

KAZAKH NATIONAL RESEARCH TECHNICAL UNIVERSITY after K. SATBAYEV



APPROVED

Director of the Institute E&ME

K. Y. Lemessov

2023y.

MAJOR ELECTIVE DISCIPLINES educational program for the 2023-2024 academic year admission
 Educational program 6B07105 - "Industrial engineering"
 Group of Educational programs B 064 - "Mechanics and metalworking"

Full-time study

Study duration : 4 years

Academic degree: Bachelor of Engineering and Technology

Year of study	Code of elective	Code of discipline	Name of discipline	Semestr	Cycle	Credits	Total hours	lec/lab/pr	SIWT (including SIWT) in	
General technical training module										
3	3201	MSM150	Calculation and design of cutting tools	6	БД КВ	5	150	1/0/2	105	
		MSM190	Production of cutting tools					1/0/2		
	3202	MSM422	Drives of CNC machines	6	БД КВ	5	150	2/1/0	105	
		MSM463	Operation of machines with program control					2/1/0		
	3203	ISO121	Dynamics of mechanical processing of workpieces	6	БД КВ	5	150	2/0/1	105	
		ISO170	Design of procurement production					2/0/1		
	3302	MSM425	3D modeling and 3D printing	6	ПД КВ	4	120	1/2/0	75	
		MSM424	Process modeling in mechanical engineering					1/0/2		
	3305	MSM159	Design and calculation of technological equipment	5	ПД КВ	5	150	1/2/0	105	
		MSM431	Progressive methods of surface treatment					1/2/0		
Module of production and technological preparation										
4	4301	MSM426	Design of machining on CNC machines	8	ПД КВ	5	150	1/0/2	105	
		MSM428	Development of control programs					1/2/0		
	4303	MSM429	Automation of technological processes in mechanical engineering	7	ПД КВ	6	180	2/1/1	120	
		MSM430	Robotization of machine-building production					2/0/2		
	4304	MSM457	Organization and planning of machine-building production	7	ПД КВ	6	180	2/0/2	120	
		MSM421	Production design					1/2/0		
	4306	MCH149	CAM(Solidworks, Inventor)	8	ПД КВ	5	150	2/0/1	105	
		MSM119	Additive manufacturing					2/0/1		
	Management training module									
	4307	MNG481	Theory and practice of project management	8	ПД КВ	5	150	2/0/1	105	
MSM418		Capstone Project	1/2/0							

Credits numbers of elective disciplines over the entire period of study	
Cycle of disciplines	Credits
Cycle of basic disciplines (B)	15
Cycle of special disciplines (S)	36
Overall:	51

Decision of the Academic Council of the Institute_ E&ME_ , Protocol № 2 of " 11 " 10 20 23y.

ME Department Head

[Signature]

E.Nugman

Specialty Council representative from employers

[Signature]

I. Dyusebaev