



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



APPROVED
Chairman of the Board – Rector of KAZNRTU named after K.I.Satbayev
M.M. Begentayev
20__ г.

WORKING EDUCATIONAL PLAN
for 2020-2021 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 admission	Code	Name of discipline	Cycle	1st semester (Fall 2020)			SRS (including SRSPr) in hours	pre-requisites	Code	Name of discipline	Cycle	2 semester (весна 2021)			SRS (including SRSPr) in hours	pre-requisites
				Total amount in loans	Total hours	classroom volume lec/lab/pr						Total amount in loans	Total hours	classroom volume lec/lab/pr		
1	LNG 1051	Beginner (A1)	O	6	180	0/0/3	135	Diagnostic test	LNG 1052	Elementary English (A1)	O	6	180	0/0/3	135	LNG 1051
	LNG 1052	Elementary English (A1)							LNG 1052							
	LNG 1053	General English 1 (A2)							LNG 1053							
	LNG 1054	General English 2 (A2)							LNG 1054							
	LNG 1055	Academic English (B1)							LNG 1055							
	LNG 1056	Business English (B2)							LNG 1056							
	LNG1012	Kazakh/Russian (A2)	O	4	120	0/0/2	75	Diagnostic test	LNG102.1	Academic Kazakh/Russian (B1)	O	6	180	0/0/3	135	LNG1012.1
	LNG1012.1	Academic Kazakh/Russian (B1)							LNG1012.1							
	LNG1012.2	Business Kazakh/Russian (B2)							LNG1012.2							
	PHY110	Introduction to Physics	B	6	180	1/1/1	105	Diagnostic test	PHY111	Physics I	B	6	180	1/1/1	105	PHY110
	PHY111	Physics I	B	6	180	1/1/1	105	Diagnostic test	PHY112	Physics II	B	6	180	1/1/1	105	PHY111
MAT00110	Algebra and introduction to calculus	B	6	180	1/0/2	105	Diagnostic test	MAT101	Mathematics I	B	6	180	1/0/2	105	MAT100	
MAT101	Mathematics I	B	6	180	1/0/2	105	Diagnostic test	MAT102	Mathematics II	B	6	180	1/0/2	105	MAT101	
HUM113	Contemporary history of Kazakhstan	O	6	180	1/0/2	105	no	CHE192	Chemistry	B	6	180	2/1/0	105	no	
PET103	Introduction to Major	S	6	180	1/1/1	105	no	GEN128	Theoretical mechanics	B	6	180	2/0/1	105	no	
KFK101	Physical training I	O	4	120	0/0/2	30	no	KFK102	Physical training II	O	4	120	0/0/2	30	no	
Total:								Total:								
2	3th semester (Fall 2021)								4th semester (Spring 2022)							
	HUM132	Philosophy	O	5	180	2/0/1	105	no	HUM126	Social-political knowledge	O	8	240	4/0/0	180	no
	GEN408	Strength of materials	B	5	180	2/1/0	105	PHY112	GEO486	Geology of oil and gas	B	5	150	2/1/0	105	no
	MAT102	Mathematics II	B	5	180	1/0/2	105	Mat 101	CSE677	Information and Communication Technologies	O	5	150	2/1/0	105	no
	MAT103	Mathematics III	B	5	180	1/0/2	105	Mat 102	PET409	Thermodynamics and heat engineering	B	5	150	1/0/2	105	PHY112
	CHE559	Chemistry of oil and gas	B	5	180	2/1/0	105	CHE192	PET410	Fluid mechanics	B	5	150	1/1/1	105	no
PET411	Reservoir rock properties	B	5	180	2/1/0	105	no	GEO482	General and structural geology	B	5	150	2/1/0	105	no	
Total:								Total:								
3	5th semester (Fall 2022)								6th semester (Spring 2023)							
	MNG487	Fundamentals of Entrepreneurship, Leadership, and anti-corruption culture	O	3	90	1/0/1	60	no	CHE451	Ecology and sustainable development	O	2	60	1/0/0	45	no
	PET412	Oil and gas well drilling	B	5	150	2/1/0	105	no	CHE452	Life safety	O	2	60	1/0/0	45	no
	PET415	Revervoir fluid properties	B	5	150	2/1/0	105	PET133	3303	ELECTIVE	S	5	150		no	
	PET416	Revervoir 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		no	PET422	Revervoir engineering II: Secondary and tertiary recovery	B	5	150	1/0/2	105	PET124		
Total:								Total:								
4	7th semester (Fall 2023)								8th semester (Spring 2024)							
	4306	ELECTIVE	S	5	150		no	ECA003	Preparation for diploma project	FA	6					
	4307	ELECTIVE	S	5	150		no	ECA103	Diploma project defense	FA	6					
	4308	ELECTIVE	S	5	150		no	PET113	Multidisciplinary petroleum project	S	5	150	2/1/0	105	no	
	PET111	Economic evaluation of oil and gas projects	S	5	150	1/0/2	105	no	4312	ELECTIVE	S	5	150		no	
	PET435	Oil and gas facilities design and operation	S	5	150	1/0/2	105	PET134	Total:							
Total:								Total:								

Year of admission	Code	Name of discipline	Cycle	Credits	Semester	Total number of credits				
						Cycle of disciplines		Credits		
Obligatory academic elements with P/NP assessment						compul.	sary	additio	nal	total
1	AAP161	Study internship (B)	B	2	2					
2	AAP141	Industrial Internship I (П)	B	4	4					
3	AAP166	Industrial Internship II (П)	П	8	6					
Additional academic elements										
1	AAP107	Sectional sports club	O	0	5-7					
2-3	AAP500	Military training	B	0	3-6					
Total of theoretical study:						206	36	242		
Final attestation (FA)						12	0	12		
OVERALL:						218	36	254		

Decision of Academic council of KAZNRTU named after K.I.Satbayev. Minutes № 3, 25.06, 2020

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

MINISTRY OF EDUCATION AND SCIENCE OF THE REPUBLIC OF KAZAKHSTAN
SATPAYEV UNIVERSITY



APPROVED
Director of the Institute of Geology, Petroleum, and Mining Engineering
A.Kh. Syzdykov
2020

MAJOR ELECTIVE DISCIPLINES for 2020-2021 academic year admission

Petroleum Engineering (within 6B072 Production and processing industries)

Full-time study

Study duration : 4 years

Academic degree: bachelor of engineering and technology

year of study	Elective code	Code	Name of course	Component	credit	lec/ lab/pr	Prerequisites	
2th semester								
1	1106	LNG109	ELTS Preparation	G	6	0/0/3	LNG 1056	
		LNG110	intercultural Communication					
		LNG117	Technical Writing					
		LNG118	Public speaking					
		LNG119	Productivity skills					
		LNG120	GRE preparation					
		LNG121	Academic Writing					
Total:					6			
5th semester								
3	3302	PET417	Petroleum regulations and practices	S	5	2/0/1	no	
		PET414	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	
6th semester								
3	3303	PET421	Reservoir geomechanics	S	5	2/0/1	PET101	
		PET423	Geostatistica			2/0/1	no	
		PET428	Design and operation of pump and compressor stations			1/0/2	no	
		Total:					5	
7th semester								
4	4306	PET187	Well stimulation	S	5	2/0/1	PET124	
		PET431	Revervoir engineering III: reservoir simulation			2/0/1	PET125	
	4307	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	
	4308	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							
	4312	PET438	Development of offshore fields	S	5	1/0/2	PET 134	
		PET419	Corrosion protection of oil abd gas equipment			2/0/1	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)	6
Cycle of basic disciplines (B)	0
Cycle of special disciplines (S)	30
Total:	36

By the decision of the Academic Council of the Institute Minutes No 5, dated 12.12.2020

Head of the "Petroleum Engineering" department

G. Yeligbayeva

Representative of Specialty Council

N.A. Nysangaliev