



CURRICULUM
of Educational Program on enrollment for 2024-2025 academic year (spring)

Educational program 8D05301 - "Applied and engineering physics"
Group of educational programs D090 - "Physics"

Form of study: full-time Duration of study: 3 year Academic degree: Philosophy Doctor (PhD)

Discipline code	Name of disciplines	Cycle	Total amount in credits	Total hours	Classroom amount lec/lab/pr	SIS (including TSIS) in hours	Form of control	Allocation of face-to-face training based on courses and semesters						
								1 course			2 course			
								1 semester	2 semester	3 semester	4 semester	5 semester	6 semester	
CYCLE OF BASIC DISCIPLINES (BD)														
M-1. Module of basic training (university component)														
MET322	Scientific research methods	BD UC	5	150	2/0/1	105	E	5						
LNG305	Academic writing	BD UC	5	150	0/0/3	105	E	5						
component of choice														
PHY319	Physics and technique of saving and renewable energy	BD CCH	5	150	2/0/1	105	E	5						
PHY305	Synthesis and Physical Properties of Low-dimensional Structures				2/0/1									
MNG350	Sustainability Science				2/0/1									
CYCLE OF PROFILE DISCIPLINES (PD)														
M-2. Module of professional activity (component of choice)														
PHY320	Semiconductor heterostructures and devices based on them	PD CCH	5	150	2/0/1	105	E	5						
PHY301	Methods of computational experiment				2/0/1									
PHY321	Computer simulation of engineering tasks	PD CCH	5	150	2/0/1	105	E	5						
PHY302	Physicochemical methods of materials research				2/0/1									
M-3. Practice-oriented module														
AAP350	Pedagogical practice	BD UC	10						10					
AAP355	Research practice	PD UC	10							10				
M-4. Experimental research module														
AAP336	Research work of a doctoral candidate, including internships and completion of a doctoral dissertation	RWDS UC	5						5					
AAP347	Research work of a doctoral candidate, including internships and completion of a doctoral dissertation	RWDS UC	40						20	20				
AAP356	Research work of a doctoral candidate, including internships and completion of a doctoral dissertation	RWDS UC	60							30	30			
AAP348	Research work of a doctoral candidate, including internships and completion of a doctoral dissertation	RWDS UC	18											18
M-5. Module of final attestation														
ECA303	Writing and defending a doctoral dissertation	FA	12											12
Total based on UNIVERSITY:									30	30	30	30	30	30
									60	60	60	60	60	60

Number of credits for the entire period of study					
Cycle code	Cycles of disciplines	Credits			Total
			university component (UC)	component of choice (CCH)	
BD	Cycle of basic disciplines		20	5	25
PD	Cycle of profile disciplines		10	10	20
	<i>Total for theoretical training:</i>	<i>0</i>	<i>30</i>	<i>15</i>	<i>45</i>
	RWDS				<i>123</i>
FA	Final attestation	12			12
	TOTAL:	12	30	15	180

Decision of the Academic Council of Kazntu named after K.Satpayev. Protocol № 12 or "22" 04 2024.

Decision of the Educational and Methodological Council of Kazntu named after K.Satpayev. Protocol № 6 or "18" 04 2024.

Decision of the Academic Council of the Institute M&M. Protocol № 7 or "28" 03 2024.

Vice-Rector for Academic Affairs

Director of M&M Institute

Head of the MN&EP Department

Specialty Council representative
from employers

Uskenbayeva R.K.

Rysbekov K.B.

Kudaibegenov K.K.

Idrisova T.K.