



**WORKING CURRICULUM**  
of the educational program for 2021-2022 academic year admission  
Educational programs 6B07202, 6B05201 - "Geology and exploration of mineral deposits"  
Group of Educational programs 8071 - "Mining and extraction of minerals"  
Group of Educational programs B052 - "Earth Science"

Form of study: distance

Study duration : 3 years

Academic degree: bachelor of engineering and technology

Academic degree: bachelor of natural sciences

Year of study	Code	Name of discipline	Cycle	Total Credits	Total hours	audience volume, lec/lab/pr	SIW (including SIWT) in hours	Code	pre-requisites
<b>1 semester (autumn 2021)</b>									
1	IDO293	Contemporary History of Kazakhstan	G	5	150	1/0/2	105		no
	IDD165	Chemistry	B	5	150	1/1/1	105		no
	IDD186	Fundamentals of Entrepreneurship, Leadership and Anti-corruption culture	G	2	90	1/0/1	60		no
	IDD162	Mathematics	B	5	150	1/0/2	105		no
	IDD161	Physics	B	5	150	1/1/1	105		no
	IDO713	Engineering and computer graphics	B	5	150	1/0/2	105		no
	IDD139	General and historical geology	B	5	150	2/1/0	105		no
<b>Total:</b>				<b>32</b>					
<b>2 semester (spring 2022)</b>									
	IDD002	Social-political knowledge	G	8	240	4/0/0	180		no
	IDD149	Fundamental physics of Earth	B	5	150	2/1/0	105		IDD139
	IDD140	Structural geology	B	5	150	2/1/0	105		IDD139
	IDD141	Crystallography and mineralogy	B	5	150	2/1/0	105		IDD139
	IDD627	Geodesy	B	5	150	2/1/0	105		no
	IDD150	Drilling of the wells	B	5	150	2/1/0	105		no
	<b>Total:</b>				<b>33</b>				
<b>3 semester (autumn 2022)</b>									
2	IDD170	Industrial ecology and industrial safety	G	5	150	1/0/2	105		no
	IDD142	Petrography	B	5	150	2/1/0	105	IDD141	
	IDD158	Sedimentology	B	5	150	2/1/0	105	IDD139	
	IDD148	Geophysical methods of prospecting and exploration	B	5	150	2/1/0	105	IDD139	
	IDD159	Mining	B	5	150	2/1/0	105	no	
	IDO348	Oil and Gas Geology	B	5	150	2/0/1	105	IDD139	
	2216	Electives	B	5					
<b>Total:</b>				<b>35</b>					
<b>4 semester (spring 2023)</b>									
	IDO717	Philosophy	G	5	150	1/0/2	105		no
	IDD144	Geology and Mineral Resources of Kazakhstan	B	5	150	2/1/0	105	IDD139	
	IDD155	Geoinformation technologies in geology	B	5	150	2/1/0	105	no	
	IDD157	Mathematic methods in geology	B	5	150	2/0/1	105	no	
	IDD143	Prospecting and exploration of mineral deposits	B	5	150	2/0/1	105	IDD140	
	IDD145	Geology of mineral deposits	S	5	150	2/1/0	105	IDD139	
	IDD151	Hydrogeology and engineering Geology	S	5	150	2/1/0	105	IDD139	
<b>Total:</b>				<b>35</b>					
<b>5 semester (autumn 2023)</b>									
3	IDD146	Fundamentals of subsoil	S	5	150	2/0/1	105	IDD139	
	3304	Electives	S	5					
	3305	Electives	S	5					
	3306	Electives	S	5					
	3307	Electives	S	5					
	3308	Electives	S	5					
	3309	Electives	S	5					
<b>Total:</b>				<b>35</b>					
<b>6 semester (spring 2024)</b>									
	3310	Electives	S	5					
	3311	Electives	S	5					
	IDD171	Preparation and writing of graduation work (project)	FA	6					
	IDD172	The defence of graduation work (project)	FA	6					
<b>Total:</b>				<b>22</b>					

Year of	Code	Name of discipline	Credits	Semester
Other academic education				
Obligatory education with P/NP assessment (Professional practice)				
1	AAP143	Industrial internship I (S)	2	2
2	AAP163	Industrial internship II (S)	4	4

Cycle of disciplines	Credits		
	compul-sary	elective	total
Cycle of general disciplines (G)	25		25
Cycle of basic disciplines (B)	95	5	100
Cycle of special disciplines (S)	21	40	61
<b>Total of theoretical study:</b>	<b>141</b>	<b>45</b>	<b>186</b>
Final attestation (FA)	12		12
<b>OVERALL:</b>	<b>153</b>	<b>45</b>	<b>198</b>

Decision of the Academic Council of KazNRTU after K.Satbayev. Minutes # 3, dated 25.06 2021.

Decision of the Academic Council of the IGP&ME. Minutes # 5, dated 24.12 2020

Vice-rector for academic affairs

B. Zhautikov

Director of Geology, petroleum and mining engineering institute

A. Syzdykov

Head of the department "Geological mapping, prospecting and exploration of mineral

A. Bekbotayeva

Representative of Specialty council

A. Zhunusov

MINISTRY OF EDUCATION AND SCIENCE OF THE REPUBLIC OF KAZAKHSTAN  
KAZAKH NATIONAL RESEARCH TECHNICAL UNIVERSITY after K. SATBAYEV



MAJOR ELECTIVE DISCIPLINES educational program for the 2020-2021 academic year admission  
Educational programs 6B07202, 6B05201 - "Geology and exploration of mineral deposits"  
Group of Educational programs B071 - "Mining"  
Group of Educational programs B052 - "Earth Science"

Form of study: distance

Study duration: 3 years

Academic degree: bachelor of engineering and technology  
Academic degree: bachelor of natural sciences

Year of study	Code of elective	Code of discipline	Name of discipline	Cycle	Credits	Total hours	lec/lab/pr	SIW (including SIWT) in hours	Prerequisites
<b>3 semester (autumn 2022)</b>									
2	2214	IDO342	Geological mapping and remote methods of research	B	5	150	2/0/1	105	IDD140
		IDD160	Basics of microscopy of rocks				2/0/1		IDD142
		IDO343	Organic geochemistry of oil and gas basins				2/0/1		IDD139
Total:					5				
<b>5 semester (autumn 2023)</b>									
3	3304	IDO926	Geological and industrial types of mineral deposits	S	5	150	2/0/1	105	IDD143
		IDO350	Geodynamics of lithospheric plates				2/0/1		IDD139
	3305	IDO353	Computer technologies in geology	S	5	150	1/2/0	105	IDD155
		IDO354	Oil and gas provinces of the world				2/0/1		IDD139
	3306	IDO289	Geochemical methods of prospecting mineral deposits	S	5	150	2/0/1	105	IDD143
		IDO360	Computer modeling of oil and gas fields				2/1/0		IDD139
	3307	IDO371	Laboratory Methods of studying minerals	S	5	150	1/2/0	105	IDD142
		IDO374	Geodynamics of oil and gas basins				2/0/1		IDD139
	3308	IDO364	Geotectonics bases	S	5	150	2/0/1	105	IDD144
		IDO361	Geological bases of oil and gas fields development and exploitation				2/0/1		IDD139
	3309	IDO292	Geomorphology and quaternary Geology	S	5	150	2/0/1	105	IDD139
		IDO367	Theoretical basis for searching and exploration of oil and gas fields				2/0/1		IDD139
Total:					30				
<b>6 semester (spring 2024)</b>									
3310	IDO372	IDO372	Mine geology	S	5	150	2/0/1	105	IDD143
		IDO377	Oil and gas geology and estimation of reserve				2/0/1		IDD143
3311	IDO290	IDO290	Geological and economic evaluation of mineral deposits	S	5	150	2/0/1	105	IDD143
		IDO368	Oil and gas areas in Kazakhstan				2/0/1		IDD143
Total:					10				

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)	40
Overall:	45

Decision of the Academic Council of the IGP&ME. Minutes # 5, dated 24.12.2020

Head of the department "Geological mapping,

A. Bekbotayeva

Representative of Specialty council

A. Zhunusov