

Institute of Architecture and Construction. T.K. Basenova Department of Construction and Building Materials

EDUCATIONAL PROGRAM 6B07118 ''Transport facilities'' code and name of the educational program

Code and classification of the field of education: 6B07 Engineering, Manufacturing and Civil engineering Code and classification of areas of study: 6B071 Engineering and engineering trades Group of educational programs: B166 Transport facilities NQF level: 6 ORC level: 6 Duration of study: 4 years Credits: 240

Almaty 2023

Educational program 6B07118 "Transport facilities" was approved at a meeting of the Academic Council of KazNITU named after. K.I. Satpaeva.

Minutes No 5 dated « 24 » november 2022.

Considered and recommended for approval at a meeting of the Educational and Methodological Council of KazNITU named after. K.I. Satpaeva.

Minutes No 3 dated « 17 » november 2022.

Educational program 6B07118 "Transport facilities" was developed by the academic committee in the direction " Engineering and engineering trades"

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1. Description of the educational program

sphereprofessional activity can be the following industries: transport and communication, construction, oil and gas, machine building, chemical, manufacturing, industry.

Objects professional activities are: building assembly departments and organizations of transport construction, research and design institutes, in metro and road construction organizations, in centers for diagnosing the operational state of bridge and tunnel structures, as managers of construction and installation works. oil and gas enterprises, enterprises By repair of road construction machinery and equipment, joint-stock companies associations for the construction of bridges andgas and oil pipelines, laboratories for technical diagnostics of pipelines, gas and oil pipelines, for quality control and certification of building materials and products.

Subjects of professional activity: organization and conduct of construction work, organization and conduct of work on the operation of bridges and gas and oil pipelines and technical equipment, work in research organizations under the guidance of leading experts, organization, planning and management in bridge and tunnel construction.

Types of professional activity. Bachelors by specialty

"Transport facilities" can perform the following types of professional activities:

- production and management - to manage teams that carry out construction and installation work on the construction, operation and reconstruction of bridges and gas and oil pipelines, gas and oil storage facilities, transport facilities; for the operation and repair of road-building machines, mechanical, electrical equipment and automation equipment; technological lines for the production of road building materials and products;

- design and development - to carry out design and development work on the construction and reconstruction of transport facilities, technical structures, engineering systems, mechanical and electrical equipment.

- design and survey - to organize and carry out work on engineering-geological, engineering-geodetic surveys in the design of transport construction facilities, highways, airfields, bridges and tunnels;

- organizational and technological - to organize the work of construction, production organizations and transport construction enterprises;

- scientific and pedagogical - to participate in the implementation of research work and conduct scientific and pedagogical activities in educational organizations.

Directions of professional activity: design, construction and operation of transport construction facilities and technical structures, production of road building materials, products and structures.

The content of professional activity: to make calculations of the elements of

bridge structures of transport construction, draw up technical solutions, participate in the development of technical specifications for the construction and reconstruction of transport construction objects, taking into account the requirements of ecology and life safety, perform construction and installation works, develop options for a bridge structure; technology for the production of works in the construction of bridge structures and gas oil pipelines and gas storage facilities.

2. Purpose and objectives of the educational program

Purpose of the OP: Training of highly qualified personnel with professional competencies, taking into account the growing requirements for the quality of specialists with the necessary theoretical knowledge and practical skills in the design, calculation, installation, reconstruction and operation of transport facilities of the transport infrastructure, in particular highways, oil and gas pipelines, bridges, tunnels and subways, capable of quickly adapting to dynamically changing socio-economic conditions.

Objectives of the educational program:

- 1. Assistance in the formation of the graduate's abilities:
- 1) demonstrate developmental knowledge and understanding gained at the higher education level that is the basis or opportunity for original development or application of ideas, often in the context of scientific research;
- 2) apply knowledge, understanding and ability to solve problems in new or unfamiliar situations in contexts and within broader (or interdisciplinary) areas related to the field of study;
- 3) integrate knowledge, cope with complexity and make judgments based on incomplete or limited information, taking into account the ethical and social responsibility for the application of these judgments and knowledge;
- 4) clearly and clearly communicate their conclusions and knowledge and their rationale to specialists and non-specialists;
- 2. Assistance in the formation of a graduate's readiness:
- 1) develop design documentation for the creation and modernization of transport construction;
- 2) carry out design and calculation work on the modernization of existing transport construction facilities;
- 3) develop technical documentation and methodological materials, proposals and measures for the creation and modernization of transport construction facilities.
- 4) conduct a feasibility study, a comprehensive justification of the decisions

made and implemented in the field of operation, repair and maintenance of transport construction facilities, their units, systems and elements;

5) apply the results in practice, the desire for self-development, improving their qualifications and skills.

6) to the economical and safe use of natural resources, energy and materials during the operation, repair, maintenance of transport facilities and structures.

3. Requirements for evaluating the learning outcomes of an educational program

3.1 Entry requirements

Admission of applicants to higher educational institutions is carried out on applications on a competitive basis in accordance with the scores of the certificate issued on the basis of the results of the unified national testing (UNT) or comprehensive testing (CT) conducted using technologies developed by the National Testing Center (NTC) of the Ministry of Education and Science of the Republic of Kazakhstan, on the basis of Model rules for admission to study in educational organizations that implement professional training programs of higher education, approved by the Decree of the Government of the Republic of Kazakhstan dated January 19, 2012

No. 111 (with amendments and additions as of 07/04/2014). The applicant must have a state document on secondary (complete) general education or secondary vocational education. For specialty

"Transport facilities" in the Kazakh National Research Technical University named after K. Satpayev enrolled graduates of general secondary education of the current year, who passed the UNT and participants in complex testing, who scored at least 70 points according to the test results.

Applicants are tested in the following subjects: the state or Russian language (the language of instruction), the history of Kazakhstan, mathematics and physics. Students are enrolled if they receive at least 7 points in mathematics, and in other subjects - at least 4 points. In case of receiving less than 4 points in one of the subjects taken as part of the UNT or comprehensive testing, persons are not allowed to enroll in paid education or participate in the competition for the award of educational grants.

3.2 Requirements for completing studies and obtaining a diploma

Description of mandatory standard requirements for graduation from a university and the award of an academic degree of a bachelor of engineering and technology in the field of construction and operation of transport facilities: mastering at least 240 academic credits of theoretical training and final thesis.

4. Passport of the educational program

4.1.General information

No.	Field name	Note
1	Code and classification of the	6B07 Engineering, Manufacturing and Civil
	field of education	engineering
2	Code and classification of areas of study	6B071Engineering and engineering trades
3	Group of educational programs	B166-Transport facilities
4	Name of the educational program	6B07118 "Transport facilities"
5	Brief description of the educational program	The sphere of professional activity can be the following industries: transport and communication, construction, oil and gas, engineering, chemical, manufacturing, industry.
6	Purpose of the OP	Training of highly qualified personnel with professional competencies, taking into account the growing requirements for the quality of specialists with the necessary theoretical knowledge and practical skills in the design, calculation, installation, reconstruction and operation of transport facilities of the transport infrastructure, in particular highways, oil and gas pipelines, bridges, tunnels and subways, capable of quickly adapting to dynamically changing socio-economic conditions.
7	OP type	new
8	NQF level	6
9	ORC level	6
10	Distinctive features of the OP	No
eleven	List of competencies of the	B - Basic knowledge,
	educational program:	P - Professional competencies.
		M - Universal social and ethical competencies:
		C - Special and managerial competencies:
12	Learning outcomes of the	Result 1
	educational program:	Determine the basic laws of mechanics, general calculation methods, principles of design and construction, construction models and calculation algorithms according to the main performance criteria, when assessing the reliability of a structure under operating conditions. Result 2 Solve a set of issues related to the relationship of technical, operational and economic indicators of transport operation with technological conditions and factors affecting the efficiency of the use of the material and technical base, as

	anti-corruption culture, fixed assets, capital investments, investments.
	Result 3
	Show skills for solving engineering and geological issues, bases and foundations of transport facilities, in preparing design and feasibility studies for their projects, participate in the preparation of project documentation.
	Apply the basic rules and tasks of construction production, types and features of the main processes in the construction of structures and their equipment, modern methods for
	calculating pavement and technologies for their implementation on roads and railways, including documenting technological solutions at the design and implementation stage.
	Result 5
	Use design methods and mathematical modeling, principles of organization and management of bridge-tunnel and oil and gas production to determine the degree of stability,
	durability, reliability and cost-effectiveness of structures of artificial structures during operation and reconstruction using lifting mechanisms and machines, using general
	construction machines and equipment.
	Result 6
	gas pipeline systems, aboveground and underground gas storage facilities, bridges, tunnels, pipes and transport
	facilities.
	Result 7 Solve a set of issues related to the renair of tunnels and
	subways and the operation of oil pipeline transportation systems and study the types of maintenance and repair of oil
	and gas pipelines, oil and gas storage facilities, know the purpose of pumping and compressor stations, and also show
	the basic provisions for diagnosing oil and gas facilities, bridges tunnels and subways
	Result 8
	Use the knowledge of fundamental systems (mathematical, natural science, engineering and electrical) to recognize.
	detect and solve engineering problems, to obtain theoretical and practical knowledge about the laws of physics and electrical circuits in the field of transport facilities.
	Result 9
	Apply and develop the basic provisions of scientific works, research activities in the transport facility, and develop new patents for the transport facility.
	Result 10
	Solve a number of tasks related to the design and operation of oil pipeline transportation systems, and technological

		calculations of intrabase pipelines, issues of designing an oil depot or an oil and gas storage facility for receiving and
		storing, develop projects for bridge crossings and tunnel
		crossings, maintenance and repair of bridges, pipes, tunnels
		and subways .
		Result 11
		Apply the skills of linear constructive construction and the
		principles of choosing a technique for the execution of a
		particular object in the computer-aided design of roads using
		graphic complexes, the production and operation of road
		works, the main methods, methods and means of obtaining,
		storing, processing information, information technology,
		organizing landscape design systems roads and airfields.
		Result 12
		Determine the rules for ensuring traffic safety on railways,
		roads and artificial structures, the rules for the technical
		operation of transport facilities, technical regulations for transport infrastructure, acology and life sofety issues
		Persuit 13
		Δ poly in practice the methods of performing geodetic work
		during the construction and operation of transport facilities
		the principles of geotechnical research and the choice of
		structural materials for use in production and construction
		processes, regulatory and technical documentation, the
		basics of metrology, standardization and certification.
13	Form of study	full-time
14	Training period	4 years
15	Volume of loans	240
16	Languages of instruction	Kaz, Russian
17	Awarded Academic Degree	Bachelor of Engineering and Technology in
		areasconstruction and production of building materials and
		structures.
18	Developer(s) and authors:	Department "SiSM"No. 401-P/O dated 11/23/2022

4.2. The relationship between the achievability of the formed learning outcomes in the educational program and academic disciplines

No.	Name of the discipline	Brief description of the	Number of				F	ormed	learni	ng out	comes	(code	s)			
		discipline	credits	PO1	PO2	PO3	PO4	RO5	RO6	RO7	RO8	RO9	RO10	RO11	RO12	RO13
		Cycle	e of general e	ducati	on dis	sciplin	les									
		- 0	Required	Comp	onent	T										
			1	der og til o	. diasi											
		C	cie of general e	Compo	n aisci	piines										
			-	Compo	ment	1	1	1	1	1	1	1	r	,		
1	Fundamentals of anti-	The course introduces students to	5		+											
	corruption culture and law	the improvement of socio-														
		economic relations of														
		Kazakhstan society,														
		psychological features of corrupt														
		behavior. Special attention is														
		paid to the formation of an anti-														
		corruption culture, legal														
		responsibility for acts of														
		corruption in various spheres.														
		The purpose of studying the														
		discipline «Fundamentals of														
		anti-corruption culture and law»														
		is to increase public and														
		individual legal awareness and														
		legal culture of students, as well														
		as the formation of a knowledge														
		system and a civic position on														
		combating corruption as an														
		antisocial phenomenon.														
		Expected results: to realize the														
		values of moral consciousness														
		and follow moral norms in														
		everyday practice; to work on														
		improving the level of moral and														
		legal culture; to use spiritual and														
		moral mechanisms to prevent														
		corruption.														

2	Fundamentals of scientific	The nurnose of studying the 5						L		
2	research methods	discipling is on the basis of						т		
	research methods	theoretical and practical								
		knowledge, to ensure the								
		knowledge, to ensure the								
		adoption of evidence-based								
		decisions in the performance of								
		professional tasks. In the process								
		of achieving the goal, tasks such								
		as the formation of a scientific								
		way of thinking, the acquisition								
		of a complex of knowledge								
		about the methodology of								
		scientific knowledge and								
		creativity, familiarization with								
		the fundamental principles of								
		planning and organizing								
		scientific work in relevant areas.								
3	Fundamentals of economics	Discipline studies the 5		+						
	and entrepreneurship	foundations of economics and								
		entrepreneurial activity from the								
		point of view of science and law;								
		features, problematic aspects and								
		development prospects; the								
		theory and practice of								
		entrepreneurship as a system of								
		economic and organizational								
		relations of business structures;								
		The readiness of entrepreneurs								
		for innovative susceptibility. The								
		discipline reveals the content of								
		entrepreneurial activity, the								
		stages of career, qualities,								
		competencies and responsibility								
		of the entrepreneur, theoretical								
		and practical business planning								
		and economic examination of								
		business ideas, as well as the								
		analysis of the risks of								
		innovative development, the								
		introduction of new technologies								
		and technological solutions.								

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7		The course is devoted to the	5				+			
		study of the basic concepts of								
		higher mathematics and its								
		applications. The main								
		provisions of the discipline are								
		applied in the teaching of all								
		general education engineering								
		and special disciplines taught by								
		graduate departments. The								
		course sections include elements								
		of linear algebra and analytical								
		geometry, an introduction to								
		analysis, differential calculation								
		of functions of one and several								
	Mathematics I	variables. Methods for solving								
		systems of equations, problems								
		of using vector calculations in								
		solving problems of geometry,								
		mechanics, and physics are								
		considered. Analytical geometry								
		on a plane and space, differential								
		calculation of functions of one								
		variable, derivatives and								
		differentials, study of the								
		behavior of functions, derivative								
		and gradient in direction.								
		extremum of a function of								
		several variables.								
8		The discipline is a continuation	5				+			
0		of Mathematics L sections of the	0							
		course include integral calculus								
		of a function of one variable and								
		several variables series theory								
		Indefinite integrals their								
	Mathematics II	properties and methods of their								
		calculation Certain integrals and								
		their application Incorrect								
		integrals Numerical series								
		theory functional series theory								
		Taylor and Macloren Series								
		application of series to								
		application of series to								

		approximate calculations									
0 0	acupational health and	The discipline contributes to the	5								
9 0	afety at industry	formation of students	5								
54	arcty at moustry	knowledge, abilities and skills									
		knowledge, admites and skins								Ŧ	
		ways of protocting workers at									
		industry identifying dengerous									
		and hormful industrial factors									
		and marinium industrial factors									
		and mastering the methods of									
		calculating protec-tion against									
		them. The discipline acquaints									
		students with the regulatory									
		framework for occupational									
		health and safety, the study of									
		harmful industrial factors,									
		familiarization with the causes of	ĺ								
		accidents and occupational									
		diseases at work, the main									
		measures to protect workers at									
		the enterprise.									
10 M	Iodern methods of	The discipline studies modern	4			+					
ca	alculating pavement	approaches to the design of road									
	81	structures, calculations for shear									
		resistance, according to the									
		criteria of longitudinal and									
		transverse evenness, and									
		methods that allow taking into									
		account the effect of damage									
		accumulation, as well as the									
		impact of dynamic loading.									
11		The discipline studies the	5	+							
		behavior of various materials									
		under the influence of force and									
		temperature factors, methods for									
		calculating the most common									
B	Suilding mechanics 1	elements of machines and									
		structures for strength rigidity									
		and stability, determining									
		stresses and deformations in									
		parts with rational satisfaction of									
		reliability and cost-effectiveness									

image: construction image: construction image: construction 12 Building structures This discipling reflects the current state of theory and practice of building structures industrial buildings; It contains general information about physic - mechanical properties of structure materials, the basis for calculating structures industrial buildings; It contains industrial buildings; structures industrial buildings; structures of the group of limiting structures of the group of limiting structure of the group of limiting structure of the group of limiting structure of the discipline studies in solution of systex as a science on the dovelopment of technology: connection of physics with other sciences and general information about general information in the discipline studies and a general information about general information information about general information information about general informatindiante general information informabout general informatio														
12 Building structures This discipline reflects the 5 in current state of theory and practice of building structures ladustrial buildings; it contains general information about physic industrial properties of structural laternials, the basis for calculating its current of the group of fluinting structure of the group of fluinting structure of the group of fluinting structure is the basis for calculating the structure of the group of fluinting structure is the basis for calculating the structure of the group of fluinting structure is the basis for calculating the structure of the group of fluinting structure is the basis for classical and modern physics: methods of physical research, the influence of physics as a science on the development of technology; connect, the influence of physics as a science on the development of technology; connect the following sections: mechanics and problems of the specially. The course covers the following sections: mechanics, mechanics of physical research in the following sections: mechanics, mechanics, mechanics of physics was science in the following sections: mechanics, mecha			requirements.											
13 Physics Physics devices the following structures, industrial buildings, methods of physics; mechanical properties of structural materials, the basis for calculating structural elements industrial buildings, methods of calculating structural elements in a science on the development of the group of limiting states. 13 The course studies the basis physical phenomena and laws of classical and modern physics; methods of physical research; the influence of physics as a science on the development of technology; connection of physics as a science on the development of technology; connection of physics, methods of the sciences and technical problems of the technical of the technical problems of the technical pr	12	Building structures	This discipline reflects the	5	+									
industrial buildings: The contains general information about physic - mechanical properties of structural materials, the basis for calculating structural clements industrials, the basis for calculating structural clements industrials, the basis for calculating structural clements industrials, the basis of classical and modern physics: methods of classical and modern physics: methods of physical research: the influence of molecular kinetic theory and theremodynamics, electrostatics, direct current, electrostatics, dire			current state of theory and											
Industrial buildings; It contains general information about physic mechanical properties of structural americals, the basis for calculating structural elements Industrial buildings, methods of calculating structural elements Industrial buildings, methods of calculating the structure of the group of limiting states. 13 The course studes the basic of classical and modern physics; methods of physical research; the influence of physics as a science on the development of technology; connection of physics; methods, methods of physics with other sciences and its role in solving sciencing mechanics, mechanical problems of the specially. The course covers the following sections; mechanics, mechanical harmonic waves, fundamentals of molecular kinetic theory and thermodynamics, electrostatics, direct current, electromagnetism, genometric optics, wave properties of light, laws of thermal radiation, photoelectric effect. 14 Computer-aided design in ransport construction The discipline studies use of optiment of thermal physics; subject on systems 6 specially. The discipline studies use of equations, interpolation tabular 6 specially. The discipline studies use of systems			practice of building structures											
information about physic incohering apporties of structural materials, the basis for calculating structure of the group of limiting states. 13 The course studies the basis physical phenomena and laws of classical and modern physics; methods of physical research; the influence of physics are science on the development of technology; connection of physics with other sciences and its role in solving sections; mechanics, mechanical hummoir; electronsgnetism, geometric optics, waves fundamentals of molecular kinetic theory and thermodynamics, electrostatics, direct current, electronagnetism, geometric optics, wave properties of light, laws of thermal radiation, photoelectric effect. 14 Computer-aided design in transport construction The disciplines of systems of systems in enjoyering sciencing of the geometric solution of the geometric optics, wave properties of light, laws of thermal radiation, photoelectric effect. 6 spload the science of spload thermoir spload science of the geometric solution of the geometric solution of systems squations, the construction of spload thermoir solution sciences and the science and thermodynamics, electrostatics, direct current, electronagnetism, geometric solution of systems squations, interpolation tabular functions, the construction of the spload thermoir spload thermoir solution sciences and the spload thermoir spload the spload thermoir spload thermoir spload the spload thermoir solution sciences and transport construction the disciplines the construction spload thermoir spload thermoir spload the spload thermoir spload thermoir spload the spload thermoir spload thermoir spload thermoir spload the spload thermoir spload thermoir spload the spload thermoir spload thermoir spload thermoir spload the spload thermoir spload thermoir spload thermoir spload thermoir spload therm			Industrial buildings; It contains											
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Image: structural materials, the basis for calculating structural elements industrial buildings, methods of calculating the structure of the group of limiting states. 5 13 The course studies the basic 5 13 The course studies the basic 5 14 The course studies the basic of the group of limiting states. 5 13 The course studies the basic of classical and modern physics; methods of physical phenomena as a science on the development of the chology; connection of physics as a science on the development of the chology; connection of physics with other sciences and its role in solving scientific and technical problems of the speciality. The course covers the following sections: mechanics, mechanical harmonic waves, inchanical harmon			-mechanical properties of											
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13 The course studies the basic \$ 13 The course studies the basic \$ 13 The course studies the basic \$ 13 Physical phenomena and laws of classical and modern physics; methods of physical research; the influence of physics as a science on the development of technology; connection of physics with other sciences and its role in solving scientific and technical problems of the following scientific and technical problems of the following scientific and technical problems of the following scientific, methods of molecular kinetic theory and thermodynamics, electrostatics, direct current, electromagnetism, geometric optics, wave properties of light, laws of thermal radiation, photoelectric effect. Image: Cycle of basic disciplines Optional component 14 Computer-aided design in transport construction The discipline studies use of spreadsheets in engineering calculations, determination of the geometric solution of systems equations, interpolation tabular functions the construction 6			Industrial buildings, methods of											
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13 The course studies the basic 5 physical phenomena and laws of classical and modern physics; methods of physical research; the influence of physics as a science on the development of technology; connection of physics as a science and its role in solving scientific and technical problems of the specialty. The course covers the following sections: mechanics, mechanical momonic waves, fundamentals of molecular kinetic theory and thermodynamics, electrostatics, direct current, electrostatics, electrostaticurrention of systems			group of limiting states.											
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Image: classical and modern physics; methods of physical research; the influence of physics as a science on the development of technology; connection of physics with other sciences and its role in solving scientific and technology; connection of physics with other sciences and its role in solving scientific and technology; connection of physics, with other sciences and its role in solving scientific and technology; connection of physics, with other sciences and its role in solving scientific and technology; connection of physics, with other sciences and its role in solving scientific and technology; connection of physics, with other sciences and its role in solving scientific and technology; connection of physics, wave geometric optics, wave properties of light, laws of thermal radiation, photoelectric effect. If Computer-aided design in ransport construction spreadsheets in engineering calulations, determination	-		physical phenomena and laws of	-										
Image: methods of physical research; the influence of physics as a science on the development of technology; connection of physics with other sciences and its role in solving scientific and technical problems of the specialty. The course covers the following sections: mechanics, mechanical harmonic waves, fundamentals of molecular kinetic theory and thermodynamics, electrostatics, direct current, electromagnetism, geometric optics, wave properties of light, laws of thermal radiation, photoelectric effect. 14 Computer-aided design in ransport construction The discipline studies use of spreadsheets in engineering calculations, determination of the geometric solution of systems equations, interpolation tabular functions, the construction of spreadsheets in engineering			classical and modern physics:											
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Image: Interview of the second sec			following sections: mechanics,											
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geometric optics, wave properties of light, laws of thermal radiation, photoelectric effect. Cycle of basic disciplines Optional component 14 Computer-aided design in transport construction The discipline studies use of spreadsheets in engineering calculations, determination of the geometric solution of systems equations, interpolation tabular functions, the construction of 6			direct current, electromagnetism.											
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thermal radiation, photoelectric effect. thermal radiation, photoelectric effect. Cycle of basic disciplines Optional component 14 Computer-aided design in transport construction The discipline studies use of spreadsheets in engineering calculations, determination of the geometric solution of systems equations, interpolation tabular functions, the construction of 6			properties of light, laws of											
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14 Computer-aided design in transport construction The discipline studies use of spreadsheets in engineering calculations, determination of the geometric solution of systems equations, interpolation tabular functions, the construction of			Cycle of	basic disciplin		Juona	I COM	ponen	LL					
transport construction spreadsheets in engineering calculations, determination of the geometric solution of systems equations, interpolation tabular functions, the construction of	14	Computer-aided design in	The discipline studies use of	6									+	1
calculations, determination of the geometric solution of systems equations, interpolation tabular functions, the construction of		transport construction	spreadsheets in engineering	0										ł
geometric solution of systems equations, interpolation tabular functions, the construction of			calculations, determination of the	2										
equations, interpolation tabular functions, the construction of			geometric solution of systems											
functions, the construction of			equations, interpolation tabular											
			functions, the construction of											

		design schemes for spans of								
		bridges and tunnel linings, the								
		bildges and tunner minigs, the								
		execution of drawings of								
		elements of artificial structures								
		and structures in general using								
		graphic editors (mostly								
		AutoCad)				 				
15 Ro	load Landscape Design	The discipline is aimed at	6						+	
A	Architecture	studying the detailed question of								
		the rational ratios of the road								
		elements that ensure its								
		smoothness and the optimal								
		mode of movement of cars,								
		methods for assessing the								
		smoothness of the route are								
		described. One of the promising								
		areas in the design of roads is								
		landscape design in the smooth								
		nairing of road elements with								
		each other and its harmonious								
		combination with the								
		surrounding landscape while								
		monthing the requirements of								
		any incommental protection								
		environmental protection,								
		experience in landscape design								
		of roads and recommendations								
		on the principles of their tracing								
		in characteristic natural areas.								
16		The purpose of studying the	5							+
		discipline is to determine the role								
		of geodesy in construction;								
		obtaining a modern idea of the								
		shape and size of the Earth;								
		concepts of geoid, ellipsoid;								
G	beodesy in construction	coordinate systems used in								
	-	geodesy; coordinate systems at								
		construction sites; orientation								
		lines on the ground. The tasks of								
			1							
		the discipline are to gain								
		the discipline are to gain knowledge for the use of maps								

		about state geodetic networks;								
		about methods of creating survey	r							
		networks; application of								
		geometric leveling and the main								
		types of topographic surveys.								
17		The purpose of this course is to	5							+
		teach the necessary fundamental								-
		knowledge about the topographic	;							
		map, its main properties, content,	,							
		modern methods and								
		technologies of creation and use								
		for solving scientific and								
		practical problems. The								
		discipline studies the								
	Geodesy with the basics of	representation on maps of								
	topography	elements of cartographic content:								
		hydrographic objects, relief,								
		vegetation and soils, means of								
		communication and								
		communications. During the								
		construction process, constant								
		checks by geodetic methods of								
		the correct installation of								
		building structures in the design								
		position are carried out.								
18		The discipline studies the	5		+					
		construction and operation of								
		works on geotechnical								
		monitoring of deformations of								
		structures and structures of								
		buildings, as well as foundations,	,							
	Gastashnias in foundation	performs work on the								
	openeering	calculation, analysis								
	engmeering	geotechnical structures,								
		foundations and foundations of								
		buildings and structures,								
		geotechnical surveys aimed								
		geological environment,								
		properties and processes are								
		studied.								
19	Geotechnics I	The discipline studies the	4		+					

		physical and physical													
		physico-chemical and physico-													
		inechanical properties of sons													
		and their change under various													
		factors, basic concepts of													
		groundwater, their origin,													
		methods interaction natural													
		environment and the behavior of													
		soils under load, the principles of	Ĩ												
		the organization of the													
		construction of bridge structures													
		on the railway and by road.													
20		The discipline studies to	5			+									
		give an opportunity to correctly													
		assess the properties of soils in													
		the base, their joint work with													
		the foundation and above-													
	Geotechnics II	foundation structures. This, in													
		turn, makes it possible to													
		rationally choose the type of													
		foundation and foundation, and													
		the.													
21		The discipline is aimed at	5											+	
- 1		studying the following points:	č											•	
		Basic terms and definitions in													
		the field of road conditions and													
		traffic safety. The main													
		regulatory documents regulating													
		road conditions and traffic													
	Road traffic safety conditions	safety Requirements and norms													
	Road traine safety conditions	of the rules of technical													
		operation on the design													
		maintanance and operation of													
		tachnical magns to ansure traffic													
		sefety. Classification of													
		safety. Classification of troffic													
		permissible violations of traffic													
22			~										 		
22		I ne discipline studies the	5	+											
		equilibrium conditions of a solid													
	Engineering Mechanics 1	body, ways to specify the													
		movement of a point, basic													
1		concepts and definitions.	1	1	1		1		1			1	1		1

		methods and principles for										
		calculating structural elements										
		for strength and stiffness for the										
		simplest types of deformations,										
		as well as recommendations for										
		the rational design of										
		engineering structures.										
23		Discipline is an optional	5	+								
23		component. The study of	5	1								
		methods for calculating various										
		structures for strength rigidity										
		and stability: mastering the basic										
		universal analytical methods for										
		calculating structures under										
		static and dynamic effects: the										
		development of students' logical										
	Engineering Mechanics 2	thinking self-thinking skills										
	Engineering wicenames 2	necessary in further work in										
		solving certain technical										
		problems Kinematic analysis of										
		structures calculation of flat										
		frames flat shapes										
		determination of movements of										
		electic systems, calculation of										
		etastic systems, calculation of										
		statically indeterminate frames										
2.4		The discipline studies the	6									
24		the enstine form dations for	6								+	
		theoretical foundations for										
		constructing images points, lines,	,									
		planes and certain types of lines										
		and surfaces, theory and practice										
	Computer graphics in	of constructing computer										
	transport construction	graphics in AutoCAD. The basic										
		requirements of the ESKD										
		standards for drawings and										
		diagrams, the execution of										
		drawings and diagrams in the										
		AutoCAD system.				ļ	ļ	ļ	ļ		 	
25	Materials Science and	The discipline studies the correct	5									+
	Technology of Structural	use of various materials used in										
	Materials	the railway and automotive			1							

		industries, as well as									
		manufacturing technology,									
		machine parts and mechanisms									
		associated with their processing.									
		Production technologies of									
		carbon alloys; area, properties									
		and grades carbon alloy steels,									
		non-ferrous alloys polymer									
		materials; processes thermal and									
		thermochemical treatment.									
26	Metrology, standardization	The discipline studies knowledge	5								+
_ 0	and certification of	in the field of fundamentals of	C C								
	construction products	metrology, standardization and									
	1	certification, allowing the use of									
		modern measuring technologies,									
		which are a sequence of actions									
		aimed at obtaining measurement									
		information required quality. In a	ı								
		modern market economy, the									
		quality of products determines									
		the competitiveness of an									
		enterprise.									
27		The discipline is aimed at	5						+		
		providing theoretical and	-								
		practical training of specialists in	L								
		the design of bridges and pipes at	t								
		the level of higher professional									
	Bridges and pipes	education, forms the skills of the									
		basic principles of bridge design,									
		technical design conditions and									
		basic bridge structures, basic									
		methods of calculating bridge									
		elements from various materials.									
28		The discipline studies the	5				+				
_0		properties of oil and petroleum	~								
		products, the composition of the									
		structures of the main oil and gas									
	Oil and gas pipelines	pipelines, methods of hydraulic									
		calculation of the main pipeline.									
		methods of technological									
		calculation of the oil product									

		pipeline during sequential pumping of oil, pressure characteristics of the oil pipeline and pumping stations, methods of pumping high-viscosity oils, the thermal regime of hot main pipelines.									
29	Ensuring safety in transport construction	The discipline studies the following issues ensure traffic safety in transport: Basic concepts of system for ensuring traffic safety in modes transport. Indicators of reliability operation of technical devices and structures. Supervision the field transport security. Regulatory framework ensuring transport security. Fundamentals of ensuring traffic safety by means of transport.	5							+	
30	The main provisions of scientific work	The discipline studies General concepts of science. The main stages in the development of science. Classification of sciences. Science as a social institution. Science as a result. General patterns of development of science. The structure of scientific knowledge. Criteria of scientific knowledge. Classification of scientific knowledge. Methodology of science.	5					÷			
31	Fundamentals of hydrogeology and engineering geology	The discipline studies the main characteristics of watercourses, methods of their determination, the laws of hydrostatics and fluid hydrodynamics, the causes and formation of sediments on watercourses, the occurrence of hydraulic resistances, methods	5		+						+

		for coloulating budroulia									
		for calculating hydraulic									
		characteristics and structures,									
		methods and methods of									
		hydraulic calculation of pressure									
		pipelines.									
32	Fundamentals of electronics	The study of the modern level of	5					+			
	and measuring technique	electronic technology, the									
		principles of construction and									
		operation of semiconductor									
		devices, their areas of									
		application. The study of									
		measurement technologies that									
		combine a set of methods,									
		approaches, software and logic									
		support for the organization of									
		measurements; trends in the									
		development of measuring									
		instruments and basic methods									
		for measuring the characteristics									
		of electronic and electrical									
		circuits and signals, assessing									
		their accuracy.									
33		The discipline studies the general	15	+							
55		patterns of the mechanical	5	'							
		movement of bodies and their									
		balance, methods for calculating									
		the strength and rigidity of									
	Applied mechanics in	typical elements of various									
	transport	structures, the main types of									
		mechanisms, methods for									
		studying and calculating their									
		kinetic and dynamic									
		characteristics.									
34		The discipline studies the	6			+	+				
57		process of creating design and	U			1	1				
		estimate documentation for									
		highways under construction or									
	Design of transport facilities	existing highways undergoing									
		modernization or reconstruction									
		to infrastructure transport									
		infrastructure facilities with a									

		system of road structures for traffic control (traffic lights, parking lots, signs and signs), lighting systems, traffic light									
		road markings.									
35		The discipline studies the stress-	5	+							
55		strain state of rods and rod	5	1							
		systems under the influence of									
		various loads, the principles and									
		methods for calculating									
	Building Mechanics 2	structures for strength, rigidity									
		and stability in order to ensure									
		the reliability of structures with									
		the lowest consumption of									
		materials.									
36	Construction works and	The discipline studies the	5								+
	processes	theoretical foundations, methods									
		and ways of implementing									
		construction processes that									
		ensure the processing of building									
		materials, semi-finished									
		products, products; a qualitative									
		change in their state, physical									
		and mechanical properties in									
		order to obtain construction									
		products.									
37	Technology of building	The discipline studies the basic	5			+					
	manufacture	provisions of the construction									
		industry, the most advanced									
		methods of building processes;									
		the main technologies for the									
		erection of buildings and									
		structures and the development									
		of directive organizational and									
		technological documentation on									
		this informative basis.	-								
38	Technology for the	The discipline studies	5			+	+				
	construction of bridges,	technologies for the installation									
	tunnels, and subways	of bridge spans by a longitudinal									
		slide, hinged and semi-					1				

	1							 		 	
		suspended assembly, technology									
		for the construction of supports,									
		technologies for the penetration									
		of distillation and station tunnels									
		of subways, the production of									
		earthworks by scrapers,									
		bulldozers and graders, single-									
		bucket and multi-bucket									
		excavators, features of the									
		production of earthworks in									
		winter, drilling and blasting									
		technology, production of									
		concrete and reinforced concrete									
		works in winter.									
39	Oil and gas facilities	The discipline studies the main	5		+	+			+		
	construction technology	provisions of the technology of									
		construction of oil and gas									
		facilities, methods of									
		construction of oil and gas									
		facilities, rules for the									
		installation of vertical and									
		horizontal tanks, methods of									
		testing tanks for tightness,									
		installation work, rules for									
		checking the operability of									
		devices mechanisms, general									
		construction processes, methods									
		of construction of oil and gas									
		facilities in accordance with									
		design and regulatory documents									
40		The study of the discipline	5		 +						
		ensures the coordinated	5								
		development and operation all									
		modes of transport in order to									
		maximize the satisfaction of									
	Transport systems	transport needs at minimal cost.									
	<u>r</u> · · · · J · · · · ·	The transport system designed to									
		meet the transport needs person									
		and includes means of									
		transportation, objects of									
1											

		environment								
		environment.								
41	Digital modeling of construction objects BIM	The discipline is aimed at studying the technology of modeling objects, including buildings, railways, bridges, tunnels, in BIM and 3D modeling in both cases, the building design should be carried out in three-dimensional space. Including not only the bearing lines and texture of materials, but also other data that are relevant to the building, BIM takes into	6 I						+	
		account the physical								
42	Economics and management	The discipline studies the	5							
42	in construction	purpose, classification, basic parameters and principles of operation of general construction machines, machines for equipment for transport construction, their equipment, methods for calculating productivity, operating time and selection for the production process of general construction machines, machines for the construction of railways, roads and airfields	5	+						
43	Economics and construction management	Economics and Construction Management discipline studies a holistic view of the essence the overall management process its various forms and main stages investments for its implementation theories of management development in various countries. Forms the general strategic thinking and specific practical managerial skills of a manager who can	5	+						

		::C:				1							
		significantly increase.											
44	Electrical engineering	The purpose of the discipline is	5							+			
		the development of the											
		theoretical foundations of											
		electrical engineering, the											
		acquisition of knowledge about											
		the designs, principles of											
		operation, parameters and											
		characteristics of various											
		electrical circuits and electrical											
		devices, preparing the student to											
		understand the principle of											
		operation of modern electrical											
		equipment.											
		Cycl	e of major dis	ciplin	es Un	iversi	itv				•		
		U U	comp	onent	-		v						
			Cycle of moi	on dia	ainlin								
			Cycle of maj	or ais	cipiin	es							
	1	-	Selectable	Comp	onent	t	1						
45	Diagnostics of bridges,	The discipline studies methods	5						+				
	tunnels and subways	for examining bridges and pipes,											
		static and dynamic tests, running											
		in bridges. Ability to evaluate											
		and analyze test results, technical											
		condition: steel, reinforced											
		concrete and wooden structures											
		and apply them in practice.											
		Know the instruments and											
		methods of statistical processing											
		of the results of instrumental											
		studies of the strength of											
		concrete. Ensures compliance											
		with health and safety											
		regulations											
46	Diagnostics of oil and gas	The discipline studies the	5						+				
	facilities	fundamentals of the system of											
		technical diagnostics and											
		methods for evaluating pipeline											
		transport, physical foundations,											
		non-destructive testing methods											1

		about the features of geodetic										
		works during the construction of										
		subways, about the physical										
		nature of the processes occurring	ç.									
		in the ground mass when										
		opening the workings; about										
		ventilation and lighting,										
		electricity, signaling,										
		centralization, water supply,										
		sewerage and heating on										
		subways. To carry out the										
		organization and control of all										
		types of construction and										
		installation works										
50	Pumping and compressor	The discipline studies the	5					+				
	stations in oil and gas	hydraulic part of pumps and	-									
	production	compressors, the speed of pumps	3									
	r	and compressors of various										
		types, the principles of modeling										
		hydrodynamic similarity in										
		centrifugal pumps, the scope of										
		various types of pumps and										
		compressors in the oil and gas										
		industry, pumping and										
		compressor stations for oil and										
		gas industries.										
51	Research activities in	The discipline studies the	5						+			
	transport construction 1	following: Increasing the level	-									
	F	motivation of students to actively	v									
		participate in research activities.	, 									
		Development creative thinking										
		students. Deepening and										
		expanding knowledge in a										
		specialty or profession.										
		Propaganda among students of										
		various forms scientific										
		creativity in accordance with the										
		principle of unity of education.										
		science and practice.										
52	Research activities in	The discipline studies Modern	5						+			
<u> </u>	transport construction 2	methods of monitoring the	[
1			1	1		1	1	1	1	1		1

structures of transport facilities. Analyzes the results of scientific research, taking into account theoretical calculations. Software complexes for modeling transport facilities. Innovative methods for monitoring and analysis of characteristic damage and defects in the structure and foundations of structures.
Analyzes the results of scientific research, taking into account theoretical calculations. Software complexes for modeling transport facilities. Innovative methods for monitoring and analysis of characteristic damage and defects in the structure and foundations of structures.
research, taking into account theoretical calculations. Software complexes for modeling transport facilities. Innovative methods for monitoring and analysis of characteristic damage and defects in the structure and foundations of structures.
theoretical calculations. Software complexes for modeling transport facilities. Innovative methods for monitoring and analysis of characteristic damage and defects in the structure and foundations of structures.
complexes for modeling transport facilities. Innovative methods for monitoring and analysis of characteristic damage and defects in the structure and foundations of structures. Image: Ima
transport facilities. Innovative methods for monitoring and analysis of characteristic damage and defects in the structure and foundations of structures.
methods for monitoring and analysis of characteristic damage and defects in the structure and foundations of structures. Image: Characteristic damage and defects in the structure and foundations of structures. 53 Oil and gas storage The discipline studies general Image: Characteristic damage and defects in the structure and foundations of structures.
analysis of characteristic damage and defects in the structure and foundations of structures.
and defects in the structure and foundations of structures.
foundations of structures. Image: storage The discipline studies general 4
53 Oil and gas storage The discipline studies general 4
po pri ana gao storago princ atoppinic statutos general H
information on the operation and
storage of oil and oil products,
measures to combat oil losses,
methods for developing a master
plan for the construction area of
an oil depot, designs of tank
farms, the procedure for
checking the geometric
parameters of the tank body for
stability, the rules for measuring
and accounting for oil and oil
products, methods for laying
pipelines .
54 Organization and planning of The discipline studies the basics 5 +
construction of bridges, of rational planning and design
tunnels and subways of the construction of bridges,
tunnels and subways, the project
of organization construction and
production of works organization
of in-line construction modeling
of construction production tasks
of technical rationing
engineering and production
preparation for the construction
bridges, tunnels and subways.
55 Organization and planning of The discipline studies the 5 +
construction of oil and gas planning and design of the
facilities construction of oil and gas
facilities, the project for the
organization of construction and

		production of work, the								
		organization of in-line								
		construction, the modeling of								
		construction production, the								
		tasks of technical regulation,								
		engineering and production								
		preparation for the construction								
		of oil and gas facilities								
56	Organization of construction	The discipline studies the	5			+				
	8	preparation for construction.	-							
		establishing and ensuring the								
		order, sequence and timing of								
		work, ensuring the supply of all								
		necessary types of resources.								
		assessing economic costs. The								
		organization of construction is								
		necessary to ensure the								
		commissioning of all facilities or	h							
		time.	-							
57	Organization, planning and	The discipline studies the	5			+				
	management in construction	methodological foundations of								
	C	the management model, conducts	5							
		risk assessment and basic								
		decision-making skills.								
		integration processes in								
		construction management, group								
		dynamics and leadership.								
		strategic and tactical planning in								
		the personnel policy								
		management system at the								
		enterprise.								
58	Fundamentals of organizing	The discipline studies the basics	5		+	+				
	and planning the construction	of rational planning and design								
	of transport facilities	of construction, the project for								
		the organization of construction								
		and the production of work of								
1		the organization of in-line								
		construction, the modeling of								
1		construction production, the								
		assessment of economic costs,								
1		the tasks of technical regulation								

				1								
		of engineering and production										
		preparation for the construction										
		of transport facilities.			 			 				
59	Patenting in transport	The discipline studies the	5						+			
	construction	following: consulting on issues										
		related to obtaining the ost										
		effective and reliable protection										
		applicant's intellectual property.										
		Preliminary information search										
		on the base of the patent office:										
		on the Kazakhstani database;										
		according to foreign databases;										
		on shared databases. Preparation										
		and submission application										
		Patent Office Republic of										
		Kazakhstan.										
60	Rules for the technical	The discipline studies the	5								+	
	operation of transport	organization and safety during										
	facilities	the construction of oil and gas										
		facilities, guided by the relevant										
		requirements of technical										
		regulations. Regulatory and										
		technical requirements for										
		structures, types and elements of										
		transport structures.										
61	Design of bridges and pipes	The discipline studies a set of	4			+	+					
		measures for the reconstruction,										
		strengthening and repair of										
		bridges, increasing the cross-										
		section of elements with										
		simultaneous reinforcement,										
		strengthening and changing the										
		system of trusses or beams,										
		rebuilding a steel superstructure										
		into steel-reinforced concrete,										
		widening of superstructures,										
		complete replacement of										
		superstructures, methods for										
		determining the reliability of										
		bridges during reconstruction,										
		reinforcement and repair										

62	Design of bridges and tunnel	The discipline studies the	6		-	+	+				
	crossings	methods of installation of									
		reinforced concrete and metal									
		bridges, supports and									
		foundations of bridges,									
		construction methods of tunnels									
		and subways, elements of									
		prefabricated reinforced concrete	2								
		bridge structures, manufacturing									
		technology of precast concrete									
		beams with pretensioning, steel									
		spans.									
63	Design of oil and gas pipeline	The discipline studies the general	14		-	+	+				
	systems	principles of designing oil and									
		gas pipeline systems, methods of									
		substantiation and survey of									
		main pipeline routes, route plan,									
		classification of sections and									
		terrain categories, technological									
		schemes for the construction of									
		oil and gas pipelines, structural									
		reliability of oil and gas pipeline									
		systems, the composition of									
		structures of main oil and gas									
		pipelines, reliability of pipelines									
		in accordance with regulatory									
		documents during design and									
		operation.									
64	Design of oil and gas storage	The discipline studies the	6				+		+		
	facilities	specifics of planning gas supply									
		systems, the role of gas storage									
		facilities in the operation of a									
		single fuel and energy complex,									
		gas tanks, gas distribution									
		stations, gas filling stations, the									
		design of storage tanks for									
		liquefied gases and main gas									
		pipelines, the purpose and									
		principles of operation of gas									
		tanks and gas storage facilities,									
		the norms of technology and									

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		design of gas storage facilities,									
		underground gas storage									
		facilities, the purpose and									
		operation of gas storage									
		facilities.									
65	Technical regulations of	The discipline studies the	5							+	
	transport infrastructure	organization and safety during									
		the construction of transport									
		structures, guided by the relevant	-								
		requirements of technical									
		regulations, interstate and									
		national standards, rules,									
		methodological documents and									
		other industry methods.									
66	Maintenance and repair of	The discipline studies general	5				+				
	bridges and pipes	information about artificial									
		structures, loads and impacts on									
		bridges and pipes, methods of									
		limit states used in the									
		calculation of bridge structures,									
		design of artificial structures,									
		development of rational									
		structures of artificial structures,									
		methods of calculation of bridge									
		structures, fundamentals of									
		calculation of bridges and pipes									
		using modern technologies in									
		construction, repair and									
		reconstruction.									
67	Maintenance and repair of oil	The discipline studies the types	5				+				
	and gas pipelines	and purposes of pipeline									
		transport devices, the principles									
		of pipeline maintenance and									
		repair, requirements for pipelines									
		and the quality of maintenance,									
		the technology of main pipeline									
		transport maintenance, the									
		technology of major repairs of									
		main pipelines, the complex of									
		repair works during the									
		construction of oil and gas									

		pipelines, technical requirements									
		that ensure high quality of repair									
10		work.	-								
68	Maintenance and repair of oil	The discipline studies the	5				+				
	and gas storage facilities	principles of maintenance and									
		repair of tanks, the structure and									
		strategy of the process of									
		maintenance and repair of									
		equipment, technological									
		processes, the system of									
		preventive and preventive									
		maintenance of tanks, the									
		parameters of oil and gas storage									
		workflows, methods of installing									
		thermal insulation coatings for									
		tank equipment.									
69	Maintenance and repair of	The discipline studies the	5				+				
	tunnels and subways	technology of installation of span	n								
		structures of bridges with									
		longitudinal sliding, mounted									
		and semi-mounted assembly, the									
		technology of erecting supports,									
		the technology of driving									
		distillation and station tunnels of									
		subways, the production of									
		earthworks with scrapers,									
		bulldozers and graders, the work									
		of single-bucket and bucket-									
		wheel excavators, the features of									
		earthworks in winter, the									
		technology of drilling and									
		blasting works, production of									
		concrete and reinforced concrete									
		works in winter.									
70	Technological support of	The discipline studies the basic	5		+				+		
	construction objects	design documentation for									
		carrying out transport									
		construction and installation									
		works, as well as the necessary									
		design documentation, studies it									
		in detail, it is especially									

		important that the engineering and technical staff have a clear idea of the composition of the design documentation and the procedure for its transfer to construction organizations								
71	Transport tunnels	The discipline studies general information about tunnels, theoretical knowledge in the field of design, organization and construction technology of tunnels and underground structures constructed by mining and shield methods, as well as tunnels constructed by special methods	4			+	+			+

5. Curriculum of the educational program

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Hitting Society and an analysis of the second	HUM:32	Philosophy	CED, RC	- 5	150	1/0/2	105	1								1.1
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Number 1 Description Processor <	DECH14	Geodesiv with the basies of topography	BD, COH	5	150	2/1/0	105	2		5						
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CV918 Design of Energient Facilities BD, CCH 6 180 1212 120 0 6 1 CV918 Read Landwage Design Architecture BD, CCH 5 1912 1912 1912 1912 5 5 1 1912 CV918 Arginating methods of a landwage of strangenets BD, CCH 5 190 195 8 5 1 1 1 1 1 5 1 1 1 1 1 1 1 5 1 <t< td=""><td>CIVES</td><td>r confique thateau se president con-paragene</td><td>-</td><td></td><td></td><td>1/3/2</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>	CIVES	r confique thateau se president con-paragene	-			1/3/2										
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	TOTAL	40	81	124	246

Decision of the Academic Council of Kazatic named after K.Satpayev, Protocul Nr 5 24 november 2022 y.

Decision of the Educational and Methodological Council of Kazatu named after K.Satpayev, Protocol 36.3 17 november 2022 y.

Decision of the Academic Council of the Eastitu	te Prospersit Notfer = 4 -	10 20 Ld.	
Vice-Rector for Academic Affairs	are -	B.A. Zhuntikov	
Institute Director	- Aller	B.U. Kaspangaliev	
Department Head	- And	D.A. Ahmetov	
Specially Council representative from employin	·	D.K. Nusupev	

EXPERT OPINION

for educational programs 6B07305 - "Transport construction", 6B07118 -"Transport facilities"

Submitted for reviewing educational programs 6B07305 - "Transport construction", 6B07118 - "Transport facilities", developed by the faculty of the department "Construction and building materials", Institute of Architecture and Construction, NAO "Kazakh National Technical University named after K.I. Satpaev" - associate. Professor SCM Akhmetov D.A., Professor Shayakhmetov S.B. senior teacher Kurbenova A.K., Art. teacher Zhangabylova A.M., doctoral student Kystaubaev S.K.

The developed educational programs include the basic rules and norms in the direction of training bachelors 6B07305 - "Transport construction", 6B07118 - "Transport facilities", a list of legal documents, the expected competencies of students based on the results of the full development of the 4-year cycle, a working curriculum.

According to the educational programs, curricula for the modular training system of the direction 6B07305 - "Transport construction", 6B07118 - "Transport facilities". All disciplines included in the curriculum are evenly distributed over the semesters, the logical sequence of studying the disciplines is observed.

Summing up, we can conclude that the considered educational programs, the catalog of elective disciplines and the working curriculum can be used to organize the educational process in the direction 6B07305 - "Transport construction", 6B07118 "Transport facilities", mastering the disciplines of the proposed modules contributes to the formation of demanded graduates to solve the construction of transport facilities.

Expert,

Ph.D., head of the company «Geo Track» LLP

D.K. Nusupov