AGREED Director of Nurly Kala 2030 LLP _____ Abaykhan Erbulan "17" _____ 2025		APPROVED Director of the Institute "Transport and Construction" _____ Abdreshov Sh.A. "19" _____ 2025

CATALOGUE OF DISCIPLINES OF THE COMPONENT BY CHOICE OF EDUCATIONAL PROGRAM
«6B07177– Oil and gas transportation engineering»
Education level: Bachelor's degree Duration of study: 3 years Admission year: 2025

Cycle	Component	Name of the discipline	Total labor intensity		Term	Learning outcomes academic hours	Brief description of the discipline	Prerequisites	Post-requirements academic hours
			academic hours	academic hours					
1	2	3	4	5	6	7	8	9	10
ООД	КВ	Environmentally sustainable technologies					The formation of students' knowledge about environmentally sustainable technologies includes the study and development of solutions aimed at the sustainable development of society with minimal impact on the environment. These technologies play a key role in reducing pollution, managing natural resources, reducing greenhouse gas emissions, and preserving ecosystems. Teaching environmentally sustainable technologies helps students develop the competencies necessary to create and implement innovative solutions aimed at a sustainable future.	History of Kazakhstan. Kazakh (Russian) language, Professionally oriented foreign language, Professionally oriented foreign language, Cultural studies, Political Science, Psychology	Final certification

		Green economy and sustainable entrepreneurship	150	5	5	LO 9	Formation of students' knowledge about concepts aimed at developing economic models that promote environmental sustainability, social progress and economic growth, while not depleting natural resources. This includes studying the principles of the green economy and sustainable entrepreneurship, which are focused on creating innovative solutions for the conservation of ecosystems, the efficient use of resources and the promotion of sustainable development in various sectors of the economy.	History of Kazakhstan. Kazakh (Russian) language, Professionally oriented foreign language, Professionally oriented foreign language, Cultural studies, Political Science, Psychology	Final certification
		Fundamentals of financial literacy					The formation of students' knowledge about the principles of managing personal and family finances includes the development of skills for making informed financial decisions. This important skill helps you effectively plan your budget, manage income and expenses, invest, and properly plan your retirement savings and manage your debts. Knowledge of financial literacy contributes to the development of the ability to make informed decisions that ensure financial stability and well-being.	History of Kazakhstan. Kazakh (Russian) language, Professionally oriented foreign language, Professionally oriented foreign language, Cultural studies, Political Science, Psychology	Final certification
		Digital inclusion					The formation of students' knowledge about the process of ensuring equal access to digital technologies and Internet resources is aimed at eliminating digital inequality and creating conditions for the full participation of every person in the digital society, regardless of their age, social status, education, physical condition or place of residence. The goal of digital inclusion is to ensure equal opportunities for everyone in the use of modern technologies, which contributes to the integration of various population groups into the digital environment and to improving the quality of life.	History of Kazakhstan. Kazakh (Russian) language, Professionally oriented foreign language, Professionally oriented foreign language, Cultural studies, Political Science, Psychology	Final certification
		Fundamentals of law and anti-corruption culture					The formation of students' knowledge about the basics of law and anti-corruption culture is the development of important concepts aimed at developing legal awareness and shaping public	History of Kazakhstan. Kazakh (Russian) language, Professionally oriented foreign	Final certification

							behavior focused on upholding the rule of law and combating corruption. This helps to foster responsibility, respect for the law and an active civic position. Training in the basics of law (for example, the Constitution, laws, regulations), so that participants understand their rights and obligations, as well as be aware of the possible consequences of violations.	language, Professionally oriented foreign language, Cultural studies, Political Science, Psychology	
BD	KB	Theoretical mechanics	120	4	1	LO 2	Formation of logical thinking and scientific foundation of engineering education. He studies the basic concepts, axioms, laws and theorems that make it possible to formulate equations describing the behavior of systems, a specific phenomenon in mathematical form, mathematical models of the behavior of material bodies, the basic methods of classical mechanics in the study of motion and equilibrium of mechanical systems in the study of professional disciplines. It allows you to delve into Newton's laws, conservation laws (energy, momentum, etc.), as well as their application to a wide range of mechanical systems.	Engineering mathematics 1, Construction Physics , Building materials , Computer and engineering modeling.	Engineering geodesy , Construction structures , Labor protection , Building materials , Applied mechanics.
		Fundamentals of classical mechanics					The objectives of the discipline are to teach students scientific knowledge in the theoretical branch of physics - classical mechanics; mastering theoretical methods for solving physical problems; forming a modern physical picture of the world. In the process of studying mechanical phenomena, an understanding of the physical essence of electrical and magnetic phenomena must be achieved. This makes it possible to form a physical picture of the world. With the help of Newton's laws, it is possible to predict how bodies will move under the influence of forces. This includes both simple cases (such as an object falling) and more complex ones (such as the movement of planets or spaceships).	Engineering mathematics 1, Construction Physics , Building materials , Computer and engineering modeling..	Engineering geodesy , Construction structures , Labor protection , Building materials , Applied mechanics.
		Resistance of materials					Formation of knowledge about the strength, rigidity and stability of rods and rod systems, study of the basics of designing rod structures working on tension, compression, shear, shear,	Theoretical mechanics, Fundamentals of classical mechanics, Innovative building	Fundamentals of financial literacy, Critical thinking, Managerial economics, Time management.

							torsion and bending. Studies methods and practical techniques for calculating rods, flat and volumetric structures under various force, deformation and temperature influences using classical and modern methods of calculating structures and mechanical tests.	materials.	
BD	KB	Applied mechanics	150	5	2	LO 2	Formation of students' theoretical basis for understanding calculation methods for strength, rigidity and stability of machine and equipment elements, ensuring its reliability and efficiency. It studies the deformations and strength conditions of bodies and provides the general principles necessary to ensure the reliability of structures of any purpose, the correct calculation of the dimensions of structural elements and parts. The subject helps to find effective solutions for the design, operation and optimization of various mechanisms, machines and structures.	Theoretical mechanics, Fundamentals of classical mechanics, Innovative building materials.	Fundamentals of financial literacy, Critical thinking, Managerial economics, Time management.
BD	KB	Construction mechanics	150	5	3	LO 2	Formation of skills in designing standard structures related to the choice of a design scheme, determining the most loaded structural elements and calculating internal forces and stresses. Studies methods for calculating forces in statically definable and indeterminate rod systems under the action of constant and temporary loads, determining displacement in rod systems to ensure the strength and reliability of structures in combination with high efficiency.	Theoretical mechanics, , Fundamentals of classical mechanics, Applied mechanics, Engineering geology, hydrogeology and soil mechanics, Geoinformation systems in geology and hydrogeology.	Fundamentals of financial literacy, Critical thinking, Managerial economics, Time management.
		Mechanics of structural strength					Formation of skills in the field of work analysis and calculation of structures made of various materials under various influences using modern computing equipment. He studies the features of the laws of stress and strain distribution in structural elements under various conditions of external load, principles and methods of static and dynamic calculation of engineering structures for strength, rigidity, stability. The search for the most effective solutions that provide the necessary strength with minimal cost of materials and resources.	Theoretical mechanics, , Fundamentals of classical mechanics, Applied mechanics, Engineering geology, hydrogeology and soil mechanics, Geoinformation systems in geology and hydrogeology.	Fundamentals of financial literacy, Critical thinking, Managerial economics, Time management.
		Geology and					The formation of skills in the field of geology	Resistance of materials,	Construction mechanics,

		mechanics of soils					and mechanics of soils is aimed at studying the structure, composition, properties and behavior of soils (land masses), as well as their interaction with engineering structures and structures. These disciplines are the basis for the design and construction of infrastructure facilities such as buildings, bridges, roads, and other structures. The training includes the development of methods for analyzing and evaluating ground conditions, which contributes to the effective design and safety of construction facilities.	Innovative building materials, Theoretical mechanics, Fundamentals of classical mechanics.	Mechanics of structural strength, Foundations and foundations, Geotechnics in foundation engineering, Design of oil and gas storage facilities, Modernization of oil depots and gas tanks.
BD	KB	Geoinformation systems in geology	150	5	4	LO 3	The formation of skills in the field of geographic information systems (GIS) includes the development of technologies and tools that allow you to collect, analyze, visualize and manage geographical and geological data to solve various problems in geological research and development. This helps students effectively use GIS to create geological maps, model processes, evaluate natural resources, and analyze geological phenomena, which helps improve the quality of research and informed decision-making.	Resistance of materials, Innovative building materials, Theoretical mechanics, Fundamentals of classical mechanics.	Construction mechanics, Mechanics of structural strength, Foundations and foundations, Geotechnics in foundation engineering, Design of oil and gas storage facilities, Modernization of oil depots and gas tanks.
		Foundations and foundations					Formation of knowledge about the basic laws of soil behavior under load, the theory of stress-strain state and their interaction with structures. He studies the basic methods for determining the sedimentation of foundations, the stability of slopes and slopes, as well as the morphology, dynamics and regional features of the upper horizons of the Earth's crust (lithosphere) and their relationship with engineering structures. One of the main tasks is to create foundations that will ensure the stability of the entire building or structure under any external influences.	Theoretical mechanics, Fundamentals of classical mechanics, Resistance of materials, Applied mechanics, Engineering geology, hydrogeology and soil mechanics, Geoinformation systems in geology and hydrogeology.	Fundamentals of financial literacy, Critical thinking, Managerial economics, Time management.
BD	KB	Geotechnics in foundation engineering	150	5	5	LO 3	Formation of knowledge about the basic laws of soil behavior under load, the theory of stress-strain state and their interaction with structures. He studies the basic methods for determining the sedimentation of foundations, the stability of slopes and slopes, as well as the morphology,	Theoretical mechanics, Fundamentals of classical mechanics, Resistance of materials, Applied mechanics, Engineering geology,	Fundamentals of financial literacy, Critical thinking, Managerial economics, Time management.

							dynamics and regional features of the upper horizons of the Earth's crust (lithosphere) and their relationship with engineering structures. It is important to correctly determine the physical, mechanical, and hydrological properties of the soils at the construction site (density, strength, subsidence, groundwater level, seismic activity, and other characteristics).	hydrogeology and soil mechanics, Geoinformation systems in geology and hydrogeology.	
		Hydraulics, hydrology, hydrometry	120	4	7	LO 6	The discipline develops students' skills and knowledge in the field of science and engineering, which study the properties of water and its behavior in both natural and artificial systems, as well as methods for measuring and analyzing water processes. These skills include the basics of hydraulics, hydrology and hydrometry, which allows students to effectively apply them to solving problems related to water resources management, design of hydraulic structures and environmental monitoring of water systems.	Theoretical mechanics, Fundamentals of classical mechanics, Resistance of materials, Applied mechanics, Engineering geology, hydrogeology and soil mechanics, Geoinformation systems in geology and hydrogeology, Foundations and foundations, Geotechnics in foundation engineering.	Managerial economics, Time management, Organization and planning of construction of transport facilitiesй, Organization of transport construction.
		Hydraulic engineering calculations and measurements					The discipline develops students' skills and knowledge in the field of engineering related to the analysis, design and operation of hydraulic structures such as dams, bridges, canals, reservoirs, pumping stations and other objects interacting with water. Students master the methods of hydraulic engineering calculations and measurements, which makes it possible to effectively solve problems related to the safety and stability of water bodies in various operational conditions.	Theoretical mechanics, Fundamentals of classical mechanics, Resistance of materials, Applied mechanics, Engineering geology, hydrogeology and soil mechanics, Geoinformation systems in geology and hydrogeology, Foundations and foundations, Geotechnics in foundation engineering.	Managerial economics, Time management, Organization and planning of construction of transport facilitiesй, Organization of transport construction.
BD	KB	Managerial economics					Formation of the conceptual apparatus and development of skills of economic analysis using modern models and patterns of economic science, consideration of economic problems and tasks facing the head of the company.	Theoretical mechanics, Fundamentals of classical mechanics, Resistance of materials, Applied mechanics,	Bridges and tunnels on highways, Artificial structures on highways, Organization and planning of construction of transport

							Studying this discipline will allow students to gain and develop knowledge in the field of analytical research of economic, technological and technical parameters of an enterprise, as well as to master the skills of using special methods of economic justification of management decisions and assessment of their consequences.	Engineering geology, hydrogeology and soil mechanics, Geoinformation systems in geology and hydrogeology, Foundations and foundations, Geotechnics in foundation engineering, Fundamentals of financial literacy, Critical thinking.	facilitiesй, Organization of transport construction.
BD	KB	Time management	90	3	6	LO 6	The discipline studies a system of methods, tools and approaches that are aimed at effective time management in order to achieve the tasks set. The course is designed to improve the skills of organizing and optimizing the use of working time, increase work productivity, reduce stress, planning, delegation, use of tools and technologies, as well as to know your time and energy rhythms in order to use your time effectively.	Theoretical mechanics, Fundamentals of classical mechanics, Resistance of materials, Applied mechanics, Engineering geology, hydrogeology and soil mechanics, Geoinformation systems in geology and hydrogeology, Foundations and foundations, Geotechnics in foundation engineering, Fundamentals of financial literacy, Critical thinking.	Bridges and tunnels on highways, Artificial structures on highways, Organization and planning of construction of transport facilitiesй, Organization of transport construction.
BD	KB	Automated design of oil and gas facilities					Students are trained in the use of computer technologies and specialized software for the development, modeling and optimization of design solutions in the field of oil and gas production, processing and transportation. The use of specialized software products reduces the number of errors related to the human factor and guarantees the accuracy of calculations and design decisions. For example, automated systems can integrate data from various design stages (geophysics, hydrodynamics, mechanics, etc.) and instantly update all relevant parts of	Oil and gas storage facilities, Pumping and compressor stations in the oil and gas industry, Fundamentals of reliability of pipeline systems, Technological reliability of main pipelines, Technology of construction of oil and gas facilities, Technological processes	Maintenance and repair of oil and gas storage facilities, Production practice 2/ Pre-graduate practice, Diagnostics of oil and gas facilities, Monitoring of the technical condition of oil and gas facilities, Estimated pricing in architecture and construction, Minor program 3.

							the project.	of construction of oil and gas facilities, Information modeling technology in architecture and construction, Minor program 1.	
		Automated design systems for oil and gas facilities	120	4	8	PO 7,10	The discipline studies the formation of students' skills in working with specialized software designed to automate the design and development of various facilities in the oil and gas industry. These systems can improve the accuracy and speed of design, improve coordination between different departments, and effectively manage data and documentation. The main purpose of CAD is to automate routine and time—consuming design processes, such as creating drawings, calculating structures, modeling engineering systems, and creating documentation. This significantly reduces the time spent on design and improves the accuracy of calculations.	Oil and gas storage facilities, Pumping and compressor stations in the oil and gas industry, Fundamentals of reliability of pipeline systems, Technological reliability of main pipelines, Technology of construction of oil and gas facilities, Technological processes of construction of oil and gas facilities, Information modeling technology in architecture and construction, Minor program 1.	Maintenance and repair of oil and gas storage facilities, Production practice 2/ Pre-graduate practice, Diagnostics of oil and gas facilities, Monitoring of the technical condition of oil and gas facilities, Estimated pricing in architecture and construction, Minor program 3.
BD	KB	Fundamentals of reliability of pipeline systems	120	4	7	LO 8	The discipline studies the formation of students' analysis and risk management related to the operation of pipelines, as well as the development of measures aimed at minimizing the likelihood of their destruction or emergency situations. Key aspects include the following. The main goal is to ensure uninterrupted transportation of materials through pipelines, which is critical for industries such as the oil and gas and chemical industries, where even short-term disruptions can lead to significant economic and environmental consequences.	Engineering geology, hydrogeology and soil mechanics, Geoinformation systems in geology and hydrogeology, Foundations and foundations, Geotechnics in foundation engineering.	Bridges and tunnels on highways, Artificial structures on highways, Design of oil and gas storage facilities, Modernization of oil depots and gas tanks, Organization and planning of construction of transport facilitiesй, Organization of transport construction.
		Technological reliability of main pipelines					The discipline studies the formation of students' knowledge about the purpose of pipeline systems that ensure uninterrupted and safe transportation of various substances (oil, gas, chemical and other liquids) for a long time	Engineering geology, hydrogeology and soil mechanics, Geoinformation systems in geology and	Bridges and tunnels on highways, Artificial structures on highways, Design of oil and gas storage facilities,

							while minimizing the risk of accidents, breakdowns and failures. The main goal is to minimize the risks of accidents, such as leaks, explosions, fires, or other accidents that may cause damage to people, the environment, or the economy.	hydrogeology, Foundations and foundations, Geotechnics in foundation engineering.	Modernization of oil depots and gas tanks, Organization and planning of construction of transport facilitiesй, Organization of transport construction
BD	KB	Machinery and equipment for the construction and repair of oil and gas facilities	120	4	8	LO 8	The discipline studies students' knowledge in the field of specialized equipment used for installation, maintenance, repair and reconstruction of oil and gas industry facilities such as drilling rigs, gas processing plants, pipelines, platforms and other structures. These machines and equipment play a key role in ensuring the safety, efficiency and reliability of all processes related to the extraction, transportation and processing of hydrocarbons.	Engineering geology, hydrogeology and soil mechanics, Geoinformation systems in geology and hydrogeology, Foundations and foundations,	Modernization of oil depots and gas tanks, Organization and planning of construction of transport facilitiesй, Organization of transport construction.
		Machines and mechanisms in pipeline construction					The discipline studies the formation of students' knowledge in the field of automation and mechanization of labor-intensive processes, increasing productivity, reducing the impact of the human factor and increasing safety on construction sites. Machines and mechanisms help to speed up the installation of pipelines, ensure the accuracy and high quality of connections, as well as ensure operation in difficult and adverse conditions. The use of mechanized processes reduces the likelihood of human error, which is critically important in the construction of pipeline systems, where high accuracy is of great importance for durability and reliability of operation.	Engineering geology, hydrogeology and soil mechanics, Geoinformation systems in geology and hydrogeology, Foundations and foundations,	Modernization of oil depots and gas tanks, Organization and planning of construction of transport facilitiesй, Organization of transport construction.
		Technology of construction of oil and gas facilities					The discipline studies the formation of students' knowledge in the field of ensuring an effective, safe and economically sound process for the design, construction and commissioning of facilities related to the extraction, processing, transportation and storage of oil and gas. The construction of such facilities includes the use of advanced technologies and materials to minimize risks, reduce environmental impact,	Engineering geology, hydrogeology and soil mechanics, Geoinformation systems in geology and hydrogeology, Bridges and tunnels on highways..	Machinery and equipment for the construction and repair of oil and gas facilities. Machines and mechanisms in pipeline construction. Diagnostics of oil and gas facilities. Monitoring the technical condition of oil and gas

BD	KB		180	6	7	LO 7,10	and increase the durability and reliability of facilities.		facilities. Regulatory and technical documentation in the oil and gas industry. Minor program 2. Estimated pricing in architecture and construction. Minor program 3.
		Technological processes of construction of oil and gas facilities				LO 7	The discipline studies the formation of students' skills in working with specialized software tools designed to automate the design and development of various facilities in the oil and gas industry. These systems can improve the accuracy and speed of design, improve coordination between different departments, and effectively manage data and documentation.	Engineering geology, hydrogeology and soil mechanics, Geoinformation systems in geology and hydrogeology, Bridges and tunnels on highways..	Machinery and equipment for the construction and repair of oil and gas facilities. Machines and mechanisms in pipeline construction. Diagnostics of oil and gas facilities. Monitoring the technical condition of oil and gas facilities. Regulatory and technical documentation in the oil and gas industry. Minor program 2. Estimated pricing in architecture and construction. Minor program 3.
BD	KB	Organization and planning of construction of transport facilities	150	5	8	LO 7	The discipline studies the formation of students' analysis and risk management related to the operation of pipelines, as well as the development of measures aimed at minimizing the likelihood of their destruction or emergency situations. Key aspects include the following.	Road construction machinery and equipment, Artificial structures on highways, Minor program 1.	Machinery and equipment for the construction and repair of oil and gas facilities. Machines and mechanisms in pipeline construction. Diagnostics of oil and gas facilities. Monitoring the technical condition of oil and gas facilities. Regulatory and technical documentation in the oil and gas industry. Minor program 2. Estimated pricing in architecture and construction. Minor program 3.
		Organization					The discipline studies the formation of students'	Road construction	Machinery and equipment

		of transport construction					knowledge about the purpose of pipeline systems that ensure uninterrupted and safe transportation of various substances (oil, gas, chemical and other liquids) for a long time while minimizing the risk of accidents, breakdowns and failures.	machinery and equipment, Artificial structures on highways, Minor program 1.	for the construction and repair of oil and gas facilities. Machines and mechanisms in pipeline construction. Diagnostics of oil and gas facilities. Monitoring the technical condition of oil and gas facilities. Regulatory and technical documentation in the oil and gas industry. Minor program 2. Estimated pricing in architecture and construction. Minor program 3.
BD	KB	Diagnostics of oil and gas facilities	150	5	9	LO 5	The discipline studies the formation of students' knowledge and skills necessary to assess the technical condition of oil and gas infrastructure facilities. This includes the study of methods and tools for diagnosis, control and monitoring of the condition of structures, equipment and systems used in the oil and gas industry. An important task is to identify defects, corrosion, cracks and other damages at an early stage, which helps prevent accidents, improve operational safety and extend the service life of facilities.	Technology of construction of oil and gas facilities. Technological processes of construction of oil and gas facilities. Organization and planning of construction of transport facilities. Organization of construction production. Regulatory and technical documentation in the oil and gas industry. Minor program 2.	Maintenance and repair of oil and gas storage facilities. Production practice 2/ Pre-graduate practice. Estimated pricing in architecture and construction. Minor program 3.
		Monitoring of the technical condition of oil and gas facilities					The discipline studies the formation of students' knowledge and skills necessary for conducting regular inspections, diagnostics and monitoring of the condition of oil and gas infrastructure facilities. This includes the study of control methods and technologies aimed at timely detection of defects, damage and wear of structures, equipment and systems. An important task is to ensure the safety of operation, prevent accidents and breakdowns, as well as optimize maintenance and repair processes in order to increase the service life of	Technology of construction of oil and gas facilities. Technological processes of construction of oil and gas facilities. Organization and planning of construction of transport facilities. Organization of construction production. Regulatory and technical	Maintenance and repair of oil and gas storage facilities. Production practice 2/ Pre-graduate practice. Estimated pricing in architecture and construction. Minor program 3.

							facilities and minimize the cost of their operation.	documentation in the oil and gas industry. Minor program 2.	
BD	KB	Information modeling technology in architecture and construction	90	3	7	LO 4	The discipline studies the formation of students' knowledge and skills necessary for conducting regular inspections, diagnostics and monitoring of the condition of oil and gas infrastructure facilities. This includes the study of control methods and technologies aimed at timely detection of defects, damage and wear of structures, equipment and systems. An important task is to ensure the safety of operation, prevent accidents and breakdowns, as well as optimize maintenance and repair processes in order to increase the service life of facilities and minimize the cost of their operation.	Fundamentals of reliability of pipeline systems. Technological reliability of main pipelines. Technology of construction of oil and gas facilities. Technological processes of construction of oil and gas facilities.	Automated design of oil and gas facilities. Automated design systems for oil and gas facilities. Machinery and equipment for the construction and repair of oil and gas facilities. Machines and mechanisms in pipeline construction. Organization and planning of construction of transport facilities. Organization of construction production.
		Minor program 1				LO 4, 6	The first of the three disciplines, which allows you to form additional professional competencies in various subject areas. The program allows students to study disciplines in another field of knowledge that complements their main specialization (major). This helps to develop interdisciplinary thinking and provides an opportunity to gain additional skills and knowledge that may be useful in the future. In general, the aim is to provide students with the opportunity to expand their professional training, improve interdisciplinary skills and increase their competitiveness in the labor market..	Fundamentals of reliability of pipeline systems. Technological reliability of main pipelines. Technology of construction of oil and gas facilities. Technological processes of construction of oil and gas facilities.	Automated design of oil and gas facilities. Automated design systems for oil and gas facilities. Machinery and equipment for the construction and repair of oil and gas facilities. Machines and mechanisms in pipeline construction. Organization and planning of construction of transport facilities. Organization of construction production.
		Regulatory and technical documentation in the oil and gas industry				LO 11	The discipline studies the formation of students' knowledge and skills necessary to understand and apply the regulatory and technical documentation governing the design, construction, operation and safety of oil and gas infrastructure facilities. This includes the study of standards, technical regulations, norms and rules, as well as the ability to work effectively with various types of documentation that ensure compliance with legal requirements, industrial safety and quality at all stages of the life cycle of oil and gas facilities. An important task is to	Fundamentals of reliability of pipeline systems. Technological reliability of main pipelines. Technology of construction of oil and gas facilities. Technological processes of construction of oil and gas facilities. Information modeling technology in	Automated design of oil and gas facilities. Automated design systems for oil and gas facilities. Machinery and equipment for the construction and repair of oil and gas facilities. Machines and mechanisms in pipeline construction. Organization and planning of construction of transport

							train specialists who are able to correctly interpret and implement regulatory requirements to ensure safe, efficient and environmentally sustainable activities in the industry.	architecture and construction. Minor program 1.	facilities. Organization of construction production. Estimated pricing in architecture and construction. Minor program 3.
		Minor program 2	90	3	8	LO 4,6,11	The second of the three disciplines, which allows you to form additional professional competencies in various subject areas.. The program helps to develop skills that are useful in various professions, such as analytical skills, information processing, critical thinking and creativity. This makes students more flexible and ready to solve complex tasks in different fields and at that time.	Fundamentals of reliability of pipeline systems. Technological reliability of main pipelines. Technology of construction of oil and gas facilities. Technological processes of construction of oil and gas facilities. Information modeling technology in architecture and construction. Minor program 1.	Automated design of oil and gas facilities. Automated design systems for oil and gas facilities. Machinery and equipment for the construction and repair of oil and gas facilities. Machines and mechanisms in pipeline construction. Organization and planning of construction of transport facilities. Organization of construction production. Estimated pricing in architecture and construction. Minor program 3.
BD	KB	Estimated pricing in architecture and construction				LO 11	The discipline studies the formation of students' knowledge and skills related to the process of determining the cost of construction, repair and reconstruction of facilities based on the calculation of all costs associated with the performance of work and the use of materials. Estimated pricing includes the development of estimates that help to accurately plan costs, assess the financial needs of the project and effectively manage resources at all stages of construction.	Automated design of oil and gas facilities. Automated design systems for oil and gas facilities. Machinery and equipment for the construction and repair of oil and gas facilities. Machines and mechanisms in pipeline construction. Organization and planning of construction of transport facilities. Organization of construction production. Regulatory and technical documentation in the oil and gas industry. Minor	Maintenance and repair of oil and gas storage facilities. Production practice 2/ Pre-graduate practice. Diagnostics of oil and gas facilities. Monitoring of the technical condition of oil and gas facilities.

								program 2.	
		Minor program 3	90	3	9	LO 4,6,11	The third of the three disciplines, which allows you to form additional professional competencies in various subject areas. The minor program gives students the opportunity to explore an additional area of knowledge that may be useful for their main profession. This helps to create a more harmonious and broad education, where knowledge from related disciplines is integrated with the main specialization in the oil and gas industry.	Automated design of oil and gas facilities. Automated design systems for oil and gas facilities. Machinery and equipment for the construction and repair of oil and gas facilities. Machines and mechanisms in pipeline construction. Organization and planning of construction of transport facilities. Organization of construction production. Regulatory and technical documentation in the oil and gas industry. Minor program 2.	Maintenance and repair of oil and gas storage facilities. Production practice 2/ Pre-graduate practice. Diagnostics of oil and gas facilities. Monitoring of the technical condition of oil and gas facilities.
BD	KB	Service to society	30	1	1	LO 11	The discipline studies the formation of students' knowledge and skills necessary for active participation in society. One of the manifestations of such activity is service to society — voluntary activity for the benefit of other people and society as a whole. This can take various forms: helping those in need, participating in charity, volunteering, protecting the environment, as well as working in the fields of education, healthcare, and culture. Such forms of service contribute to the development of social responsibility, humanity and civic engagement.	Physical Culture. Foreign language. Kazakh (Russian) language. Engineering mathematics 1. Construction Physics. Engineering graphics and computer modeling. Theoretical mechanics. Fundamentals of classical mechanics	FINAL CERTIFICATION
		Business communications					The discipline studies the formation of students' knowledge and skills necessary for successful interaction in a professional environment. One of the key aspects is the process of information exchange between people in the business sector in order to achieve common goals. Such business communications include both oral and	Physical Culture. Foreign language. Kazakh (Russian) language. Engineering mathematics 1. Construction Physics. Engineering graphics and	FINAL CERTIFICATION

							written communication, and can occur both within an organization (internal communications) and outside it (external communications). Effective mastery of these skills contributes to productive work, mutual understanding and the development of business relationships.	computer modeling. Theoretical mechanics. Fundamentals of classical mechanics	

Head of the Department of Architectural and Construction Engineering, _____ **K.S. Kulmanov.**