



National Research University Higher School of Economics (HSE)

Curriculum

Field of study 01.04.02 Applied Mathematics and Informatics

Educational Programme "Data Analysis for Biology and Medicine"

Trajectories: "Data Analysis in Biology and Medicine"

Implementing unit: Faculty of Computer Science, HSE - Moscow

1 st, 2023/2024 academic year

APPROVED

25.05.2023

Vice Rector

ROSHCHIN S.Y.

Signed with EDS

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	522	108	136	172	106	
Data Analysis in Biology and Medicine (General track)				60,00	2 280	522	108	136	172	106	
Major				39,00	1 482	424	84	112	148	80	
1 year 1 semester				21,00	798	196	84	112			
1	Molecular Biology	E	Department of Big Data and Information Retrieval	6,00	228	56	28	28A			
2	Computing Infrastructure in Bioinformatics Problems	E	Department of Big Data and Information Retrieval	3,00	114	28		28A			
3	Machine Learning in Bioinformatics	E	Department of Big Data and Information Retrieval	6,00	228	56	28	28A			Online Course, Foreign language
4	Applied Bioinformatics	E	Department of Big Data and Information Retrieval	6,00	228	56	28	28A			
5	R Programming	E	Department of Big Data and Information Retrieval	6,00	228	56	28	28A			
1 year 2 semester				18,00	684	228			148	80	
1	Algorithms in Bioinformatics	E	Department of Big Data and Information Retrieval	3,00	114	40				40A	
2	Sequencing Data Analysis 1	E	Department of Big Data and Information Retrieval	3,00	114	40				40A	
3	Deep Learning	E	Department of Big Data and Information Retrieval	6,00	228	80			40	40A	
4	Population Models in Genomics	E	Department of Applied Mathematics	3,00	114	28			28A		Foreign language
5	Applied Statistics	E	Department of Big Data and Information Retrieval	3,00	114	40			40A		
6	Comparative Genomics	E	Department of Big Data and Information Retrieval	3,00	114	40			40A		

	Key Seminars			9,00	342	96	24	24	24	24	
1	Mentor's Seminar "Data Analysis in Biology and Medicine"	C	Department of Big Data and Information Retrieval	9,00	342	96	24	24	24	24A	
	Magolego			6,00	228						
1	All-university Pool MAGOLEGO Courses	E		6,00	228						
	Internship			6,00	228	2				2	
	Research Internship			6,00	228	2				2	
1	Term paper	C		6,00	228	2				2A	

Curriculum agreed:

Academic Supervisor	POPTSOVA M.S.	10.05.2023
Dean	ARZHANTSEV I.V.	10.05.2023
Head of Centre for Educational Model Design	LEPESHKIN I.A.	24.05.2023

* Subject type:

Compulsory course

C

Elective course

E