



APPROVED
Chairman of the Board – Rector of KAZNRTU named after K.I.Satbayev

M.M. Begentayev

2020

WORKING EDUCATIONAL PLAN

for 2021-2022 academic year admission

Educational program 6B07204 - "Petroleum Engineering"
Group of Educational programs 6B071 - Mining and extraction of minerals"

Full-time study

Study duration : 4 years

Academic degree: bachelor of engineering and technology

Year of study	Code	Name of discipline	Cycle	Total amount in loans	Total hours	classroom volume lec/lab/pr	SRS (including SISRP) in hours	pre-requisites	Code	Name of discipline	Cycle	Total amount in loans	Total hours	classroom volume lec/lab/pr	SRS (including SISRP) in hours	pre-requisites	
																	1st semester (Fall 2021)
1	LNG108	English	G	5	150	0/0/3	105	Diagnostic test	LNG108	English	G	5	150	0/0/3	105	yes	
	LNG104	Kazakh (Russian) language	G	5	150	0/0/3	105	Diagnostic test	LNG104	Kazakh (Russian) language	G	5	150	0/0/3	105	yes	
	PET103	Introduction to Major	G	5	150	1/1/1	105	no	HUM100	Contemporary history of Kazakhstan	G	5	150	1/0/2	105	yes	
	PHY111	Physics I	B	5	150	1/1/1	105	no	PHY464	Electromagnetism, Optics.	B	5	150	1/1/1	105	PHY111	
	MAT101	Mathematics I	B	5	150	1/0/2	105	no	MAT102	Mathematics II	B	5	150	1/0/2	105	MAT101	
	GEN177	Engineering and computer graphics	B	5	150	1/1/1	105	no	HUM128	Political science	G	2	60	1/0/0	45	no	
	HUM129	Culturology	G	2	60	1/0/0	45	no	CHEE495	Chemistry	B	5	150	1/1/1	105	no	
	KFK101	Physical training I	G	2	60	0/0/2	30	no	KFK102	Physical training II	G	2	60	0/0/2	30	KFK101	
	Total:					34				Total:					34		
	2	3th semester (Fall 2022)								4th semester (Spring 2023)							
HUM132		Philosophy	G	5	150	1/0/2	105	no	CSE677	Information and Communication Technologies (eng)	G	5	150	2/1/0	105	no	
CHE451		Life safety	G	2	60	1/0/0	45	no	HUM127	Sociology	G	2	60	1/0/0	45	no	
MAT103		Mathematics III	B	5	150	1/0/2	105	MAT102	CHE452	Ecology and sustainable development	G	2	60	1/0/0	45	no	
HUM122		Psychology	G	2	60	1/0/0	45	no	PET411	Reservoir rock properties	B	5	150	2/1/0	105	no	
MNG487		Fundamentals of Entrepreneurship, Leadership, and anti-corruption culture	G	3	90	1/0/1	60	no	PET409	Thermodynamics and heat engineering	B	5	150	1/0/2	105	PHY112	
GEN408		Strength of materials	B	5	150	1/1/1	105	PHY112	PET410	Fluid mechanics	B	5	150	1/1/1	105	no	
CHE559		Chemistry of oil and gas	B	5	150	2/1/0	105	CHE192	GEO487	Geology and mineral resources of Kazakhstan	B	5	150	2/1/0	105	no	
PET408		Solving the problems of oil and gas engineering	B	5	150	1/0/2	105	no	KFK104	Physical training IV	G	2	60	0/0/2	30	AAP122	
KFK103		Physical training III	G	2	60	0/0/2	30	KFK102	Total:					31			
3	5th semester (Fall 2023)								6th semester (Spring 2024)								
	PET412	Oil and gas well drilling	B	5	150	2/1/0	105	no	PET422	Reservoir engineering II: Secondary and tertiary recovery	B	5	150	1/0/2	105	PET124	
	PET415	Reservoir fluid properties	B	5	150	2/1/0	105	PET133	PET424	Well log analysis	B	5	150	2/1/0	105	PET176	
	PET416	Reservoir engineering I: Primary recovery	B	5	150	1/0/2	105	no	PET426	Well completion	S	5	150	2/0/1	105	PET101	
	PET418	Petroleum Engineering seminar	B	5	150	2/1/0	105	no	PET425	Petroleum Production Engineering	S	5	150	1/1/1	105	PET103	
	3302	ELECTIVE	S	5	150		105	no	PET455	Fundamentals of Data Analytics and Programming for Petroleum Engineers	B	6	180	1/1/1	150	no	
	Total:					25			Total:					26			
4	7th semester (Fall 2024)								8th semester ((Spring 2025)								
	4305	ELECTIVE	S	5	150		105	no	ECA003	Preparation for diploma project	FA	6					
	4306	ELECTIVE	S	5	150		105	no	ECA103	Diploma project defense	FA	6					
	4307	ELECTIVE	S	5	150		105	no	PET441	Multidisciplinary petroleum project	S	5	150	2/1/0	105	no	
	PET436	Economic evaluation of oil and gas projects	S	5	150	1/0/2	105	no	4311	ELECTIVE	S	5	150		105	no	
	PET435	Oil and gas facilities design and operation	S	5	150	1/0/2	105	PET134	Total:					22			

Year of study	Code	Name of discipline	Cycle	Credits	Semester
1	AAP149	Study internship (B)	B	3	2
2	AAP141	Industrial Internship I (П)	B	4	4
3	AAP176	Industrial Internship II (П)	S	5	6
Additional academic elements					
1	AAP107	Sectional sports club	G	0	5-7
2-3	AAP500	Military training	G	0	3-6

Cycle of disciplines	Credits		
	Compu- tary	additi- onal	total
Cycle of general disciplines (G)	58	0	58
Cycle of basic disciplines (B)	112	0	112
Cycle of special disciplines (S)	35	25	60
Total of theoretical study :	205	25	230
Final attestation (FA)	12	0	12
Total:	217	25	242

Decision of Academic council of KAZNRTU named after K.I.Satbayev. Minutes №3, 25.06, 2021

Decision of Board of Studies of Institute. Minutes №5, 24.12, 2020

Vice-Rector for Academic Affairs

Director of the Institute

Head of the "Petroleum Engineering" department

Representative of Specialty Council



B.A. Zhautikov

A.H. Syzdykov

G. Yeligbayeva

N.A. Nysangaliev





SATBAYEV
UNIVERSITY

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



APPROVED
Director of the Institute of Geology, Petroleum, and Mining Engineering
A.Kh. Syzdykov
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MAJOR ELECTIVE DISCIPLINES for 2021-2022 academic year admission
Educational program 6B07204 - "Petroleum engineering"
Group of educational programs 6B071 - "Mining and mining"

Year of study	Elective code	Code	Name of course	Component	credit	lec/ lab/pr	Prerequisites
5th semester							
3	3302	PET417	Petroleum regulations and practices	S	5	2/0/1	no
		PET114	Drilling solutions			2/0/1	PET112
		PET420	Natural gas engineering			2/0/1	PET133
		PET427	Design and operation of oil and gas pipelines			1/0/2	no
Total:					5		
7th semester							
4	4305	PET437	Well stimulation	S	5	2/0/1	PET124
		PET433	Flow assurance			1/0/2	PET124
		PET431	Reservoir engineering III: reservoir simulation			2/0/1	PET125
	4306	PET432	Directional drilling	S	5	2/0/1	PET101
		PET434	Design and operation of oil and gas storages			1/0/2	PET 172
		PET439	Artificial lift systems			1/1/1	PET125
	4307	PET442	Well testing	S	5	2/1/0	PET133
		PET440	Well workover			2/0/1	PET101
		PET430	Computer - aided design			2/0/1	AUT109
		Total:					15
8th semester							
4	4311	PET438	Development of offshore fields	S	5	1/0/2	PET134
		PET419	Corrosion protection of oil and gas equipment			2/0/1	no
		PET421	Reservoir geomechanics			2/0/1	PET101
		PET423	Geostatistics			2/0/1	no
		PET428	Design and operation of pump and compressor stations			1/0/2	no
		PET429	Multiphase flow systems			1/0/2	PET124
Total:					5		

Credits numbers of elective disciplines over the entire period of study	
Cycle of disciplines	credits
Cycle of general disciplines (G)	0
Cycle of basic disciplines (B)	0
Cycle of special disciplines (S)	25
Total:	25

By the decision of the Academic Council of the Institute Minutes No 5, dated 26.12 2020

Head of the "Petroleum Engineering" department

G. Yeligbayeva

Representative of Specialty Council

N.A. Nysangaliev