National Research University Higher School of Economics (HSE)

Curriculum
Field of study 01.04.02 Applied Mathematics and Informatics
Educational Programme "Math of Machine Learning"
Trajectories: "Math of Machine Learning"
Implementing unit: Faculty of Computer Science, HSE - Moscow
2 nd, 2024/2025 academic year

Length of Programme: 2 years
Years of Study: 2023/2024 - 2024/2025
Mode of Study: Full Time
Degree: Master's degree / MBA

Block Code	Course	Subject type	Department	Credits	Total Academic Hours	Contact Hours	Allocation of Contact Hours				Additional Information
							1	2	3	4	
	Degree Programme			60,00	2 280	344	100	156	12	4	
	Math of Machine Learning (General track)			60,00	2 280	344	100	156	12	4	
	Major			21,00	798	296	84	140			
	Basic Components			3,00	114	28		28			
1	Modern Algorithmical Optimization	C	Department of Big Data and Information Retrieval	3,00	114	28		28A			Foreign language
	Elective Courses. 2 year			18,00	684	268	84	112			
1	Generative Models in Machine Learning	E	Skolkovo Institute of Science and Technology	3,00	114	28	28A				Foreign language
2	High Performance Python Lab	E	Skolkovo Institute of Science and Technology	3,00	114	28		28A			Foreign language
3	Leadership for Innovators	E	Skolkovo Institute of Science and Technology	3,00	114	28	28A				Foreign language
4	Mathematical Foundations of Reinforcement learning	E	Department of Big Data and Information Retrieval	3,00	114	28		28A			Foreign language
5	Reinforcement Learning	E	Skolkovo Institute of Science and Technology	6,00	228	56	28	28A			Foreign language
6	Planning Algorithms in Artificial Intelligence	E	Skolkovo Institute of Science and Technology	3,00	114	28		28A			Foreign language
7	Theoretical Methods of Deep Learning	E	Skolkovo Institute of Science and Technology	3,00	114	28		28A			Foreign language
	Final State Certification (FSC)			6,00	228	2				2	
1	Final Qualification Paper	C		6,00	228	2				2A	Foreign language
	Key Seminars			9,00	342	44	16	16	12		
1	Mentor's Seminar "Math of Machine Learning "	C	Department of Big Data and Information Retrieval	9,00	342	44	16	16	12A		Foreign language
	Internship			24,00	912	2				2	
	Research Internship			24,00	912	2				2	

1	Graduation Thesis	C		24,00	912	2				2	Foreign language

Curriculum agreed:

Academic Supervisor	NAUMOV A.A.	19.02.2024
Dean	ARZHANTSEV I.V.	19.02.2024
Head of Centre for Educational Model Design	LEPESHKIN I.A.	10.04.2024

* Subject type:

Compulsory course	C
Elective course	E