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

SATBAYEV UNIVERSITY

APPROVED
Vice-rector of Satpayev University
_____ R.M. Iskakov
"___" _____ 201_

MAJOR ELECTIVE DISCIPLINES for 2019-2020 academic year admission

6B071109 - Operational Service Engineering

Full-time study | Study duration : 4 years | Academic degree: bachelor of engineering and technology

Year of study	Code of elective	Code of discipline	Name of discipline	Cycle	Credits	lec/lab/pr	Prerequisites
			2nd semesterp (Spring 2020)				
1	1101	LNG102.1-2	Culture of business communication (C1)	G	2	0/0/2	LNG101
		LNG103.1-2	Rhetoric (C1)				
			Total:		2		
			3rd semester (autumn 2020)				
2	2102	LNG109	IELTS Preparation	G	3	0/0/3	LNG 1056
		LNG110	Intercultural Communication				
		LNG117	Technical Writing				
		LNG118	Public speaking				
		LNG119	Productivity skills				
		LNG120	GRE preparation				
		LNG121	Academic Writing				
			Total:		3		
			4th semester (Spring 2021)				
	2103	LNG109	IELTS Preparation	G	3	0/0/3	LNG 1056
		LNG110	Intercultural Communication				
		LNG117	Technical Writing				
		LNG118	Public speaking				
		LNG119	Productivity skills				
		LNG120	GRE preparation				
		LNG121	Academic Writing				
	2215	PED114	Computer-aided design of technological machines	B	3	1/0/2	GEN125
		TEC118	Calculation and design of technological machines and equipment			1/0/2	GEN125
		PED440	Simulation of welded structures			1/0/2	GEN125
			Total:		3		
			5th semester (autumn 2021)				
	3218	TEC105	Mining machines and equipment	B	3	2/1/0	PHY112
		PED441	Theory of welding processes			2/0/1	TEC193
		TEC153	Tool base of metallurgical enterprises			2/0/1	PED435
		TEC148	Fuels, oils and special liquids			2/1/0	PHY112, GEN125
		PED414	Friction and wear			2/0/1	GEN125, GEN104
	3301	TEC108	Pumps, fans, compressors	S	3	2/0/1	PHY112
		TEC191	Drives of technological machines			2/0/1	PHY112
		PED442	Inverter technologies in welding production			2/1/0	PED435
		TEC155	Technological processes in the oil and gas industry			2/0/1	PHY112, GEN104
		TEC156	Technology of drilling wells and oil and gas production			2/0/1	PHY112, GEN104
	3302	MIN414	Development of mineral deposits	S	3	2/0/1	PHY112
		MIN173	Mining technology			1/0/2	PHY112
		TEC112	Equipment for ore preparation			2/1/0	TEC193
		PED443	Welding power sources			2/1/0	PED435
		PED444	Thermodynamics and heat transfer in technological processes of the oil and gas industry			2/1/0	MAT102, PHY112
			Total:		9		
			6th semester (Spring 2022)				
	3219	MIN407	Open-cast mining technology	B	3	2/0/1	PHY112
		PED175	Auxiliary transport equipment of metallurgical workshops			2/0/1	PHY112
		PED106	Welding materials			2/1/0	PED104
		PED445	Fundamentals of Research and Development			2/0/1	MAT102, PHY112
		PED446	Fundamentals of the theory of reliability of machines and mechanisms			2/0/1	MAT102, PHY112
	3305	TEC121	Transportation machines	S	3	2/1/0	PHY112
		PED430	Technique of field experiment			2/1/0	TEC193
		PED447	Maintenance and service work in the welding industry			2/0/1	PED435
		TEC104	Drilling machines and complexes			2/0/1	PHY112, GEN104
		TEC131	Machines and equipment for drilling oil and gas wells at sea			2/0/1	PHY112, GEN104
	3306	TEC169	Drives of mining machines and fixed installations	S	3	2/0/1	GEN146
		TEC141	The equipment of metallurgical shops			2/0/1	TEC112
		PED448	Technological equipment welding			2/0/1	PED435
		PED190	Internal combustion engines			2/0/1	GEN104
		PED191	Gas-pumping units			2/0/1	MAT102, PHY112
		PED192	Gas turbine plants			2/0/1	MAT102, PHY112
			Total:		9		
			7th trimester (autumn 2022)				
	4307	TEC177	Drain, fan and pneumatic installations	S	3	2/1/0	PHY112
		PED424	Gas-cleaning and dust-collecting equipment of metallurgical shops			2/0/1	TEC112
		PED449	Equipment and technology of fusion welding			2/1/0	PED435
		TEC109	Oil and gas field machines and mechanisms			2/0/1	PHY112, GEN104
		TEC133	Machines and equipment for oil and gas production at sea			2/0/1	MAT102, PHY112
	4308	MIN416	Burro-blasting works			2/0/1	PHY112
		MIN415	Technology of mine workings			2/0/1	PHY112
		PED184	Basics of maintenance of metallurgical equipment			2/0/1	
		PED450					

	[illegible]	Hydromachines and compressors in the oil and gas industry			2/0/1	PED413, PHY112
	TEC106	Machines and equipment for gas and oil pipelines			2/0/1	PED191
	TEC114	Lifting installations			2/1/0	PHY112
	TEC161	Dynamics of metallurgical machines			2/0/1	TEC112
	PED451	Mechanization and automation of work in the welding industry	S	3	2/0/1	PED435
	PED170	Calculation and design of drilling equipment			2/0/1	TEC104
	PED155	Calculation and design of oil and gas equipment			2/0/1	TEC118
	PED417	Automation and calculation of parameters of mining machines and fixed installations			2/0/1	GEN125
	PED452	Reliability of metallurgical machines			2/0/1	GEN125
310	PED453	Technology and equipment for resistance welding	S	3	2/1/0	PED435
	PED161	Operation and repair of oilfield machines and equipment			2/0/1	TEC178, TEC104
	PED458	Organization of repair and maintenance of oil and gas machines and equipment			2/0/1	PHY112, GEN104
		Total:		12		
		8th trimester (Spring 2023)				
	TEC152	Control and measuring equipment			2/0/1	PED413
	PED177	Designing of metallurgical machines			2/0/1	TEC141
311	PED150	Designing of welded designs	S	3	2/0/1	PED413
	PED157	Well overhaul equipment and installations			2/0/1	PHY112, GEN104
	PED454	Engineering and well workover technology			2/0/1	TEC134
	PED421	Construction of mining transport vehicles and fixed installations			2/1/0	TEC105
	TEC110	Equipment 3-5 redistribution			2/1/0	TEC141
312	PED119	Special welding and soldering methods	S	3	2/1/0	PED435
	PED193	Instrumentation and automation of technological machines			2/1/0	PED413
	PED455	Technical diagnostics and maintenance of oil and gas machines and equipment			2/0/1	GEN104, TEC104
	TEC123	Internship transport			2/0/1	TEC121
	PED151	Lubrication of metallurgical machines			2/1/0	TEC112
313	PED124	Welding quality control	S	3	2/1/0	PED435
	PED456	Energy-saving equipment and technologies in the oil and gas industry			2/0/1	PED192, TEC191
	PED457	Industrial safety in the oil and gas industry			2/0/1	TEC130
		Total:		9		

Credits numbers of elective disciplines over the entire period of study	
Cycles of disciplines	Credits
Cycle of general disciplines (G)	5
Cycle of basic disciplines (B)	9
Cycle of special disciplines (S)	33
TOTAL:	47

URRICULUM PROGRAM "Operational Service Engineering" approved by Rector of Satbayev University, Minutes №__, __.____.201__.
y the decision of the Academic Council Satbayev University. Minutes № 5, "27" 12. 2018.
y the decision of the Educational and Methodological Board of Satbayev University. Minutes №4, 15.01 .2019.
y the decision of Academic council of Mining and metallurgy institute named after O.A. Baykonurov. Minutes № 5. 21.12 2018

Chairman of the Academic Planning Committee

Director of Mining and metallurgy institute Z.S. Abisheva

Head of department "Technological machines and equipment" K.K. Yelemessov

Representative of Specialty council M.A. Kanatbaev