

CURRICULUM
of Educational Program on enrollment for 2024-2025 academic year
Educational program 6B07130 - "Mechanical Engineering and Modeling"
Group of educational programs in 064 - "Mechanics and metalworking"



LNG 108 English la LNG 104 Kazakh (I KFK 101- 104 Fhysical C CSE 677 Informatic control on the control on	n language  h (Russian) language  al Culture  nation and communication plogies (in English)	GED, RC GED, RC GED, RC	amou nt in credit s  (OOI	M- 300 300	0/0/6	(includ ing TSIS) in hours	control		urse 2 term	II co		III c	ourse		ourse
CYCLE OF GENE  CNG 108  English la  NG 104  Kazakh (I  CFK 101- 04  History of HUM 137  History of HUM 132  Hodule of (sociolog) Module of (sociolog) HUM 134  HUM 136  Fundame and Law  MNG 489  Fundame Entrepres  MSM500  Scientific CHE 656  Ecology MNG564  Basics of CYCLE OF BASIO  MAT 169  MAT 169  MAT 189  MAT 170  MAT 189  MAT 189  MAT 170  MATHEM MAT 170  MATHEM MAT 170  MATHEM MAT 170  MATHEM MAT 171  MATHEM MAT 172  MATHEM MAT 173  MATHEM MAT 174  MATHEM MAT 175  MATHEM MAT 176  MATHEM MAT 177  MATHEM MAT 170  MATHEM MAT 171  MATHEM MAT 172  MATHEM MAT 173  MATHEM MAT 174  MATHEM MAT 175  MATHEM MAT 176  GEN 177  GEN 178  GEN 197  Machines  Machines  GEN 197  Machines  Machines  GEN 197  Machines  Machines	h language h (Russian) language al Culture nation and communication elogies (in English)	GED, RC	(OOI	M- 300 300	of lek/lab/ pr -1. Lang	TSIS) in hours									ourse
NG 108 English la NG 104 Kazakh (I CFK 101- 04 Physical C 04 Informatic ces 677 Informatic cos 600 Module c cos	h language h (Russian) language al Culture nation and communication elogies (in English)	GED, RC	10 10	M- 300 300	pr -1. Lang 0/0/6	hours		1 term	2 term	3 term	4 term				
LNG 108 English la LNG 104 Kazakh (I LNG 104 Kaz	h language h (Russian) language al Culture nation and communication elogies (in English)	GED, RC	10	M- 300 300	0/0/6						7 (01111	5 term	6 term	7 term	8 term
LNG 104 Kazakh (I LNG 104 Kaza	h (Russian) language al Culture nation and communication elogies (in English)	GED, RC	10	300	0/0/6	пада Т.									
LING 104  LING 107  LING 108  LING 109  LING 1	h (Russian) language al Culture nation and communication elogies (in English)	GED, RC	10	300		uage 11	raining n	odule							
CYEK 101- 104  HUM 137  History o HUM 132  HUM 132  HUM 134  HUM 134  HUM 134  HUM 135  HUM 136  HUM 137  HUM 136  HUM 137  HISTORY o HUM 137  HUM 138  HUM 139  HUM 130  HUM 130  HUM 134  HUM 136  Fundame and Law  MNG 489  Fundame Entrepret Hum 136  Hum 136  Hum 136  Hum 137  Hum 138  Hum 138  Hum 139  Hum 1	al Culture	GED, RC		300		210	Е	5	5						
HUM 137 History of HUM 132 Philosoph HUM 132 Philosoph HUM 134 Module of (cultural state) HUM 136 Fundame and Law MNG 489 Entrepret MSM500 Scientific CHE 656 Ecology MNG564 Basics of CYCLE OF BASIO MAT 169 Physics I Thermod MAT 189 Hundame AMAT 170 Mathems MAT 170 Mathems MAT 170 Mathems MAT 171 Mathems MAT 172 Mathems MAT 172 Mathems MAT 172 Mathems MAT 173 Mathems MAT 174 Mathems MAT 175 Mathems MAT 176 GEN 177 Engineer GEN 177 Engineer GEN 177 Engineer GEN 177 GEN 178 GEN 179 GE	al Culture				0/0/6	210	Е	5	5						
HUM 137 History of HUM 132 Philosoph HUM 132 Philosoph HUM 134 Module of (sociology HUM 134) Fundame and Law MNG 489 Fundame Entrepret MSM500 Scientific CHE 656 Ecology MNG564 Basics of CYCLE OF BASIO MAT 169 Mathema PHY 469 Physics I Thermod MAT 189 Linear al MAT 170 Mathema MAT 170 Mathema MAT 171 Mathema MAT 172 Mathema MAT 172 Mathema MAT 172 Mathema MAT 174 Mathema MAT 175 Mathema MAT 176 GEN 177 Engineer GEN 177 Engineer GEN 177 Engineer GEN 177 GEN 178 GEN 179 GEN 17	nation and communication logies (in English)	GED, RC	8						3						
HUM 137 History of HUM 132 Philosoph HUM 132 Philosoph HUM 134 Module of (sociology HUM 134) Fundame and Law MNG 489 Fundame Entrepret MSM500 Scientific CHE 656 Ecology MNG564 Basics of CYCLE OF BASIO MAT 169 Mathema PHY 469 Physics I Thermod MAT 189 Linear al MAT 170 Mathema MAT 170 Mathema MAT 171 Mathema MAT 172 Mathema MAT 172 Mathema MAT 172 Mathema MAT 174 Mathema MAT 175 Mathema MAT 176 GEN 177 Engineer GEN 177 Engineer GEN 177 Engineer GEN 177 GEN 178 GEN 179 GEN 17	nation and communication logies (in English)	GED, RC	8				aining mo								
HUM 137 History o HUM 137 Philosoph HUM 132 Philosoph HUM 134 Module o (sociolog HUM 134 Coultural i HUM 136 Fundame and Law MNG 489 Fundame Entrepres MSM500 Scientific CHE 656 Ecology MNG564 Basics of CYCLE OF BASIC  MAT 169 Mathema Phy 469 Physics I Thermod MAT 189 Linear al MAT 170 Mathema MAT 170 Mathema MAT 171 Mathema MAT 171 Mathema MAT 172 Mathema MAT 172 Mathema MAT 173 Mathema MAT 174 Mathema MAT 175 Engineer GEN 177 Engineer GEN 178 General GEN 198 Dynamic CHE 495 General GEN 199 Engineer GEN 117 Flory a machines GEN 199 Engineer GEN 199 Engineer GEN 141 Numeric	ologies (in English)			240	0/0/8	120	Difcredit	2	2	2	2				
HUM 137 History o HUM 137 Philosoph HUM 132 Philosoph HUM 134 Module o (sociolog HUM 134 Coultural i HUM 136 Fundame and Law MNG 489 Fundame Entrepres MSM500 Scientific CHE 656 Ecology MNG564 Basics of CYCLE OF BASIC  MAT 169 Mathema Phy 469 Physics I Thermod MAT 189 Linear al MAT 170 Mathema MAT 170 Mathema MAT 171 Mathema MAT 171 Mathema MAT 172 Mathema MAT 172 Mathema MAT 173 Mathema MAT 174 Mathema MAT 175 Engineer GEN 177 Engineer GEN 178 General GEN 198 Dynamic CHE 495 General GEN 199 Engineer GEN 117 Flory a machines GEN 199 Engineer GEN 199 Engineer GEN 141 Numeric	ologies (in English)			M-3.	Informa	ation Te	echnology	module		,				T 1	
HUM 132 Philosoph HUM 132 Philosoph HUM 130 Module of (sociology HUM 134 Module of (coltural in the color of		GED, RC	5	150	2/1/0	105	E				5				
HUM 132 Philosoph HUM 132 Philosoph HUM 130 Module of (sociology HUM 134 Module of (coltural in the color of			M	-4 M	odule of	socio-c	ultural d	evelopmo	ent						
HUM 132 Philosoph HUM 132 Philosoph HUM 130 Module of (sociology HUM 134 Module of (coltural in the color of	y of Kazakhstan	GED. RC	5	150	1/0/2	105	SE		5			T	1		
HUM 120  Module of (sociology Module of (sociology Module of (cultural it))  HUM 134  Fundame and Law MnG 489  Fundame Entrepret  MSM500  Scientific CHE 656  Ecology MNG564  Basics of CYCLE OF BASIO  MAT 169  MAT 169  MAT 170  Mathema Physics I Thermod MAT 189  MAT 170  MAT 170  MAT 171  MATHEMA Physics I Nuclear MAT 110  MAT 172  MAT 171  MATHEMA Equation  MAT 172  MATHEMA Equation  GEN 177  GEN									,		5				
HUM 120 (sociolog Module of cultural state of the cultural state o	le of socio-political knowledge	GED, RC	5	150	1/0/2	105	Е								
HUM 134 (cultural:  HUM 136 Fundame and Law  MNG 489 Fundame Entrepret  MSM500 Scientific CHE 656 Ecology MNG564 Basics of CYCLE OF BASIO  MAT 169 Mathema Physics I Thermod Linear al MAT 170 Mathema PHY 471 Nuclear MAT 170 Mathema MAT 170 Ordinary MAT 171 Mathema MAT 171 Mathema MAT 172 Mathema MAT 172 Mathema MAT 173 Equinect GEN 177 Engineer GEN 409 Statics a GEN 198 Dynamic CHE 495 General GEN 13 Theory a machine. GEN 199 Engineer GEN 414 Numeric	logy, political science)	GED, RC	3	90	1/0/1	60	Е				3				
HUM 136 Fundame and Law  MNG 489 Fundame Entrepret  MSM500 Scientific  CHE 656 Ecology  MNG564 Basics of  CYCLE OF BASIO  MAT 169 Mathema  PHY 469 Physics I Thermod  MAT 170 Mathema  MAT 170 Mathema  MAT 171 Mathema  MAT 171 Mathema  MAT 172 Mathema  MAT 172 Mathema  MAT 173 Mathema  MAT 174 Mathema  MAT 175 Fundame  MAT 175 Mathema  MAT 176 Statistics as GEN 198 CHE 495 General  GEN 197 GEN 17 Theory as machines  GEN 199 Engineer  GEN 199 Engineer  GEN 141 Numeric	le of socio-political knowledge ral studies, psychology)		5	150	2/0/1	105	È			5					
HUM 136 and Law  MNG 489 Fundame Entrepret  MSM500 Scientific  CHE 656 Ecology  MNG564 Basics of  CYCLE OF BASIO  MAT 169 Mathema Phy 469 Physics I Thermod  MAT 170 Mathema MAT 170 Mathema MAT 170 Mathema MAT 171 Mathema  MAT 171 Mathema MAT 172 Mathema MAT 172 Mathema MAT 173 Mathema MAT 174 Equation  GEN 177 Engineer GEN 409 Statics a GEN 198 Dynamic CHE 495 General GEN 177 Theory a GEN 197 Theory a GEN 198 Theory a GEN 199 Engineer GEN 141 Numeric		5. Module	funda	ament	als of ar	nti-corr	uption cu	lture, ec	ology and	life safe	ty			-	
MNG 489	mentals of Anti-Corruption Culture			T											
MNG 489 Entrepret MSM500 Scientific CHE 656 Ecology MNG564 Basics of CYCLE OF BASIC  MAT 169 Mathems Phy 469 Physics I Thermod MAT 170 Mathems MAT 170 Mathems MAT 171 Mathems MAT 171 Mathems MAT 172 Mathems MAT 172 Mathems MAT 172 Engineer GEN 177 Engineer GEN 177 Engineer GEN 198 Dynamic CHE 495 General GEN 197 General GEN 197 Theory a machine. GEN 199 Engineer GEN 141 Numeric					2/0/1	105	E								
MSM500 Scientific CHE 656 Ecology MNG564 Basics of CYCLE OF BASIC  MAT 169 Mathema PHY 469 Physics I Thermod MAT 170 Mathema PHY 471 Physics I Nuclear MAT 171 Mathema MAT 172 Mathema MAT 172 Mathema MAT 172 Mathema MAT 172 Mathema MAT 173 Mathema MAT 174 Equinor GEN 177 Engineer GEN 409 Statics a GEN 198 Dynamic CHE 495 General GEN 413 Theory a machine. GEN 199 Engineer GEN 414 Numeric	mentals of Economics and	onn 001	5	150								1.			
CHE 656 Ecology MNG564 Basics of CYCLE OF BASIC  MAT 169 Mathems PHY 469 Physics I Thermod MAT 170 Mathems PHY 471 Nuclear MAT 171 Mathems MAT 172 Mathems MAT 172 Mathems MAT 172 Mathems MAT 172 Mathems MAT 173 Figure GEN 177 Engineer GEN 177 Engineer GEN 197 General GEN 197 General GEN 198 Dynamic CHE 495 General GEN 197 Engineer GEN 413 Theory a machine. GEN 199 Engineer GEN 141 Numeric	ific research methods	GED, CCH								5			Marie I		
MNG564 Basics of CYCLE OF BASIC  MAT 169 Mathema Physics I Thermod Linear al MAT 170 Mathema Physics I Nuclear Nuclear MAT 171 Mathema MAT 170 Mathema MAT 171 Mathema MAT 172 Mathema MAT 172 Mathema MAT 172 Mathema MAT 1748 Equation GEN 177 Engineer GEN 177 GEN 179 GEN	gy and life safety														
MAT 169 Mathema PHY 469 Physics I Thermod MAT 189 Linear al MAT 170 Mathema PHY 471 Nuclear MAT 171 Mathema MAT 170 Ordinary MAT 172 Mathema MAT 172 Mathema MAT 172 Engineer GEN 177 Engineer GEN 177 Engineer GEN 198 Dynamic CHE 495 General GEN 197 General GEN 198 Dynamic GEN 199 Engineer GEN 199 Engineer GEN 144 Numeric															
MAT 169 Mathema PHY 469 Physics I Thermod MAT 189 Linear al MAT 170 Mathema PHY 471 Physics I Nuclear MAT 171 Mathema MAT 110 Ordinary MAT 172 Mathema MAT 172 Mathema MAT 173 Engineer GEN 177 Engineer GEN 177 GENeral GEN 198 Dynamic CHE 495 General GEN 197 General GEN 199 Engineer GEN 141 Numeric	s of Financial Literacy											1			
PHY 469         Physics I Thermod           MAT189         Linear al           MAT 170         Mathema           PHY 471         Physics I Nuclear           MAT 171         Mathema           MAT 172         Mathema           MAT 173         Mathema           MAT 174         Equation           GEN 177         Engineer           GEN 198         Dynamic           CHE495         General           GEN 13         Theory a machine           GEN 199         Engineer           GEN 141         Numeric	SIC DISCIPLINES (DB)														
PHY 469         Physics I Thermod           MAT189         Linear al           MAT 170         Mathema           PHY 471         Physics I Nuclear           MAT 171         Mathema           MAT 172         Mathema           MAT 173         Mathema           MAT 174         Equation           GEN 177         Engineer           GEN 198         Dynamic           CHE495         General           GEN 13         Theory a machine           GEN 199         Engineer           GEN 141         Numeric								matical t	raining		T		T		
MAT189 Thermod MAT189 Linear al MAT170 Mathema PHY 471 Physics I Nuclear MAT171 Mathema MAT110 Ordinary MAT172 Mathema MAT172 Mathema MAT148 Equatior GEN 177 Engineer GEN409 Statics a GEN198 Dynamic CHE495 General GEN413 Theory a machine. GEN199 Engineer GEN414 Numeric	ematical Analysis I cs I: Molecular Physics.	BD, UC	5	150	1/0/2	105	E	5							
MAT 189           MAT 170         Mathema           PHY 471         Physics I Nuclear           MAT 171         Mathema           MAT 110         Ordinary           MAT 172         Mathema           MAT 148         Equation           GEN 177         Engineer           GEN 198         Dynamic           CHE495         General           GEN413         Theory a machine           GEN199         Engineer           GEN414         Numeric	nodynamics	BD, UC	5	150	1/1/1	105	Е	5							
PHY 471 Physics I Nuclear MAT171 Mathems MAT110 Ordinary MAT172 Mathems MAT448 Equatior GEN 177 Engineer GEN409 Statics a GEN198 Dynamic CHE495 General GEN413 Theory a machine: GEN199 Engineer GEN414 Numeric	r algebra and analytic geometry	BD, UC	5	150	1/0/2	105	E	5			1				
PHY 471 Physics I Nuclear MAT171 Mathems MAT110 Ordinary MAT172 Mathems MAT448 Equatior GEN 177 Engineer GEN409 Statics a GEN198 Dynamic CHE495 General GEN413 Theory a machine: GEN199 Engineer GEN414 Numeric	ematical Analysis II	BD, UC	5	150	1/0/2	105	Е		5						
MAT171 Mathemate MAT171 Mathemate MAT171 Mathemate MAT172 Mathemate MAT172 Mathemate MAT172 Engineer GEN409 Statics a GEN198 Dynamic CHE495 General Theory a machines GEN199 Engineer GEN414 Numeric	cs II: Electricity and Magnetism.	BD, UC	5	150	1/1/1	105	Е		5						
MAT110         Ordinary           MAT172         Mathems           MAT448         Equation           GEN 177         Engineer           GEN409         Statics a           GEN198         Dynamic           CHE495         General           GEN413         Theory a machine           GEN199         Engineer           GEN414         Numeric	ear physics			150	1/0/2	105	E	-	-	5					
MAT172 Mathema MAT448 Equation  GEN 177 Engineer GEN409 Statics a GEN198 Dynamic CHE495 General GEN413 Theory a machines GEN199 Engineer GEN414 Numeric	ematical Analysis III ary differential equations	BD, UC	5	150	1/0/2	105	E			5					
MAT448 Equation  GEN 177 Engineer GEN409 Statics a GEN198 Dynamic CHE495 General GEN413 Theory a machine. GEN199 Engineer GEN414 Numeric	ematical Analysis IV	BD, UC	5	150	1/0/2	105	E				5				
GEN409 Statics a GEN198 Dynamic CHE495 General GEN413 Theory a machines GEN199 Engineer GEN414 Numeric	tions of mathematical physics	BD, UC	5	150	1/0/2	105	Е					5			
GEN409 Statics a GEN198 Dynamic CHE495 General GEN413 Theory a machines GEN199 Engineer GEN414 Numeric								nechanics 5	and Mode	ling	T		1	1	
GEN198 Dynamic CHE495 General Theory a machine: GEN199 Engineer GEN414 Numeric	eering and computer graphics and kinematics	BD, UC	5	150	1/1/1	105	E	1 3		5					
CHE495 General  GEN413 Theory a machine: GEN199 Engineer GEN414 Numeric		BD, UC	5	150		105	E				5				
GEN413 machine: GEN199 Engineer GEN414 Numeric	ral chemistry	BD, UC	5	150		105	Е					5			
GEN199 Engineer GEN414 Numeric	ry and design of mechanisms and	BD, UC	5	150	1/1/1	105	E					5			
GEN414 Numeric	neering thermodynamics	BD, UC	5	150	1/0/2	105	E					5			
	erical methods and programming	BD, UC	5	150	1/1/1	105	E					5			
	and gas mechanics	BD, UC	5	150	1/1/1	105	E						5		
GEN405 Solid sta		BD, UC	5	150	_	105	Е						5		
GEN504 Computer modeling	state mechanics	BD, UC	5	150	1/0/2	105	E						5		
	state mechanics putational hydromechanics and		1		1/1/1									-	
	state mechanics putational hydromechanics and				1/1/1										
CSE831 Fundame	state mechanics putational hydromechanics and cling	BD, CCH	600	150	1/0/2	105	Е					5			
MNG563 Fundam and ESC	state mechanics putational hydromechanics and ding stical Mechanics	1			2/0/1										

GEN447	Modeling and design of mechanical systems	BD, UC	5	150	1/1/1	105	Е							5	
GEN448	Modeling and design of thermal systems	BD, UC	5	150	1/1/1	150	E								5
GEN100	Educational practice	BD, UC	2						2		-				
				CYCI	E OF PI	ROFILE	DISCIPL	INES (PD							
		M-8. Moc	tule of			-		ng mechan		Indelina				1	
GEN426	Strength of materials	PD, UC	5	150	1/1/1	105	E		1	T	5				
GEN505	Object oriented programming	PD, UC	5	150	1/1/1	105	E		-		3			5	
GEN419	Design of machine elements and parts	PD, UC	5	150	1/1/1	105	E	-	-	-			5	3	
GEN508	Dynamics of Machines and Computer Analysis	PD, UC	4	120	1/1/1	75	Е						4		
GEN509	Control of Dynamic Systems				1/1/1										
GEN512	Filtration theory and applied problems	PD. CCH		100	1/2/0	7.6		1		1					
GEN511	Finite volume method in fluid mechanics	PD, CCH	4	120	1/2/0	75	E						4		
GEN510	Basics of heat transfer	PD, UC	5	150	1/0/2	105	Е		1					5	
GEN421	Introduction to Robotics	PD, UC	5	150	1/1/1	105	Е							5	
GEN160	The finite element method in engineering	PD, CCH	5	150	1/1/1	105	Е							5	
MSM468	Interchangeability and technical measurements	PD, CCH	5	150	1/1/1	105	Е							5	
GEN425	Computational mechanics				1/1/1										
GEN462	Machine learning and data analysis in engineering	PD, CCH	6	180	2/1/1	120	Е								6
GEN446	Renewable Energy Systems				2/1/1										
GEN438	3D Printing of Machine Elements	PD, CCH	6	180	2/1/1	120	E E								
GEN442	Biofluid Mechanics	FD, CCH			2/1/1										6
GEN506	Laboratory: Fluid Flowes	PD, UC			0/3/0										
GEN507	Laboratory: Heat Transfer	10,00		120	0/3/0	13	E								4
GEN500	Industrial practice I	PD, UC	2								2				
GEN501	Industrial practice II	PD, UC	3						1				3		
				M-	9. Modu	le of fin	al certif	ication							
CA108	Writing and defense of the thesis	FA	8					1		T					8
			M-	-10. M	odule of	additio	nal tyne	s of train	ing						- 8
AAP500	Military training	DVO	0		344.01		ar type	o or trail	l l	T. A.					
	Total based on UNIVERSITY:							32	2	9 27	32	30	31	30	29
									51	_	9	30			59

	Number of credits for the entire period of	of study	/					
	Cycles of disciplines	Credits						
Cycle code		required component (OK)	university component	component of choice (CCH)	Total			
GED	Cycle of general education disciplines	51		5	56			
BD	Cycle of basic disciplines		107	5	112			
PD	Cycle of profile disciplines		34	30	64			
	Total for theoretical training:	51	141	40	232			
FA	Final certification	8			8			
	Total:	59	141	40	240			

Decision of the Academic Council of Kazntu named after K.Satpayev. Protocol Not 201 10 2024 y.

Decision of the Educational and Methodological Council of Kazntu named after K.Satpayev. Protocol No. 6 or "19" 04 2024 y.

Decision of the Academic Council of the Institute 1 M. Protocol No 4 or "19 "01 2024 y.

Vice-Rector for Academic Affairs

Director of the Institute of Energy and Mechanical Engineering

Head of department "Mechanical Engineering"

Representative of Specialty council

R.K. Uskenbayeva

K.K. Yelemessov

A. Kaltayev

A.K. Tuleshov