



National Research University Higher School of Economics (HSE)

Curriculum

Field of study 01.04.02 Applied Mathematics and Informatics  
Educational Programme "Financial Technology and Data Analysis"

Trajectories: "Financial Technologies and Data Analysis"  
Implementing unit: Faculty of Computer Science, HSE - Moscow  
1 st, 2022/2023 academic year

APPROVED  
18.05.2022

Vice Rector

ROSHCHIN S.Y.  
Signed with EDS

Length of Programme: 2 years

Years of Study: 2022/2023 - 2023/2024

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	
<b>Degree Programme</b>				<b>60,00</b>	<b>2 280</b>	<b>658</b>	<b>140</b>	<b>182</b>	<b>164</b>	<b>270</b>	
<b>Financial Technologies and Data Analysis (General track)</b>				<b>60,00</b>	<b>2 280</b>	<b>658</b>	<b>140</b>	<b>182</b>	<b>164</b>	<b>270</b>	
<b>Major</b>				<b>48,00</b>	<b>1 824</b>	<b>570</b>	<b>140</b>	<b>150</b>	<b>164</b>	<b>204</b>	
<b>Basic Components</b>				<b>27,00</b>	<b>1 026</b>	<b>294</b>	<b>28</b>	<b>62</b>			
1	Algorithms for processing large data	C	Department of Big Data and Information Retrieval	3,00	114	40				40A	
2	Deep Learning	C	Department of Big Data and Information Retrieval	6,00	228	80			40	40A	
3	Machine Learning	C	Department of Big Data and Information Retrieval	6,00	228	56	28	28A			
4	Machine Learning in Finance	C	Department of Big Data and Information Retrieval	3,00	114	6		6A			Online Course
5	Basics of Risk Management	C	Department of Big Data and Information Retrieval	6,00	228	80			40	40A	
6	Financial Technology	C	Department of Big Data and Information Retrieval	3,00	114	32		32A			
<b>Elective Courses. 1 year 1st semester</b>				<b>9,00</b>	<b>342</b>	<b>128</b>					
1	Random Processes Basics and SDE-based Simulation Models	E	Department of Big Data and Information Retrieval	3,00	114	32		32A			
2	Macroeconomics	E	Department of Big Data and Information Retrieval	3,00	114	28	28A				
3	Programming in Python and Working with Linux	E	Department of Big Data and Information Retrieval	3,00	114	28	28A				
4	Database Theory	E	Department of Big Data and Information Retrieval	6,00	228	56	28	28A			
5	Econometrics	E	Department of Big Data and Information Retrieval	6,00	228	56	28	28A			

<b>Elective Courses. 1 year 2nd semester</b>				<b>12,00</b>	<b>456</b>	<b>148</b>					
1	Time Structured Data Analysis	E	Department of Big Data and Information Retrieval	6,00	228	80			40	40A	
2	Simulation Modeling of Financial and Economic Systems	E	Department of Big Data and Information Retrieval	6,00	228	44			22	22A	
3	Structural Analysis and Visualization of Networks	E	Department of Data Analysis and Artificial Intelligence	6,00	228	44			22	22A	Foreign language
<b>Key Seminars</b>				<b>6,00</b>	<b>228</b>	<b>56</b>		<b>32</b>		<b>32</b>	
1	Mentor's Seminar "Financial Technologies and Data Analysis"	C	Department of Big Data and Information Retrieval	6,00	228	56	8	8	8	32A	
<b>Magolego</b>				<b>3,00</b>	<b>114</b>	<b>32</b>				<b>32</b>	
1	Дисциплины по выбору из общеуниверситетского пула	E		3,00	114	32				32A	
<b>Internship</b>				<b>3,00</b>	<b>114</b>						<b>2</b>
<b>Project Internship</b>				<b>3,00</b>	<b>114</b>						<b>2</b>
1	Course project	C		3,00	114	2				2A	

**Curriculum agreed:**

Academic Supervisor MASYUTIN A.A. 06.05.2022

Dean ARZHANTSEV I.V. 06.05.2022

Head of Degree Programmes Development Office MAMONOVA M.A. 16.05.2022

\* Subject type:

Compulsory course

C

Elective course

E