

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

2021 r.

WORKING EDUCATIONAL PLAN

for 2019-2020 academic year admission

Educational Program 6B07204 - "Petroleum engineering"

Educational Program Group 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 disciplines	Cycle	Total credits	Total hours	classroom volume lx / lab / pr/ISW	ISW in hours	prerequisite
1 semester (Fall 2019)								
1	LNG 1051	Beginner (A1)	G	6	180	0/0/3	135	Diagnostic Test
	LNG 1052	Elementary English (A1)						
	LNG 1053	General English 1 (A2)						
	LNG 1054	General English 2 (A2)						
	LNG 1055	Academic English (B1)						
	LNG 1056	Business English (B2)						
	LNG 101	Kazakh (Russian) language	G	4	120	0/0/2	75	Diagnostic Test
	LNG 106	Business Kazakh (Russian) B2						
	SAF104	Industrial ecology and operational safety	B	6	180	1/0/2	135	No
	PHY110	Introduction to Physics	B	6	180	1/1/1	135	Diagnostic Test
	PHY111	Physics I						
	MAT100	Algebra and mat. analysis	B	6	180	1/0/2	135	Diagnostic Test
	MAT101	Mathematics I						
	AAP122	Physical training I	G	2	60	0/0/2	30	
	PET103	Introduction to Major	S	6	180	1/1/1	135	No
Total:				36				
2 semester (Spring 2020)								
	LNG 1052	Elementary English (A1)	G	6	180	0/0/3	135	LNG 1051
	LNG 1053	General English 1 (A2)						
	LNG 1054	General English 2 (A2)						
	LNG 1055	Academic English (B1)						
	LNG 1056	Business English (B2)						
	LNG 1057	Professional English (B2+)	G	4	120	0/0/2	135	LNG 1056
	LNG101	Kazakh (Russian) language						
	LNG106	Business Kazakh (Russian) B2	G	6	180	1/0/2	135	LNG 101
	HUM113	Contemporary history of Kazakhstan						
	PHY111	Physics I	B	6	180	1/1/1	135	PHY110
	PHY112	Physics II						
	MAT101	Mathematics I	B	6	180	1/0/2	135	No
	MAT102	Mathematics II						
	AAP118	Physical training II	G	2	60	0/0/2	30	
	CHE558	Chemistry	B	6	180	2/1/0	135	No
	GEO116	General and structural geology	B	6	180	2/1/0	135	No
Total:				42				
3 semester (Fall 2020)								
2	LNG 1053	General English 1 (A2)	G	6	180	0/0/3	135	LNG 1052
	LNG 1054	General English 2 (A2)						
	LNG 1055	Academic English (B1)						
	LNG 1056	Business English (B2)						
	LNG 1057	Professional English (B2+)						
	HUM124	Philosophy	G	6	180	2/0/1	135	No
	GEO104	Strength of materials	B	6	180	2/1/0	135	PHY112
	MAT102	Mathematics II	B	6	180	1/0/2	135	MAT101
	MAT103	Mathematics III						
	ELC103	Electrotechnics and microelectronics	B	6	180	2/1/0	135	PHY112
3	CHE539	Chemistry of oil and gas	B	6	180	2/1/0	135	CHE558
	AAP122	Physical training III	G	2	60	0/0/2	30	
	Total:				38			
	5 semester (Fall 2021)							
	3302	Elective	S	5	150			No
	PET412	Oil and gas well drilling	B	5	150	2/1/0		No
	PET415	Reservoir fluid properties	B	5	150	2/1/0		PET133
	PET416	Reservoir engineering I: Primary recovery	B	5	150	1/0/2		No
	PET411	Reservoir rock properties	B	5	150	2/1/0		PET112
	HUM126	Social-political knowledge	G	8	150	4/0/0		No
	Total:				33			
	7 semester (Fall 2022)							
4	4306	Elective	S	5	150			No
	4307	Elective	S	5	150			No
	4308	Elective	S	5	150			No
	PET111	Economic evaluation of oil and gas projects	S	5	150	1/0/2	105	No
	PET435	Oil and gas facilities design and operation	S	5	150	1/0/2	105	PET134
	Total:				25			
	8 semester (Spring 2023)							
	ECA003	Preparation for diploma project	FA	6				
	ECA103	Diploma project defense	FA	6				
	4311	Elective	S	5	150			No
	PET441	Multidisciplinary petroleum project	S	5	150	2/1/0	105	No
	Total:				22			

Year of study	Code	Name of discipline	Cycle	Credits	Semester
Obligatory academic elements with P/NP assessment					
1	AAP101	Study Internship (B)	B	2	2
2	AAP141	Industrial Internship I (I)	B	4	4
3-4	AAP166	Industrial Internship II (II)	S	8	6
Additional academic elements					
1	AAP107	Sectional sports club	G	0	5-7
2-3	AAP500	Military training	G	0	3-6

Total number of credits			
Cycle of disciplines		Credits	
		comput- sary	total
Cycle of general disciplines (G)		60	66
Cycle of basic disciplines (B)		131	131
Cycle of special disciplines (S)		39	69
Total of theoretical study:		230	266
Final attestation (FA)		12	12
Overall		242	278

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

Decision of Board of Studies of Institute. Minutes No 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

APPROVED
Director of the Institute of Geology, Petroleum,
A.Kh. Svzykov
2020

MAJOR ELECTIVE DISCIPLINES for 2019-2020 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
2	2111	LNG109	IELTS 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		
3	3302	PET417	Petroleum regulations and practices	S	5	2/0/1	no
		PET414	Drilling solutions			2/0/1	PET112
		PET419	Corrosion protection of oil abd gas equipment			2/0/1	no
		PET420	Natural gas engineering			2/0/1	PET133
		PET427	Design and operation of oil and gfs pipelines			1/0/2	no
	Total:				5		
	3305	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		
4	4306	PET437	Well stimulation	S	5	2/0/1	PET124
		PET433	Flow assurance			1/0/2	PET124
		PET431	Revervior 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		
4311	PET438	Development of offshore fields	S	5	1/0/2	PET 134	
	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 № 5, dated 24/12/2020

Head of the "Petroleum Engineering" department

Representative of Specialty Council

G. Yeligbayeva

N.A. Nysangaliev