



APPROVED
Chairman of the Management Board-
Rector of Kazan named after K.Satpayev
M.M. Begentaev
04 2024 y.

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

Educational program 6B07220- "Machines and technologies for processing new materials"
Group of Educational programs B069 - "Production of materials (glass, paper, plastic, wood)"

Form of study: full-time

Duration of study: 4 years

Academic degree: Bachelor of Engineering and Technology

Discipline code	Name of disciplines	Cycle	Total amount in credits	Total hours	classroom volume of	SIS (including TSIS) in hours	Form of control	Allocation of face-to-face training based on courses and semesters							
								I course		II course		III course		IV course	
								1 semester	2 semester	3 semester	4 semester	5 semester	6 semester	7 semester	8 semester
CYCLE OF GENERAL EDUCATION DISCIPLINES (GED)															
M-1. Module of language training															
LNG 108	English language	GED, RC	5	150	0/0/3	105	E	5							
LNG 108	English language	GED, RC	5	150	0/0/3	105	E		5						
LNG 104	Kazakh (Russian) language	GED, RC	5	150	0/0/3	105	E	5							
LNG 104	Kazakh (Russian) language	GED, RC	5	150	0/0/3	105	E		5						
M-2. Module of physical training															
KFK 101-104	Physical Culture	GED, RC	8	240	0/0/8	120	Difcredit	2	2	2	2				
M-3. Module of information technology															
CSE 677	Information and communication technologies	GED, RC	5	150	2/1/0	105	E				5				
M-4. Module of socio-cultural development															
HUM 137	History of Kazakhstan	GED, RC	5	150	1/0/2	105	SE		5						
HUM 132	Philosophy	GED, RC	5	150	1/0/2	105	E				5				
HUM 120	Socio-political knowledge module (sociology, politology)	GED, RC	3	90	1/0/1	60	E				3				
HUM 134	Socio-political knowledge module (culturology, psychology)		5	150	2/0/1	150	E			5					
M-5. Module of anti-corruption culture, ecology and life safety base															
MSM500	Fundamentals of scientific research methods	GED, CCH	5	150	2/0/1	150	E		5						
MNG 489	Fundamentals of Economics and Entrepreneurship														
HUM 136	Fundamentals of Anti-corruption Culture and Law														
CHE 656	Ecology and life safety														
MNG564	Basics of Financial Literacy														
CYCLE OF BASIC DISCIPLINES (BD)															
M-6. Module of physical and mathematical training															
MAT 101	Mathematics I	BD, UC	5	150	1/0/2	105	E	5							
PHY 111	Physics I	BD, UC	5	150	1/1/1	105	E	5							
MAT 102	Mathematics II	BD, UC	5	150	1/0/2	105	E		5						
PHY 112	Физика II	BD, UC	5	150	1/1/1	105	E		5						
M-7. General technical training module															
MSM132	Introduction to engineering design	BD, UC	5	150	1/2/0	105	☉	5							
ISO111	Production workshops	BD, UC	5	150	0/0/3	105	☉	5							
MCH532	Standardization, interchangeability and technical measurements	BD, UC	5	150	1/1/1	105	☉			5					
MAT402	Classic mechanics	BD, UC	5	150	1/0/2	105	☉			5					
MSM106	Probabilistic models in industrial engineering	BD, UC	5	150	1/1/1	105	☉				5				
MCH505	Modern construction materials	BD, UC	5	150	1/2/0	105	☉			5					
ELC101	Electrical and Electronics engineering	BD, UC	5	150	1/1/1	105	☉			5					
GEN408	Resistance of materials	BD, UC	5	150	1/1/1	105	☉				5				
MSM420	Heating and heating devices	BD, UC	4	120	1/0/2	75	☉				4				
GEN425	Bases of designing and details of cars	BD, UC	5	150	1/1/1	105	☉					5			
MCH531	Qualimetry in mechanical engineering	BD, UC	5	120	2/0/1	75	☉					5			
MCH416	Forging and hot stamping technology	BD, UC	5	150	1/2/0	105	☉					5			
MSM136	Engineering Economy	BD, UC	5	150	1/0/2	105	☉						5		
MSM414	Automated design of PMP processes	BD, UC	6	180	2/0/2	120	☉							6	
MSM149	Hydraulics and hydropneumatic drive	BD, UC	5	150	1/0/2	105	☉					5			
Elective disciplines of the BD															
MSM163	Theory of materials processing by pressure	BD, CCH	5	150	1/0/2	105	E						5		
CSE831	Fundamentals of Artificial Intelligence														
MSM167	Forging and stamping equipment														

MNG563	Fundamentals of sustainable development and ESG projects in Kazakhstan	BD, CCH	5	150	2/0/1	105	E											5	
MSM461	Design of forging and stamping equipment	BD, CCH	5	150	2/1/0	105	Э											5	
MNG562	Legal regulation of intellectual property				2/0/1														
AAP167	Training Practice	BD, UC	1																

CYCLE OF PROFILE DISCIPLINES (PD)

M-8. Module of production and technological preparation

HYD482	Labor protection and industrial safety (by industry)	BD, UC	5	150	2/0/1	105	Э												5
MCH158	Технология холодной штамповки	PD, UC	5	150	1/1/1	105	Э												5
MSM129	Technological processes of machine-building production	PD, UC	5	150	2/1/0	105	Э											5	
MSM411	Computer-aided design systems of machine structures	PD, UC	4	120	1/2/0	75	Э												4

Elective disciplines of the PD

MSM453	Tool and mold design	PD, CCH	6	180	2/0/2	120	Э												6
MSM413	Advanced materials processing technologies																		
MCH159	Fundamentals of designing machines for pressure treatment	PD, CCH	5	150	2/0/1	105	Э												5
MSM416	Welding equipment and tools	PD, CCH	5	150	1/2/0	105	Э												5
MCH149	CAM(Solidworks, Inventor)																		
MSM119	Additive manufacturing	PD, CCH	5	150	2/0/1	105	Э												5
MSM455	Organization and planning of forging and stamping production	PD, CCH	6	180	2/0/2	120	Э												6
MSM421	Production design																		
MSM412	Composite materials processing technology	PD, CCH	5	150	1/2/0	105	Э												5
MSM128	Properties and processing of engineering materials				1/1/1														
MSM467	Engineering Product Lifecycle Management	PD, CCH	5	150	1/0/2	105	Э												5
MCH1523	Digital twins in mechanical engineering				1/2/0														
AAP197	Industrial practice I	PD, UC	4																4
AAP176	Industrial practice II	PD, UC	5																5

M-9. Management training module (Elective R&D)

MNG481	Theory and practice of project management	PD, CCH	5	150	2/0/1	105	E												5
MSM418	Capstone Project				1/2/0														

M-10. Module of final attestation

ECA109	Writing and defending a thesis (project)	FE	8																8
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M-11. Module of additional types of training

AAP500	Military affairs	ATT	0																
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Total based on UNIVERSITY:

32	28	32	28	30	30	32	28
60		60		60		60	

Number of credits for the entire period of study					
Cycle code	Cycles of disciplines	Credits			Total
		required component (RC)	university component (UC)	component of choice (CCH)	
GED	Cycle of general education disciplines	51		5	56
BD	Cycle of basic disciplines		101	15	116
PD	Cycle of profile disciplines		23	37	60
	<i>Total for theoretical training:</i>	<i>51</i>	<i>124</i>	<i>57</i>	<i>232</i>
FA	Final attestation	8			8
	TOTAL:	59	124	57	240

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

Decision of the Educational and Methodological Council of Kazntu named after K.Satpayev. Protocol № 6 от "19" 04 2024 y.

Decision of the Academic Council of the Institute E&ME. Protocol № 4 от "19" 01 2024 y.

Board Member - Vice-Rector for Academic Affairs [Signature] R. Uskenbaeva
 E&ME Institute Director [Signature] K. Yelemessov
 ME Department Head [Signature] E. Nugman
 Speciality Council representative from employers [Signature] I. Dyusebaev