



WORKING CURRICULUM of the educational program for recruitment for 2021-2022 academic year (winter semester)  
 Educational program 7M07181 - "Materials science and technology of new materials"  
 Group of educational programs M191 - "Materials science and technology of new materials"  
 Form of education: full time Duration of study: 2 years Academic degree: Master of Natural Sciences

Year of study	Code	Name of the discipline	Cycle	Total amount in credits	Total hours	Academy amount Lect/Lab/Pr	IWS (including IWSL) in hours	Prerequisite	Code	Name of the discipline	Cycle	Total amount in credits	Total hours	Academy amount Lect/Lab/Pr	IWS (including IWSL) in hours	Prerequisite	
																	1 semester (spring 2021-2022 a.y.)
1	AA0244	Pedagogical practice	BD UC	4					LNA010	Foreign language (professional)	BD UC	5	150	10/0/1	105		
	00IM210	History and philosophy of science	BD UC	4	120	10/1	90		00IM208	Psychology of management	BD UC	3	90	10/0/0	60		
	00IM209	Higher education pedagogy	BD UC	4	120	10/1	90		PIY715	Physicochemical methods for the study of material	BD UC	5	150	20/0/1	105		
	PIY711	Materials science and technology of advanced materials	BD OC	5	150	20/1	105		PIY716	Materials for 3D technology	MD OC	5	150	20/0/1	105		
	PIY712	Technological quality assurance of materials	BD OC	5	150	20/1	105		PIY717	Functional problems of materials science	MD OC	5	150	20/1	105		
	PIY713	Computer modeling in materials science	MD OC	5	150	20/1	105										
	PIY714	New functional materials	MD OC	5	150	20/1	105										
	AA0242	Research work of a master student, including an internship and a master's dissertation	RWMS	6					AA0242	Research work of a master student, including an internship and a master's dissertation	RWMS	6					
Total				38				Total				39					
2	3 semester (spring 2023-2023 a.y.)				4 semester (autumn 2023-2024 a.y.)												
	PIY718	Methodology for materials selection and technology	MD OC	5	150	20/1	105		AA0236	Research practice	MD OC	7					
	PIY719	Multiphase structures and methods for calculating phase diagrams	MD OC	5	150	20/1	105		0CA209	Writing and submission of a master dissertation	FA	12					
	PIY720	Destruction and reliability assessment of materials	MD OC	5	150	20/1	105										
	PIY721	The surface structure engineering	MD OC	5	150	20/1	105										
	PIY722	Advanced materials processing technologies	MD OC	5	150	20/1	105										
	AA0242	Research work of a master student, including an internship and a master's dissertation	RWMS	6					AA0242	Research work of a master student, including an internship and a master's dissertation	RWMS	6					
	Total				31				Total				24				

Decision of the Academic Council of KozNRITU named after K. Satbayev. Protocol No. 7 from 20.01.2021.

Decision of the Academic Council of the M&M Institute. Protocol No. 5 from 20.12.2021.

Vice-rector for academic affairs: Zhaitbayev B.A.  
 Director of the M&M Institute: Ryshbekov K.B.  
 Lead of the M&M department: Kalkinov U.K.  
 Chairman of the Specialty Council: Serikbaev A.S.

The number of credits for the entire period of study	
Discipline cycles	Credits
Cycle of basic disciplines (BD UC, BD OC)	75
Cycle of major disciplines (MD UC, MD OC)	52
Total theoretical training	87
RWMS	24
Writing and submission of a doctoral dissertation	12
<b>OVERALL:</b>	<b>123</b>