SATBAYEV UNIVERSITY

CURRICULUM
of Educational Program on enrollment for 2024-2025 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	SIS (including TSIS) in hours	Form of control	I course 1 semester	2 semester	II course 3 semester	4 semester	III course 5 semester	6 semester	IV course 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					
PHY112	Физика II	БД, ВК	5	150	1/1/1	105				5					
M-7. General technical training module															
MSM132	Introduction to engineering design	BD, UC	5	150	1/2/0	105	E	5							
ISO111	Production workshops	BD, UC	5	150	0/0/3	105	E	5							
GEN412	The theoretical mechanics	BD, UC	5	150	2/0/1	105	E			5					
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					
GEN125	Bases of designing and details of cars	BD, UC	5	150	1/1/1	105	E				5				
ELC101	Electrical and Electronic Engineering	BD, UC	5	150	1/1/1	105	E				5				
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 Economy	BD, UC	5	150	1/0/2	105	E							5	
MSM149	Hydraulics and hydraulic pneumatic drive	BD, UC	5	150	1/0/2	105	E					5			
Elective disciplines of the BD															
MSM150	Calculation and design of cutting tools	BD, CCH	5	150	1/0/2	105	E					5			
CSE831	Fundamentals of Artificial Intelligence														

Code	Discipline	Comp.	Cr.	Hrs	L/P/Lab		Form	1	2	3	4	5	6	7	8
MNG562	Legal regulation of intellectual property	BD, CCH	5	150	2/0/1	105	E							5	
MNG563	Fundamentals of sustainable development and ESG projects in Kazakhstan														
MSM149	Hydraulics and hydropneumatic drive	BD, CCH	5	150	1/0/2	105	E							5	
GEN119	Mechanics of liquid and gas				1/1/1										
AAP167	Training Practice	BD, UC	1								1				

CYCLE OF PROFILE DISCIPLINES (PD)

M-8. Module of production and technological preparation

Code	Discipline	Comp.	Cr.	Hrs	L/P/Lab		Form	1	2	3	4	5	6	7	8
HYD482	Labor protection and industrial safety (by industry)	BD, UC	5	150	2/0/1	105	E							5	
MSM176	Technology of mechanical engineering	PD, UC	5	150	1/0/2	105	E						5		
MSM129	Technological processes of machine-building production	PD, UC	5	150	2/1/0	105	E						5		
MSM467	Engineering Product Lifecycle Management	PD, UC	5	150	1/0/2	105	E								5

Elective disciplines of the PD

Code	Discipline	Comp.	Cr.	Hrs	L/P/Lab		Form	1	2	3	4	5	6	7	8
MSM429	Automation of technological processes in mechanical engineering	PD, CCH	6	180	2/1/1	120	E								6
MSM430	Robotization of machine-building production														
MSM426	Design of machining on CNC machines	PD, CCH	5	150	1/0/2	105	E								5
MSM428	Development of control programs				1/2/0										
MSM192	Innovative technologies in mechanical engineering	PD, CCH	5	150	1/0/2	105	E							5	
MSM119	Additive manufacturing				2/0/1										
MSM457	Organization and planning of machine-building production	PD, CCH	6	180	2/0/2	120	E								6
MSM421	Production design														
MSM159	Design and calculation of technological equipment	PD, CCH	5	150	1/0/2	105	E						5		
MSM431	Progressive methods of surface treatment				1/2/0										
ISO170	Designing of blank production	PD, CCH	5	150	2/0/1	105	E							5	
MSM412	Composite materials processing technology				1/2/0										
AAP408	Industrial practice I	PD, UC	3									3			
AAP176	Industrial practice II	PD, UC	5										5		

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

Code	Discipline	Comp.	Cr.	Hrs	L/P/Lab		Form	1	2	3	4	5	6	7	8
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

Code	Discipline	Comp.	Cr.	Hrs			Form	1	2	3	4	5	6	7	8
ECA109	Writing and defending a thesis (project)	FE	8												8

M-11. Module of additional types of training

Code	Discipline	Comp.	Cr.												
AAP500	Military affairs	ATT	0												
	Total based on UNIVERSITY:							32	28	32	28	30	30	31	29
								60		60		60		60	
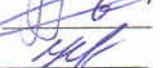
Number of credits for the entire period of study

Cycle code	Cycles of disciplines	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		101	15	116
PD	Cycle of profile disciplines		23	37	60
	Total for theoretical training:	51	124	57	232
FA	Final attestation	8			8
	TOTAL:	59	124	57	240

Decision of the Academic Council of Kazntu named after K.Satpayev. Protocol №12 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 _____ R.Uskenbaeva

E&ME Institute Director _____ K.Yelemessov

ME Department Head _____ E.Nugman

Specialty Council representative from employers _____ I. Dyusebaev