

**CURRICULUM**  
**of Educational Program on enrollment for 2022-2023 academic year**  
**Educational program 6B07106 - "Engineering mechanics"**  
**Group of educational programs in 064 - "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	Class-room volume of lek/lab/pr	SIS (including TSI S) 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 term	2 term	3 term	4 term	5 term	6 term	7 term	8 term
<b>CYCLE OF GENERAL EDUCATION DISCIPLINES (OOD)</b>															
<b>M-1. Language Training module</b>															
LNG 108	English language	GED, RC	10	300	0/0/6	210	Э	5	5						
LNG 104	Kazakh (Russian) language	GED, RC	10	300	0/0/6	210	Э	5	5						
<b>M-2. Physical training module</b>															
KFK 101-104	Physical Culture	GED, RC	8	240	0/0/8	120	Дифзачет	2	2	2	2				
<b>M-3. Information Technology module</b>															
CSE 677	Information and communication technologies (in English)	GED, RC	5	150	2/1/0	105	Э				5				
<b>M-4. Module of socio-cultural development</b>															

HUM 100	Modern History of Kazakhstan	GED, RC	5	150	1/0/2	105	Ә		5						
HUM 132	Philosophy	GED, RC	5	150	1/0/2	105	Ә				5				
HUM 120	Module of socio-political knowledge (sociology, political science)	GED, RC	3	90	1/0/1	60	Ә				3				
HUM 134	Module of socio-political knowledge (cultural studies, psychology)		5	150	2/0/1	105	Ә			5					
<b>M-5. Module fundamentals of anti-corruption culture, ecology and life safety</b>															
HUM 133	Fundamentals of anti-corruption culture	GED, CCH	5	150	2/0/1	105	Ә			5					
MNG 488	Fundamentals of Entrepreneurship and Leadership														
CHE 656	Ecology and life safety														
<b>CYCLE OF BASIC DISCIPLINES (DB)</b>															
<b>M-6. Module of physical and mathematical training</b>															
MAT 169	Mathematical Analysis I	BD, UC	5	150	1/0/2	105	Ә	5							
PHY 469	Physics I: Molecular Physics. Thermodynamics	BD, UC	5	150	1/1/1	105	Ә	5							
MAT189	Linear algebra and analytic geometry	BD, UC	5	150	1/0/2	105	Ә	5							

MAT 170	Mathematical Analysis II	BD, UC	5	150	1/0/2	105	∅		5						
PHY 471	Physics II: Electricity and Magnetism. Nuclear physics	BD, UC	5	150	1/1/1	105	∅		5						
MAT171	Mathematical analysis III	BD, UC	5	150	1/0/2	105	∅			5					
MAT110	Ordinary differential equations	BD, UC	5	150	1/0/2	105	∅			5					
MAT172	Mathematical analysis IV	BD, UC	5	150	1/0/2	105	∅				5				
MAT448	Equations of mathematical physics	BD, UC	5	150	1/0/2	105	∅					5			
<b>M-7. Module of basic training in engineering mechanics</b>															
GEN 177	Engineering and computer graphics	BD, UC	5	150	1/1/1	105	∅	5							
GEN409	Statics and kinematics	BD, UC	5	150	1/0/2	105	∅			5					
GEN198	Dynamics	BD, UC	5	150	1/0/2	105	∅				5				
CHE495	General chemistry	BD, UC	5	150	1/1/1	105	∅					5			
GEN413	Theory and design of mechanisms and machines	BD, UC	5	150	1/1/1	105	∅					5			
GEN199	Engineering thermodynamics	BD, UC	5	150	1/0/2	105	∅					5			
GEN414	Numerical methods and programming	BD, UC	5	150	1/1/1	105	∅					5			
GEN404	Fluid and gas mechanics	BD, UC	5	150	1/1/1	105	∅						5		
GEN405	Solid state mechanics	BD, UC	5	150	1/0/2	105	∅						5		

GEN415	Numerical methods for solving engineering problems	BD, UC	5	150	1/0/2	105	∅						5	
3221	ELECTIVE	BD, CCH	5	150	no	105	∅							5
GEN420	Design of mechanical systems	BD, UC	5	150	1/1/1	105	∅							5
GEN460	Thermal system design	BD, UC	5	150	1/1/1	150	∅							5
GEN100	Educational practice	BD, UC	2						2					
<b>CYCLE OF PROFILE DISCIPLINES (PD)</b>														
<b>M-8. Module of professional training in engineering mechanics</b>														
GEN426	Strength of materials	PD, UC	5	150	1/1/1	105	∅				5			
GEN402	Engineering materials	PD, UC	5	150	1/1/1	105	∅					5		
GEN419	Design of machine elements	PD, UC	5	150	1/1/1	105	∅						5	
GEN444	Fundamentals of mechatronics	PD, UC	4	120	1/1/0*	75	∅						4	
3223	ELECTIVE	PD, CCH	4	120	no	75	∅						4	
GEN418	Basics of heat transfer	PD, UC	5	150	1/0/2	105	∅							5
GEN421	Introduction to Robotics	PD, UC	5	150	1/1/1	105	∅							5
4307	ELECTIVE	PD, CCH	5	150	no	105	∅							5
4309	ELECTIVE	PD, CCH	5	150	no	105	∅							5
4310	ELECTIVE	PD, CCH	6	180	no	120	∅							6

4311	ELECTIVE	PD, CCH	6	180	no	120	Э								6	
GEN500	Industrial practice I	PD, UC	2								2					
GEN501	Industrial practice II	PD, UC	3										3			
<b>M-9. Module of final certification</b>																
ECA003	Preparation and writing of a thesis (project)	IA	6												6	
ECA103	Defense of a thesis (project)	IA	6												6	
<b>M-10. Module of additional types of training</b>																
AAP500	Military training	DVO	0													
<b>Total by UNIVERSITY:</b>									32	29	27	32	30	31	30	29
									<b>61</b>	<b>59</b>	<b>61</b>	<b>59</b>				

<b>Number of credits for the entire period of study</b>						
Cycle code	Cycles of disciplines	Credits				Total
		required	component	university component	component of choice	
ООД	Cycle of general education disciplines	51			5	56
БД	Cycle of basic disciplines			107	5	112
ПД	Cycle of profile disciplines			34	26	60
	<b>Total for theoretical training:</b>	<b>51</b>		<b>141</b>	<b>36</b>	<b>228</b>
ИА	Final certification	12				12
	<b>Total:</b>	<b>63</b>		<b>141</b>	<b>36</b>	<b>240</b>