National Research University Higher School of Economics (HSE)

Curriculum
Field of study 01.04.02 Applied Mathematics and Informatics
Educational Programme "Modern Computer Science"
Trajectories: "Data Science", "Theoretical Computer Science"
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**	**308**	**148**	**148**	**8**	**4**	
	Data Science (General track)			**60,00**	**2 280**	**196**	**92**	**92**	**8**	**4**	
	Major			**18,00**	**684**	**168**	**84**	**84**			
	course 2			**18,00**	**684**	**168**	**84**	**84**			
1	Bayesian Methods for Machine Learning	E	Joint Department with Yandex	6,00	228	56	28	28A			
2	Deep Learning for Graph Data Analysis	E	Joint Department with Yandex	6,00	228	56	28	28A			
3	Computer Vision	E	Joint Department with Yandex	6,00	228	56	28	28A			
4	Natural Language Processing	E	Joint Department with Yandex	6,00	228	56	28	28A			
5	Performance and Reliability of Distributed Systems	E	Joint Department with Yandex	6,00	228	56	28	28A			
6	Distributed Systems	E	Joint Department with Yandex	6,00	228	56	28	28A			
7	Modern System Programming in Rust	E	Joint Department with Yandex	6,00	228	56	28	28A			
8	Game Theory	E	Joint Department with Yandex	6,00	228	56	28	28A			
	Final State Certification (FSC)			**3,00**	**114**	**2**				**2**	
1	Final Qualification Paper	C		3,00	114	2				2A	
	Key Seminars			**9,00**	**342**	**24**	**8**	**8**	**8**		
1	Mentor's Seminar "Data Science"	C	Joint Department with Yandex	9,00	342	24	8	8	8A		
	Magolego			**9,00**	**342**						
1	All-university Pool MAGOLEGO Courses	E		9,00	342						
	Internship			**21,00**	**798**	**2**				**2**	
	Research Internship			**21,00**	**798**	**2**				**2**	
1	Graduation Thesis	C		21,00	798	2				2	
	Theoretical Computer Science (General track)			**60,00**	**2 280**	**196**	**92**	**92**	**8**	**4**	

#	Subject	Type*	Department							
	Major			**18,00**	**684**	**168**	**84**	**84**			
	course 2			**18,00**	**684**	**168**	**84**	**84**			
1	Algorithmic Game Theory	E	Department of Big Data and Information Retrieval	6,00	228	56	28	28A			
2	Introduction to Applied Cryptography	E	Joint Department with Yandex	6,00	228	56	28	28A			
3	Introduction to Functional Analysis	E	Joint Department with Yandex	6,00	228	56	28	28A			
4	One-Way Functions and Their Applications	E	Department of Big Data and Information Retrieval	6,00	228	56	28	28A			
5	Foundations of Tensor Computations	E	Department of Big Data and Information Retrieval	6,00	228	56	28	28A			
6	Information Theory	E	Joint Department with Yandex	6,00	228	56	28	28A			
7	Generative Artificial Intelligence	E	Joint Department with Yandex	6,00	228	56	28	28A			
	Final State Certification (FSC)			**3,00**	**114**	**2**				**2**	
1	Final Qualification Paper	C		3,00	114	2				2A	
	Key Seminars			**9,00**	**342**	**24**	**8**	**8**	**8**		
1	Mentor's Seminar "Theoretical Informatics"	C	Department of Big Data and Information Retrieval	9,00	342	24	8	8	8A		
	Magolego			**9,00**	**342**						
1	All-university Pool MAGOLEGO Courses	E		9,00	342						
	Internship			**21,00**	**798**	**2**				**2**	
	Research Internship			**21,00**	**798**	**2**				**2**	
1	Graduation Thesis	C		21,00	798	2				2	

Curriculum agreed:

Academic Supervisor   Khuzieva A.E.   26.02.2024

Dean   ARZHANTSEV I.V.   27.02.2024

Head of Centre for
 Educational Model Design   LEPESHKIN I.A.   12.04.2024

* Subject type:

Compulsory course	C
Elective course	E