



National Research University Higher School of Economics (HSE)

Basic Curriculum

Field of study 38.04.01 Economics

Educational Programme "Stochastic Modelling in Economics and Finance"

Trajectories: "Stochastic Modelling in Economics and Finance"

Implementing unit: Faculty of Economic Sciences, HSE - Moscow

APPROVED

29.05.2023

Vice Rector

ROSHCHIN S.Y.

Signed with EDS

Years of Study: 2023/2024 - 2024/2025

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	
	Stochastic Modelling in Economics and Finance (General track)		120,00	60,00	60,00	
	Key Seminars		16,00	7,00	9,00	
1	Methodological Research Seminar	C	12,00	6,00	6,00	GPC-1, GPC-2, GPC-4, PC-10, UC-1, UC-2, UC-3, UC-4, UC-6
2	Mentor's Seminar	C	4,00	1,00	3,00	GPC-2, GPC-4, UC-1, UC-2, UC-3, UC-4, UC-6
	Internship		20,00	5,00	15,00	
	Project Internship		7,00	5,00	2,00	
1	Project	C	5,00	5,00		GPC-1, GPC-3, GPC-4, PC-1, PC-4, UC-3, UC-6
2	Project	C	2,00		2,00	GPC-1, GPC-3, GPC-4, PC-1, PC-4, UC-3, UC-6
	Research Internship		13,00		13,00	
1	Preparation of Graduation Thesis	C	13,00		13,00	GPC-1, GPC-2, GPC-3, GPC-4, PC-1, PC-2, PC-7, UC-3, UC-6
	Major		66,00	42,00	24,00	
	Block 1. Compulsory disciplines		24,00	18,00	6,00	
1	Random Processes and Modeling	C	6,00	6,00		GPC-2, UC-1, UC-3, UC-6
2	Econometrics (Advanced Level)	C	6,00	6,00		PC-4, PC-7, UC-3, UC-6
3	Probability Theory and Mathematical Statistics (offered in a foreign language)	C	6,00	6,00		GPC-2, PC-4, UC-1, UC-3, UC-4, UC-6

4	Mathematico-statistical Methods of Research of Extremal Events	C	6,00		6,00	GPC-1, GPC-2, PC-1, PC-2, UC-1, UC-3, UC-6
	Блок 2. Дисциплины по выбору		42,00	24,00	18,00	
	Microeconomics (Advanced Level)		6,00	6,00		
1	Microeconomics (Advanced Level) (offered in a foreign language)	E	6,00	6,00		UC-3
2	Microeconomics (Advanced Level)	E	6,00	6,00		UC-3
	Advanced Macroeconomics		6,00	6,00		
1	Macroeconomics (Advanced Level) (offered in a foreign language)	E	6,00	6,00		GPC-2, PC-1, PC-6, UC-1, UC-3, UC-4, UC-6
2	Macroeconomics (Advanced Level)	E	6,00	6,00		GPC-2, PC-1, PC-6, UC-1, UC-2, UC-3, UC-4, UC-6
	Elective Courses		30,00	12,00	18,00	
1	Actuarial Calculus (offered in a foreign language)	E	9,00	9,00		PC-1, UC-1, UC-3, UC-6
2	Mathematical Modelling at Banking and Finance	E	3,00	3,00		GPC-1, GPC-2, PC-1, PC-2, UC-1, UC-3, UC-6
3	Stochastic Processes (offered in a foreign language)	E	3,00	3,00		GPC-4, UC-1, UC-2, UC-3, UC-6
4	Introduction to Stochastic Differential Equations and Numerical Probability (offered in a foreign language)	E	3,00	3,00		GPC-2, UC-1, UC-3, UC-6
5	Introduction Into Stochastic Analysis	E	6,00	6,00		GPC-2, PC-2, UC-2, UC-3
6	Python Basics for Data Analysis	E	6,00	6,00		GPC-4, PC-1, UC-2
7	Modern Methods of Decision Making and Data Analysis	E	3,00	3,00		GPC-2, PC-2, UC-2, UC-3
8	Integrated Risk Management in Financial Institutions	E	6,00		6,00	GPC-2, GPC-3, GPC-4, PC-1, PC-3, PC-4, PC-5, PC-6, PC-8, UC-1, UC-2, UC-3, UC-4, UC-5
9	Data Mining (offered in a foreign language)	E	6,00		6,00	GPC-4, GPC-5, PC-8, UC-1, UC-2, UC-3, UC-6
10	Stochastic control in finance (offered in a foreign language)	E	3,00		3,00	GPC-1, GPC-2, GPC-4, PC-1, PC-7, PC-8, UC-1, UC-6
11	Actuarial Science	E	6,00		6,00	GPC-1, GPC-2, GPC-3, GPC-4, PC-3, PC-4, PC-5, PC-6, PC-7, PC-9, UC-1, UC-2, UC-3, UC-4, UC-5, UC-6
12	Introduction to Financial Mathematics (offered in a foreign language)	E	3,00		3,00	GPC-1, PC-1, UC-1, UC-3, UC-6
13	Stochastic Processes (offered in a foreign language)	E	3,00		3,00	GPC-4, UC-1, UC-2, UC-3, UC-6
14	Quantitative Finance 2 (offered in a foreign language)	E	6,00		6,00	GPC-1, GPC-2, PC-5
	Magolego		15,00	6,00	9,00	
1	All-university Pool MAGOLEGO Courses	E	15,00	6,00	9,00	UC-1, UC-3, UC-4

	Final State Certification (FSC)		3,00		3,00	
1	Final Qualification Paper	C	3,00		3,00	GPC-1, GPC-2, GPC-3, GPC-4, PC-1, PC-2, UC-1, UC-2, UC-3, UC-4

Curriculum agreed:

Academic Supervisor	PANOV V.A.	12.05.2023
Dean	PEKARSKIY S.E.	16.05.2023
Head of Centre for Educational Model Design	LEPESHKIN I.A.	26.05.2023

* Subject type:

Compulsory course	C
Elective course	E