

MINISTRY OF EDUCATION AND SCIENCE OF THE REPUBLIC OF KAZAKHSTAN
KAZAKH NATIONAL RESEARCH TECHNICAL UNIVERSITY named after K. I. SATPAYEV



APPROVED
Chairman of the Board-
Rector of KazNRTU named after K. Satpaeva
Begentaev M.M.
" " " 2021 y.

MODULAR EDUCATIONAL PROGRAM for admission for the 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 study: daytime Study duration: 2 years Academic degree: Master of Engineering Science

Year of study	Discipline Code	Name of disciplines	semester	Cycle	Credits	Total hours	classroom volume lx / lab / pr	ISW (including ISWT) in hours	form of control	Competencies
Basic training module										
University component										
1	LNG210	Foreign language (professional)	2	BD IC	5	150	0/0/3	105	E	
1	HUM210	History and philosophy of science	1	BD IC	4	120	1/0/1	90	E	
1	HUM209	Higher education pedagogy	1	BD IC	4	120	1/0/1	90	E	
1	HUM208	Psychology of management	2	BD IC	3	90	1/0/1	60	E	
1	PHY712	Technological quality assurance of materials	1	BD OC	5	150	2/0/1	105	E	
1	PHY715	Physico-chemical methods for the study of materials	2	BD OC	5	150	2/0/1	105	E	
Component of choice										
1	PHY711	Materials science and technologies of advanced materials	1	BD OC	5	150	2/0/1	105	E	
Profile training module										
Component of choice/University component										
1	PHY713	Computer modeling in materials science	1	PD OC	5	150	2/0/1	105	E	
1	PHY714	New functional materials	1	PD OC	5	150	2/0/1	105	E	
1	PHY716	Materials for 3D technology	2	PD OC	5	150	2/0/1	105	E	
1	PHY717	Functional problems of materials science	2	PD OC	5	150	2/0/1	105	E	
Component of choice										
2	PHY718	Methodology for materials selection and technology	3	PD OC	5	150	2/0/1	105	E	
2	PHY719	Multiphase structures and methods for calculating phase diagrams	3	PD OC	5	150	2/0/1	105	E	
2	PHY720	Destruction and reliability assessment of materials	3	PD OC	5	150	2/0/1	105	E	
2	PHY721	The surface structure engineering	3	PD OC	5	150	2/0/1	105	E	
2	PHY722	Advanced materials processing technologies	3	PD OC	5	150	2/0/1	105	E	
Practice-oriented module										
1	AAP244	Pedagogical practice	1	BD IC	4				Report	
2	AAP236	Research practice	4	PD OC	7				Report	
Science-research module										
1	AAP242	Research work of a master's student, including an internship and a master's thesis	1	NIRM	6				Report	
1	AAP242	Research work of a master's student, including an internship and a master's thesis	2	NIRM	6				Report	
2	AAP242	Research work of a master's student, including an internship and a master's thesis	3	NIRM	6				Report	
3	AAP242	Research work of a master's student, including an internship and a master's thesis	4	NIRM	6				Report	
Final certification module										
Required component										
2	ECA205	Registration and defense of a master's thesis	4	IA	12				Defense of dissertations	

The number of credits for the entire period of study

Discipline cycles	Credits
Cycle of basic disciplines (BD IC, BD OC)	35
Cycle of majors (PD OC, PS OC)	52
Total theoretical training:	87
MSSR	24
Registration and defense of a master's thesis	12
TOTAL:	123

The decision of the Academic Council of KazNRTU named after K. Satpaeva. Protocol № 3 of "25" 06 2021 y.

Decision of the Academic Council of the Institute № 10 of "10" 06 2021 y.

Vice-rector for academic affairs

Director of the M&M Institute

Head of the MNnEP Department

Representative of the Specialty Council from employers

Zhautikov B.A.

Rysbekov K.B.

Kakimov U.K.

Serikkanov A.S.