



National Research University Higher School of Economics (HSE)

Basic Curriculum

Field of study 01.04.02 Applied Mathematics and Informatics
 Educational Programme "Systems Reliability Engineering"
 Trajectories: "Systems Reliability Engineering"

APPROVED
 15.04.2024
 Vice Rector
 ROSHCHIN S.Y.
 Signed with EDS

Implementing unit: St. Petersburg School of Mathematics, Physics and Computer Science, HSE, HSE - Saint Petersburg

Years of Study: 2024/2025 - 2025/2026

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	
	Systems Reliability Engineering (Applied track)		120,00	60,00	60,00	
	Key Seminars		15,00	6,00	9,00	
1	Mentor's Seminar	C	6,00	3,00	3,00	GPC-4.AMI, PC-2, UC-1, UC-6
2	Research Seminar «Modern software development technologies»	C	9,00	3,00	6,00	GPC-1.AMI, GPC-2.AMI, GPC-4.AMI, PC-4, PC-5, UC-6
	Internship		24,00	3,00	21,00	
	Project Internship		24,00	3,00	21,00	
1	Project	C	9,00	3,00	6,00	GPC-1.AMI, PC-5, UC-1
2	Preparation for final qualifying work	C	15,00		15,00	GPC-1.AMI, GPC-2.AMI, GPC-3.AMI, GPC-4.AMI, PC-5, UC-1, UC-2, UC-3, UC-4, UC-5, UC-6
	Major		66,00	45,00	21,00	
	Major 1		9,00	9,00		
1	Algorithms and Data Structures	C	3,00	3,00		GPC-1.AMI, GPC-2.AMI, PC-1, UC-1
2	C++ Development on Linux	C	6,00	6,00		GPC-1.AMI, GPC-2.AMI, PC-1, UC-1
	Major variable (6 out of 9)		36,00	36,00		
1	Administration and optimization of DBMS performance	E	3,00	3,00		GPC-1.AMI, GPC-2.AMI, GPC-3.AMI, PC-2, PC-4, UC-4
2	Requirements engineering	E	6,00	6,00		GPC-2.AMI, PC-1, UC-1
3	Enterprise IT architecture	E	6,00	6,00		GPC-4.AMI, PC-5, UC-2
4	IT project management	E	3,00	3,00		GPC-4.AMI, PC-3, UC-1, UC-2, UC-3, UC-4, UC-5, UC-6

5	High Performance Computing	E	6,00	6,00		GPC-2.AMI, PC-2, UC-1
6	Ensuring the quality of business applications	E	3,00	3,00		GPC-3.AMI, PC-3, UC-1, UC-4
7	Software Development Infrastructure	E	6,00	6,00		GPC-4.AMI, PC-2, UC-1, UC-6
8	Heterogeneous Infrastructure Administration	E	6,00	6,00		GPC-2.AMI, PC-3, PC-4, UC-1, UC-5
9	Data interpretation and visualization methods	E	6,00	6,00		GPC-3.AMI, PC-5, UC-2, UC-6
Major elective 2 year (4 из 5)			21,00		21,00	
1	Cloud Technologies	E	3,00		3,00	GPC-1.AMI, PC-1, UC-6
2	Designing highly loaded corporate information systems	E	3,00		3,00	GPC-1.AMI, GPC-2.AMI, GPC-3.AMI, PC-5, UC-3
3	Information security of corporate information systems	E	3,00		3,00	GPC-1.AMI, PC-3, UC-1, UC-2, UC-3, UC-4, UC-5, UC-6
4	Automation and digitalization of enterprises (ERP subsystems)	E	3,00		3,00	GPC-4.AMI, PC-5, UC-1, UC-3
5	Machine learning and data mining methods	E	6,00		6,00	GPC-1.AMI, PC-5, UC-1
Magolego			12,00	6,00	6,00	
1	Optional disciplines from the university-wide MagoLego pool	E	12,00	6,00	6,00	GPC-2.AMI, PC-5, UC-2, UC-5
Final State Certification (FSC)			3,00		3,00	
1	Final Qualification Paper	C	3,00		3,00	GPC-1.AMI, GPC-2.AMI, GPC-3.AMI, GPC-4.AMI, PC-1, PC-2, PC-3, PC-4, PC-5, UC-1, UC-2, UC-3, UC-4, UC-5, UC-6

Curriculum agreed:

Academic Supervisor 04.04.2024

Dean 09.04.2024

Deputy Director KUZMIN P.V. 10.04.2024

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

* Subject type:

Compulsory course C

Elective course E