

Документ подписан простой электронной подписью
Информация о владельце:
ФИО: Ливанов Дмитрий Викторович
Должность: Ректор
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APPROVED
Уникальный программный ключ:
Vice Rector for Academic Affairs
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A. A. Voronov

Ministry of Science and Higher Education of the Russian Federation
The Federal State Autonomous Educational Institution of Higher Education
“Moscow Institute of Physics and Technology (National Research University)”

Qualification Master
Year of enrollment 2024
Statutory duration of a study course 2 years

ACADEMIC PLAN

Domain of study: 03.04.01 - Applied Mathematics and Physics
Orientation (specialty): General and Applied Physics/Общая и прикладная физика
Landau Phystech-School of Physics & Research
Chair of Biophysics

AGREED
Head of Landau Phystech-School of Physics & Research
A. V. Rogachev

Specialty: Integrated Structural Biology and Genetics/Интегрированная структурная биология и генетика

№ in order	Name of disciplines, practices, State Final Examination	Form of final control by semesters										Hours												hours in week												Credit points		
		Examination					Graded test ("-" - simple)					State Examination	Laboratory classes	of them					Hours for preparation and examinations	Coursework and test papers	Distribution by courses and semesters								TOTAL HOURS	Total	Basic	Elective						
		1		2		3		1		2				3		4		1 course			2 course		1 sem. 15 weeks		2 sem. 15 weeks		3 sem. 15 weeks						4 sem. 15 weeks					
		lect	lab.	sem	lect	lab.	sem	lect	lab.	sem	lect			lab.	sem	lect	lab.	sem			lect	lab.	sem	lect	lab.	sem	lect	lab.					sem	lect	lab.	sem		
1	2	3	4	1	2	3	4	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22									
M.1	Courses (Modules)/Дисциплины (модули)												1	080	525	330		195		555	270	26										1	350	30	9	21		
M.1.1	Foreign Languages/Иностранные языки													180	120			120		60		4										180	4	4	4			
														90	60			60		30		2									90	2	2	2				
														90	60			60		30		2									90	2	2	2				
	Humanitarian and Social Cycle/Гуманитарный и социальный цикл													165	60	60																225	5	5				
M.1.2	(N)ever the Same Phystech: History and Culture of MIPT From Ancient Times to the Present Day/(He) тот Физтех: история и культура МФТИ с незапамятных времен до Digital Transformation: Social and Economic Challenges/Цифровая трансформация: социальные и экономические вызовы	1												60	30	30					30	30	2	2							90	2	2					
M.1.3	Core science/Профильные дисциплины													735	345	270		75		390	210	18										945	21		21			
M.1.B.1	Basics of Synchrotron Radiation and Its Applications/Основы синхротронного излучения и его применения	1												105	45	30		15		60	30		2	1							135	3		3				
M.1.B.2	Electron Microscopy of Biological Objects/Электронная микроскопия биологических объектов	2												60	30	15		15		30	30				1	1					90	2		2				
M.1.B.3	X-ray Crystallography of Membrane Proteins/Рентгеновская кристаллография мембранных белков													90	30	15		15		60		2			1	1					90	2		2				
M.1.B.4	Modern Methods of Genetic Engineering, Genome Editing, Metabolic Engineering/Современные методы генетической инженерии, геномное редактирование, метаболическая инженерия	1												60	30	30				30	30	2	2								90	2		2				
M.1.B.5	Genomics of Microorganisms/Геномика микроорганизмов	1												60	30	15		15		30	30	2	1	1							90	2		2				
M.1.B.6	Molecular Physiology Of The Nervous System/Молекулярная физиология нервной системы	2												60	30	30				30	30	2			2						90	2		2				
M.1.B.7	Mathematical and Computational Approaches to Neural Function/Математические и вычислительные подходы к функционированию нервной системы													90	30	30				60		2			2						90	2		2				
M.1.B.8	Cancer Cell Biology/Биология опухолевой клетки													45	30	30				15		2			2						45	1		1				
M.1.B.9	Experimental Oncology/Экспериментальная онкология	2												60	30	30				30	30	2			2						90	2		2				
M.1.B.10	Structure and Dynamics of Membrane Proteins by NMR/Структура и динамика мембранных белков методом ЯМР													45	30	15		15		15		2	1	1							45	1		1				
M.1.B.11	Molecular Modelling for Drug Design/Молекулярное моделирование в разработке лекарств	2												60	30	30				30	30	2			2						90	2		2				
M.2	Practice/Практика													3	750					3	750	30									3	780	84	84				

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		Examination			Graded test ("-" - simple)			State Examination	Laboratory classes	of them						Hours for preparation and examinations	Coursework and test papers	Distribution by courses and semesters								TOTAL HOURS	Total	Basic	Elective			
		1	2		3	4				Laboratory classes	Total classroom sessions	Lectons	Laboratory classes	Practical lessons, seminars, exercises, etc.	Practice			Independent study	1 course				2 course									
		1	2	3	4	1 sem. 15 weeks	2 sem. 15 weeks												3 sem. 15 weeks	4 sem. 15 weeks	1 sem. 15 weeks	2 sem. 15 weeks	3 sem. 15 weeks	4 sem. 15 weeks								
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22											
M.2.1	Industrial Practice/Производственная практика Personal Research Project/Научно-исследовательская работа																															
M.2.1.1																																
M.3	State Final Certification/Государственная итоговая аттестация																															
M.3.1	Performance of and Defence of Graduation Thesis/Выполнение и защита выпускной квалификационной работы																															
Ф.1	Факультативы																															
Ф.1.B.1	Military training/Военная подготовка		1	2																												
TOTAL:		Number of examinations and pass/fail tests						Distribution of hours by type of lesson						Distribution of classroom hours per week by semester						Total hours	Total number of credits											
		Examinations			Pass/Fail tests																											
	Fixed (without State Final Examination)	4	5	1				3	5	1	Obl.	5 070	525	330		195	3 750	795	330	26	15	20							5 400	120	99	21
	Extracurriculars	1	1					1	2		ECs.	705	315	120	60	135		390	60	2	10	11							765	17		
	State Final Examination				1																Distribution of hours of contact work by years and semesters						Total hours					
																					1 010				59				1 069			
																					449	561	25	34	Distribution of credits by years and semesters							
																					60				60							
																					28	32	30	30								

Acting Head of Academic Management Office T. F. Artemenko