



National Research University Higher School of Economics (HSE)

Curriculum

Field of study 03.04.02 Physics

Educational Programme "Physics"

Trajectories: "Physical Mechanics", "Physics and Technology of Nanostructures"

Implementing unit: St. Petersburg School of Mathematics,
Physics and Computer Science, HSE, HSE - Saint Petersburg
1 st, 2024/2025 academic year

APPROVED

20.05.2024

Vice Rector

ROSHCHIN S.Y.

Signed with EDS

Length of Programme: 2 years

Years of Study: 2024/2025 - 2025/2026

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	234	66	64	62	42	
Physics and Technology of Nanostructures (Research track)				60,00	2 280	234	66	64	62	42	
Major				42,00	1 596	222	64	62	60	36	
Major				42,00	1 596	222	64	62	60	36	
1	Automation of experimental data collection and processing	C	Department of Physics (at HSE University in St.Petersburg)	6,00	228	28	14	14A			
2	Introduction to Nanophotonics	C	Department of Physics (at HSE University in St.Petersburg)	6,00	228	32			20	12A	
3	Introduction to Experimental Optics	C	Department of Physics (at HSE University in St.Petersburg)	6,00	228	42	22	20A			
4	Modeling of Quantum Systems	C	Department of Physics (at HSE University in St.Petersburg)	6,00	228	28	14	14A			
5	Nanoplasmonics	C	Department of Physics (at HSE University in St.Petersburg)	6,00	228	32			20	12A	
6	Physics of Low-Dimensional Systems	C	Department of Physics (at HSE University in St.Petersburg)	6,00	228	28	14	14A			
7	Experimental Methods for Studying the Properties of Semiconductor Nanostructures	C	Department of Physics (at HSE University in St.Petersburg)	6,00	228	32			20	12A	
Key Seminars				6,00	228	8	2	2	2	2	

1	Mentor's seminar "Physics and technology of nanostructures"	C	Department of Physics (at HSE University in St.Petersburg)	6,00	228	8	2	2	2	2A
Magolego				9,00	342					
1	Optional disciplines from the university-wide MagoLego pool	E		9,00	342					
Internship				3,00	114	4				4
Project Internship				3,00	114	4				4
1	Project	C		3,00	114	4				4A
Physical Mechanics (Research track)				60,00	2 280	234	66	64	62	42
Major				42,00	1 596	222	64	62	60	36
Major				42,00	1 596	222	64	62	60	36
1	Introduction to Experimental Optics	C	Department of Physics (at HSE University in St.Petersburg)	6,00	228	42	22	20A		
2	Wave processes	C	Department of Physics (at HSE University in St.Petersburg)	6,00	228	32			20	12A
3	Selected chapters from the theory of elastic environment	C	Department of Physics (at HSE University in St.Petersburg)	6,00	228	28	14	14A		
4	Mathematical physics. Asymptotic methods	C	Department of Physics (at HSE University in St.Petersburg)	6,00	228	32			20	12A
5	Micromechanics of heterogeneous environments	C	Department of Physics (at HSE University in St.Petersburg)	6,00	228	28	14	14A		
6	Nanoplasmonics	C	Department of Physics (at HSE University in St.Petersburg)	6,00	228	32			20	12A
7	Application of density functional theory to calculations of material properties: theoretical foundations and practical aspects	C	Department of Physics (at HSE University in St.Petersburg)	6,00	228	28	14	14A		
Key Seminars				6,00	228	8	2	2	2	2
1	Mentor seminar "Physical mechanics"	C	Department of Physics (at HSE University in St.Petersburg)	6,00	228	8	2	2	2	2A
Magolego				9,00	342					
1	Optional disciplines from the university-wide MagoLego pool	E		9,00	342					
Internship				3,00	114	4				4
Project Internship				3,00	114	4				4
1	Project	C		3,00	114	4				4A

Curriculum agreed:

Academic Supervisor

ZHURIKHINA V.V.

08.05.2024

Dean		08.05.2024
Deputy Director	KUZMIN P.V.	08.05.2024
Head of Centre for Educational Model Design	LEPESHKIN I.A.	08.05.2024

* Subject type:

Compulsory course

C

Elective course

E