



WORKING CURRICULUM for 2021-2022 academic year admission
Educational program 6B07106 - "Mechanical Engineering"
Group of Educational programs B064 - "Mechanics and metal working"

Full-time study

Study duration : 4 years

Academic degree Bachelor of Engineering in Mechanical Engineering

Year of study	Code	Name of discipline	Cycle	Total Credits	Total hours	lec/lab/pr	IWS (including IWS*), in hours	pre-requisites
1 semester (fall 2021)								
1	LNG108	English	G	5	150	0/0/3	105	Diagnostic test
	LNG104	Kazakh (Russian) language	G	5	150	0/0/3	105	Diagnostic test
	HUM100	Modern history of Kazakhstan	G	5	150	1/0/2	105	
	PHY111	Physics I	B	5	150	1/1/1	105	
	MAT101	Mathematics I	B	5	150	1/0/2	105	
	GEN177	Engineering and computer graphics	B	5	150	1/1/1	105	
	HUM128	Political science	G	2	60	1/0/0	45	
	KFK101	Physical education I	G	2	60	0/0/2	30	
Total:				34		21		
2 semester (spring 2022)								
2	LNG108	English	G	5	150	0/0/3	105	
	LNG104	Kazakh (Russian) language	G	5	150	0/0/3	105	
	MAT189	Linear Algebra and Analytic Geometry	B	5	150	1/0/2	105	MAT101
	PHY112	Physics II	B	5	150	1/1/1	105	
	MAT102	Mathematics II	B	5	150	1/0/2	105	MAT101
	HUM129	Culturology	G	2	60	1/0/0	45	
	CHE495	Chemistry	B	5	150	1/1/1	105	
	KFK102	Physical education II	G	2	60	0/0/2	30	
Total:				34		21		
3 semester (fall 2022)								
3	CSE677	Information and Communication technology	G	5	150	2/1/0	105	
	HUM127	Sociology	G	2	60	1/0/0	45	
	CHE452	Ecology and sustainable development	G	2	60	1/0/0	45	
	MAT102	Mathematics III	B	5	150	1/0/2	105	MAT102
	MAT190	Ordinary Differentiation Equations MatLab	B	5	150	1/0/2	105	
	GEN414	Numerical Methods and Programming	B	5	150	1/1/1	105	
	GEN409	Statistic and Kinematics	B	5	150	1/0/2	105	
	KFK103	Physical education III	G	2	60	0/0/2	30	
Total:				31		19		
4 semester (spring 2023)								
4	HUM132	Philosophy	G	5	150	1/0/2	105	
	HUM122	Psychology	G	2	60	1/0/0	45	
	MNG487	Fundamentals of Entrepreneurship, Leadership and Anti-corruption culture	G	3	90	1/0/1	60	
	CHE451	Life safety	G	2	60	1/0/0	45	
	GEN198	Dynamics	B	5	150	1/0/2	105	PHY111, MAT126, GEN409
	GEN426	Strength of Materials	S	5	150	1/1/1	105	GEN409
	MAT127	Partial Differentiation Equations. MatLab	B	5	150	1/0/2	105	MAT126
	GEN199	Engineering Thermodynamics	B	5	150	1/0/2	105	PHY111
Total:				34		21		
5 semester (fall 2023)								
5	GEN404	Fluid Mechanics	B	5	150	1/1/1	105	GEN198,
	GEN413	Theory and Design of Mechanism and Machines	B	5	150	1/1/1	105	GEN409, GEN198
	GEN415	Numerical Methods for Solving Engineering Problems	B	5	150	1/0/2	105	GEN414
	GEN402	Engineering Materials	S	5	150	1/1/1	105	GEN410
	ROB529	Intro to Electronic Measuring Systems	B	5	150	2/1/0	150	
	3221	ЭЛЕКТИВ	B	5	150	1/1/1	105	
Total:				30		18		
6 semester (spring 2024)								
6	GEN405	Solid Mechanics	B	5	150	1/0/2	105	GEN410
	GEN418	Heat Transfer	S	5	150	1/0/2	105	PHY111
	GEN186	Fundamentals of Mechatronics	B	5	150	1/1/1	105	
	GEN419	Machine Element Design	S	5	150	1/1/1	105	GEN413
	3223	Elective	S	5	150		105	
	Total:				25		18	
7 semester (fall 2024)								
7	GEN420	Designing of Mechanical systems	B	5	150	1/1/1	105	GEN419
	GEN421	Intro to Robots	S	5	150	1/1/1	105	GEN414
	4307	Elective	S	5	150		105	
	4309	Elective	S	5	150		105	
	4310	Elective	S	5	150		105	
Total:				27		15		
8 semester (spring 2025)								
8	4311	Elective	S	5	150		105	
	4308	Elective	S	4	60		30	
	ECA003	Preparation and writing of the thesis (project)	FA	6				
	ECA103	Graduate thesis (project) defense	FA	6				
Total:				19		6		

Year of study	Code	Name of discipline	Cycle	Credits	Semester
1	AAP101	Internship	B	2	2
	AAP109	Industrial internship I	S	2	4
	AAP158	Industrial internship II	S	4	6
3-4	types of training		G	0	5-7
	AAP500	Military training	G	0	3-6

Cycle of disciplines	Credits		
	compul-sary	elective	total
Cycle of general disciplines (G)	51	7	58
Cycle of basic disciplines (B)	110	2	112
Cycle of special disciplines (S)	54	6	60
Total of theoretical study :			215 15 230
Final attestation (FA)	12		12
Total:			227 15 242

Decision of the Academic Council of KazNRTU named after K. Satbayev. Minutes # 3 dated 25.06.2021.

Decision of the Academic Council of the School of Energy and Mechanical Engineering. Minutes # 12 dated 07.06.2021.

Vice-Rector for Academic Affairs

Director of the Institute of Energy and Mechanical Engineering

Head of department "Mechanical Engineering and modelling"

Representative of Specialty council

B.A.Zhautikov

K.K. Yelemessov

A. Kaltayev

A.K. Tuleshov