

CURRICULUM
of Educational Program on enrollment for 2023-2024 academic year
Educational program 6B07205 - "Mining engineering"
Group of educational programs B071 - "Mining and extraction of minerals"

Discipline code	Name of disciplines	Cycle	Total amount in credits	Total hours	classroom volume of lek/lab/pr	SIS (including TSIS) 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 semester	2 semester	3 semester	4 semester	5 semester	6 semester	7 semester	8 semester								
CYCLE OF GENERAL EDUCATION DISCIPLINES (GED)																							
M-1. Module of language training																							
LNG 108	Foreign language	GED, RC	10	300	0/0/6	210	E	5	5														
LNG 104	Kazakh (Russian) language	GED, RC	10	300	0/0/6	210	E	5	5														
M-2. Module of physical training																							
KFK 101-104	Physical Culture	GED, RC	8	240	0/0/8	120	Difcredit	2	2	2	2												
M-3. Module of information technology																							
GEN 429	Engineering and computer	BD, UC	5	150	1/1/1	105	E	5															
MIN109	Integrated information systems in mining	BD, UC	5	150	1/2/0	105	E			5													
CSE 677	Information and communication technologies (in English)	GED, RC	5	150	2/1/0	105	E				5												
MIN443	Numerical 3D modeling of geomechanical processes	BD, UC	5	150	1/2/0	105	E					5											
MIN444	Datamine Workbook	BD, UC	5	150	1/0/2	105	E						5										
M-4. Module of socio-cultural development																							
HUM 101	History of Kazakhstan	GED, RC	5	150	1/0/2	105	SE			5													
HUM 132	Philosophy	GED, RC	5	150	1/0/2	105	E				5												
HUM 120	Socio-political knowledge module (sociology, politology)	GED, RC	3	90	1/0/1	60	E				3												
HUM 134	Socio-political knowledge module (culturology, psychology)		5	150	2/0/1	150	E			5													
M-5. Module of anti-corruption culture, ecology and life safety base																							
HUM 136	Fundamentals of Anti-Corruption Culture and Law	GED, CCH	5	150	2/0/1	150	E				5												
MNG 489	Fundamentals of Economics and Entrepreneurship																						
HPP128	Fundamentals of scientific research methods																						
CHE 656	Ecology and life safety																						
CYCLE OF BASIC DISCIPLINES (BD)																							
M-6. Module of physical and mathematical training																							
MAT 101	Mathematics I	BD, UC	5	150	1/0/2	105	E	5															
PHY 468	Physics	BD, UC	5	150	1/1/1	105	E	5															
MAT 102	Mathematics II	BD, UC	5	150	1/0/2	105	E			5													
M-7. Module of basic training																							
MAP519	Geodesy	BD, UC	5	150	1/0/2	105	E	5															
GE0475	Fundamentals of Geology	BD, UC	5	150	2/1/0	105	E				5												
AAP167	Educational practice	BD, UC	1								1												
M-8. Mining support module																							
MIN447	Physics of rock mass	BD, UC	5	150	1/2/0	105	E				5												
MIN442	Shattering process	BD, UC	5	150	1/1/1	105	E			5													
MIN448	Construction of mining enterprises	BD, UC	5	150	1/1/1	105	E				5												
MIN449	Open-pit mining processes	BD, CCH	5	150	1/0/2	105	E																
MIN450	Deposit opening and development when underground mining				2/0/1																		
MIN451	Deposit opening and development when uranium underground borehole				2/0/1																5		
MIN452	Industrial explosives				1/1/1																		
MIN459	Mechanics of underground structures				2/0/1																		
MAP530	General course of surveying				1/0/2																		
MIN460	Interconnection and planning of open cast mining processes				2/0/1																		
MIN454	Underground mining operations processes				2/0/1																		
MIN461	Uranium deposits underground mining geotechnology				2/0/1																105	E	5
MIN462	Underground construction facilities				2/0/1																		
MAP529	Mine surveying drawing	0/0/3																					
TEC186	Opening mine mining and transport equipment	2/0/1																					

PED147	Mining and transport equipment of underground mines	BD, CCH	5	150	2/0/1	105	E					5		
MIN455	Shield tunneling complexes				2/0/1									
MAP531	Mine surveying work on the surface				1/0/2									
M-9. Mining production module														
MIN453	Open-cast mining technology	BD, UC	5	150	1/0/2	105	E					5		
MIN505	Borehole production of uranium	BD, UC	5	150	2/0/1	105	E							5
MIN445	Financial and economic model of a mining enterprise	BD, UC	5	150	1/1/1	105	E							5
MIN458	Technology of underground mining operations	BD, UC	5	150	1/0/2	105	E					5		
MIN466	Resource-saving and low-waste technology on ore mines				2/0/1									
MIN467	Mineral deposits underground mining systems				2/0/1									
MIN468	Solutions hydraulics when uranium development	BD, CCH	5	150	2/0/1	105	E					5		
MIN469	Technology of construction of vertical mine workings				2/0/1									
MAP532	Mathematical processing of surveying and geodetic				1/0/2									
MIN511	Opening of career fields				2/0/2									
MIN512	Subsoil use contract and license				2/0/2									
MIN510	Geotechnological methods of development of solid minerals	BD, CCH	6	180	2/0/2	120	E					6		
MIN513	Special ways of building underground structures				2/0/2									
MAP535	Mine surveying for the construction of mines				1/1/2									
MIN516	Conducting mine workings at quarries				1/0/2									
MIN520	Rock conditions management				2/0/1									
MIN517	Fields development in special conditions	BD, CCH	5	150	2/0/1	105	E					5		
MIN519	Construction of underground hydraulic structures				2/0/1									
MAP520	Surveying - geodetic instruments				1/0/2									
CYCLE OF PROFILE DISCIPLINES (PD)														
M-10. Module of professional activity														
MIN101	Bases of mining (Introduction to specialty)	PD, UC	5	150	1/0/2	105	E			5				
MET641	Processing and enrichment of minerals	PD, UC	4	120	2/1/0	75	E					4		
MIN481	Aerology of concessions	PD, UC	5	150	2/1/0	105	E							5
M-11. Mine design module														
MIN463	Special methods of conducting open cast mining operations				2/0/1									
MIN464	Design and computer style for mining operations development plans				1/0/2									
MIN465	Mining drawing when uranium deposits underground mining	PD, CCH	5	150	1/0/2	105	E					5		
MIN456	Technology of construction of tunnels				2/0/1									
MIN457	Ways to support underground structures				2/0/1									
MAP524	Geomechanics				1/0/2									
MIN470	Technological complexes of open cast mining operations				2/0/1									
MIN131	Underground mines air supply				2/0/1									
MIN471	Geotechnological wells drilling and operation	PD, CCH	5	150	2/0/1	105	E					5		
MIN472	Calculation of the design of underground structures				2/0/1									
MAP528	GIS cartography in mining				1/0/2									
MIN473	Open development of building materials				1/0/2									
MIN474	Technology and complex mechanization of underground mining				2/0/1									
MIN475	Equipment of geotechnological fields at uranium dillhole in situ leaching	PD, CCH	5	150	2/0/1	105	E					5		
MIN476	Design of construction of mining facilities				2/0/1									
MAP521	Mine surveying at open pit mining				1/0/2									
MIN487	Prospective and current planning of open cast mining operations				2/0/1									
MIN488	Product quality management				2/0/1									
MIN489	Technology and mechanization of piling works				2/0/1									
MIN491	Designing of blasting operations	PD, CCH	5	150	2/0/1	105	E							5

MIN492	Designing of construction of underground mining enterprises				2/0/1														
MAP525	Mine survey of underground development systems				1/0/2														
MIN493	Reclamation of disturbed lands on mines				2/0/1														
MIN 494	Layout of underground mines plan				2/0/1														
MIN501	Layout of underground deposits plan	PD, CCH	5	150	2/0/1	105	E											5	
MIN495	Technology of construction of horizontal and inclined mine workings				2/0/1														
MAP523	Geometry of subsoil				1/0/2														
MIN496	Design of ore and coal mines				1/0/2														
MIN497	Mines conservation				2/0/1														
MIN498	Uranium deposits conservation	PD, CCH	5	150	2/0/1	105	E											5	
MIN499	Reconstruction of mines and underground structures				2/0/1														
MAP527	Mine survey software				1/0/2														
MIN500	Systems of open development of mineral deposits				1/0/2														
MIN441	Sheet deposits underground mining				2/0/1														
MIN432	Underground development of indigenous and alluvial deposits	PD, CCH	5	150	2/0/1	105	E											5	
MIN433	Technology of construction of urban underground structures				2/0/1														
MAP526	Mine surveying of the construction of tunnels				1/0/2														
M-12. R&D module																			
MIN509	Advanced mining technologies in deep and ultra-deep quarries				1/1/1														
MIN526	Combined field development methods	PD, CCH	5	150	2/0/1	105	E												5
MIN140	Industrial safety of blasting operations				2/0/1														
MAP499	Basics of laser scanning				1/0/2														
MIN522	Hydro-mechanization of mining of construction rocks				2/0/1														
MIN523	Special issues of underground mining operations				1/0/2														
MIN524	Special methods of development of uranium deposits	PD, CCH	4	120	1/0/2	75	E												4
MIN525	Special drilling and blasting operations				2/0/1														
MAP575	Applied geodesy				1/0/2														
M-13. Practice module																			
MIN 521	Production practice I	PD, UC	3																3
AAP193	Production practice II	PD, UC	3																3
M-14. Module of final attestation																			
ECA108	final examination	FA	8																8
M-15. Module of additional types of training																			
AAP500	Military affairs	ATT	0																
Total based on UNIVERSITY:												32	28	27	33	29	31	30	30
												60	60	60	60	60	60	60	

Number of credits for the entire period of study					
Cycle code	Cycles of disciplines	Credits			Total
		required component (RC)	university component (UC)	component of choice (CCH)	
GED	Cycle of general education disciplines	51		5	56
BD	Cycle of basic disciplines		81	31	176
PD	Cycle of profile disciplines		25	39	
	Total for theoretical training:	51	106	75	232
FA	Final attestation	8			8
	TOTAL:	59	106	71	240

Decision of the Academic Council of Kazntu named after K.Satpayev. Protocol № 5 "24" November 2022 y.

Decision of the Educational and Methodological Council of Kazntu named after K.Satpayev. Protocol № 3 "17" November 2022 y.

Decision of the Academic Council of the Mining and Metallurgical Institute. Protocol № 3 "15" November 2022y.

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