NJSC "KAZAKH NATIONAL RESEARCH TECHNICAL UNIVERSITY named after K.I.SATPAYEV"



Septrey yH

## CURRICULUM

of Educational Program on enrollment for 2024-2025 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 Allocation of face-to-face training based on SIS Total Classroom Form courses and semesters Discipline Total (including Name of disciplines Cycle amount in amount of I course code hours TSIS) in 2 course lec/lab/pr credits contro hours 1 semester 2 semester 3 semester 4 semester CYCLE OF BASIC DISCIPLINES (BD) M-1. Engineering training module (university component) LNG213 Foreign language (professional) BD UC 5 150 0/0/3105 E 3 HUM214 Management psychology BD UC 3 90 1/0/160 Е 3 90 HUM212 History and philosophy of science BD UC 3 1/0/160 Е 3 HUM213 Higher school pedagogy BD UC 90 1/0/1Е 3 60 3 component of choice Rolling production equipment and MSM227 technologies BD CCH 5 150 2/0/1105 Е 5 MSM228 Pressing and drawing technologies Technological processes of additive MSM220 manufacturing BD CCH 5 150 2/0/1 105 Е 5 MNG782 Sustainable development strategies Mechanical systems in the process of MCH270 pressure treatment BD CCH 5 150 2/0/1 105 Е 5 MNG781 Intellectual Property and Research CYCLE OF PROFILE DISCIPLINES (PD) M-2. The module of digitalization of materials processing by pressure (university component, component of choice) Virtual factory and Augmented reality MSM201 PD UC 5 150 2/0/1 105 Е 5 production MSM218 Digital design and modeling PD UC 5 150 2/0/1 105 Е 5 MSM202 2/0/1 Advanced digital production monitoring PD UC 5 150 105 Е 5 Innovative processes of digitalization of MSM206 PD UC 5 150 2/0/1 105 E 5 machine-building production CAE/PLM of machine-building MSM210 PD CCH 5 150 2/0/1 105 Е 5 production MSM237 PLM technologies Multipurpose equipment in digital IND209 production PD CCH 5 150 2/0/1 105 Е 5 Organizational and technical bases of MSM234 flexible automated production VICTIZO Technological bases of powder 101133 PD CCH 5 150 2/0/1 105 E 5 Nanomaterials for pressure treatment MCH279 Digital systems of machine-building MSM211 production PD CCH 5 1.50 2/0/1105 E 5 Additive manufacturing technologies and MSM236 equipment MSM229 Pipe production technologies PD CCH 4 120 2/0/1 75 Е 4 MSM230 Tribology in pressure treatment MSM235 Ergonomics of production PD CCH 5 150 2/0/1 105 Е 5 Occupational health and safety of MSM207 additive manufacturing M-3. Practice-oriented module AAP273 Pedagogical practice BD UC 8 8 AAP256 Research practice PD, CCH 4 4

		M-4.	Experime	ntal research m	odule					
AAP268	Research work of a master's student, including internship and completion of a master's thesis	RWMS UC	4				4			
AAP268	Research work of a master's student, including internship and completion of a master's thesis	RWMS UC	4					4	2	
AAP251	Research work of a master's student, including internship and completion of a master's thesis	RWMS UC	2						2	
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 attesta	tion					
ECA212	Preparation and defense of a master's thesis	FA	8							8
Total based on UNIVERSITY:							30	30	30	30

60

60

	Number of credits for the entire peri	iod of st	udy				
	Cycles of disciplines	Credits					
Cycle code			university component (UC)	component of choice (CCH)	Total		
BD	Cycle of basic disciplines		20	15	35		
PD	Cycle of profile disciplines		24	29	53		
·	Total for theoretical training:	0	44	44	88		
	RWMS				24		
FA	Final attestation	8			8		
	TOTAL:	8	44	44	120		

Decision of the Academic Council of Kazntu named after K.Satpayev. Protocol № 440T "AL" 04 20 24 y.

Decision of the Educational and Methodological Council of Kazntu named after K.Satpayev. Protocol No 6 or "19" 04 20 24 y.

Decision of the Academic Council of the Institute E&ME. Protocol № 4 or "19" D1 20 14 y.

Board Member -Vice-Rector for Academic Affairs **R.Uskenbaeva** / E&ME Institute Director K.Yelemessov ME Department Head E.Nugman Representative of the Council for EP from Employers 1. Dyusebaev