

Документ подписан простой электронной подписью  
 Информация о владельце:  
 ФИО: Ливанов Дмитрий Викторович  
 Должность: Ректор  
 Дата подписания: 06.06.2024 10:52:26  
 Уникальный программный ключ:  
 c6d909c49c1d2034fa2a015bc4eaa51e7232a3a7

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)"  
**ACADEMIC PLAN**

Qualification Bachelor  
 Year of enrollment 2024  
 Statutory duration of a study course 4 years

**AGREED**

Head of the Phystech School of Biological and Medical Physics

Domain of study: 19.03.01 - Biotechnology  
 Orientation (specialty): Biomedical Engineering/Биомедицинская инженерия  
 Phystech School of Biological and Medical Physics  
 Center for educational programs in bioinformatics

L.S. A. A. Voronov

D. V. Kuzmin

№ in order	Name of disciplines, practices, State Final Examination	Form of final control by semesters				Hours								Coursework and test papers	hours in week																TOTAL HOURS	Credit points																																			
		Examinations			Graded test ("." - simple)				State Examination	Total for education	of them						Hours for preparation and examinations	Distribution by courses and semesters																Total	Basic	Elective																															
											1 course																2 course																3 course																4 course								
		1 sem. 15 weeks				2 sem. 15 weeks				3 sem. 15 weeks					4 sem. 15 weeks				5 sem. 15 weeks				6 sem. 15 weeks				7 sem. 15 weeks					8 sem. 15 weeks				1 course				2 course				3 course				4 course																			
		lec	lab	se	pr	lec	lab	se	pr	lec	lab	se	pr		lec	lab	se	pr	lec	lab	se	pr	lec	lab	se	pr	lec	lab	se	pr		lec	lab	se	pr	lec	lab	se	pr	lec	lab	se	pr	lec	lab	se	pr																				
1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26																														
Б.1	<b>Courses (Modules)/Дисциплины (модули)</b>																7 980	4 095	1 275	930	1 890			3 885	810	74																8 790	188	98	90																						
Б.1.1	History of Russia/История России																180	60	60					120	4	4																180	4	4	4																						
																	90	30	30					60	2	2																90	2	2	2																						
Б.1.2	Philosophy/Философия													8			90	30	30					60	2			2								2					90	2	2	2																							
Б.1.3	<b>Foreign Languages/Иностранные языки</b>																735	480			480			255	30	16															765	17	17																								
																	90	60			60			30	2	2		4													90	2	2	2																							
																	90	60			60			30	2	2				4											90	2	2	2																							
																	90	60			60			30	2	2															90	2	2	2																							
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																	90	60			60			30	2	2															90	2	2	2																							
																	105	60			60			45	30	2															135	3	3	3																							
	<b>Mathematics/Математика</b>																2 265	1 020	495		525			1 245	300	20															2 565	57	42	15																							
Б.1.В.1	Introduction to Mathematical Analysis/Введение в математический анализ	1														195	90	30		60			105	30	5	2	4												225	5	5																										
Б.1.В.2	Mathematical Analysis – Functions of One Variable/Математический анализ – функции одной переменной		2													240	120	60		60			120	30	3		4	4												270	6	6																									
Б.1.4	Mathematical Analysis – Sequences and Series of Functions, Functions of Several Variables/Математический анализ – функциональные последовательности и ряды, функции нескольких переменных			3												240	120	60		60			120	30					4	4										270	6	6																									
Б.1.5	Multiple Integrals and Field Theory/Кратные интегралы и теория поля				4											150	60	30		30			90	30						2	2								180	4	4																										
Б.1.В.3	Fourier Analysis/Фурье анализ					5										150	60	30		30			90	30									2	2					180	4	4	4																									
Б.1.6	Geometry/Геометрия	1														150	60	30		30			90	30		2	2													180	4	4																									
Б.1.7	Analytic Geometry/Аналитическая геометрия		2													150	60	30		30			90	30	3			2	2											180	4	4																									
Б.1.8	Linear Algebra/Линейная алгебра			3												150	60	30		30			90	30					2	2										180	4	4																									
Б.1.9	Ordinary Differential Equations/Дифференциальные уравнения															285	120	60		60			165	30	4															315	7	7																									





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		Examinations						Graded test ("-" - simple)						State Examination	Total for education	of them							Hours for preparation and examinations	Coursework and test papers	Distribution by courses and semesters																TOTAL HOURS	Total	Basic	Elective									
		Distribution of hours by type of lesson																Distribution of classroom hours per week by semester																																			
		Number of examinations and pass/fail tests												Distribution of hours of contact work by years and semesters																Total hours	Total number of credits																						
Examinations												Distribution of classroom hours per week by semester																																									
Pass/Fail tests												Distribution of classroom hours per week by semester																																									
Fixed (without State Final Examination)												Distribution of classroom hours per week by semester																																									
Physical education												Distribution of classroom hours per week by semester																																									
Extracurriculars												Distribution of classroom hours per week by semester																																									
State Final Examination												Distribution of classroom hours per week by semester																																									
1	2	3												4												5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26						
Б.2.2.В.3	Laboratory Safety and Biological Workshop/Лабораторная безопасность и биологический практикум																																							450			450			10		10					
Б.3	State Final Certification/Государственная итоговая аттестация																																									240					240			6		6	
Б.3.1	Performance of and Defence of Graduation Thesis/Выполнение и защита выпускной квалификационной работы																																										240					240			6		6
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												Distribution of hours by type of lesson																Distribution of classroom hours per week by semester																							
		Pass/Fail tests												Distribution of hours by type of lesson																Distribution of classroom hours per week by semester																							
		Fixed (without State Final Examination)												Distribution of hours by type of lesson																Distribution of classroom hours per week by semester																							
		Physical education												Distribution of hours by type of lesson																Distribution of classroom hours per week by semester																							
		Extracurriculars												Distribution of hours by type of lesson																Distribution of classroom hours per week by semester																							
		State Final Examination												Distribution of hours by type of lesson																Distribution of classroom hours per week by semester																							
		1												10 290 4 095 1 275 930 1 890 2 070 4 125 840																28 32 38 36 32 36 24 23																74		11 130 240 123 117					
														Distribution of hours of contact work by years and semesters																1 118 1 328 1 235 830																4 511							
														526 592 676 652 580 655 411 419																																							
														Distribution of credits by years and semesters																58 62 58 62																							
														24 34 27 35 24 34 27 35																																							

Acting Head of Academic Management Office

T. F. Artemenko