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

SATBAYEV UNIVERSITY

APPROVED
Chairman of the Management Board-
Rector of KazNTU named after K.Satpayev
_____ M.M. Begentaev
«_____» _____01_____ 2023 y.

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

Educational program 6B07131- "Design and technology in mechanical engineering"
Group of Educational programs B064 - "Mechanics and metalworking"

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 lek/lab/p	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	5semester	6 semester	7 semester	8 semester
CYCLE OF GENERAL EDUCATION DISCIPLINES (GED)															
M-1. Module of language training															
LNG 108	English language	GED, RC	10	300	0/0/6	210	E	5	5						
LNG 104	Kazakh (Russian) language	GED, RC	10	300	0/0/6	210	E	5	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 (in English)	GED, RC	5	150	2/1/0	105	E				5				
M-4. Module of socio-cultural development															
HUM 101	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															
HUM 136	Fundamentals of Anti-corruption Culture and Law	GED, CCH	5	150	2/0/1	150	E			5					
MNG 489	Fundamentals of Economics and Entrepreneurship														
MSM500	Fundamentals of scientific research methods														
CHE 656	Ecology and life safety														
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						
PHY112	Физика II	BD, UC	5	150	1/1/1	105			5						
M-7. Engineering design module															
MSM132	Introduction to engineering design	BD, UC	5	150	1/2/0	105	E	5							
MSH501	Classical mechanics	BD, UC	4	120	1/0/2	75	E	4							
MCH502	Mechanics of materials	BD, UC	5	150	1/1/1	105	E			5					
MCH503	Graphic design of machine parts (CAD)	BD, UC	5	150	1/2/0	105	E			5					
MCH504	Interchangeability and basis of technical measurements	BD, UC	5	150	1/1/1	105	E			5					
MCH505	Modern construction materials	BD, UC	5	150	1/2/0	105	E				5				
MSM410	Theory of mechanisms and machine parts	BD, UC	5	150	1/1/1	105	E			5					
MCH506	Fundamentals of electrical engineering and industrial electronics	BD, UC	4	120	1/1/1	75	E				4				
MCH507	Design of foundry and forging technologies	BD, UC	5	150	1/0/2	105	E					5			
MCH508	Subtractive technologies	BD, UC	5	150	1/1/1	105	E					5			
MCH510	Engineering equipment of machine-building production	BD, UC	5	150	1/0/2	105	E					5			
MCH512	Technical design of machine-building equipment	BD, UC	5	150	1/2/0	105	E						5		
MSM136	Engineering economics	BD, UC	5	150	1/0/2	105	E						5		
MCH517	Design of automated machines and complexes	BD, UC	5	150	1/0/2	105	E							5	
MSM149	Hydraulics and hydraulic pneumatic drive	BD, EC	5	150	1/0/2	105	E					5			

3201	Elective	BD, EC	5	150	1/0/2	105	E					5			
3202	Elective	BD, EC	5	150	1/0/2	105	E						5		
3203	Elective	BD, EC	5	150	2/1/0	105	E						5		
AAP196	Educational practice	BD, UC	2						2						
CYCLE OF PROFILE DISCIPLINES (PD)															
M-8. Digital production organization module															
MCH518	Computer-aided design systems and design of machine structures	PD, UC	4	120	1/2/0	75	E					5			
MCH519	CAE/CAD tooling design and modeling	PD, UC	5	150	1/2/0	105	E						4		
HYD482	Occupational health and industrial safety (by industry)	BD, UC	5	150	2/0/1	105	E							5	
MCH522	Production engineering	PD, UC	5	150	1/0/2	105	E							5	
4301	Elective	PD, CCh	4	150	1/2/0	105	E							5	
4302	Elective	PD, CCh	6	180	2/2/0	120	E								5
4303	Elective	PD, CCh	6	180	2/0/2	120	E							6	
4304	Elective	PD, CCh	5	150	1/0/2	105	E							6	
4305	Elective	PD, CCh	5	150	1/0/2	105	E								5
4306	Elective	PD, CCh	5	150	1/1/1	105	E								5
AAP197	Industrial practice I	PD, UC	2								4				
AAP198	Industrial practice II	PD, UC	3										6		
M-9. Management module															
4307	Elective R&D	PD, CCh	5	150	2/0/1	105	E								5
M-10. Module of final attestation															
ECA108	Final certification	FC	8												8
M-11. Module of additional types of training															
AAP500	Military training	ATT	0												
Total based on UNIVERSITY:								31	29	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			
		required component (RC)	university component (UC)	component of choice (CCH)	Total
GED	Cycle of general education disciplines	51		5	56
BD	Cycle of basic disciplines		100	15	115
PD	Cycle of profile disciplines		24	37	61
	Total for theoretical training:	*51*		*57*	*232*
FA	Final attestation	8			8
	TOTAL:	59	124	57	240

Decision of the Academic Council of Kazntu named after K.Satpayev. Protocol № 8 от "25" 01 2023 y.

Decision of the Educational and Methodological Council of Kazntu named after K.Satpayev. Protocol № 4 от "12" 01 2023 y.

Decision of the Academic Council of the Institute E&ME. Protocol № 3 от "24" 11 2022 y.

Vice-Rector for Academic Affairs _____ **B. A. Zhautikov**

E&ME Institute Director _____ **K.Yelemessov**

ME Department Head _____ **E.Nugman**

Specialty Council representative from employers _____ **I. Dyusebaev**