



**SATBAYEV  
UNIVERSITY**



APPROVED  
Chairman of the Management Board-  
Rectore of Kazntu named after K.Satpayev  
M.M. Begentaev  
2023 y.

**CURRICULUM**  
of Educational Program on enrollment for 2023-2024 academic year

Educational program 7M07228 - "Advanced materials processing technologies"  
Group of educational programs M113 - "Technology of materials processing by pressure"

Form of study: full-time

Duration of study: 2 year

Academic degree: Master of technical sciences

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			
								I course		2 course	
								1 semester	2 semester	3 semester	4 semester
<b>CYCLE OF BASIC DISCIPLINES (BD)</b>											
<b>M-1. Engineering training module (university component)</b>											
LNG210	English (professional)	BD UC	5	150	0/0/3	105	E	5			
HUM214	Management Psychology	BD UC	3	90	1/0/1	60	E		3		
HUM212	History and philosophy of science	BD UC	3	90	1/0/1	60	E		3		
HUM213	Higher school pedagogy	BD UC	3	90	1/0/1	60	E	3			
<b>component of choice</b>											
MSM227	Rolling production equipment and technologies	BD CCH	5	150	2/0/1	105	E	5			
MSM228	Pressing and drawing technologies										
MSM220	Technological processes of additive manufacturing	BD CCH	5	150	2/0/1	105	E	5			
MCH206	Methodology of creation and management of a single information space of an industrial enterprise										
MCH278	Mechanochemical pressure treatments	BD CCH	5	150	2/0/1	105	E			5	
MCH270	Mechanical systems in the process of pressure treatment										
<b>CYCLE OF PROFILE DISCIPLINES (PD)</b>											
<b>M-2. The module of digitalization of materials processing by pressure (university component, component of choice)</b>											
MSM201	Virtual factory and Augmented reality production	PD UC	5	150	2/0/1	105	E	5			
MSM218	Digital design and modeling	PD UC	5	150	2/0/1	105	E	5			
MSM202	Advanced digital production monitoring	PD UC	5	150	2/0/1	105	E		5		
MSM206	Innovative processes of digitalization of machine-building production	PD UC	5	150	2/0/1	105	E			5	
MSM210	CAE/PLM of machine-building production	PD CCH	5	150	2/0/1	105	E			5	
MCH244	PLM/PDM processes										
IND209	Multipurpose equipment in digital production	PD CCH	5	150	2/0/1	105	E			5	
ISO246	Flexible production systems and complexes in mechanical engineering										
MCH284	Technological bases of powder	PD CCH	5	150	2/0/1	105	E			5	
MCH279	Nanomaterials for pressure treatment										
MSM211	Digital systems of machine-building production	PD CCH	5	150	2/0/1	105	E			5	
MSM216	Additive Manufacturing operating										
MSM229	Pipe production technologies	PD CCH	4	120	2/0/1	75	E			4	
MSM230	Tribology in pressure treatment										
MSM207	Occupational health and safety of additive manufacturing	PD CCH	5	150	2/0/1	105	E			5	
MSM214	Gas and plasma atomization										

M-3. Practice-oriented module											
AAP229	Pedagogical practice	BD UC	6						6		
AAP256	Research practice	PD, CCH	4							4	
M-4. Experimental research module											
AAP251	Research work of a master's student, including internship and completion of a master's thesis	RWMS UC	2					2			
AAP241	Research work of a master's student, including internship and completion of a master's thesis	RWMS UC	3					3			
AAP254	Research work of a master's student, including internship and completion of a master's thesis	RWMS UC	5						5		
AAP255	Research work of a master's student, including internship and completion of a master's thesis	RWMS UC	14							14	
M-5. Module of final attestation											
ECA212	Preparation and defense of a master's thesis	FA	8							8	
<b>Total based on UNIVERSITY:</b>								30	30	34	26
								60	60		

Number of credits for the entire period of study					
Cycle code	Cycles of disciplines	Credits			
			university component (UC)	component of choice (CCH)	Total
BD	Cycle of basic disciplines		20	15	35
PD	Cycle of profile disciplines		24	29	53
	<b>Total for theoretical training:</b>	<b>0</b>	<b>44</b>	<b>44</b>	<b>88</b>
	RWMS				24
FA	Final attestation	8			8
	<b>TOTAL:</b>	<b>8</b>	<b>44</b>	<b>44</b>	<b>120</b>

Decision of the Academic Council of Kazntu named after K.Satpayev. Protocol № 3 от "17" 10 2022 y.

Decision of the Educational and Methodological Council of Kazntu named after K.Satpayev. Protocol № 1 от "14" 10 2022 y.

Decision of the Academic Council of the Institute E&ME. Protocol № 2 от "11" 10 2022 y.

Vice-Rector for Academic Affairs [Signature] B. A. Zhautikov

E&ME Institute Director [Signature] K. Yelmessov

ME Department Head [Signature] E. Nugman

Representative of the Council for EP from Employers [Signature] I. Dyusebaev