Документ подписан простой электронной подписью
Информация о владельце:
ФИО: Ливанов Дмитрий Викторович
Должность: Ректор
Дата подписания: 31.10.2024 18:04:10
Уникальный программный ключ:
c6d909c49c1d2034fa3a0156c4eaa51e7232a3a2

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)"

A C A D E M I C P L A N

Qualification Bachelor

Year of enrollment 2024

Statutory duration of a study course 4 years

APPROVED
Vice Rector for Academic Affairs
A. A. Voronov

Domain of study: 03.03.01 - Applied Mathematics and Physics
Orientation (specialty): Computer Science/Информатика
Phystech School of Applied Mathematics and Informatics

AGREED
Head of the Phystech School of Applied Mathematics and Informatics
A. M. Raygorodskiy

| № in order | Name of disciplines, practices, State Final Examination | Form of final control by semesters: Examinations 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | Graded test ("-" - simple) 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | State Examination | Hours: Total for education | of them: Total classroom sessions | Lections | Laboratory classes | Practical lessons, seminars, exercises, etc. | Practice | Independent study | Hours for preparation and examinations | Coursework and test papers | hours in week, Distribution by courses and semesters: 1 course 1 sem. 15 weeks lec | lab | sem | 1 course 2 sem. 15 weeks lec | lab | sem | 2 course 3 sem. 15 weeks lec | lab | sem | 2 course 4 sem. 15 weeks lec | lab | sem | 3 course 5 sem. 15 weeks lec | lab | sem | 3 course 6 sem. 15 weeks lec | lab | sem | 4 course 7 sem. 15 weeks lec | lab | sem | 4 course 8 sem. 15 weeks lec | lab | sem | TOTAL HOURS | Credit points: Total | Basic | Elective |
|---|---|---

№ in order	Name of disciplines, practices, State Final Examination	Form of final control by semesters: Examinations								Graded test ("-" - simple)								State Examination	Hours: Total for education	of them: Total classroom sessions	Lections	Laboratory classes	Practical lessons, seminars, exercises, etc.	Practice	Independent study	Hours for preparation and examinations	Coursework and test papers	hours in week: Distribution by courses and semesters: 1 course			2 course			3 course			4 course			TOTAL HOURS	Credit points		
																												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				Total	Basic	Elective
		1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8											lec	lab	sem	lec	lab	sem	lec	lab	sem	lec	lab	sem	lec	lab	sem	lec	lab	sem	lec	lab	sem				
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.1.11	Applied Physical Education (Optional Sports)/Прикладная физическая культура (виды спорта по выбору)										-2	-3	-4	-5	-6				**330**	**300**			**300**		**30**							4			4			4			4									330			
Б.1.12	Life Safety/Безопасность жизнедеятельности									1									**45**	**30**	**30**				**15**		**2**	2																					45	1	1	
	Algebra/Алгебра																		**450**	**180**	**90**		**90**		**270**	**90**	**3**																						540	12	12	
Б.1.13	Geometry/Геометрия	1																	**150**	**60**	**30**		**30**		**90**	**30**		2		2																			180	4	4	
Б.1.14	Analytic Geometry/Аналитическая геометрия		2																**150**	**60**	**30**		**30**		**90**	**30**	**3**				2		2																	180	4	4	
Б.1.15	Linear Algebra/Линейная алгебра			3															**150**	**60**	**30**		**30**		**90**	**30**								2		2														180	4	4	
	Theory of Probability and Mathematical Statistics/Теория вероятностей и математическая статистика																		**345**	**180**	**90**		**90**		**165**	**60**																								405	9	9	
Б.1.16	Probability Theory/Теория вероятностей																		**210**	**120**	**60**		**60**		**90**	**60**																								270	6	6	
					4														**105**	**60**	**30**		**30**		**45**	**30**											2		2										135	3	3	
						5													**105**	**60**	**30**		**30**		**45**	**30**														2		2								135	3	3	
Б.1.17	Statistics/Статистика														6				**135**	**60**	**30**		**30**		**75**																	2		2							135	3	3	
	Discrete Mathematics/Дискретная математика																		**285**	**120**	**60**		**60**		**165**	**30**	**2**																							315	7	7	
Б.1.18	Discrete Mathematics/Дискретная математика		2																**150**	**60**	**30**		**30**		**90**	**30**	**2**				2		2																	180	4	4	
Б.1.19	Computability and Complexity/Вычислимость и вычислительная сложность														6				**135**	**60**	**30**		**30**		**75**																	2		2							135	3	3	
	Computational Mathematics/Вычислительная математика																		**285**	**120**	**60**		**60**		**165**	**30**	**2**																							315	7	7	
Б.1.20	Introduction to Optimization/Введение в													5					**135**	**60**	**30**		**30**		**75**		**2**												2		2									135	3	3	
Б.1.21	Convex Optimization/Выпуклая оптимизация						6												**150**	**60**	**30**		**30**		**90**	**30**																2		2							180	4	4	
	Algorithms & Data Structures & Programming Languages/Алгоритмы и структуры данных и языки программирования																		**540**	**180**	**90**	**90**			**360**																									540	12	12	
Б.1.22	Foundations of Programming I/Основы программирования I									1									**180**	**60**	**30**	**30**			**120**			2	2																					180	4	4	
Б.1.23	Foundations of Programming II/Основы программирования II										2								**180**	**60**	**30**	**30**			**120**						2	2																		180	4	4	
Б.1.24	Data Structures and Algorithms I/Структуры данных и алгоритмы I										2								**180**	**60**	**30**	**30**			**120**						2	2																		180	4	4	
	Computer Architecture and Operating Systems/Архитектура компьютеров и операционные системы																		**360**	**120**	**60**	**60**			**240**																									360	8	8	
Б.1.25	Operating Systems I/Операционные системы I											3							**180**	**60**	**30**	**30**			**120**									2	2															180	4	4	
Б.1.26	Operating Systems II/Операционные системы II												4						**180**	**60**	**30**	**30**			**120**												2	2												180	4	4	
	Department Courses/Факультетские дисциплины																		**2 730**	**1 005**	**405**	**330**	**270**		**1 725**	**60**	**10**																							2 790	62	4	58
Б.1.В.2	Fundamentals of Financial and Economic Analysis and Planning/Основы финансово-экономического анализа и планирования																-8		**45**	**15**	**15**				**30**																					1			45	1		1

№ in order	Name of disciplines, practices, State Final Examination	Form of final control by semesters: Examinations								Graded test ("-" - simple)								State Examination	Hours: Total for education	of them: Total classroom sessions	Lections	Laboratory classes	Practical lessons, seminars, exercises, etc.	Practice	Independent study	Hours for preparation and examinations	Coursework and test papers	hours in week: Distribution by courses and semesters: 1 course			2 course			3 course			4 course			TOTAL HOURS	Credit points		
																												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	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8											lec	lab	sem	lec	lab	sem	lec	lab	sem	lec	lab	sem	lec	lab	sem	lec	lab	sem	lec	lab	sem				
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.1.В.3	Mathematical Thinking/Математическое мышление									1									135	60	30		30		75		2	2		2																				135	3		3
Б.1.В.4	Basics of Mathematical logic I/Основы математической логики I		2																150	60	30		30		90	30	2				2		2																	180	4		4
Б.1.В.5	Data Structures and Algorithms II/Структуры данных и алгоритмы II											3							180	60	30	30			120									2	2															180	4		4
Б.1.В.6	Data Structures and Algorithms III/Структуры данных и алгоритмы III												4						180	60	30	30			120												2	2												180	4		4
	Elective Set of Courses 1/Блок дисциплин по выбору 1																		135	60			60		75																									135	3		3
Б.1.В.7	Constraint Programming/Программирование в ограничениях												4						135	60			60		75														4										135	3		3
Б.1.В.8	Matlab/Matlab												4						135	60					75																									135	3		3
Б.1.В.9	Combinatorics and Graphs/Комбинаторика и графы											3							135	60	30		30		75									2		2														135	3		3
Б.1.В.10	Advanced Graph Theory/Продвинутый курс по теории графов												4						135	60	30		30		75												2		2											135	3		3
Б.1.В.11	Python/Язык программирования Python											3							135	30		30			105										2															135	3		3
Б.1.27	Databases/Базы данных												4						180	60	30	30			120												2	2												180	4	4	
Б.1.В.12	Algebra and Number Theory/Алгебра и теория чисел											3							135	60	30		30		75		2							2		2														135	3		3
Б.1.В.13	Elementary Number Theory and Number System/Элементарная теория чисел и системы счисления									1									135	60	30		30		75		2	2		2																				135	3		3
Б.1.В.14	Java/Язык программирования JAVA													5					180	60	30	30			120															2	2									180	4		4
Б.1.В.15	Workshop on Software Development/Практикум по разработке программ																		360	120		120			240																									360	8		8
														5					180	60		60			120																4									180	4		4
															6				180	60		60			120																		4							180	4		4
Б.1.В.16	Parallel and Disrtibuted Computing I/Параллельные и распределённые вычисления I													5					180	60	30	30			120															2	2									180	4		4
Б.1.В.17	Parallel and Distributed Computing II/Параллельные и распределённые вычисления II						6												195	60	30	30			135	30																2	2								225	5		5
Б.1.В.18	Fundamentals of Topology/Основы топологии															7			135	60	30		30		75		2																		2		2				135	3		3
	Core science/Профильные дисциплины																		645	240	120	60	60		405	30	1																							675	15		15
Б.1.В.19	Machine Learning/Машинное обучение																		375	120	60	60			255	30																								405	9		9
																7			180	60	30	30			120																				2	2				180	4		4
									8										195	60	30	30			135	30																					2	2		225	5		5
Б.1.В.20	Information Theory/Теория информации																8		135	60	30		30		75		1																				2		2	135	3		3
Б.1.В.21	Web-graphs/Веб-графы																8		135	60	30		30		75																						2		2	135	3		3
Б.2	**Practice/Практика**																		1 665					1 665																									1 665	37	29	8
Б.2.1	**Industrial Practice/Производственная практика**																		1 305					1 305																									1 305	29	29	
Б.2.1.1	Personal Research Project/Научно-исследовательская работа																		1 305					1 305																									1 305	29	29	

№ in order	Name of disciplines, practices, State Final Examination	Form of final control by semesters: Examinations 1	2	3	4	5	6	7	8	Graded test ("-" - simple) 1	2	3	4	5	6	7	8	State Examination	Hours: Total for education	of them: Total classroom sessions	Lections	Laboratory classes	Practical lessons, seminars, exercises, etc.	Practice	Independent study	Hours for preparation and examinations	Coursework and test papers	hours in week: Distribution by courses and semesters: 1 course 1 sem. 15 weeks (lec / lab / sem)	1 course 2 sem. 15 weeks (lec / lab / sem)	2 course 3 sem. 15 weeks (lec / lab / sem)	2 course 4 sem. 15 weeks (lec / lab / sem)	3 course 5 sem. 15 weeks (lec / lab / sem)	3 course 6 sem. 15 weeks (lec / lab / sem)	4 course 7 sem. 15 weeks (lec / lab / sem)	4 course 8 sem. 15 weeks (lec / lab / sem)	TOTAL HOURS	Credit points: Total	Basic	Elective
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
																7			765					765												765	17	17	
																	8		540					540												540	12	12	
Б.2.2	**Educational Practice/Учебная практика**																		360					360												360	8		8
Б.2.2.В.1	Research Practice/Научно-исследовательская практика																		360					360												360	8		8
														5					180					180												180	4		4
															6				180					180												180	4		4
Б.3	**State Final Certification/Государственная итоговая аттестация**																		315						315	90										405	9	9	
Б.3.1	Preparation for and Taking State Examination in Mathematics/Подготовка к сдаче и сдача государственного экзамена по математике						6											6	60						60	30											90	2	2	
Б.3.2	Preparation for and Taking State Examination in Informatics and Computer Engineering/Подготовка к сдаче и сдача государственного экзамена по информатике и вычислительной технике							7										7	60						60	30											90	2	2	
Б.3.3	Performance of and Defence of Graduation Thesis/Выполнение и защита выпускной квалификационной работы								8									8	195						195	30											225	5	5	

TOTAL:	Number of examinations and pass/fail tests: Examinations 1	2	3	4	5	6	7	8	Pass/Fail tests 1	2	3	4	5	6	7	8		Distribution of hours by type of lesson: Total classroom sessions	Lections	Laboratory classes	Practical lessons, seminars, exercises, etc.	Practice	Independent study	Hours for preparation and examinations	Coursework and test papers	Distribution of classroom hours per week by semester: 1 course 1 sem.	1 course 2 sem.	2 course 3 sem.	2 course 4 sem.	3 course 5 sem.	3 course 6 sem.	4 course 7 sem.	4 course 8 sem.	Total hours	Total number of credits		
Fixed (wtihout State Final Examination)	2	4	2	2	3	3		2	6	4	6	7	6	5	4	5	Obl.	10 500	3 765	1 410	540	1 815	1 665	5 070	630	55	30	34	34	36	32	30	12	19	11 130	240	155	85
Physical education									1	1	1	1	1	1			ECs.																				
Extracurriculars																																					
State Final Examination						1	1	1																													

Distribution of hours of contact work by years and semesters								Total hours
1 180		1 251		1 154		580		4 165
557	623	609	642	587	567	231	349	

Distribution of credits by years and semesters							
56		59		63		62	
26	30	29	30	32	31	28	34

Acting Head of Academic Management Office T. F. Artemenko