



National Research University Higher School of Economics (HSE)

Curriculum
 Field of study 03.03.02 Physics
 Educational Programme "Physics"
 Specializations: "Quantum Field Theory", "Solid State Physics"
 Implementing unit: St. Petersburg School of Mathematics,
 Physics and Computer Science, HSE, HSE - Saint Petersburg
 4 th, 2023/2024 academic year

APPROVED
 03.04.2023
 Vice Rector
 ROSHCHIN S.Y.
 Signed with EDS

Length of Programme: 4 years
 Years of Study: 2020/2021 - 2023/2024
 Mode of Study: Full Time
 Degree: Bachelor's degree

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	1 672	222	246	284	202	6	
	Major			27,00	418	176	246	284	162		
	Core Professional Block (Major)			11,00	418	176	88	88			
	Subject Areas			11,00	418	176	88	88			
	Computational Physics			4,00	152	56	28	28			
1	Numerical Methods	C	Department of Physics (at HSE University in St.Petersburg)	4,00	152	56	28A	28A			
	Theoretical Physics			7,00	266	120	60	60			
1	Statistical Physics	C	Department of Physics (at HSE University in St.Petersburg)	4,00	152	60	30	30A			
2	Condensed Condition Physics	C	Department of Physics (at HSE University in St.Petersburg)	3,00	114	60	30	30A			Online Course
	Elective Professional Block (Major)			16,00			158	196	162		
	Выбор специализации (1 из 2)			14,00			158	196	162		
	Дисциплины специализации "Квантовая теория поля"			14,00	532	130	34	36	60		
1	Quantum field theory 2	E	Department of Physics (at HSE University in St.Petersburg)	4,00	152	40	20	20A			
2	Computer methods in theoretical physics	E	Department of Physics (at HSE University in St.Petersburg)	3,00	114	30			30A		
3	General Relativity	E	Department of Physics (at HSE University in St.Petersburg)	3,00	114	30	14	16A			

4	Functional methods	E	Informatics Department	4,00	152	30			30A	
Дисциплины специализации "Физика твёрдого тела"				14,00	532	120	44	46	30	
1	Quantum optoelectronics	C	Department of Physics (at HSE University in St.Petersburg)	5,00	190	60	30	30A		
2	Semiconductor Devices	C	Department of Physics (at HSE University in St.Petersburg)	5,00	190	30			30A	
3	Semiconductor Devices Physics	C	Department of Physics (at HSE University in St.Petersburg)	4,00	152	30	14	16A		
Проектный семинар				2,00						
1	Project seminar on quantum field theory	C	Department of Physics (at HSE University in St.Petersburg)	2,00	76	2			2A	
2	Project seminar on solid state physics	C	Department of Physics (at HSE University in St.Petersburg)	2,00	76	2			2A	
English				1,00	38	2			2	
Optional Courses										
1	Academic English Writing	O		2,00	76	54	16	18	20A	Foreign language, Credits only to the cumulative rating
Examinations				1,00	38	2			2	
1	Project Proposal	C	Department of Physics (at HSE University in St.Petersburg)	1,00	38	2			2A	Foreign language
Final State Certification (FSC)				3,00	114	2			2	
Thesis Work				3,00	114	2			2	
1	Presenting of Graduation Thesis	C		3,00	114	2			2A	
General Courses				4,00	152	38			38	
Optional General Courses				4,00	152	38			38	
1	Philosophy of Science	C	Department of Sociology	4,00	152	38			38A	
Internship				25,00	950	4			4	
Research Internship				24,00	912	2			2	
1	Preparation of Graduation Thesis	C		15,00	570	2			2	
2	Graduation Internship	C		9,00	342					
Project Internship				1,00	38	2			2	
1	Projects	C		1,00	38	2			2A	

Curriculum agreed:

Academic Supervisor	SHENDEROVICH I.E.	31.03.2023
Dean		31.03.2023
Deputy Director	KUZMIN P.V.	31.03.2023

Head of Centre for
Educational Model Design

LEPESHKIN I.A.

03.04.2023

* Subject type:

Compulsory course

C

Elective course

E

Optional course

O