

**MODULAR EDUCATIONAL PROGRAM for recruitment to 2020-2021 academic year**

**Educational program 6B07204 - "Petroleum Engineering"**

**Group of educational programs 6B071 - Mining and extraction of minerals"**

Form of study: full-time

Duration of study: 4 years

Academic degree: Bachelor of Engineering and Technology

Year of study	Discipline code	Name of disciplines	semester	Cycle	Credits	Total hours	classroom volume of lek/lab/pr	SRS (including SRSP) in hours	Form of control	Competencies
<b>Language Training module</b>										
<b>Required component</b>										
1	LNG 1051	Beginner (A1)	1	G	6	180	0/0/3	135	E	GC 1,3,5,6,7,8
	LNG 1052	Elementary English (A1)								
	LNG 1053	General English 1 (A2)								
	LNG 1054	General English 2 (A2)								
	LNG 1055	Academic English (B1)								
1	LNG 1056	Business English (B2)	2	G	6	180	0/0/3	135	E	GC 1,3,5,6,7,8
	LNG 1052	Elementary English (A1)								
	LNG 1053	General English 1 (A2)								
	LNG 1054	General English 2 (A2)								
	LNG 1055	Academic English (B1)								
1	LNG 1056	Business English (B2)	1	G	4	120	0/0/2	75	E	GC 1,3,5,6,7,8
	LNG1012	Kazakh/Russian (A2)								
	LNG1012.1	Academic Kazakh/Russian (B1)								
1	LNG1102.1	Academic Kazakh/Russian (B1)	2	G	6	180	0/0/3	135	E	GC 1,3,5,6,7,8
	LNG1102.2	Business Kazakh/Russian (B2)								
	LNG1012.2	Business Kazakh/Russian (B2)								
<b>Module of social disciplines</b>										
<b>Required component</b>										
1	KFK101	Physical Culture I	1	G	4	120	0/0/2	30	E	
1	KFK102	Physical Culture II	2	G	4	120	0/0/2	30	E	
1	HUM113	Modern History of Kazakhstan (state exam)	1	G	6	180	1/0/2	105	E	GC 4,8
2	HUM132	Philosophy	3	G	5	180	1/0/2	105	E	GC 4,8
3	CHE451	Ecology sustainable development	6	G	2	60	1/0/0	45	E	GC 3,4,5,7
3	CHE452	Life safety	6	G	2	60	1/0/0	45	E	GC 3,4,5,7
3	MNG487	Fundamentals of Entrepreneurship, leadership and anti-corruption culture	5	G	3	90	1/0/1	60	E	GC 5,7,8,9
<b>Socio-political knowledge module</b>										
<b>Required component</b>										
2	HUM126	Social-political knowledge	4	G	8	240	4/0/0	180	E	GC 2,3,8
<b>Module of physical and mathematical training, computer science and chemistry</b>										
<b>University component</b>										
1	CHE192	General chemistry	2	B	6	180	2/1/0	105	E	GPC 3
2	CSE677	Information and communication technologies	4	G	5	150	2/1/0	105	E	GPC 1,2
<b>Component of choice</b>										
1	PHY110	Introduction to Physics	1	B	6	180	1/1/1	105	E	GPC 3
	PHY111	Physics I								
1	MAT00110	Algebra and introduction to calculus	1	B	6	180	1/0/2	105	E	GPC 1,2
	MAT101	Mathematics I								
1	PHY111	Physics I	2	B	6	180	1/1/1	105	E	GPC 3
	PHY112	Physics II								
1	MAT101	Mathematics I	2	B	6	180	1/0/2	105	E	GPC 1,2
	MAT102	Mathematics II								
2	MAT102	Mathematics II	3	B	5	180	1/0/2	105	E	GPC 1,2
	MAT103	Mathematics III								
<b>Module of basic general technical training</b>										
<b>University component</b>										
1	GEN128	Theoretical mechanics	2	B	6	180	2/0/1	105	E	GPC 2,3,4
2	GEN408	Strength of materials	3	B	5	150	1/1/1	105	E	GPC 2,3,4
2	CHE559	Chemistry of oil and gas	3	B	5	150	2/1/0	105	E	GPC 3
2	GEO482	General and structural geology	4	B	5	150	2/1/0	105	E	GPC 3, PC 2,3,4
2	PET411	Reservoir rock properties	3	B	5	150	2/1/0	105	E	GPC 3, PC 2,3
2	PET409	Thermodynamics and heat engineering	4	B	5	150	1/0/2	105	E	GPC 3, PC 1
2	PET410	Fluid mechanics	4	B	5	150	1/1/1	105	E	GPC 3, PC 2,3
2	GEO486	Geology of oil and gas	4	B	5	150	2/1/0	105	E	GPC 3,4 PC 2,3,4,5,7
3	PET412	Oil and gas well drilling	5	B	5	150	2/1/0	105	E	GPC 4, PC 2,3,4
3	PET415	Reservoir fluid properties	5	B	5	150	2/1/0	105	E	GPC 3, PC 2,3
3	PET416	Reservoir engineering I: Primary recovery	5	B	5	150	1/0/2	105	E	PC 1,2,4,5,8
3	PET418	Petroleum Engineering seminar	5	B	5	150	2/1/0	105	E	PC 1,2,4,5,8

3	PET422	Revervoir engineering II: Secondary and tertiary recovery	6	B	5	150	1/0/2	105	E	PC 1,2,4,5,8
3	PET424	Well log analysis	6	B	5	150	2/1/0	105	E	PC 1,2,3
<b>Professional activity module</b>										
<b>University component</b>										
1	PET103	Introduction to Major	1	S	6	180	1/1/1	105	E	GPC 1,2, PC 1
3	PET426	Well completion	6	S	5	150	2/0/1	105	E	GPC 3,4 PC 2,3,4,5,7
3	PET425	Petroleum Production Engineering	6	S	5	150	1/1/1	105	E	GPC 3,4 PC 2,3,4,5,7
4	PET436	Economic evaluation of oil and gas projects	7	S	5	150	1/0/2	105	E	GPC 1,3,4 PC 1,2,5,7
4	PET435	Oil and gas facilities design and operation	7	S	5	150	1/0/2	105	E	GPC 4, PC 2,3,4
4	PET441	Multidisciplinary petroleum project	8	S	5	150	2/1/0	105	E	GPC 3,4 PC 2,5,7,8
<b>Component of choice</b>										
3	PET417	Petroleum regulations and practices	5	S	5	150	2/0/1	105	E	GPC 2,3 PC 2,3,4,5
	PET114	Drilling solutions					2/0/1			GPC 2, PC 2,3,4,5
	PET420	Natural gas engineering					2/0/1			PC 1,2,4,5
	PET427	Design and operation of oil and gas pipelines					1/0/2			GPC 4, PC 2,3,4
3	PET421	Reservoir geomechanics	6	S	5	150	2/0/1	105	E	GPC 2,3, PC 3,4,5,7
	PET423	Geostatistica					2/0/1			GPC 2,3, PC 3,4,5,7,8
	PET428	Design and operation of pump and compressor stations					1/0/2			GPC 4, PC 2,3,4,8
4	PET437	Well stimulation	7	S	5	150	2/0/1	105	E	GPC 2, PC 1,2,3,4
	PET431	Revervoir engineering III: reservoir simulation					2/0/1			PC 1,2,4,5,8
4	PET432	Directional drilling	7	S	5	150	2/0/1	105	E	GPC 4, PC 2,3,4
	PET434	Design and operation of oil and gas storages					1/0/2			GPC 4, PC 2,3,4
	PET439	Artificial lift systems					1/1/1			GPC 3,4, PC 2,4
4	PET442	Well testing	7	S	5	150	2/1/0	105	E	GPC 1,2,3 PC 3,4,5,6
	PET440	Well workover					2/0/1			GPC 3, PC 3,4
	PET430	Computer - aided design					2/0/1			GPC 4, PC 2,3,4
4	PET438	Development of offshore fields	8	S	5	150	1/0/2	105	E	GPC 3,4 PC 1,2,5
	PET419	Corrosion protection of oil and gas equipment					2/0/1			GPC 2,4, PC 2
	PET429	Multiphase flow systems					1/0/2			GPC 2,3, PC 5,6
<b>Practice-oriented module</b>										
<b>Required component</b>										
1	AAP161	Educational practice	2		2					GPC 1-4, PC 1-8
2	AAP141	Production practice I	4		4					GPC 1-4, PC 1-8
3	AAP166	Production practice II	6		8					GPC 1-4, PC 1-8
<b>Module of final certification</b>										
<b>Required component</b>										
	ECA003	Preparation and writing of a thesis (project)*	8	FC	6					GPC 1-4, PC 1-8
	ECA103	Defense of the thesis (project)*	8	FC	6					GPC 1-4, PC 1-8
<b>Module of additional types of training</b>										
<b>Component of choice</b>										
1	AAP107	Sports club sectional	5-7		0					
2-3	AAP500	Military affairs	3-6		0					

**Number of credits for the entire period of study**

**Cycles of disciplines**

**Credits**

	mandator y	elective	Total
Cycle of general education disciplines	61		61
Cycle of basic disciplines	112		112
Cycle of profile disciplines	39	30	69
<b>Total for theoretical training:</b>			<b>212</b>
Final certification	12	0	12
<b>total:</b>			<b>224</b>
Final certification	12	0	12
<b>total:</b>			<b>12</b>

The decision of the Academic Council of Kazntu named after K.Satpayev. Protocol № 3 "25" 06 2021г.

Decision of the Academic Council of the Institute \_\_\_\_\_, Protocol № 5 "24" 12 2020г.

Vice-Rector for Academic Affairs

B.A.Zhautikov

Director of the Institute

A.H. Syzdykov

Head of the Department "Petroleum engineering"

G.Zh.Yelighbayeva

Representative of the Specialty Council from employers

N.A. Nysangaliev