

**MODULAR EDUCATIONAL PROGRAM for recruitment to 2021-2022 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: 3 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>Module of social disciplines</b>										
<b>Required component</b>										
1	HUM100	Modern History of Kazakhstan (state exam)	2	G	5	150	1/0/2	105	E	GC 4,8
1	HUM132	Philosophy	1	G	5	150	1/0/2	105	E	GC 4,8
2	CHE451	Ecology sustainable development	4	G	2	60	1/0/0	45	E	GC 3,4,5,7
2	CHE452	Life safety	4	G	2	60	1/0/0	45	E	GC 3,4,5,7
2	MNG487	Fundamentals of Entrepreneurship, leadership and anti-corruption culture	3	G	3	90	1/0/1	60	E	GC 5,7,8,9
<b>Socio-political knowledge module</b>										
<b>Required component</b>										
1	HUM126	Social-political knowledge	2	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	PHY112	Physics II	1	B	5	150	1/1/1	105	E	GPC 3
1	CSE677	Information and communication technologies	2	G	5	150	2/1/0	105	E	GPC 1,2
<b>Component of choice</b>										
1	MAT102	Mathematics II	1	B	5	150	1/0/2	105	E	GPC 1,2
	MAT103	Mathematics III					1/0/2			
<b>Module of basic general technical training</b>										
<b>University component</b>										
1	GEN408	Strength of materials	1	B	5	150	1/1/1	105	E	GPC 2,3,4
1	CHE559	Chemistry of oil and gas	1	B	5	150	2/1/0	105	E	GPC 3
1	GEO482	General and structural geology	2	B	5	150	2/1/0	105	E	GPC 3, PC 2,3,4
1	PET411	Reservoir rock properties	1	B	5	150	2/1/0	105	E	GPC 3, PC 2,3
1	PET409	Thermodynamics and heat engineering	2	B	5	150	1/0/2	105	E	GPC 3, PC 1
1	PET410	Fluid mechanics	2	B	5	150	1/1/1	105	E	GPC 3, PC 2,3
1	GEO486	Geology of oil and gas	2	B	5	150	2/1/0	105	E	GPC 3,4 PC 2,3,4,5,7
2	PET412	Oil and gas well drilling	3	B	5	150	2/1/0	105	E	GPC 4, PC 2,3,4
2	PET415	Revervoir fluid propeties	3	B	5	150	2/1/0	105	E	GPC 3, PC 2,3
2	PET416	Revervoir engineering I: Primary recovery	3	B	5	150	1/0/2	105	E	PC 1,2,4,5,8
2	PET418	Petroleum Engineering seminar	3	B	5	150	2/1/0	105	E	PC 1,2,4,5,8
2	PET422	Revervoir engineering II: Secondary and tertiary recovery	4	B	5	150	1/0/2	105	E	PC 1,2,4,5,8
2	PET424	Well log analysis	4	B	5	150	2/1/0	105	E	PC 1,2,3
<b>Professional activity module</b>										
<b>University component</b>										
2	PET426	Well completion	4	S	5	150	2/0/1	105	E	GPC 3,4 PC 2,3,4,5,7
2	PET425	Petroleum Production Engineering	4	S	5	150	1/1/1	105	E	GPC 3,4 PC 2,3,4,5,7
3	PET436	Economic evaluation of oil and gas projects	5	S	5	150	1/0/2	105	E	GPC 1,3,4 PC 1,2,5,7
3	PET435	Oil and gas facilities design and operation	5	S	5	150	1/0/2	105	E	GPC 4, PC 2,3,4
3	PET441	Multidisciplinary petroleum project	6	S	5	150	2/1/0	105	E	GPC 3,4 PC 2,5,7,8
<b>Component of choice</b>										
2	PET417	Petroleum regulations and practices	3	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 gfs pipelines					1/0/2			GPC 4, PC 2,3,4
2	PET421	Reservoir geomechanics	4	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
3	PET437	Well stimulation	5	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
3	PET432	Directional drilling	5	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
3	PET442	Well testing	5	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
3	PET438	Development of offshore fields	6	S	5	150	1/0/2	105	E	GPC 3,4 PC 1,2,5
	PET419	Corrosion protection of oil abd gas equipment					2/0/1			GPC 2,4, PC 2
	PET429	Multiphase flow systems					1/0/2			GPC 2,3, PC 5,6

Practice-oriented module										
Required component										
1	AAP141	Production practice I	2		4					GPC 1-4, PC 1-8
2	AAP166	Production practice II	4		8					GPC 1-4, PC 1-8
Module of final certification										
Required component										
	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
Module of additional types of training										
Component of choice										
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		
	mandatory	elective	Total
Cycle of general education disciplines	30		30
Cycle of basic disciplines	79		79
Cycle of profile disciplines	33	30	63
<i>Total for theoretical training:</i>	<i>142</i>	<i>30</i>	<i>172</i>
Final certification	12	0	12
<b>total:</b>	<b>154</b>	<b>30</b>	<b>184</b>

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

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

Vice-Rector for Academic Affairs

B.A.Zhautikov

Director of the Institute

A.H. Syzdykov

Head of the Department "Petroleum engineering"

G.Zh.Yeligbayeva

Representative of the Specialty Council from employers

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