1	Дисциплины по выбору из общеуниверситетского пула МагоЛего (offered in a foreign language)	E	15,00	9,00	6,00	GPC-1.AMI, GPC-2.AMI, GPC-3.AMI, PC-2, PC-3, PC-4
	Final State Certification (FSC)		3,00		3,00	
1	Final Qualification Paper (offered in a foreign language)	C	3,00		3,00	PC-1, PC-2, PC-3, PC-4, PC-5

Curriculum agreed:

Academic Supervisor 17.04.2024

Dean MELVILLE A.Y. 17.04.2024

Head of Centre for Educational Model Design LEPESHKIN I.A. 24.04.2024

* Subject type:

Compulsory course C

Elective course E