

JOINT STOCK COMPANY "ALT UNIVERSITY"
NAMED AFTER MUKHAMETZHAN TYNYSHPAYEV"



EDUCATIONAL PROGRAM

Name: «6B07131 – Linear pipelines»

Training level: Bachelor's degree

Code and classification of training directions: 6B071 - Engineering and engineering business.

Code and group of educational programs: B166 – Transport facilities.

Date of registration in the Register: 10.06.2021.

Registration number: 6B07100353

Almaty, 2024.

CONTENT

1. Information about consideration, approval and approval of the program, developers, experts and reviewers	3
2. Normative references	4
3. Passport of the educational program	5
4. Competence model of a graduate	6
5. Matrix for correlating learning outcomes in an educational program with academic disciplines/modules	9
6. The structure of the educational program of the bachelor's degree	11
7. Working curriculum for the entire period of study	12
8. Catalog of disciplines of the university component	14
9. Catalog of elective component disciplines	21
10. Expert opinions	28
11. Reviewer's Conclusion	30
12. Letters of recommendation	31
13. Review and approval protocols	32
14. Approval sheet	36
15. Change registration sheet	37

1. INFORMATION ABOUT CONSIDERATION, APPROVAL AND APPROVAL OF THE PROGRAM, DEVELOPERS, EXPERTS AND REVIEWERS

1 DEVELOPED:

Assistant Professor
(position)

Director of Scientific and Innovation
Center LLP

(position)

Associate Professor
(position)

Student gr. LT-21-1
(position)

2 EXPERTS:

Chief specialist of Volkovgeology JSO
(position)

Director of Nurly Kala 2030 LLP
(job title)

3 RECENSEE:

LLP "Research and Implementation"
Center "Almas" Senior Scientific
Employee Doctor of Technical Sciences
(position)

Chief Engineer of Nurly Kala 2030 LLP
(job title)

4 REVIEWED AND RECOMMENDED:

Meeting of the AC (department) "SI"
Protocol № 105, 2024

Meeting COC-UMB
Protocol № 70, 04.04.2024.

Meeting UMS
Protocol № 10, 24.04.2024.

5 APPROVED by the decision of the Academic Council of 25.04.2024 № 8
6 INTRODUCED 26.04.2024

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Zharmagambetova M.S.
(FULL NAME)

2. Normative references

1. The educational program has been developed on the basis of the following regulatory legal acts and professional standards:
2. The Law of the Republic of Kazakhstan "On Education" dated July 27, 2007 No. 319-III (with amendments and additions as of January 08, 2021).
3. The National Qualifications Framework approved by the Protocol of March 16, 2016 by the Republican Tripartite Commission on Social Partnership and Regulation of Social and Labor Relations.
4. The sectoral qualifications framework of the field of "Education", approved by the Minutes of the meeting of the sectoral Commission of the Ministry of Education and Science of the Republic of Kazakhstan on social partnership and regulation of social and labor relations in the field of education and science dated November 27, 2019 No. 3.
5. State mandatory standard of higher and Postgraduate education (Order of the Minister of Science and Higher Education of the Republic of Kazakhstan dated February 20, 2023 No. 66).
6. Qualification directory of positions of managers, specialists and other employees, approved by Order of the Minister of Labor and Social Protection of the Population of the Republic of Kazakhstan dated August 12, 2022 No. 309.
7. Rules organization of the educational process on credit technology of education in organizations of higher and (or) postgraduate education, approved by the Order of the Minister of the Ministry of Education and Science of the Republic of Kazakhstan No. 152 dated 20.04.2011. (with additions and amendments dated April 04, 2023 No. 145).
8. Classifier of training areas with higher and postgraduate education, approved by Order of the Minister of Education and Science of the Republic of Kazakhstan dated October 13, 2018 No. 569 (with amendments and additions as of June 05, 2020).
9. The algorithm of inclusion and exclusion of educational programs in the Register of educational programs of higher and postgraduate education, approved by the Order of the Minister of Education and Science of the Republic of Kazakhstan dated December 4, 2018 No. 665 (with additions and amendments as of December 23, 2020 No. 536).
10. RI-ALT-33 "Regulations on the procedure for development educational programs of higher and postgraduate education".

3. PASSPORT OF THE EDUCATIONAL PROGRAM

№	Field name	Примечание
1	Registration number	6B07100353
2	Code and classification of the field of education	6B07 Engineering, manufacturing and construction industries
3	Code and classification of training areas	6B071 – Engineering and Engineering
4	Code and group of the educational program (OP)	B166 Transport facilities
5	Name of the educational program (OP)	6B07131 – Линейные трубопроводы
6	Type of educational program (OP)	New
7	The purpose of the educational program (OP)	Training of professional personnel with theoretical and practical knowledge on the design, maintenance and repair of linear pipelines in the oil and gas industry.
8	Level according to the International Standard Classification of Education (ISCED)	6
9	National Qualification Framework (NQF) level	6
10	Level according to the Industry Qualification Framework (ORC)	6
11	Distinctive features of the educational program (OP)	No
	Partner university, joint educational program (SOP)	-
	Partner university, double-degree educational program (DDOP)	-
12	Form of training	Full-time, full-time with translation to
13	Language of instruction	Kazakh, Russian
14	Volume of loans	240
15	Academic degree awarded	Bachelor of Engineering and Technology in the educational program "6B07131 – Linear pipelines"
16	Availability of an application to the license for the direction of personnel training	KZ12LAA00025205 (005)
17	Availability of EP accreditation	Have
	Name of the accreditation body	Independent Agency for Quality Assurance in Education (IQAA)
	Validity of accreditation	28.05.2022 – 27.05.2027

4. COMPETENCE MODEL OF A GRADUATE

The purpose of the educational program: Training of personnel in demand in the labor market for the road industry for the operation of transport facilities, with innovative and professional competencies and skills to solve current and production problems.

Objectives of the educational program:

1. Formation of a person capable of professional activity to participate in the survey and design of highways and airfields, in the organization of works on the production of road-building materials, in the organization of works on the construction of highways and airfields, in the operation of highways and airfields.
2. Formation of the ability to carry out work on the continuation of the route on the ground and the restoration of the route in accordance with the project documentation; to maintain and execute the documentation of the survey party.
3. Formation of the ability: to design a route plan, longitudinal and transverse road profiles; to make technical and economic comparisons; to use modern computer equipment; to use personal computers and programs for them for the design of highways and airfields; to draw up design documentation; to navigate the main stages of preparing the field for development.
4. Formation of the ability to: reasonably choose the working schemes of mining equipment; establish the technological sequence of preparation of asphalt concrete, cement concrete and other mixtures according to the schemes; build, maintain and repair highways and airfields, independently form tasks and determine ways to solve them within professional competence; work with regulatory documents, standard design and technological documentation; use modern information technology;
5. Assistance in the formation of a graduate's readiness to: assess and analyze the condition of highways, airfields and their structures; develop a technological sequence of processes for the maintenance of various types of coatings and elements of road and airfield construction; perform calculations of the need for snow removal machines from highways and airfields and the distribution of deicing materials on them; develop a technological sequence of processes.
6. Formation of graduates' readiness to determine the types of work to be accepted and assess the quality of repair and maintenance, highways and airfields.
7. Assistance in the formation of graduates' readiness for the economical and safe use of natural resources, energy and materials in the design, construction, survey and design of highways and airfields

Результаты обучения

LO1 - Demonstrate knowledge of mathematical and physical methods, measurement of electrical quantities during the operation of transport infrastructure facilities.

LO2 - Apply the basic laws and theorems to create a physical and mathematical model of the process under study and methods in calculating the strength, stability and durability of transport structures.

LO3 - Choose building materials according to properties, conditions of use and purpose, granulometric composition and chemical properties for the design of strong, stable building structures with a long service life of oil and gas equipment, taking into account geological conditions and soil mechanics for a reliable foundation and foundations.

LO4 - To organize a geodetic survey of the route using the basics of geoinformatics, the design of transport structures, computer modeling, information and communication technologies with the consolidation of theoretical knowledge during practice and further use in the design of transport infrastructure facilities.

LO5 - To use knowledge of the legislation of the Republic of Kazakhstan and international regulatory documents on labor protection and environmental safety of life and the environment, in the field of modern resource-saving technologies for primary and secondary use of building materials.

LO6 - Calculate tasks of an economic, technological nature for a construction company by orienting in any economic situations and developing models of economic analysis, with an understanding of the essence and types of time management for data collection, in order to design interactive dashboards and multidimensional MDX factors and algorithms for projects in various areas of BI technology.

LO7 - Plan the construction of oil and gas infrastructure facilities using technologies for new and reconstruction of existing pipelines using modern methods.

LO8 - To develop survey works and projects of oil and gas pipeline systems using various methods of research and development in compliance with the fundamentals of law and the exclusion of corrupt matching and basic provisions of transport logistics systems, with the preparation of documents in the state, Russian, English languages (at the request of the customer).

LO9 - To develop survey works and projects of oil and gas pipeline systems using various methods of research and development in compliance with the fundamentals of law and the exclusion of corrupt matching and basic provisions of transport logistics systems, with the preparation of documents in the state, Russian, English languages (at the request of the customer).

LO10 - To justify the design of oil depots and gas tanks, oil storage facilities and gas storage facilities in connection with the construction and their planned operation, knowing the current state of pipeline transport.

LO11 - To predict the spiritual, moral and physical achievements of a person for setting and solving problems arising during the maintenance and repairs of oil and gas pipelines, using the ability to work in a team, team management and socio-psychological factors aimed at personal achievements of a person.

Field of professional activity: Oil and gas industry: design, repair, maintenance of linear pipelines.

objects of professional activity:

- local executive authorities in the oil and gas industry and their regional structures;
- organizations and enterprises of the oil and gas industry in the field of design, repair, maintenance of linear pipelines;
- organizations and enterprises in the field of manufacturing of building materials and structures for objects of the transport and communication complex.

Types of professional activity:

- production and technological;
- organizational and managerial;
- service and operational;
- project.

Functions of professional activity:

1) Organization of manufacturing materials and structures for transport and communication facilities; organization of design, maintenance and repair of linear pipelines; use of standard methods for calculating the reliability of linear pipeline structures.

2) Management of production processes, analysis of the results of production activities; management of work on the implementation of design and maintenance, repair of linear pipelines; technical diagnostics of oil and gas facilities, the use of measuring instruments; analysis and evaluation of production and non-production costs or resources for high-quality design, repair, maintenance of linear pipelines.

3) Development of new technologies, development of design and technological documentation using computer technology; calculation of strength and stability in various linear pipelines, development of projects for new and reconstruction (modernization) of existing linear pipelines; selection of materials for the manufacture of linear pipeline structures, justification of technical solutions; development of technical specifications and technical conditions for projects of new and reconstruction (modernization) of existing linear pipelines, linear pipeline structures,

technological processes of maintenance and repair of linear pipelines, design of new linear pipeline structures that meet the latest achievements of science and technology, safety requirements.

The list of specialist positions: Head of the Capital Construction Department, head of the production (technical, production and technical) department, head of the site (workshop), head of the logistics Department, Head of the Safety and Labor Protection Department, Head of the regulatory research Laboratory for Labor, Head of the tool Department, head of the production laboratory (production control), head of the quality control department, site foreman, construction foreman, work producer (foreman), master of industrial training, foreman, project manager, project manager, lead engineer, design engineer, process engineer (technologist), repair engineer, inventory engineer of buildings and structures, metrology engineer, labor organization engineer, labor rationing engineer, safety and labor protection engineer, environmental engineer (ecologist), laboratory engineer, engineer, chief specialist, leading specialist, specialist, design technician, site technician, process technician, inventory technician of buildings and structures, metrology technician, labor technician, technician, laboratory technician, laboratory assistant

Professional certificates obtained at the end of training: Pipeline installer, installer of main and linear pipelines, welder.

Requirements for the previous level of education: Secondary education, post-secondary education, technical and vocational education, higher education.

In the course of training, students undergo various types of professional practice:

- educational;
- production;
- production (pre-graduate).

Educational practice (geodetic)

The organization of educational practice is aimed at providing bachelors with familiarization with the fields of professional activity and training profiles, with the ability of geodetic survey of the terrain, forward and reverse course, leveling survey, reference to reference points, removal of points and elevations from the map, solving typical engineering and geodetic tasks, as well as departure to the branch of the department on the basis of LLP "Saulek SKB". The form of control is the protection of the report.

Production practice

The main objectives of industrial practice are: consolidation of theoretical knowledge and practical skills in the chosen educational program in production conditions, acquisition of organizational work experience, obtaining a working specialty, formation of practical skills and competencies in the process of mastering the bachelor's program. It is conducted in the practice bases at enterprises according to this educational program. The form of control is the protection of the report.

Pre-graduate/industrial practice

The purpose of the practice for bachelors is to ensure the relationship between the theoretical knowledge gained during the assimilation of the chosen educational program and practical activities. The objectives of this practice are to consolidate and deepen the theoretical knowledge gained by students in the learning process, to collect information for writing a final qualifying work, to study best practices at the enterprise, as well as to gain experience in independent research work, mastering various methods of scientific work. It is conducted in the practice bases at enterprises according to this educational program. The form of control is the protection of the report.

Final certification

The objectives of the thesis are to identify the degree of assimilation of the content of the educational program by the bachelor, to check his readiness for independent activity in the direction of the educational program, to consolidate and deepen practical work skills. It also provides for the passing of a comprehensive exam.

5. MATRIX OF CORRELATION OF LEARNING OUTCOMES ACCORDING TO THE EDUCATIONAL PROGRAM WITH ACADEMIC DISCIPLINES/MODULES

№	Name of the discipline	Number of credits	LO1	LO2	LO3	LO4	LO5	LO6	LO7	LO8	LO9	LO10	LO11
1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	History of Kazakhstan	5											+
2	Philosophy	5											+
3	Foreign language	10									+		
4	Kazakh (Russian) language	10									+		
5	Information and communication technologies	5				+							
Socio-political knowledge module		8											+
6	Sociology	2											+
7	Cultural studies	2											+
8	Political Science	2											+
9	Psychology	2											+
10	Physical Culture	8											+
11	Ecology and life safety	5					+						
12	Methods of scientific research	5									+		
13	Fundamentals of law and anti-corruption culture	5									+		
14	Fundamentals of Economics and Entrepreneurship	5						+					
15	Engineering Mathematics 1	6	+										
16	Engineering Mathematics 2	6	+										
17	Applied physics 1	4	+										
18	Applied Physics 2	5	+										
19	Construction Materials	6			+								
20	The engineering geodesy	6				+							
21	Building construction	6			+								
22	Electrical engineering and electronics fundamentals	6	+										
23	Occupational Safety and Health	6					+						
24	Computer and engineering modeling	6				+							
25	Fundamentals of Artificial Intelligence	3					+						
26	Educational practice (yearly)	2				+							
27	Theoretical mechanics	6		+									
28	Engineering mechanics 1			+									
29	Strength of materials	6		+									
30	Engineering mechanics 2			+									
31	Structural mechanics	6		+									
32	Engineering mechanics 3			+									
33	Basics of designing transport structures	6				+							
34	Introduction to the design of transport infrastructure facilities					+							
35	Geology, soil mechanics, bases and foundations	6			+								
36	Basics of geoinformatics				+								
37	Machinery and equipment for the construction and repair of oil and gas structures	6								+			

38	Mechanization of pipeline construction									+			
39	Managerial Economics	3						+					
40	Time management							+					
41	Basics of financial literacy	3						+					
42	Critical thinking							+					
43	Fundamentals of Oil and Gas Business	6			+								
44	Pipeline transport of oil and gas	6										+	
45	Operation of oil and gas storage facilities	6										+	
46	Design of oil and gas pipeline systems	6									+		
47	Maintenance and repair of oil and gas pipelines	6											+
48	Maintenance and repair of oil and gas storage facilities	6							+				
49	Industrial practice 1	3								+			
50	Industrial practice 2	4								+			
51	Technology of construction of oil and gas structures	6							+				
52	Pipeline construction technology								+				
53	Design of oil and gas storage facilities	6										+	
54	Design of oil depots and gas tanks											+	
55	Organization and planning of construction of transport facilities	6							+				
56	Organization of construction of transport infrastructure facilities								+				
57	Minor program 1	3					+						
58	Minor program 2	3						+					
59	Minor program 3	3						+					
60	final examination	8	+	+	+	+	+	+	+	+	+	+	+

6. STRUCTURE OF THE BACHELOR'S DEGREE PROGRAM

№ п/п	Name of cycles of disciplines	Total labor intensity	
		in academic hours	in academic credits
1	The cycle of general education disciplines (OOD)	1680	56
1)	is a mandatory component	1530	51
	History of Kazakhstan	150	5
	Philosophy	150	5
	Foreign language	300	10
	Kazakh (Russian) language	300	10
	Information and Communication Technologies (in English)	150	5
	Module of socio-political knowledge (sociology, political science, cultural studies, psychology)	240	8
	Physical Culture	240	8
2)	Component of choice	150	5
2	Cycle of basic disciplines (DB)	at least 5280	at least 176
1)	University component		
2)	Professional practice		
3	Cycle of profile disciplines (PD)		
1)	University component		
2)	Professional practice		
4	Additional types of training (DVO)		
1)	Component of choice		
5	Final certification		
1)	Writing and defending a thesis, graduation project, or preparing and passing a comprehensive exam	at least 240	at least 8
	Total	at least 7200	at least 240

7. WORKING CURRICULUM FOR THE ENTIRE PERIOD OF STUDY

JSC "ALT University named after Mukhametzhann Tynyshpayev"																											
SYLLABUS																											
The form of education: full-time			Direction of training: 6B071 – Engineering and engineering										APPROVED By decision of the Academic Council of ALT dated February 22, 2024. Protocol No. 6														
Duration of study: 4 years			Group of educational programs: B166 – Transport facilities										Re-approved due to transition to the status of "ALT University named after Mukhametzhann Tynyshpayev" dated April 29, 2024. Protocol No. 8 Chairman of the Academic Council ALT UNIVERSITY S.N. Amirgalieva														
Admission: 2024 year			Degree: bachelor of engineering and technology																								
№	Discipline code	Name of cycles and disciplines	Total labor intensity		Control form, semester		Volume of teaching load, contact hours										Distribution by semester										Assigned to the depart- ment
			In academic hours	In academic credits	Exam	CP	Total hours	Classroom					IWS		1 course		2 course		3 course		4 course						
								lectures	practical	laboratory	IWS1	IWS	1 sem.	2 sem.	3 sem.	4 sem.	5 sem.	6 sem.	7 sem.	8 sem.	9 sem.						
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23					
CYCLE OF GENERAL EDUCATION DISCIPLINES (GED):																											
1.1.	Required component:		1630	51	13		1630	120	358	15	120	917	10	17	6	11	2	5	0	0	0						
Module of general educational competencies																											
1.1.1.	23-0-B-OK-UK	History of Kazakhstan	160	5	2		160	30	15		6	97			5							SHDPNE					
1.1.2.	23-0-B-OK-FIL	Philosophy	160	5	6		160	30	15		6	97						5				SHDPNE					
1.1.3.	23-0-B-OK-FIL	Physical Culture	240	8	2,3,4,5		240				32	120			2	2	2	2				SHDPNE					
Language competence module																											
1.1.4.	23-0-B-OK-ITA	Foreign language	300	10	1,2		300	90			16	194	5	5								LT					
1.1.5.	23-0-B-OK-KRYA	Kazakh (Russian) language	300	10	1,2		300	90			16	194	5	5								LT					
Module of socio-political competencies																											
1.1.6.	23-0-B-OK-Sots	Sociology						7	15		8	30			4							SHDPNE					
	23-0-B-OK-Kul	Cultural studies	240	8	3,4		240	8	15		6	29										SHDPNE					
	23-0-B-OK-Pol	Political science						7	15		6	30					4					SHDPNE					
	23-0-B-OK-Psi	Psychology						8	15		6	29										SHDPNE					
Information technology and artificial intelligence module																											
1.1.7.	23-0-B-OK-ICT	Information and communication technologies	150	5	4		150	30			15	8	97				5					ICT					
1.2.	Component of choice:		150	5	1		150	30	15	0	8	97	0	0	0	0	5	0	0	0	0						
Life skills module																											
1.2.1.	23-0-B-KV-EBSD	Ecology and life safety																				MVLS					
	23-0-B-KV-MNI	Scientific research methods																				SHDPNE					
	24-0-KV-EIPD	Economics and business activities	150	5	5		150	30	15		8	97					5					LMT					
	23-0-B-KV-OPAK	Basics of law and anti-corruption culture																				SHDPNE					
TOTAL for the GED cycle:																											
1.2.			1680	56	14		1680	150	373	18	128	1014	10	17	6	11	7	5	0	0	0						
CYCLE OF BASIC DISCIPLINES (BD):																											
2.1.	University component:		1860	62	12		1860	270	240	90	132	1068	16	11	6	14	3	6	6	0	0						
Module of natural science competencies																											
2.1.1.	24-0-B-VK-IM1	Engineering Mathematics 1	180	6	1		180	30	30		12	108	6									GE					
2.1.2.	24-0-B-VK-IM2	Engineering Mathematics 2	180	6	2		180	30	30		12	108		6								GE					
2.1.3.	24-0-B-VK-PF1	Applied Physics 1	120	4	1		120	15	15	15	12	63	4		5							GE					
2.1.4.	24-0-B-VK-PF2	Applied Physics 2	150	5	2		150	15	15	15	12	63										GE					
Professional module																											
2.1.5.	23-0-B-VK-SRMat	Building materials	180	6	3		180	30	15	15	12	108			6							CE					
2.1.6.	23-0-B-VK-Igeod	Engineering geodesy	180	6	4		180	30	15	15	12	108				6						CE					
2.1.7.	23-0-B-VK-SK	Building structures	180	6	6		180	30	30		12	108					6					CE					
2.1.8.	23-0-B-VK-EOE	Electrical engineering and the basics of electronics	180	6	4		180	30	15	15	12	108				6						E					
2.1.9.	23-0-B-VK-OT	Labor protection	180	6	7		180	30	15	15	12	108						6				MVLS					
Information technology and artificial intelligence module																											
2.1.10.	24-0-B-VK-KIM	Computer and engineering modeling	180	6	1		180	30	30		12	108	6									ICT, CE					
2.1.11.	24-0-B-VK-OE	The basics of artificial intelligence	90	3	5		90				30	12	48				3					ICT					
Practice-oriented module																											
2.1.12.	23-0-B-VK-UP(g)	Educational practice (geodesic)	60	2	4		60									2						CE					
2.2.	Component of choice:		1260	42	8		1260	180	195	45	96	864	0	6	12	6	9	9	0	0	0						
Module of natural science competencies																											
2.2.1.	23-0-B-VK-KV-TMeh	Theoretical mechanics																				CE					
	23-0-B-KV-Meh1	Engineering Mechanics 1	180	6	3		180	30	30		12	108			6							CE					
2.2.2.	23-0-B-KV-SMat	Resistance of materials																				CE					
	23-0-B-KV-Meh2	Engineering Mechanics 2	180	6	4		180	15	30	15	12	108				6						CE					
	23-0-B-KV-SMeh	Construction mechanics																				CE					
2.2.3.	23-0-B-KV-Meh3	Engineering Mechanics 3	180	6	5		180	30	30		12	108					6					CE					

M7		Professional module																			
2.2.4.	23-0-B-KV-OPtS	Fundamentals of design of transport facilities	180	6	2		180	15	15	30	12	108		6							CE
2.2.5.	23-0-B-KV-VPOTIs	Introduction to the design of transport infrastructure facilities	180	6	3		180	30	30		12	108		6							CE
2.2.6.	23-0-B-KV-OMGOF	Geology, soil mechanics, foundations and foundations	180	6	3		180	30	30		12	108		6							CE
2.2.6.	23-0-B-KV-OGI	Fundamentals of geoinformatics	180	6	3		180	30	30		12	108		6							CE
2.2.6.	23-22/31-B-KV-MOSRNGS	Machinery and equipment for construction and repair of oil and gas facilities	180	6	6		180	30	30		12	108							6		MVLS
2.2.6.	23-22/31-B-KV-MTPs	Mechanization of pipeline construction	180	6	6		180	30	30		12	108									MVLS
M9		Module of economic and managerial competencies																			
2.2.7.	23-0-B-KV-UE	Managerial Economics	90	3	6		90	15	15		12	108							3		LMT
2.2.8.	24-0-B-KV-TM	Time - management	90	3	6		90	15	15		12	108							3		LMT
2.2.8.	24-0-B-KV-OFG	Fundamentals of financial literacy	90	3	5		90	15	15		12	108							3		LMT
2.2.8.	24-0-B-KV-KM	Critical thinking	90	3	5		90	15	15		12	108							3		LMT
3.	TOTAL for the BD cycle:		3120	104	20	0	3120	450	435	135	228	1932	16	17	18	20	12	15	6	0	0
3.1.	University component:		1380	46	8		1380	195	195	0	72	708	0	0	0	0	6	15	12	9	4
M7		Professional module																			
3.1.1.	23-22/31-B-KV-ONOD	Fundamentals of oil and gas business	180	6	5		180	30	30		12	108							6		CE
3.1.2.	23-21-B-KV-TpTNG	Pipeline transportation of oil and gas	180	6	6		180	30	30		12	108							6		CE
3.1.3.	23-21-B-KV-ENGH	Operation of oil and gas storage facilities	180	6	7		180	30	30		12	108							6		CE
3.1.4.	23-22/31-B-KV-PNGS	Design of oil and gas pipeline systems	180	6	6		180	30	30		12	108							6		CE
3.1.5.	23-21-B-KV-BRNGp	Maintenance and repair of oil and gas pipelines	180	6	7		180	30	30		12	108							6		CE
M8		Practice-oriented module																			
3.1.6.	23-21-B-KV-BRNGh	Maintenance and repair of oil and gas storage facilities	270	9	8		270	45	45		12	108							9		CE
3.1.7.	23-0-B-KV-PPr1	Industrial practice 1	90	3	6		90												3		CE
3.1.8.	23-0-B-KV-PPr2	Industrial practice 2	120	4	9		120													4	CE
3.2.	Component of choice:		810	27	6		810	135	135	0	72	468	0	0	3	3	0	0	15	6	0
M7		Professional module																			
3.2.1.	23-22/31-B-KV-TSNGS	Construction technology of oil and gas facilities	180	6	7		180	30	30		12	108							6		CE
3.2.2.	23-22/31-B-KV-TpTNG	Pipeline construction technology	180	6	7		180	30	30		12	108							6		CE
3.2.2.	23-22/31-B-KV-PNGh	Design of oil and gas storage facilities	180	6	7		180	30	30		12	108							6		CE
3.2.2.	23-22/31-B-KV-PNGh	Design of oil depots and gas tanks	180	6	7		180	30	30		12	108							6		CE
M8		Practice-oriented module																			
3.2.3.	23-0-B-KV-OPSTs	Organization and planning of the construction of transport facilities	180	6	8		180	30	30		12	108							6		CE
3.2.3.	23-0-B-KV-OSDTs	Organization of construction of transport infrastructure facilities	180	6	8		180	30	30		12	108							6		CE
M9		Minor program module																			
3.2.4.	24-0-B-MN1	Minor program 1	90	3	3		90	15	15		12	48							3		
3.2.5.	24-0-B-MN2	Minor program 2	90	3	4		90	15	15		12	48							3		
3.2.6.	23-0-B-MN3	Minor program 3	90	3	7		90	15	15		12	48							3		
3.2.6.	TOTAL for the MD cycle:		2190	73	14	0	2190	330	330	0	144	1176	0	0	3	3	6	15	27	15	4
3.2.6.	TOTAL FOR THE THEORETICAL TRAINING COURSE (TTC):		6990	233	48	0	6990	930	1138	150	500	4122	26	34	27	34	25	35	33	15	4
4.	23-0-B-KV-IA	FINAL EXAMINATION	240	8																8	CE
4.	TOTAL FOR THE ENTIRE TRAINING		7230	241																	
5.		ADDITIONAL TYPES OF TRAINING (ATT):																			
5.1.	24-0-B-DVO-SO	Service to Society	30	1	1		30		10		8	12	1								

AGREED:

Vice-Rector for AA  Zharmagambetova M.S.

Director of DAPQ  Lipskaya M.A.

DEVELOPED:

Director of the Institute "TE"  Abdreshov Sh.A.

Head of the department "CE"  Kulmanov K.S.

8. CATALOG OF DISCIPLINES OF THE UNIVERSITY COMPONENT

EDUCATIONAL PROGRAM "6B07131 – Linear pipelines"

Education level: Bachelor's degree Duration of study: 4 years Admission year: 2024

Cycle	Component	Name of the discipline	Total labor intensity		Semester	Learning outcomes	Brief description of the discipline	Prerequisites	Postrequisites
			academic hours	academic credits					
1	2	3	4	5	6	7	8	9	10
BD	KV	Engineering Mathematics 1	180	6	1	LO1	The discipline studies the basic concepts of higher mathematics and its applications. The goal of the course is to master mathematical equipment for solving theoretical and applied problems of a specific profile, gain an understanding of mathematical modeling and obtain results. Course sections include elements of linear algebra and analytical theory, introduction to mathematical analysis, differential calculus functions of one and several functions.	History of Kazakhstan, Kazakh (Russian, foreign) language, Professional foreign language, Sociology, Culturology, Political science, Psychology	final examination
BD	KV	Engineering Mathematics 2	180	6	2	LO1	Formation in students of mathematical knowledge and skills necessary for studying the relevant natural science disciplines, disciplinary professional cycle and skills of mathematical analysis and research in professional activities. Course sections include integral calculus of functions of one and several functions, ordinary differential equations, and series theory. Particular attention is paid to the application of mathematical methods to solve engineering problems.	History of Kazakhstan, Kazakh (Russian, foreign) language, Professional foreign language, Sociology, Culturology, Political science, Psychology	final examination
BD	KV	Applied physics 1	120	4	1	LO2	The discipline studies the simplest as well as the most general provisions of nature, the properties and	History of Kazakhstan, Kazakh (Russian,	final examination

							structure of matter, and the laws of its motion. The course covers kinematics, basic equations of dynamics, equations of motion, limits of applicability of classical mechanics, stable time, moment of time and energy, static physics and thermodynamics, electricity and magnetism.	foreign) language, Professional foreign language, Sociology, Culturology, Political science, Psychology	
BD	KV	Applied physics 2	150	5	2	LO1	The discipline studies the phenomena of electromagnetic induction, electromagnetic oscillations and waves, the laws of optics, the basic principles of quantum mechanics, physics and elements of the physics of the atomic nucleus. The structure of atomic nuclei. Nuclear forces. The pattern of alpha-beta and gamma radiation. The course reflects the current state of modern physics and combines macroscopic and microscopic approaches.	History of Kazakhstan, Kazakh (Russian, foreign) language, Professional foreign language, Sociology, Culturology, Political science, Psychology	final examination
BD	KV	Construction Materials	180	6	3	LO2	Use modern building materials, take into account the main quality indicators, modern methods of production of building materials for the transport industry, patterns and depending on physical and mechanical properties, production technology and formation conditions, finishing methods, mastering technological processes of construction production, production of building materials, basic products and structures on erected artificial structures.	Engineering mathematics, applied physics. Construction physics	Strength of Materials, Engineering Mechanics 2, Structural Mechanics, Engineering Mechanics 2
BD	KV	The engineering geodesy	180	6	4	LO4	Формирует профессиональные навыки, определяет способности и способности бакалавра использовать основные знания в области геодезии, позволяет производить геодезические измерения, связанные с классическими типовыми строительными задачами, детальную разбивку строительства, изучать контроль геометрических форм возводимого строительства, выполнять исполнительные измерения отдельных результатов выполнения строительно-монтажных работ. , дает навыки применения основных геодезических приборов в соответствии с производственными условиями.	Инженерная математика, Прикладная физика, Инженерная механика 1,2,3	Основы проектирования транспортных сооружений, Введение в проектирование объектов транспортной инфраструктуры, Машины и оборудования для строительства и ремонта нефтегазовых сооружений,

									Механизация трубопроводного строительства.
BD	KV	Building construction	180	6	6	LO3	Forms basic knowledge of the forms of formation, calculation and design of load-bearing structures, knows how to correctly select materials, form sections, calculate structural diagrams based on the purpose and purposes of operation, develop design solutions for newly created or applied methodological structures, have the skills to calculate structural elements based on limit states , ensuring compliance with the required indicators of reliability, efficiency, and effectiveness.	Engineering mathematics 1-2, Applied physics, Construction physics.	Labor protection, Maintenance and repair of oil and gas pipelines, Maintenance and repair of oil and gas storage facilities, Industrial practice 2.
BD	KV	Electrical engineering and electronics fundamentals	180	6	4	LO1	The discipline examines electrical circuits of direct, alternating and three-phase current, the principles of operation and purpose of transformers and electrical machines, methods for measuring electrical power, the application and general rules of operation of semiconductor devices and circuits. Teaching methods - analysis of specific situational tasks, group discussions.	Construction materials, theoretical mechanics, engineering mechanics1	Building structures, labor protection.
BD	KV	Occupational Safety and Health	180	6	7	LO5	The discipline examines the main dangerous and harmful production factors affecting workers of road and railway transport during the operation and repair of rolling stock, advanced methods and technical solutions to reduce industrial injuries, improve working conditions and organize workplace safety, methods of organizing and managing security labor, fire and electrical safety, basic measures when organizing workplaces. Teaching methods - case studies, group discussions	Oil and gas storage facilities, Design of oil and gas pipeline systems, Maintenance and repair of oil and gas pipelines, Maintenance and repair of oil and gas storage facilities	Technology of construction of oil and gas structures, Technology of pipeline constructio, Design of oil and gas storage facilities, Design of oil depots and gas tanks.
BD	KV	Computer and engineering modeling	180	6	1	LO4	Studying the discipline makes it possible to master the basic images of spatial forms on a plane and teach how to work in a modern modern understanding in order to develop innovative computer models, as well as contribute to the development of spatial representation and imagination, constructive geometric thinking based on graphic models of	Kazakh (Russian, foreign) language, Professional foreign language	Engineering mathematics1-2, Applied physics1,2, Construction physics

							spatial forms and practical skills in building computer systems models, using them while maintaining the remaining tasks.		
BD	KV	Artificial Intelligence Basics	90	3	5	LO5	The discipline introduces students to the possibilities of concepts, methods and applications of artificial intelligence. The goal of the course is to provide students with basic knowledge about the capabilities and applications of artificial intelligence in the modern world and their rationale for various regions of activity.	Engineering mathematics 1-2, Applied physics, Construction physics	Philosophy, Building structures,
BD	KV	Fundamentals of Oil and Gas Business	180	6	5	LO3	Studies the fundamentals of oil and gas business, prospecting, exploration and development of oil and gas facilities, collection, storage and transportation of hydrocarbons, surface and underground water injection, well maintenance and repair, oil and gas geology, well construction, design, development and supply of oil and gas fields. Students will use this data in the design, construction and operation of oil and gas pipelines	Engineering mathematics1,2, Applied physics1,2, Engineering mechanics 1,2,3	Pipeline transport of oil and gas, Operation of oil storage facilities, Design of oil and gas pipeline systems, Maintenance and repair of oil and gas pipelines.
BD	KV	Pipeline transport of oil and gas	180	6	6	LO10	He studies the designs and features of laying linear pipes and structures, foundations under pipelines, the principles of connecting pipes to each other, the construction of main oil and gas pipelines, methods of hydraulic and technological calculation of a pipeline when pumping oil and gas, pressure characteristics of an oil pipeline and pumping methods, methods of pumping highly bound petroleum products, features of temperature modes in pipelines. Guest lectures available	Fundamentals of oil and gas business, Engineering mathematics1,2, Applied physics1,2, Engineering mechanics 1,2,3	Operation of oil storage facilities, Maintenance and repair of oil and gas pipelines. Maintenance and repair of oil and gas storage facilities.

BD	KV	Operation of oil and gas storage facilities	180	6	7	LO10	Students will acquire knowledge in the field of operation and storage of oil and gas in tanks, measures to combat product losses during operation, development of a master plan for the construction of oil and gas storage facilities, tank structures, the procedure for checking the dimensions of tank bodies for stability, measuring and accounting for oil and gas products, laying pipelines for tanks. When studying, interactive teaching methods are used	Fundamentals of oil and gas business, Pipeline transport of oil and gas, Maintenance and repair of oil and gas pipelines. Maintenance and repair of oil and gas storage facilities.	Final certification
BD	KV	Design of oil and gas pipeline systems	180	6	6	LO9	Students acquire knowledge in the field of designing pipeline systems for the distillation of various media, to ensure the safety, efficiency, long-term and cost of oil and gas pipeline systems, studying the characteristics (load and pressure, the need for additional equipment). Theoretical and practical issues are considered: features of the design of oil and gas pipeline systems in various natural and climatic conditions. Disciplinary research uses discussion	Fundamentals of oil and gas business, Industrial practice 1, Industrial practice 2.	Operation of oil storage facilities, Maintenance and repair of oil and gas pipelines.

BD	KV	Maintenance and repair of oil and gas pipelines	180	6	7	LO8	Form a selection of knowledge about the maintenance and repair of oil and gas pipelines, partial replacement and (or) restoration of parts of pipeline equipment, planned restoration work with linear fittings and equipment, communication lines, electrical protection equipment, cleaning the internal surface of pipelines, a set of technical measures aimed at complete or partial restoration of the linear part of the delivered pipeline. When studying the discipline, guest lectures are provided. The form of control is a combined exam.	Fundamentals of oil and gas business, Pipeline transport of oil and gas, Design of oil and gas pipeline systems.	Operation of oil storage facilities, Industrial practice 2.
BD	KV	Maintenance and repair of oil and gas storage facilities	270	9	8	LO8	To form a set of knowledge on the maintenance and repair of tanks of various sizes and shapes, on technological processes for the repair and maintenance of tanks, on mid-plan preventive and preventive repairs of tank farms, parameters of oil and gas storage work processes, on methods of installation and dismantling of heat-insulating tanks for equipment	Fundamentals of oil and gas business, Pipeline transport of oil and gas, Maintenance and repair of oil and gas pipelines.	Industrial practice 2. Final certification.
BD	PD	Minor program 1	90	3	3	LO5	The first of the three disciplines made it possible to obtain additional professional qualifications in various subject areas.	History of Kazakhstan, Kazakh (Russian, foreign) language, Professional foreign language, Sociology, Culturology, Political science, Psychology	Managerial economics, time management, Fundamentals of financial literacy, Critical thinking.
BD	PD	Minor program 2	90	3	4	LO6	A second education in a three-disciplinary specialty allowed me to obtain additional professional qualifications in various subject areas.	History of Kazakhstan, Kazakh (Russian, foreign) language, Professional foreign language, Sociology, Culturology, Political science, Psychology	Managerial economics, time management, Fundamentals of financial literacy, Critical thinking.

BD	PD	Minor program 3	90	3	7	LO6	The third of the three disciplines received the opportunity to obtain additional professional qualifications in various subject areas.	History of Kazakhstan, Kazakh (Russian, foreign) language, Professional foreign language, Sociology, Culturology, Political science, Psychology	final examination
Итого			3240	108					

9. CATALOG OF DISCIPLINES OF THE COMPONENT BY CHOICE

EDUCATIONAL PROGRAM "6B07131 – Linear pipelines"

Education level: Bachelor's degree Duration of study: 4 years Admission year: 2024

Cycle	Component	Name of the discipline	Total labor intensity		Semester	Learning outcomes	Brief description of the discipline	Prerequisites	Postrequisites
			academic hours	academic credits					
1	2	3	4	5	6	7	8	9	10
GED	KV	Ecology and life safety	150	5	5	LO5	The discipline studies approaches to solving environmental problems, ensuring safe life, sources and types of pollutants in construction production, methods for reducing environmental harmful substances in the environment, eliminating natural and man-made situations, their principles, methods of measures and protection, carrying out environmental protection, rescue and other basic basic principles. urgent work, rules of behavior for people in extreme conditions	History of Kazakhstan, Kazakh (Russian, foreign) language, Professional foreign language, Sociology, Culturology, Political science, Psychology	final examination

		Scientific Research Methods					<p>V distsipline predstavleny znaniya i predstavleniye o sodержanii nauchnoy deyatel'nosti, yeye metodakh i formakh znaniy. Poluchennyye studentami teoreticheskiye i prikladnyye znaniya po metodam nauchnykh issledovaniy problem v izuchayemoy oblasti, privivayut budushchim spetsialistam navyki poznavatel'noy deyatel'nosti v sfere nauki. Metody aktivnogo obucheniya - gruppovaya, nauchnaya diskussiya, disput, metod proyektov.</p> <p>The discipline presents knowledge and ideas about the content of scientific activity, its methods and forms of knowledge. The theoretical and applied knowledge obtained by students on methods of scientific research of problems in the field under study instills in future specialists the skills of cognitive activity in the field of science. Active learning methods - group, scientific discussion, debate, project method</p>	History of Kazakhstan, Kazakh (Russian, foreign) language, Professional foreign language, Sociology, Culturology, Political science, Psychology	final examination
		Economics and Entrepreneurship				LO9 LO6 LO9	<p>Studies the activities of enterprises in various types of markets, equilibrium and developed market models, government regulation of prices and tariffs. The issue of entrepreneurship and restrictions on its legal regulation, conditions for the development of entrepreneurship, organizational and legal forms of doing business, business planning, business secrets, and protection of business liability are considered.</p>	History of Kazakhstan, Kazakh (Russian, foreign) language, Professional foreign language, Sociology, Culturology, Political science, Psychology	final examination
		Fundamentals of law and anti-corruption culture					<p>The discipline outlines the fundamental concepts of law, the constitutional structure of state power of the Republic of Kazakhstan, the rights and freedoms of citizens enshrined in the Constitution, mechanisms and protection of legitimate human interests in the event of their violation. The discipline forms among students an increase in social and individual legal awareness and prohibitions culture, as well as the knowledge system and civil position on combating corruption as an antisocial phenomenon. Active learning methods - analysis of emerging situations, brainstorming.</p>	History of Kazakhstan, Kazakh (Russian, foreign) language, Professional foreign language, Sociology, Culturology, Political science, Psychology	final examination
BD	KV	Structural mechanics				LO2	Studies the basic methods of calculating structural elements and structures for strength, rigidity and	Engineering mathematics,	Oil and gas storage facilities, Design of

			180	6	5		stability, carries out calculations of non-existent elements, ensures structures and structures for strength, rigidity, stability and stability, taking into account the time-varying mechanical properties of the materials used, correctly selects structural forms and materials, ensures required requirements. Indicators of reliability, safety and efficiency of both effective and constructed structures and structures.	Applied physics, Engineering mechanics 1.2	oil and gas pipeline systems, Maintenance and repair of oil and gas pipelines, Maintenance and repair of oil and gas storage facilities.
		Engineering mechanics 3				LO2	Studies the theoretical foundations and methods of carrying out calculations for strength, rigidity and stability of structural elements. Carrying out construction, basic types of principles, parts and components of machines, general principles of design and engineering, building models and algorithms for calculating products according to performance criteria with the reliability of standard equipment under conditions. exploitation.	Engineering mathematics1,2, Applied physics1,2, Engineering mechanics 1,2	Oil and gas storage facilities, Design of oil and gas pipeline systems, Maintenance and repair of oil and gas pipelines, Maintenance and repair of oil and gas storage facilities.
BD	KV	Basics of designing transport structures	180	6	2	LO4	Forms knowledge and skills in using automatic design tools for artificial means using the AutoCAD software package, designing communication routes, basic elements of highways, elements of airfields and airports, bridges and interchange methods, teaches how to work in text editors and spreadsheet editors in order to implement rational Design construction structures.	Engineering mathematics, Applied physics, Engineering mechanics 1,2,3	Machinery and equipment for the construction and repair of oil and gas structures, Design of oil and gas pipeline systems, Maintenance and repair of oil and gas storage facilities.
		Introduction to the design of transport infrastructure facilities				PO4	Forms professional skills in the field of supervision of regulation of the organization and management of transport complexes, optimization of technological processes and planning of transport facilities, deepening knowledge in the field of automobile and railway complexes, since it not only forms industries that directly serve transportation, but also evaluates the elements of transport employment from a safety perspective and efficiency, Making an informed choice according to the standard when developing the network to organize efficient and safe transportation.	Engineering mathematics1,2, Applied physics1,2, Engineering mechanics 1,2,3	Machinery and equipment for the construction and repair of oil and gas structures, Mechanization of pipeline construction, Design of oil and gas pipeline systems, Maintenance and

									repair of oil and gas pipelines, Maintenance and repair of oil and gas storage facilities.
BD	KV	Geology, soil mechanics, bases and foundations	180	6	3	LO3	The discipline studies the rules of behavior of soils for modeling, theories of the crisis-deformed state and their interaction with formation, basic methods for determining sedimentary foundations, stability of slopes and slopes, morphology, dynamics and regional features, leading horizons of the earth's crust (lithosphere) and their relationship with engineering fundamentals . (elements of the technosphere).	Machinery and equipment for the construction and repair of oil and gas structures, Mechanization of pipeline construction.	Machinery and equipment for the construction and repair of oil and gas structures, Mechanization of pipeline construction.
		Basics of geoinformatics				LO4	Studies the history of the development of geographic information systems (GIS), basic concepts and terms, general issues of geoinformatics, the use of technologies in subject areas of professional activity, the current state of technology, simple and information support for GIS, forms of understanding the features of creating GIS, hardware and software, and applied . GIS for use in business, management, science and technology.	The number of infrastructural objects is not limited to the kirispe.	Machinery and equipment for the construction and repair of oil and gas structures, Mechanization of pipeline construction.
BD	KV	Machinery and equipment for the construction and repair of oil and gas facilities	180	6	6		He studies the principles of operation and modern special designs of machines for the construction and repair of main and oil and gas field pipelines, trench cavators, trench backfillers, machines for designing trenches in flooded and swampy sections of routes, for laying pipelines during construction crossings under roads, rivers and other obstacles, methods calculating the parameters of working bodies and machines when	Ecology and life safety, Engineering geodesy, Construction materials, Electrical engineering and fundamentals of electronics	Oil and gas storage facilities, Design of oil and gas pipeline systems, Maintenance and repair of oil and gas pipelines, Maintenance and

						LO8	performing various technological operations.		repair of oil and gas storage facilities.
		Mechanization of pipeline construction					The issues of complex mechanization of the construction of main pipelines, methods of formation, management and efficiency of the field of efficiency of using park machines, methods of choosing rational mechanization options, basic information about machines and equipment, carrying out construction and repair work in the territories of pipeline transport of hydrocarbons, classification of modern technical means are considered. mechanization of labor-intensive processes during the construction, operation and repair of pipelines.	Ecology and life safety, Engineering geodesy, Construction materials, Electrical engineering and fundamentals of electronics	Oil and gas storage facilities, Design of oil and gas pipeline systems, Maintenance and repair of oil and gas pipelines, Maintenance and repair of oil and gas storage facilities.
BD	KV	Technology of construction of oil and gas structures	180	6	7	LO7	Studies modern technologies for the construction of oil and gas structures, methods and technologies for the construction of oil and gas structures, rules for the installation of vertical and horizontal tanks, methods for testing tanks for leaks, installation and dismantling work, rules for checking the functionality of devices and equipment, general construction processes for the construction of structures, methods for constructing structures in accordance with design and regulatory documents. Discussion is used within the discipline.	Fundamentals of oil and gas business, Maintenance and repair of oil and gas pipelines, Operation of oil and gas storage facilities	Organization and planning of construction of transport facilities, Industrial practice 2.
		Pipeline construction technology					Studies modern technologies for the construction of pipelines for laying in various climatic zones, including at long distances from large industrial complexes, installation of pipelines during the seasonal period, provides a team and a column, equipped with the necessary equipment and equipment, with safe labor methods during the middle stage of construction.	Fundamentals of oil and gas business, Maintenance and repair of oil and gas pipelines, Operation of oil and gas storage facilities	Organization and planning of construction of transport facilities, Industrial practice 2.

							Discussion is used within the discipline.		
BD	KV	Organization of construction of transport facilities	180	6	8	LO7	Describes, models and plans the organization of transport employment facilities, technological processes of work production, management of material and technical support of enterprises and organizations, uses methods and techniques for forming sets of machines for the organization of transport facilities, management of activities for the design of production processes, means of use and automation of systems. for the purpose of managing the construction cycle of a transport work facility.	Fundamentals of oil and gas business, Maintenance and repair of oil and gas pipelines. Operation of oil and gas storage facilities.	Industrial practice 2. Final examination.
		Organization and planning of construction					Formulates and classifies the principles and planning of the construction of construction projects, content, structure, types and changes in technological processes, organizational and technical preparation of the construction site, organization of factory production of reinforced concrete, steel and composite structures, methods and means of integrated mechanization of production, models of calendar plans and network organizations . schedules for selecting options for organizational and technological solutions for the construction of utility structures.	Fundamentals of oil and gas business, Maintenance and repair of oil and gas pipelines. Operation of oil and gas storage facilities.	Industrial practice 2. Final examination.
BD	KV	Design of oil and gas storage facilities	180	6	8	LO10	To formulate a selection of knowledge about the design of oil and gas storage facilities, methods for developing a master plan for the site, construction of oil storage and gas storage facilities, designs of tanks and gas storage facilities, arrangement of access roads, the procedure for checking the geometric parameters of the tank body for stability, methods of laying pipelines for the tank farm. Within the discipline, the calculation and analytical method is used.	Fundamentals of oil and gas business, Maintenance and repair of oil and gas pipelines. Operation of oil and gas storage facilities.	Industrial practice 2, FINAL EXAMINATION
		Design of oil depots and gas tanks					To formulate a solution to a set of knowledge about the design of oil depots and gas tanks, methods for developing a master plan for the construction of the area of oil depots and gas tanks, designs of tanks of oil tank farms and gas tanks, underwater routes, the procedure for checking the geometric parameters of the body of tanks and gas tanks for stability, methods of passing pipelines for the reservoir tank. Within the discipline, the calculation and analytical method is used.	Fundamentals of oil and gas business, Maintenance and repair of oil and gas pipelines. Operation of oil and gas storage facilities.	Industrial practice 2, FINAL EXAMINATION

BD	KV	Managerial Economics	90	3	3	PO6	Formation of understandable equipment and development of economic analysis skills using modern models and patterns of economic science, consideration of economic problems and tasks facing the management enterprise. These disciplines allow students to obtain and obtain additional knowledge in the field of analytical research, economic, technological and technical parameters of enterprises, and also allow them to master the skills of applying special methods for the economic justification of management decisions and assessing their consequences.	Time management, Minor program 1-2 ,	final examination
BD	KV	Time management					The discipline studies methods, tools and approaches of the system that are aimed at effective time management in order to achieve set goals. The course is designed to tune organization skills and optimize time use, increase work productivity, reduce stress, planning, using tools and technology, as well as our temporary work and energy rhythms to effectively use our time.	Economics and business activity, Fundamentals of law and anti-corruption culture	final examination
BD	KV	Basics of financial literacy	90	3	5	PO6	Formation of general functional economic and financial literacy, mastery of methods and tools of economic and financial calculations for solving practical problems.	Fundamentals of Economics and Entrepreneurship	final examination
		Critical thinking					The discipline studies the forms and techniques of creating rational knowledge, a general understanding of logical methods and approaches, application in the field of professional activity, practical skills of reasonable and effective thinking.	Minor program1, Minor program2,	Technology for the construction of roads and airfields, Organization of construction of transport infrastructure facilities
Итого			2310	77					

10. EXPERT OPINIONS

ЭКСПЕРТНОЕ ЗАКЛЮЧЕНИЕ на образовательную программу «6B07131 – Линейные трубопроводы»

Реализация образовательной программы «6B07131 – Линейные трубопроводы» осуществляется посредством последовательности изучаемых дисциплин, с установлением конкретных задач и целевых индикаторов. Четко прослеживается междисциплинарное взаимодействие, которое заключается в комплексной связи между содержанием отдельных учебных дисциплин, посредством которых достигается внутреннее единство программы подготовки специалистов.

В учебном плане образовательной программы определен перечень всех учебных дисциплин обязательного компонента и компонента по выбору, трудоемкость каждой учебной дисциплины в кредитах, последовательность их изучения, виды учебных занятий и формы контроля. Актуально изучение вопросов экологической обстановки и обеспечение условий безопасной трудовой деятельности на предприятиях Акционерное общество «Волковгеология»

Образовательные траектории разработаны в соответствии с запросами транспортно-коммуникационной отрасли Линейные трубопроводы»

Цель образовательной программы актуальна, сформулирована достаточно лаконично и объединяет в себе результаты обучения. В описании дисциплин отражены их цели и содержание, как индикатора достижения результатов обучения по данной образовательной программе. Также, в образовательной программе, разработанной на основе профессионального стандарта, отражены основные трудовые функции в компетенциях и результатах обучения, указаны виды связей с работодателями: проведение гостевых лекций, лекций ведущих топ менеджеров, наличие филиалов кафедр на базе организаций.

Таким образом, представленная на экспертизу образовательная программа «6B07131 – Линейные трубопроводы» по направлению подготовки кадров «6B071 – Инженерия и инженерное дело», полностью соответствует требованиям ГОСО, имеет четкую последовательность при разработке, отвечает современным запросам рынка труда, профессиональным стандартам и может быть реализована для подготовки кадров по образовательной программе «6B07131 – Линейные трубопроводы» по направлению «6B071 – Инженерия и инженерное дело»

Эксперт

Директор ВОО «Нурлы Кала2030»
Абайхан Ербулан.



10. EXPERT OPINIONS

ЭКСПЕРТНОЕ ЗАКЛЮЧЕНИЕ на образовательную программу «6B07131 – Линейные трубопроводы»

Реализация образовательной программы «6B07131 – Линейные трубопроводы» осуществляется посредством последовательности изучаемых дисциплин, с установлением конкретных задач и целевых индикаторов. Четко прослеживается междисциплинарное взаимодействие, которое заключается в комплексной связи между содержанием отдельных учебных дисциплин, посредством которых достигается внутреннее единство программы подготовки специалистов.

В учебном плане образовательной программы определен перечень всех учебных дисциплин обязательного компонента и компонента по выбору, трудоемкость каждой учебной дисциплины в кредитах, последовательность их изучения, виды учебных занятий и формы контроля. Актуально изучение вопросов экологической обстановки и обеспечение условий безопасной трудовой деятельности на предприятиях Акционерное общество «Волковгеология»

Образовательные траектории разработаны в соответствии с запросами транспортно-коммуникационной отрасли Линейные трубопроводы»

Цель образовательной программы актуальна, сформулирована достаточно лаконично и объединяет в себе результаты обучения. В описании дисциплин отражены их цели и содержание, как индикатора достижения результатов обучения по данной образовательной программе. Также, в образовательной программе, разработанной на основе профессионального стандарта, отражены основные трудовые функции в компетенциях и результатах обучения, указаны виды связей с работодателями: проведение гостевых лекций, лекций ведущих топ менеджеров, наличие филиалов кафедр на базе организаций.

Таким образом, представленная на экспертизу образовательная программа «6B07131 – Линейные трубопроводы» по направлению подготовки кадров «6B071 – Инженерия и инженерное дело», полностью соответствует требованиям ГОСО, имеет четкую последовательность при разработке, отвечает современным запросам рынка труда, профессиональным стандартам и может быть реализована для подготовки кадров по образовательной программе «6B07131 – Линейные трубопроводы» по направлению «6B071 – Инженерия и инженерное дело»

Эксперт

Главный технолог АО
«Волковгеология»
 Кудабаяв Б.А.

11. REVIEWER'S CONCLUSION

Рецензия

на образовательную программу
по направлению подготовки «6В07131 – Линейные трубопроводы»

Образовательная программа (бакалавриат) «6В07131 – Линейные трубопроводы» содержит следующую информацию: квалификация выпускника, форма и срок обучения, направление и характеристика деятельности выпускников, приведен полный перечень компетенций, которыми должен обладать выпускник в результате освоения данной образовательной программы.

Дисциплины учебного плана по рецензируемой образовательной программе формируют весь необходимый перечень общекультурных и профессиональных компетенций, предусмотренных ГОСО по соответствующим видам деятельности.

В учебном плане образовательной программы определен перечень всех учебных дисциплин обязательного компонента и компонента по выбору, трудоемкость каждой учебной дисциплины в кредитах, последовательность их изучения, виды учебных занятий и формы контроля. Каталог элективных дисциплин, Каталог внутривузовского компонента полностью отражают преимущество дисциплин 1.Трубопроводный транспорт нефти и газа; 2. Эксплуатация нефтегазохранилищ; 3.Содержание и ремонт нефтегазопроводов.

Соблюдена последовательность изучения дисциплин, включены дисциплины необходимые для производства и технологического процесса.

Содержание рабочих программ учебных дисциплин и практик позволяет сделать вывод, что оно соответствует компетентности модели выпускника.

Образовательная программа предусматривает профессионально-практическую подготовку обучающихся в виде практики. Содержание программ практик свидетельствует об их способности сформировать практические навыки обучающихся.

Для разработки образовательной программы были привлечены опытный профессорско-преподавательский состав, ведущие представители работодателя, обучающиеся, учтены их требования при формировании дисциплин профессионального цикла.

Заключение:

В целом, рецензируемая образовательная программа отвечает основным требованиям ГОСО, национальной рамке квалификаций, отраслевой рамке квалификаций, профессиональных стандартов, Атласу новых профессий и способствует формированию общекультурных и профессиональных компетенций по направлению подготовки «6В071 – Инженерия и инженерное дело»

Рецензент

Главный инженер ТОО «Нурлы Кала 2030»
Рабат Д.К.



12. LETTERS OF RECOMMENDATION

письма от работодателя

Акционерное общество
«Волковгеология»
Фирменный бланк

Уважаемый (ая) Салтанат Нурадиловна

Руководство «АО Волковгеология» в лице Главного технолога АО «Волковгеология» Кудабаяв Б.А. ознакомилось с содержанием образовательной программы «6B07131 – Линейные трубопроводы» и внесло следующие рекомендации:

- включить в содержание образовательной программы дисциплины: Основы нефтегазового дела.
- увеличить количество часов, выделяемых на проведение части лабораторных и практических занятий на базах работодателей с целью формирования определенных видов профессиональных компетенций;
- актуализировать содержание образовательных программ путем включения в цикл базовых и профилирующих модулей дисциплины, отражающие современные инновационные технологии в транспортно-коммуникационной сфере. Предлагается включить следующие дисциплины 1. Трубопроводный транспорт нефти и газа; 2. Эксплуатация нефтегазохранилищ; 3. Содержание и ремонт нефтегазопроводов.
- увеличить количество часов, выделяемых на проведение производственных практик;

включить дисциплины:

- трубопроводный транспорт нефти и газа;
- эксплуатация нефтегазохранилищ;
- содержание и ремонт нефтегазопроводов;

Работодатель: _____ дата, печать



13. REVIEW AND APPROVAL PROTOCOLS

Акционерная общество «АЛТ университет имени Мухаметжана Тынышбаева»

ПРОТОКОЛ № 2 начало формирования ОП)

Заседания

Академического комитета по образовательной программе и ведущих преподавателей кафедры «Строительная инженерия»

г. Алматы

« 23 » 04 2024 года

Председатель: Кулманов К.С.

Секретарь: Жадраев Р.Ж.

Присутствовали: члены Академического комитета, ведущие ППС кафедры

Представители с производства: Главный технолог АО «Волковгеология» Кудабаяв Б.А., Директор ТОО «Научно-внедренческий центр» Смашов Н.Ж., Директор ТОО «Нурлы Кала2023» Абайхан Ербулан

Обучающиеся: Аманжолов К.

ПОВЕСТКА ДНЯ:

1. Рассмотрение компетентностной модели выпускника
2. Рассмотрение возможности включения дисциплин в КЭД и РУП

По первому вопросу

ВЫСТУПИЛ(а):

Зав. кафедра Кулманов К.С. предложил рассмотреть компетентностную модель выпускника по 3 уровням образования: бакалавриат, магистратура, докторантура.

Компетентностная модель выпускника включает в себя следующие части:

- Цель и задачи образовательной программы;
- Результаты обучения;
- Область, объекты, виды и функции профессиональной деятельности;
- Перечень должностей по образовательной программе;
- Профессиональные сертификаты, полученные по окончании обучения;
- Требования к предшествующему уровню образования.

ВЫСТУПИЛ: Главный технолог АО «Волковгеология» Кудабаяв Б.А., который предложил в силу специфики их организации отразить в объектах профессиональной деятельности следующее: Современные инновационные технологии в транспортно-коммуникационной сфере.

ВЫСТУПИЛ:

Член кафедры Ибраимов А.К., который предложил утвердить

После рассмотрения компетентностной модели выпускника было предложено утвердить данную Модель по 3 уровням образования.

ПОСТАНОВИЛИ:

- предоставить компетентностную модель выпускника по 3 уровням образования: бакалавриат, магистратура, докторантура для рассмотрения и утверждения на Совете института «Транспортная инженерия».

По второму вопросу

ВЫСТУПИЛ(а): зав кафедра Кулманов К.С. с предложением заслушать представителей работодателей и обучающихся по включению новых дисциплин в КЭД и РУП приема 2023г.

По второму вопросу

ВЫСТУПИЛ(а): зав кафедр Кулманов К.С. с предложением заслушать представителей работодателей и обучающихся по включению новых дисциплин в КЭД и РУП приема 2023г.

ВЫСТУПИЛ: Главный технолог АО «Волковгеология» Кудабаяв Б.А.,

Организация заинтересованы в специалистах, имеющих хороший уровень подготовки и знаний в области проектирования и строительство линейных трубопроводов. Вносим предложения о внесении в РУП следующих востребованных дисциплин - Трубопроводный транспорт нефти и газа, Эксплуатация нефтегазохранилищ, Содержание и ремонт нефтегазопроводов.

ВЫСТУПИЛ: Обучающийся Жисов Ж.

Считаем необходимым включить в РУП следующие дисциплины Трубопроводный транспорт нефти и газа, Эксплуатация нефтегазохранилищ, Содержание и ремонт нефтегазопроводов.

ПОСТАНОВИЛИ:

1. Информацию принять к сведению;
2. Учесть предложения и рекомендации работодателей и обучающихся;
3. Рассмотреть включение в РУП следующие дисциплины: Трубопроводный транспорт нефти и газа, Эксплуатация нефтегазохранилищ, Содержание и ремонт нефтегазопроводов.

Председатель:

Секретарь:



Кулманов К.С.

Жадраев Р.Ж.

Акционерная общество «АЛТ университет имени Мухаметжана Тынышбаева»

ПРОТОКОЛ № 4 (перед утверждением ОП на УС)

Заседания КОК УМБ института «Транспортная инженерия»

г. Алматы

«~~25~~» 09 2024 года

Председатель: Абдрешов Ш.А.

Секретарь: Утепова А.

Присутствовали: члены КОК УМБ, члены Академического комитета

Представители с производства: Главный технолог АО «Волковгеология» Кудабасов Б.А., Директор ТОО «Научно-внедренческий центр» Смашов Н.Ж., Директор ТОО «Нурлы Кала2023» Абайхан Ербулан.

Обучающиеся: Аманжолов К.

ПОВЕСТКА ДНЯ:

1. Рассмотрение Каталога элективных дисциплин (КЭД), Рабочей учебной программы (РУП), паспорта образовательных программ бакалавриата, магистратуры и докторантуры.

ВЫСТУПИЛ(а): зав. кафедра Кулманов К.С. представил (а) на рассмотрение КЭД, РУП бакалавриата, магистратуры и докторантуры.

На кафедре «Строительная инженерия» было проведено заседание с привлечением представителей работодателей и обучающихся по обсуждению структуры и содержанию образовательной программы 6В07131 Линейные трубопроводы

Представителями работодателей и обучающимися были предложены ряд новых актуальных дисциплин, которые кафедра одобрила и включила в новые КЭД и РУП.

ПОСТАНОВИЛИ:

1. Информацию принять к сведению;
2. Учесть все предложения и рекомендации работодателей, представителей студенческого актива;
3. Представить КЭД, РУП и ОП бакалавриата, магистратуры и докторантуры для рассмотрения и утверждения на Совете института, УС Университета.

Председатель КОК УМБ

Секретарь:



Абдрешов Ш.А.
Утепова А.

14. APPROVAL SHEET

Лист согласования образовательных программ

[illegible]

15. CHANGE REGISTRATION SHEET

№	Section, paragrap h of the documen t	Вид изменения (заменить, аннулировать, добавить)	Номер и дата извещения	Изменение внесено	
				Дата	Фамилия и инициалы, подпись, должность