



MAJOR ELECTIVE DISCIPLINES educational program for the 2023-2024 academic year admission
Educational program 6B07130 - "Mechanical engineering and modeling"
Group of educational programs in 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
Module of basic training									
3	3221	GEN185	Statistical Mechanics	5	Б	5	150	1/1/1	
		GEN407	The strength and reliability of machines					1/1/1	
Module of professional activity									
3	3223	GEN512	Filtration theory and applied problems	6	II	4	120	1/2/0	
		GEN511	Finite volume method in fluid mechanics					1/2/0	
	4307	GEN508	Dynamics of Machines and Computer Analysis	6	II	4	150	1/1/1	
		GEN509	Control of Dynamic Systems					1/1/1	
4	4309	GEN190	Machine learning and data analysis	7	II	5	150	1/1/1	
		GEN425	Computational mechanics					1/1/1	
	4308	GEN506	Laboratory: Fluid Flows	8	II	4	120	0/3/0	
		GEN507	Laboratory: Heat Transfer					0/3/0	
	4311	GEN438	3D Printing of Machine Elements	8	II	6	180	2/1/1	
		GEN442	Biofluid Mechanics					2/1/1	
Module "R&D"									
4	4310	GEN445	Design of Heat and Ventilation Systems	8	II	6	180	2/1/1	
		GEN446	Renewable Energy Systems					2/1/1	

Credits numbers of elective disciplines over the entire period of study	
Cycle of disciplines	Credits
Cycle of basic disciplines (B)	5
Cycle of special disciplines (S)	29
Overall:	34

Head of department "Mechanical Engineering"

 A. Kaltayev

Representative of Specialty council



A.K. Tuleshov