



WORKING CURRICULUM of the educational program for recruitment for 2021-2022 academic year (winter reception)
 Educational program 7M07103 - "Materials science and technology of new materials"
 Group of educational programs M101 - "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	Auditory amount Lec/Lab/P	IWS (including IWSL), in hours	Prerequisites	Code	Name of the discipline	Cycle	Total amount in credits	Total hours	Auditory amount Lec/Lab/P	IWS (including IWSL), in hours	Prerequisites
1 semester (spring 2021-2022 a.y.)								2 semester (autumn 2022-2023 a.y.)								
1	AAP244	Pedagogical practice	BD UC	4					LNG210	Foreign language (professional)	BD UC	5	150	0/0/3	105	
	HUM210	History and philosophy of science	BD UC	4	120	1/0/1	90		HUM208	Psychology of management	BD UC	3	90	1/0/1	60	
	HUM209	Higher education pedagogy	BD UC	4	120	1/0/1	90		PHY715	Physico-chemical methods for the study of materials	BD OC	5	150	2/0/1	105	
	PHY711	Materials science and technologies of advanced materials	BD OC	5	150	2/0/1	105		PHY716	Materials for 3D technology	MD OC	5	150	2/0/1	105	
	PHY712	Technological quality assurance of materials	BD OC	5	150	2/0/1	105		PHY717	Functional problems of materials science	MD OC	5	150	2/0/1	105	
	PHY713	Computer modeling in materials science	MD OC	5	150	2/0/1	105									
	PHY714	New functional materials	MD OC	5	150	2/0/1	105									
	AAP242	Research work of a master student, including an internship and a master's dissertation	RWMS	6					AAP242	Research work of a master student, including an internship and a master's dissertation	RWMS	6				
Total				38				Total				29				
3 semester (spring 2022-2023 a.y.)								4 semester (autumn 2023-2024 a.y.)								
2	PHY718	Methodology for materials selection and technology	MD OC	5	150	2/0/1	105		AAP236	Research practice	MD OC	7				
	PHY719	Multiphase structures and methods for calculating phase diagrams	MD OC	5	150	2/0/1	105		ECA205	Writing and submission of a master dissertation	FA	12				
	PHY720	Destruction and reliability assessment of materials	MD OC	5	150	2/0/1	105									
	PHY721	The surface structure engineering	MD OC	5	150	2/0/1	105									
	PHY722	Advanced materials processing technologies	MD OC	5	150	2/0/1	105									
	AAP242	Research work of a master student, including an internship and a master's dissertation	RWMS	6					AAP242	Research work of a master student, including an internship and a master's dissertation	RWMS	6				
Total				31				Total				25				

Decision of the Academic Council of KazNRTU named after K. Satbayev. Protocol № 7 from "20 01" 2021.

Decision of the Academic Council of the M&M Institute. Protocol № 5 from "20 12" 2021.

Vice-rector for academic affairs

Zhautikov B.A.

Director of the M&M Institute

Rysbekov K.B.

Head of the MNnEP department

Kakimov U.K.

Chairman of the Specialty Council

Serikanov A.S.

The number of credits for the entire period of study	
Discipline cycles	Credits
Cycle of basic disciplines (BD UC, BD CC)	35
Cycle of major disciplines (MD UC, MD CC)	52
Total theoretical training:	87
RWMS	24
Writing and submission of a doctoral dissertation	12
OVERALL:	123