



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: 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	SKS (including SRSP) in hours	Form of control	Competencies
Language Training module										
Required component										
1	LNG108	English language	1	G	5	150	0/0/3	105	E	GC 1,3,5,6,7,8
1	LNG108	English language	2	G	5	150	0/0/3	105	E	GC 1,3,5,6,7,8
1	LNG104	Kazakh (Russian) language	1	G	5	150	0/0/3	105	E	GC 1,3,5,6,7,8
1	LNG104	Kazakh (Russian) language	2	G	5	150	0/0/3	105	E	GC 1,3,5,6,7,8
Module of social disciplines										
Required component										
1	KFK101	Physical Culture I	1	G	2	60	0/0/2	30	E	
1	KFK102	Physical Culture II	2	G	2	60	0/0/2	30	E	
2	KFK103	Physical Culture III	3	G	2	60	0/0/2	30	E	
2	KFK104	Physical Culture IV	4	G	2	60	0/0/2	30	E	
1	HUM100	Modern History of Kazakhstan (state exam)	2	G	5	150	1/0/2	105	E	GC 4,8
2	HUM132	Philosophy	3	G	5	150	1/0/2	105	E	GC 4,8
2	CHE452	Ecology sustainable development	4	G	2	60	1/0/0	45	E	GC 3,4,5,7
2	CHE451	Life safety	3	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
Socio-political knowledge module										
Required component										
1	HUM129	Cultural studies	1	G	2	60	1/0/0	45	E	GC 4,8
2	HUM122	Psychology	3	G	2	60	1/0/0	45	E	GC 4,8
2	HUM127	Sociology	4	G	2	60	1/0/0	45	E	GC 4,8
1	HUM128	Political Science	2	G	2	60	1/0/0	45	E	GC 4,8
Module of physical and mathematical training, computer science and chemistry										
University component										
1	MAT101	Mathematics I	1	B	5	150	1/0/2	105	E	GPC 1,2
1	PHY111	Physics I	1	B	5	150	1/1/1	105	E	GPC 3
1	MAT102	Mathematics II	2	B	5	150	1/0/2	105	E	GPC 1,2
1	PHY464	Electromagnetism Optics	2	B	5	150	1/1/1	105	E	GPC 3
2	MAT103	Mathematics III	3	B	5	150	1/0/2	105	E	GPC 1,2
1	CHE495	General chemistry	2	B	5	150	1/1/1	105	E	GPC 3
2	CSE677	Information and communication technologies	4	G	5	150	2/1/0	105	E	GPC 1,2
Module of basic general technical training										
University component										
1	GEN177	Engineering and computer graphics	1	B	5	150	1/1/1	105	E	GPC 1,2,4
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	PET408	Solving the problems of oil and gas engineering	3	B	5	150	1/0/2	105	E	GPC 3, PC 1,2
2	PET411	Reservoir rock properties	4	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	GEO487	Geology and mineral resources of Kazakhstan	4	B	5	150	2/1/0	105	E	GPC 2,3,4, PC 2,5,7
3	PET412	Oil and gas well drilling	5	B	5	150	2/1/0	105	E	GPC 4, PC 2,3,4
3	PET415	Revervoir fluid propeties	5	B	5	150	2/1/0	105	E	GPC 3, PC 2,3
3	PET416	Revervoir 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
3	PET455	Fundamentals of Data Analytics and Programming for Petroleum Engineers	6	B	5	150	1/1/1	105	E	GPC 2,3,4 PC 1,2,3
Professional activity module										
University component										
1	PET103	Introduction to Major	1	S	5	150	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

Component of choice										
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
4	PET437	Well stimulation	7	S	5	150	2/0/1	105	E	GPC 2, PC 1,2,3,4
	PET433	Flow assurance					1/0/2			GPC 2,3 PC 1,2,3,5,6
	PET431	Reservoir 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
	PET421	Reservoir geomechanics					2/0/1			GPC 2,3, PC 3,4,5,7
	PET423	Geostatistics					2/0/1			GPC 2,3, PC
	PET428	Design and operation of pump and compressor stations					1/0/2			GPC 4, PC 2,3,4,8
	PET429	Multiphase flow systems					1/0/2			GPC 2,3, PC 5,6
Practice-oriented module										
Required component										
1	AAP149	Educational practice	2		3					GPC 1-4, PC 1-8
2	AAP141	Production practice I	4		4					GPC 1-4, PC 1-8
3	AAP176	Production practice II	6		5					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			58		58					
Cycle of basic disciplines			97	15	112					
Cycle of profile disciplines			25	35	60					
Total for theoretical training:			180	50	230					
Final certification			12	0	12					
total:			192	50	242					

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

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Head of the Department "Petroleum engineering"

G.Zh.Yeligbayeva

Representative of the Specialty Council from employers

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