

Документ подписан простой электронной подписью
Информация о владельце:
ФИО: Ливанов Дмитрий Викторович
Должность: Ректор
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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 Master

Year of enrollment 2024

Statutory duration of a study course 2 years

APPROVED

Vice Rector for Academic Affairs

Domain of study: 01.04.02 - Applied Mathematics and Informatics
Orientation (specialty): Modern State of Artificial Intelligence/Современные методы искусственного интеллекта
“Pusk” Online and Supplementary Education Centre
Chair of Machine Learning and Digital Humanities

AGREED

Директор по цифровизации образования

L.S.

A. A. Voronov

D. I. Grits

№ 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	Laboratory classes	of them						Hours for preparation and examinations	Distribution by courses and semesters				Total	Basic		Elective												
						Total classroom sessions	Lectures	Laboratory classes	Practical lessons, seminars, exercises, etc.	Practice	Independent study		1 course		2 course																	
													1 sem. 15 weeks		2 sem. 15 weeks	3 sem. 15 weeks					4 sem. 15 weeks											
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)					2 055	1 035	465					570		1 020	330	10												2 385	53	9	44
M.1.1	Foreign Languages/Иностранные языки					180	120						120		60		4											180	4	4		
						90	60						60		30		2		4								90	2	2			
						90	60						60	2	30		2			4							90	2	2			
	Humanitarian and Social Cycle/Гуманитарный и социальный цикл					165	60	60							105	60	4										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 наших дней	1				60	30	30							30	30	2	2									90	2	2			
M.1.3	Digital Transformation: Social and Economic Challenges/Цифровая трансформация: социальные и экономические вызовы		2			105	30	30							75	30	2			2							135	3	3			
	Core science/Профильные дисциплины					1 665	840	405					435		825	270	2										1 935	43		43		
M.1.B.1	Algorithms and Computational Complexity/Алгоритмы и сложность вычислений	1				105	60	30					30		45	30		2	2								135	3		3		
M.1.B.2	Math Basics for Artificial Intelligence/Математические основы искусственного интеллекта	1				150	60	30					30		90	30		2	2								180	4		4		
M.1.B.3	Optimization Methods/Методы оптимизации	1				105	60	30					30		45	30		2	2								135	3		3		
M.1.B.4	Probability Theory and Applications/Теория вероятностей	1				105	60	30					30		45	30		2	2								135	3		3		
M.1.B.5	Software Development and Data Engineering/Разработка ПО и системы хранения данных					225	105	60					45		120												225	5		5		
						90	45	30					15		45			2	1								90	2	2			
						135	60	30					30		75					2	2						135	3		3		
M.1.B.6	Introduction to the Recommendation Systems/Введение в рекомендательные системы					45	15						15		30												45	1		1		
M.1.B.7	Machine Learning with Graphs/Машинное обучение на графах					90	45	15					30		45			2		1	2						90	2		2		
M.1.B.8	Distributed and Cloud Computing/Распределенные и облачные вычисления				3	105	60	30					30		45	30									2	2	135	3		3		
M.1.B.9	Statistical Data Analysis/Математическая статистика и анализ данных	2				105	60	30					30		45	30				2	2						135	3		3		
M.1.B.10	Machine Learning/Машинное обучение				2	90	45	15					30		45					1	2						90	2	2			
M.1.B.11	Computer Vision/Компьютерное зрение				3	105	60	30					30		45	30									2	2	135	3		3		

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		Examinations				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				1		2		3				4		1 course		2 course																
		1	2	3	4	1	2	3	4	1	2	3	4	6	7	8	9	10	11	12	13	14	1 sem. 15 weeks		2 sem. 15 weeks		3 sem. 15 weeks		4 sem. 15 weeks		19	20	21	22						
		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.	lect.	lab.	sem.									
1	2									5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22													
M.1.B.12	Reinforcement Learning/Обучение с подкреплением			3									150	75	45		30		75	30									180	4		4								
M.1.B.13	Natural Language Processing/Обработка естественного языка			3									150	75	45		30		75	30									180	4		4								
M.1.B.14	Strategic Management for Leadership in ML/Стратегический менеджмент									3			135	60	15		45		75										135	3		3								
M.1.B.15	Scientific Workshop: Modern Topics in Applied Mathematics and Computer Science/Научный семинар: Современные проблемы прикладной математики и информатики								1				45	15			15			30									45	1		1								
M.2	Practice/Практика												2 670					2 670		30									2 700	60	48	12								
M.2.1	Educational Practice/Учебная практика												540					540											540	12		12								
M.2.1.B.1	Introductory Practical Training/Ознакомительная практика								-1				540					540											540	12		12								
M.2.2	Industrial Practice/Производственная практика												2 130					2 130		30									2 160	48		48								
M.2.2.1	Personal Research Project/Научно-исследовательская работа												2 130					2 130		30									2 160	48		48								
									2				450					450											450	10		10								
				3									645					645		30									675	15		15								
											4		1 035					1 035											1 035	23		23								
M.3	State Final Certification/Государственная итоговая аттестация												285						285	30									315	7		7								
M.3.1	Performance of and Defence of Graduation Thesis/Выполнение и защита выпускной квалификационной работы								4			4	285						285	30									315	7		7								
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																																				
		5	2	5		4	6	1	1	Obl.	5 010	1 035	465			570	2 670	1 305	390	10	26	21	22		5 400	120	64	56												
										ECs.																														
	State Final Examination				1																																			
		Distribution of hours of contact work by years and semesters												Total hours																										
		813				420				1 233																														
		441	372	386	34																																			
		Distribution of credits by years and semesters																																						
		58				62																																		
		32	26	32	30																																			

Acting Head of Academic Management Office

T. F. Artemenko